

Occupational Injuries among Groundskeepers, 1992-2002

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Bureau of Labor Statistics

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The number of groundskeepers fatally injured on the job each year increased substantially over the 1992-2002 period, even while workplace fatalities among all workers declined. Over the same period, the number of nonfatal injuries and illnesses among groundskeepers decreased.

Over the period from 1992 to 2002, 1,117 groundskeepers and gardeners, except farm (henceforth to be referred to as "groundskeepers"),¹ were killed while at work, and 211,672 serious injuries² were reported in the occupation.

Groundskeepers accounted for approximately 1 in every 60 workplace fatalities during that period and about 1 in every 100 nonfatal injuries.

The annual number of fatal occupational injuries to groundskeepers increased over the period (from 68 in 1992 to 146 in 2002), especially during the latter portion. The average number of fatalities incurred by groundskeepers during the first 5 years (1992-96) was 81; the same figure for the last 5 years (1998-2002) was 122. Over the same period, by contrast, groundskeepers averaged more than 20,000 *nonfatal* injuries and illness cases involving days away from work per year during 1992-96, but that figure had declined to 18,000 in 1998-2002. (See table 1.)

When compared with fatally injured workers in general, fatally injured groundskeepers were more likely to have been killed in certain types of incidents, such as being struck by a falling object, falls, and electrocutions. Overexertion was the most common event leading to a nonfatal injury among groundskeepers.

The annual number of Hispanic groundskeepers who were fatally injured while at work increased sharply during the study period, from 15 in 1992 to 59 in 2002. Meanwhile, the annual number of *nonfatal* workplace injuries and illnesses among Hispanic groundskeepers fluctuated throughout the period, ranging from as low as 3,535 in 1994 to as high as 7,242 in 1998.

Data Sources And Definitions

The data in this analysis come from two programs within the BLS [Injuries, Illnesses, and Fatalities \(IIF\)](#) program. The data on workplace fatalities are taken from the [Census of Fatal Occupational Injuries \(CFOI\)](#). Since 1992, CFOI has collected, aggregated, and disseminated data on fatal occupational injuries. CFOI requires that every case be confirmed by source documents, such as death certificates, media accounts, medical examiner reports, and Occupational Safety and Health Administration (OSHA) reports. Each fatality must also be determined to have been work related.³

Nonfatal data are taken from the BLS [Survey of Occupational Injuries and Illnesses \(SOII\)](#) program, which collects data from a sample of business establishments in the United States.⁴ The SOII data used in this analysis are for those cases that required the injured worker to take at least 1 day away from work to recuperate.⁵ These data are collected using OSHA recordkeeping rules. In 2002, OSHA changed its recordkeeping rules, which makes it difficult to compare 2002 data with data from previous years.⁶

Groundskeepers are often called upon to perform a wide variety of tasks, which can include landscaping, pruning trees, mowing lawns, and maintaining the general upkeep of a property. These tasks may require the groundskeeper to use many different types of tools, such as tractors, saws, lawnmowers, chippers, mulchers, and other powered and nonpowered implements. Some of these tasks and the tools used to perform them can be dangerous. Inclement weather also can present a danger to groundskeepers, since the vast majority of their work is performed outdoors. Finally, the work of groundskeepers can be physically demanding, requiring much bending, lifting, and shoveling.⁷

Fatality Rates And Days Away From Work Due To Injury

While the fatality rate--the number of fatal occupational injuries per 100,000 workers employed in a given group⁸--for all workers declined during the 1992-2002 period; the fatality rate for groundskeepers more than doubled, increasing from 7.3 in 1992 to 15.0 in 2002.⁹ Because employment among groundskeepers remained relatively steady, the increase in the fatality rate is primarily attributable to an increase in the number of fatalities in the occupation. (See table 2.)

For 9 out of the 11 years of the study period, the median number of days away from work for nonfatally injured groundskeepers was 5.0. Throughout the period, the median for groundskeepers remained equal to or less than the median for all nonfatal workplace injuries and illnesses. While 17 percent of the groundskeeper cases involved missing only 1 day of work, another 17 percent involved missing 31 or more days of work. (See table 3.)

Demographics

Approximately 98 percent (1,097) of all groundskeepers who were fatally injured from 1992 to 2002 were men, compared with 92 percent of all fatally injured workers. Fatally injured groundskeepers tended to be more clustered in the 20- to 44-year age category than fatally injured workers in general: 61 percent of fatally injured groundskeepers were aged 20 to 44, compared with 54 percent of all fatally injured workers. Among workers with serious nonfatal injuries, 75 percent of groundskeepers were aged 20 to 44, while 69 percent of all seriously injured workers were in that age group.

