

# News

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## **NATIONAL CENSUS OF FATAL OCCUPATIONAL INJURIES, 1994**

A total of 6,588 fatal work injuries were reported in 1994, 4 percent more than the previous year's total, according to the Census of Fatal Occupational Injuries, Bureau of Labor Statistics, U.S. Department of Labor. The higher fatality count in 1994 largely reflects an increase over 1993 in the number of workers killed in transportation incidents, primarily highway and commercial airline crashes. Catastrophes that result in multiple worker deaths, such as fires, explosions, and aircraft crashes, can cause year-to-year fluctuations in fatality totals.

The BLS census uses multiple data sources to identify, verify, and profile fatal work injuries. Key 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.

### Profiles from the 1994 fatality census

Highway traffic incidents and homicides led all other events that resulted in fatal work injuries in 1994. These two events totaled over a third of the work injury deaths that occurred during the year. (See table 1 and chart 1.)

Highway deaths accounted for 20 percent of the 6,588 fatal work injuries in 1994. Slightly over half of highway fatality victims were driving or riding in a truck, half of which collided with another vehicle and a quarter jackknifed or overturned. Transport-related incidents occurring on private property (such as tractors or forklifts overturning), aircraft crashes, and workers being struck by vehicles each accounted for about 6 percent of the worker fatalities. Rail and water transport together accounted for another 3 percent of the deaths.

Homicide was the second leading cause of job-related deaths, accounting for 16 percent of the total. Robbery was the primary motive for workplace homicide. About half the victims worked in retail establishments, such as grocery stores and eating and drinking establishments, where cash is readily available. Taxicab drivers, police, and security guards were other

occupations with high numbers of worker homicides. Four-fifths of the homicide victims were shot; others were stabbed, beaten, or strangled. While highway traffic incidents were the leading manner of death for male workers, homicide was the leading cause of death for female workers, accounting for 35 percent of their fatal work injuries.

Falls accounted for 10 percent of the fatal work injuries. The construction industry, primarily special trade contractors such as roofing, painting, and structural steel erection, accounted for almost half of the falls. One-fifth of the falls were from or through roofs; falls from scaffolding and from ladders each accounted for about one-eighth.

Nine percent of the fatally injured workers were struck by various objects, a fourth of which were falling trees, tree limbs, and logs. Other objects that struck workers included machines and vehicles slipping into gear or falling onto workers, and various building materials, such as pipes, beams, metal plates, and lumber.

Electrocutions accounted for 5 percent of the worker deaths in 1994. About a third of these fatalities resulted from the worker or equipment being used coming in contact with overhead power lines.

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

\* Occupations with large numbers of worker fatalities included truck drivers, farm workers, sales supervisors and proprietors, and construction laborers.

\* Specific events or exposures responsible for workers' deaths varied considerably among occupations. Highway crashes and jackknifings accounted for about two-thirds of the truck drivers' deaths, while almost three-fourths of the fatalities among sales supervisors and proprietors resulted from homicide. Half of the farm workers' deaths occurred in vehicle-related incidents. Falls accounted for one-fourth of the construction laborers' deaths.

#### **Industry highlights (table 3):**

\* Major industry groups with the largest number of fatal work injuries were agricultural crop production, special trades construction contractors (for example, roofing and electrical work), and trucking and warehousing.

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

#### **Worker characteristics highlights (table 4):**

\* Men, the self-employed, and older workers suffer 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.

\* The types of events responsible for workers' deaths varied among worker groups. Highway crashes were most often cited for wage and salary workers, men, whites, and workers less than 18 years old and those between 45 and 64. Highway incidents and homicides each accounted for nearly a fifth of the deaths among workers 20-44. Homicide was the leading manner of death for self-employed workers, women, blacks, Asians and Pacific Islanders, Hispanics, and workers between 18 and 19 years old. Workers 65 and older were killed more frequently in nonhighway transportation incidents, such as tractor rollovers, than in any other event.

#### **Other highlights:**

\* On average about 18 fatal work injuries occurred each day in 1994.

\* Eighty-five percent of the fatally injured workers died the day they were injured; 97 percent died within 30 days.