Hispanic groundskeepers incurred a disproportionate number of fatal work injuries relative to their share of all workplace fatalities during the 1992-2002 period. While Hispanic workers accounted for 27 percent (302) of the fatalities among groundskeepers, they accounted for only 11 percent of workplace fatalities in general. Much of this disparity is due to the employment patterns of Hispanics in this occupation. While Hispanic workers constituted 28 percent of employed groundskeepers from 1992 to 2002, they made up only 10 percent of workers in general during that period.¹⁰ For those *nonfatal* cases in which race and ethnic origin were reported, Hispanics accounted for nearly a quarter of all seriously injured groundskeepers, and about a tenth of all nonfatal injury and illness cases.¹¹

The number of workplace fatalities among Hispanic groundskeepers rose sharply during the period, especially in the latter years. During the first 4 years of the study, the average number of Hispanic groundskeepers killed on the job annually was 20; during the last 4 years of the study, the average was 40. This increase in fatalities among Hispanic groundskeepers in the latter 4-year period mirrors a similar increase in the number of Hispanics employed as groundskeepers during those years.

Many of the Hispanic workers killed on the job during the study period were immigrants. In fact, the annual number of fatally injured groundskeepers who were born outside of the United States more than quadrupled, from 12 in 1992 to 56 in 2002. The majority of these fatally injured, foreign-born groundskeepers were born in Latin America, primarily Mexico.¹²

Event Or Exposure

Fatal events. The events leading to occupational fatalities among groundskeepers are quite varied. (See table 4.)

Transportation incidents, contact with objects and equipment, falls, and exposure to harmful substances or environments each account for a sizeable share of fatal workplace injuries among groundskeepers.¹³

A little more than 30 percent (340) of the fatal occupational injuries incurred by groundskeepers were due to transportation incidents. Of those, 40 percent (136) were nonhighway incidents--most prominently, overturned vehicles. The majority of these incidents involved tractors, and in most cases the decedents were using tractors to mow grass at the time of the fatal incident. About a third (112) of the transportation incidents were highway incidents. Half (56) of these highway incidents were collisions between vehicles, and 21 percent (24) were due to jack-knifed vehicles. Finally, one-fourth (85) of the groundskeepers who were fatally injured in a transportation incident were struck by a vehicle or mobile equipment.

Approximately a quarter (265) of all fatally injured groundskeepers were killed due to contact with objects and equipment. A little less than 60 percent (157) of these fatalities were caused by a groundskeeper being struck by a falling object, which was almost always a tree, log, or branch. Falls accounted for 21 percent (239) of all fatal occupational injuries among

groundskeepers. In many cases involving a fall, the decedent either fell from a tree or fell from a ladder or other piece of equipment after being struck by a tree branch. Although a cause could not be ascertained for all falls from trees, some of the more frequent precipitating events that were mentioned were the worker's safety line being inadvertently cut or breaking, the tree branch the worker was sitting on or tied off to being inadvertently cut or breaking, and the entire tree breaking or falling over.

Nearly 20 percent (218) of the fatal work injuries suffered by groundskeepers were caused by exposure to harmful substances or environments. Chief among these types of fatalities were electrocutions, which constituted more than 60 percent (134) of these fatalities. The vast majority of the electrocutions were due to contact with overhead power lines. Another 23 percent (51) of the fatalities that resulted from exposure to harmful substances or environments were due to drowning.¹⁴

Nonfatal injuries. Groundskeepers who incurred a nonfatal injury or illness were very similar to all nonfatally injured workers in terms of the event that precipitated the injury, the type of injury inflicted, and the part of body affected. Among groundskeepers who suffered a nonfatal injury or illness, overexertion was the most frequently cited cause (23 percent), particularly while lifting (13 percent). These figures mirrored those of nonfatally injured workers as a whole. Another 17 percent of the nonfatal injuries to groundskeepers were due to a worker being struck by an object. Eight percent of the injuries to groundskeepers were caused by a fall on the same level, and falls to a lower level accounted for 5 percent of the injuries.

The most common nonfatal injury incurred by groundskeepers was sprains and strains, which accounted for almost 40 percent of their injuries, which was also the most common injury suffered by all nonfatally injured workers. Cuts, lacerations, and punctures (15 percent); bruises and contusions (7 percent); and fractures (7 percent) were also common among groundskeepers. Soreness and pain, without a specified injury, accounted for 6 percent of the total. For groundskeepers, the back was the body part most frequently injured, as it was for nonfatally injured workers in general, and accounted for almost one-fourth of the injury locations. Injuries to fingers accounted for another 10 percent of the total, while knee injuries (7 percent) and eye injuries (6 percent) were also common.