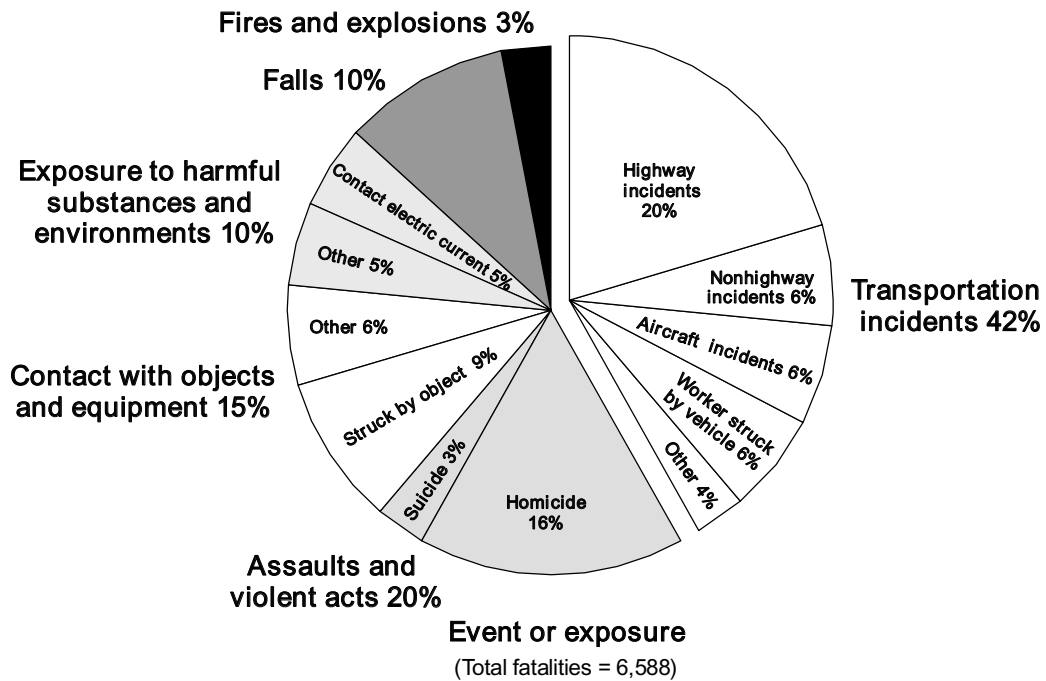
Included in tables 3 and 4 are 1994 annual average employment data collected in the BLS Current Population Survey. By comparing the percent distributions of fatalities and employment, the user can evaluate the relative risk of a job-related fatality for a given occupation, industry, or worker characteristic. For example, the construction industry accounted for about 16 percent of the fatality total, which was about 3 times greater than its share of total employment of 6 percent. While employment can be used to evaluate the relative risk of a fatal work injury, other measures, such as employee exposure hours, also can be used.

#### Background of the program

The Census of Fatal Occupational Injuries, part of the BLS safety and health statistics program, provides the most complete count of fatal work injuries available because it uses multiple state and federal data sources. This is the third 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. State-specific data on workplace fatalities are available from the state agencies participating with BLS in the census program. A list of participating agencies and their telephone numbers is available from BLS by calling 202-606-6175.

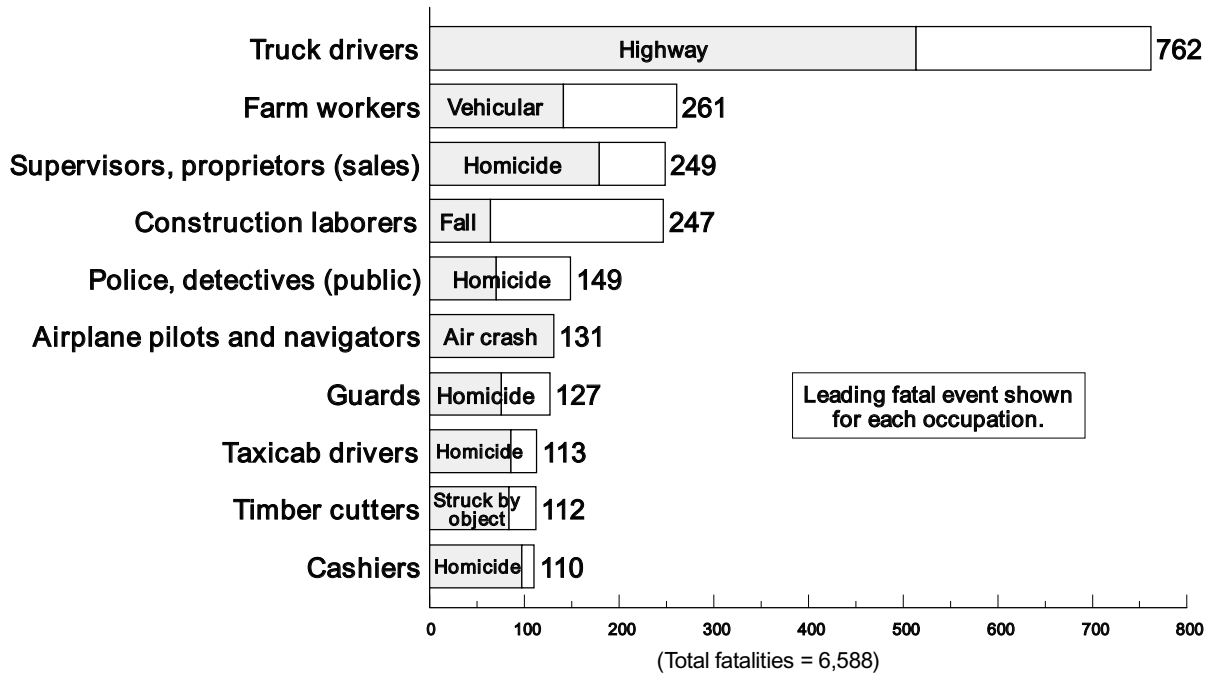
The Survey of Occupational Injuries and Illnesses, conducted since 1972, profiles worker and case characteristics of serious, nonfatal, workplace injuries and illnesses resulting in lost worktime in addition to presenting frequency counts and incidence rates by industry. Copies of the 1993 news release are available from BLS by calling 202-606-6304. Incidence rates for 1994 by industry will be published in December 1995. Information on 1994 worker and case characteristics will be published in April 1996.

Chart 1: The manner in which workplace fatalities occurred, 1994



Highway vehicle incidents and homicides led all other fatal events.

Chart 2: Occupations with large numbers of worker fatalities and the leading fatal event, 1994



Truck drivers had more fatal injuries than any other occupation.

SOURCE: Bureau of Labor Statistics, U.S. Department of Labor, Census of Fatal Occupational Injuries, 1994

Table 1. Fatal occupational injuries by event or exposure, 1992-1994

Event or exposure <sup>1</sup>	Fatalities			
	1992	1993 <sup>2</sup>	1994	
	Number	Number	Number	Percent
Total .....	6,217	6,331	6,588	100
<b>Transportation incidents</b> .....	2,484	2,501	2,740	42
Highway .....	1,158	1,243	1,336	20
Collision between vehicles, mobile equipment .....	578	657	650	10
Moving in same direction .....	78	99	117	2
Moving in opposite directions, oncoming .....	201	244	229	3
Moving in intersection .....	107	123	143	2
Vehicle struck stationary object or equipment .....	192	190	255	4
Noncollision.....	301	336	370	6
Jack-knifed or overturned--no collision .....	213	237	272	4
Nonhighway (farm, industrial premises) .....	436	392	407	6
Overturned .....	208	212	225	3
Aircraft.....	353	282	424	6
Worker struck by a vehicle .....	346	365	383	6
Water vehicle .....	109	120	92	1
Railway .....	66	86	81	1
<b>Assaults and violent acts</b> .....	1,281	1,329	1,308	20
Homicides .....	1,044	1,074	1,071	16
Shooting.....	852	884	925	14
Stabbing.....	90	95	60	1
Self-inflicted injury.....	205	222	210	3
<b>Contact with objects and equipment</b> .....	1,004	1,045	1,015	15
Struck by object .....	557	566	589	9
Struck by falling object.....	361	346	371	6
Struck by flying object.....	77	82	67	1
Caught in or compressed by equipment or objects .....	316	309	280	4
Caught in running equipment or machinery .....	159	151	147	2
Caught in or crushed in collapsing materials .....	110	138	132	2
<b>Falls</b> .....	600	618	661	10
Fall to lower level .....	507	533	577	9
Fall from ladder .....	78	76	85	1
Fall from roof .....	108	120	129	2
Fall from scaffold.....	66	71	89	1
Fall on same level .....	62	49	62	1
<b>Exposure to harmful substances or environments</b> .....	605	592	638	10
Contact with electric current .....	334	325	346	5
Contact with overhead powerlines.....	140	115	132	2
Contact with temperature extremes.....	33	38	50	1
Exposure to caustic, noxious, or allergenic substances.....	127	115	131	2
Inhalation of substances .....	83	68	84	1
Oxygen deficiency .....	111	111	110	2
Drowning, submersion .....	78	89	90	1
<b>Fires and explosions</b> .....	167	204	202	3
<b>Other events or exposures</b> <sup>3</sup> .....	76	43	24	-

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

<sup>2</sup> The BLS news release issued August 10, 1994, reported a total of 6,271 fatal work injuries for calendar year 1993. Since then, an additional 60 job-related fatalities were identified, bringing the total job-related fatality count for 1993 to 6,331.