Location And Worker Activity For Fatal Work Injuries

More than 30 percent (352) of the fatal occupational injuries incurred by groundskeepers over the 1992-2002 period occurred at a private residence, which includes homes, apartments, and residential construction. Another 22 percent (250) were killed while working at a street or highway. Recreation and sports areas, which include golf courses, accounted for 6 percent (66) of the fatalities.

In terms of geography, 15 percent (172) of the groundskeeper fatalities occurred in California, while 10 percent of all workplace fatalities occurred in that State. Other States with a relatively large number of fatal occupational injuries to groundskeepers include Florida, with 11 percent, and Texas, with 9 percent. (See table 5.)

More than one-third (380) of the fatally injured groundskeepers were killed while logging, trimming, and pruning. An additional 26 percent (295) were killed while performing vehicular and transportation operations, most notably riding in or on a truck, driving or operating a farm vehicle, and walking in or near a roadway.

Industry

Nearly all (1,027) fatally injured groundskeepers worked in the private sector. (See table 4.) Of these, 78 percent (803) worked in the landscape and horticultural services industry group.¹⁵ Of the fatalities in this group, 51 percent (410) were incurred by groundskeepers in the ornamental shrub and tree services industry, and 34 percent (272) were incurred by groundskeepers in the lawn and garden services industry.

The industry group with the most fatal work injuries to groundskeepers outside of landscape and horticultural services was miscellaneous amusement and recreation services. Approximately 6 percent of all private sector groundskeepers who incurred a fatal occupational injury worked in this industry group, which includes membership sports and recreation clubs,

public golf courses, and amusement parks. Additionally, 8 percent (90) of fatally injured groundskeepers were employed by a government entity, most often a local government.

Most *nonfatally* injured groundskeepers were employed in the private agricultural, forestry, and fishing industry, or in the services industry, which includes the landscape and horticultural services group. Interestingly, almost 13 percent were employed in the private finance, insurance, and real estate industry.

Conclusion

Relative to all workers who incurred a fatal work injury over the 1992-2002 period, fatally injured groundskeepers were more likely to be Hispanic. These workers were also more susceptible to certain types of fatal events--among them being struck by a falling object, falls to a lower level, and electrocutions--than fatally injured workers in general. (See table 6.) Although the number and rate of fatal occupational injuries to all workers declined over the period, the number and rate of fatal occupational injuries to groundskeepers increased steadily. During the same period, on average, nearly 20,000 groundskeepers per year incurred a *nonfatal* occupational injury. Like all workers who suffered a nonfatal injury or illness, these groundskeepers were particularly susceptible to sprains and strains and injuries to the back.

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Notes

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1 From 1992 to 2002, the BLS [Injuries, Illnesses, and Fatalities \(IIF\)](#) program used 1990 Census Bureau occupation codes to classify occupations. In this coding structure, groundskeepers and gardeners, except farm, are coded 486. In 2003, the IIF program began using the [Standard Occupational Classification \(SOC\)](#) system to define occupation. Under this system, groundskeepers are classified in the occupational group Grounds Maintenance Workers, which comprises landscaping and groundskeeping workers; pesticide handlers, sprayers, and applicators, vegetation; and tree trimmers and pruners. More information on this occupational group can be found here: http://www.bls.gov/soc/soc_n3b0.htm. Due to the differences in the Census Bureau and SOC codes, BLS considers the change in occupational coding systems to constitute a break in series and advises data users not to make comparisons across different occupational coding systems.

2 "Serious injuries" are the cases that involve a worker missing at least 1 day away from work due to the injury. See note 5 for more information.

3 A work relationship exists if an event or exposure results in a fatal injury or illness to a person was (1) ON the *employer's premises* and the person was there to *work*; or (2) OFF the *employer's premises* and the person was there to *work*, or the event or exposure was related to the person's work status as an employee. The *employer's premises* include buildings, grounds, parking lots, and other facilities and property used in the conduct of business. *Work* is defined as legal duties, activities, or tasks that produce a product as a result; and that which is done in exchange for money, goods, services, profit, or benefit.

4 SOII data cover private wage and salary workers. For more information on SOII, see [BLS Handbook of Methods](#), "Survey of Occupational Injuries and Illnesses," on the Internet at http://www.bls.gov/opub/hom/homch9_a2.htm#Part%20I.%20Survey%20of%20Occupational%20Injuries%20and%20Illnesses. For information on the reliability of the estimates, see [Handbook](#), "Reliability of Estimates," at http://www.bls.gov/opub/hom/homch9_i.htm#Reliability%20of%20Estimates.

5 For more information on cases involving days away from work, see the page entitled "[Occupational Safety and Health Case and Demographic data](#)," part of the BLS website and available at <http://www.bls.gov/iif/oshcase1.htm>.