<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.

Table 2. Fatal occupational injuries by occupation and major event or exposure, 1994.

Occupation <sup>1</sup>	Fatalities		Major event or exposure <sup>2</sup> (percent)			
	Number	Percent	Highway <sup>3</sup>	Homicide	Struck by object	Fall to lower level
Total.....	6,588	100	20	16	9	9
<b>Managerial and professional specialty</b> .....	768	12	21	19	2	6
Executive, administrative, and managerial.....	486	7	17	24	2	8
Professional specialty .....	282	4	29	11	4	4
<b>Technical, sales, and administrative support</b> .....	943	14	19	45	2	2
Technicians and related support occupations.....	209	3	9	5	-	2
Airplane pilots and navigators .....	131	2	-	-	-	-
Sales occupations .....	588	9	19	63	2	2
Supervisors and proprietors, sales occupations.....	249	4	8	72	3	3
Sales workers, retail and personal services .....	252	4	16	72	-	-
Cashiers .....	110	2	-	96	-	-
Administrative support occupations, including clerical....	146	2	33	28	5	3
<b>Service occupations</b> .....	601	9	16	41	2	6
Protective service occupations .....	332	5	20	45	1	2
Firefighting and fire prevention occupations, including supervisors.....	56	1	7	5	-	-
Police and detectives including supervisors .....	149	2	32	47	-	-
Guards, including supervisors.....	127	2	10	60	-	3
<b>Farming, forestry, and fishing</b> .....	944	14	11	2	19	6
Farming operators and managers.....	382	6	11	1	13	7
Other agricultural and related occupations .....	360	5	17	3	9	9
Farm workers, including supervisors .....	261	4	18	2	8	4
Forestry and logging occupations .....	137	2	4	-	74	-
Timber cutting and logging occupations.....	112	2	4	-	75	-
Fishers, hunters, and trappers .....	65	1	-	-	-	-
Fishers.....	55	1	-	-	-	-
<b>Precision production, craft, and repair</b> .....	1,090	17	11	4	12	24
Mechanics and repairers.....	294	4	11	5	21	9
Construction trades .....	614	9	10	2	6	36
Carpenters and apprentices.....	87	1	8	5	12	47
Electricians and apprentices .....	99	2	8	-	-	19
Painters .....	46	1	-	-	-	46
Roofers.....	53	1	8	-	-	72
Structural metal workers .....	48	1	-	-	15	63
<b>Operators, fabricators, and laborers</b> .....	2,055	31	32	9	10	7
Machine operators, assemblers, and inspectors .....	256	4	4	4	17	9
Transportation and material moving occupations .....	1,169	18	50	10	7	2
Motor vehicle operators.....	925	14	61	12	6	2
Truck drivers .....	762	12	68	2	6	2
Driver-sales workers .....	29	-	62	28	-	-
Taxicab drivers and chauffeurs.....	113	2	17	76	-	-
Material moving equipment operators.....	172	3	9	-	16	5
Handlers, equipment cleaners, helpers, and laborers ....	630	10	9	8	13	16
Construction laborers.....	247	4	6	-	11	24
Laborers, except construction.....	229	3	7	6	19	11
<b>Military</b> .....	109	2	10	4	6	3

<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.

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of rounding. There were 78 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, 1994.

Table 3. Fatal occupational injuries and employment by industry, 1994

Industry	SIC code <sup>1</sup>	Fatalities		Employment <sup>2</sup> (in thousands)	
		Number	Percent	Number	Percent
Total.....		6,588	100	124,469	100
<b>Private industry</b> .....		5,923	90	104,754	84
<b>Agriculture, forestry and fishing</b> .....		847	13	3,496	3
Agricultural production - crops .....	01	441	7	1,008	1
Agricultural production - livestock .....	02	172	3	1,316	1
Agricultural services.....	07	162	2	1,070	-
<b>Mining</b> .....		180	3	668	1
Coal mining.....	12	41	1	115	-
Oil and gas extraction .....	13	99	2	387	-
<b>Construction</b> .....		1,027	16	6,948	6
General building contractors .....	15	189	3	-	-
Heavy construction, except building .....	16	247	4	-	-
Special trades contractors .....	17	591	9	-	-
<b>Manufacturing</b> .....		787	12	20,050	16
Food and kindred products .....	20	78	1	1,749	1
Lumber and wood products.....	24	199	3	731	1
<b>Transportation and public utilities</b> .....		944	14	7,069	6
Local and interurban passenger transportation.....	41	114	2	520	-
Trucking and warehousing .....	42	502	8	2,326	2
Transportation by air .....	45	98	1	755	1
Electric, gas, and sanitary services .....	49	88	1	1,096	1
<b>Wholesale trade</b> .....		269	4	4,702	4
<b>Retail trade</b> .....		797	12	20,909	17
Food stores .....	54	235	4	3,474	3
Automotive dealers and service stations .....	55	120	2	2,019	2
Eating and drinking places .....	58	181	3	6,316	5
<b>Finance, insurance, and real estate</b> .....		112	2	7,900	6
<b>Services</b> .....		844	13	33,012	27
Business services .....	73	253	4	4,999	4
Automotive repair, services, and parking.....	75	89	1	1,537	1
<b>Government<sup>3</sup></b> .....		665	10	19,715	16
Federal (including resident armed forces).....		209	3	4,901	4
State .....		112	2	5,163	4
Local.....		333	5	9,650	8
Police protection.....	9221	118	2	-	-

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

<sup>2</sup> The employment is an annual average of employed civilians 16 years of age and older, plus resident armed forces, from the BLS Current Population Survey, 1994.

<sup>3</sup> Includes fatalities to workers employed by governmental 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 124 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.

**Table 4. Fatal occupational injuries and employment by selected worker characteristics, 1994**

Characteristics	Fatalities		Employment (in thousands) <sup>1</sup>		Most frequent event (percent of total)
	Number	Percent	Number	Percent	
Total .....	6,588	100	124,469	100	Highway <sup>2</sup> (20 percent)
<b>Employee status</b>					
Wage and salary workers .....	5,336	81	113,641	91	Highway (22)
Self-employed <sup>3</sup> .....	1,252	19	10,828	9	Homicide (21)
<b>Sex and age</b>					
Men .....	6,067	92	67,690	54	Highway (20)
Women .....	521	8	56,779	46	Homicide (35)
<b>Both sexes:</b>					
Under 16 years .....	25	-	-	-	Highway (20)
16 to 17 years .....	42	1	2,511	2	" (26)
18 to 19 years .....	112	2	3,749	3	Homicide (24)
20 to 24 years .....	545	8	13,204	11	" (19) / Highway (18)
25 to 34 years .....	1,558	24	32,829	26	Highway (19) / Homicide (18)
35 to 44 years .....	1,608	24	33,882	27	" (19) / Homicide (18)
45 to 54 years .....	1,304	20	23,383	19	" (23)
55 to 64 years .....	858	13	11,229	9	" (23)
65 years and over .....	517	8	3,681	3	Nonhighway (22)
<b>Race</b>					
White .....	5,420	82	106,285	85	Highway (21)
Black .....	702	11	13,102	11	Homicide (30)
Asian or Pacific Islander .....	181	3	-	-	Homicide (61)
American Indian, Aleut, Eskimo .....	40	1	-	-	" (18)
Other or unspecified .....	245	4	-	-	" (24)
<b>Hispanic origin</b>					
Hispanic <sup>4</sup> .....	611	9	10,867	9	Homicide (22)

<sup>1</sup> The employment is an annual average of employed civilians 16 years of age and older, plus resident armed forces, from the BLS Current Population Survey, 1994.

<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; incidents involving trains; and deaths to pedestrians or other nonpassengers.

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

<sup>4</sup> Persons identified as Hispanic may be of any race. Hispanic employment does not include resident armed forces.

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 data 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.



## 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 1994 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 or 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 a short-term exposure 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 makes identification of a universe problematic. Partial information on fatal occupational illnesses, compiled separately, is available for 1991-1993 in BLS Report 891.

### 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. Multiple 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 258 fatal work injuries in 1994; 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 56 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 close-out for a reference year. In addition, other fatalities excluded from the published count because of insufficient information to determine work relationship may be subsequently 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.

#### *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 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 several other industries, such as coal, metal, and nonmetal mining and 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, the U.S. Coast Guard, the Federal Railroad Administration, and the Federal Aviation Administration. Fatalities occurring in activities regulated by federal agencies other than OSHA accounted for about 19 percent of the fatal work injuries for 1994.

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 account 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 Department of Justice (Bureau of Justice Assistance); the Mine Safety and Health Administration; the Department of Defense; the Employment Standards Administration (Federal Employees' Compensation and Longshore and Harbor Workers' divisions); the Department of Energy; the National Association of Chiefs of Police; 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.