6 Due to the OSHA recordkeeping changes, BLS discourages data users from comparing 2001 and 2002 SOII data. This analysis makes no such direct comparisons; rather, the 2002 results show data for 1 out of 11 years in the study. No year-to-year changes are examined. For more information on the impact of OSHA's recordkeeping changes, see William J. Wiatrowski, "[Occupational injury and illness: new recordkeeping requirements](#)," *Monthly Labor Review*, December 2004, pp. 10-24; on the Internet at <http://www.bls.gov/opub/mlr/2004/12/art2full.pdf>.

7 For more information on this occupation, see BLS Occupational Outlook Handbook, "[Grounds Maintenance Workers](#)"; on the Internet at <http://www.bls.gov/oco/ocos172.htm>.

8 The fatality rate is calculated as follows: Fatality Rate = (N/W) * 100,000, where N is the number of fatal occupational injuries in a group, and W is the number of workers employed in that group. For employment, CPOI uses data from the [Current Population Survey \(CPS\)](#). Since the

CPS tracks only workers who are aged 16 years and older, the fatality rates shown are for workers aged 16 years and older. Fatally injured workers with an unknown age were excluded from fatality rate calculations.

9 In order to calculate the fatality rate for all workers, employment data for the resident U.S. military obtained from the Department of Defense are added to the CPS employment data, which are for civilian employment only.

10 Employment data are from the [Current Population Survey \(CPS\)](#).

11 Approximately 1 in 4 cases does not report race or ethnic origin.

12 For more information on fatal occupational injuries incurred by foreign-born workers, see Katherine Loh and Scott Richardson, "Foreign-born workers: trends in fatal occupational injuries, 1996-2001," *Monthly Labor Review*, June 2004, pp. 42-53; on the Internet at <http://www.bls.gov/opub/mlr/2004/06/art3full.pdf>. See also Scott Richardson, "Fatal work injuries among foreign-born Hispanic workers," *Monthly Labor Review*, October 2005, pp. 63-67; on the Internet at <http://www.bls.gov/opub/mlr/2005/10/ressum.pdf>.

13 The IIF program defines event using the [Occupational Injury and Illness Classification System \(OIICS\)](#), on the Internet at <http://www.bls.gov/iif/oshoiics.htm>.

14 Some additional drownings occurred while the groundskeeper was using a riding lawnmower, which then overturned into a canal or pond. These are classified as nonhighway transportation incidents.

15 From 1992 to 2002, the IIF program used the Standard Industrial Classification (SIC) system to define industry. The landscape and horticultural services industry group is SIC code 078. For more information on the SIC system, see [Standard Occupational Classification Manual: 1987](#) (Office of Management and Budget, 1987); on the Internet at http://www.osha.gov/pls/imis/sic_manual.html. For a recent analysis of fatalities in this industry, see William J. Wiatrowski, "Fatalities in the Ornamental Shrub and Tree Services Industry," *Compensation and Working Conditions Online*, July 26, 2005; on the Internet at <http://www.bls.gov/opub/cwc/sh20050719ar01p1.htm>.

Table 1. Occupational injuries and illnesses to groundskeepers, 1992-2002

Year	Fatal injuries	Nonfatal injuries and illnesses(1)
1992	68	21,328
1993	87	21,268
1994	79	20,486
1995	78	21,382
1996	91	18,468
1997	104	18,595
1998	108	22,995
1999	106	18,854
2000	130	16,036
2001	120	17,398
2002	146	14,862

Footnotes:

(1) Data from 2002 is not directly comparable to data from previous years due to changes in OSHA recordkeeping rules.

NOTE: Fatality totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks.

SOURCE: U.S. Department of Labor; Bureau of Labor Statistics; Injuries, Illnesses, and Fatalities Program (IIF); in cooperation with State, New York City, District of Columbia, and Federal agencies.

Table 2. Occupational injuries and illnesses, employment, and fatality rate of groundskeepers, 1992-2002

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Nonfatal injuries and illnesses(1)	21,328	21,268	20,486	21,382	18,468	18,595	22,995	18,854	16,036	17,398	14,862
Fatal injuries	68	87	79	78	91	104	108	106	130	120	146
Employment	937,000	890,000	864,000	832,000	875,000	856,000	924,000	943,000	870,000	876,000	973,000
Fatality rate(2)	7.3	9.8	9.1	9.4	10.4	12.1	11.6	11.2	14.8	13.6	15.0

Footnotes:

(1) Data from 2002 is not directly comparable to data from previous years due to changes in OSHA recordkeeping rules.

(2) The fatality rate is calculated by using the equation $(N/W) \times 100,000$, where N is the number of fatal occupational injuries and W is the number of workers. Employment data are taken from the Current Population Survey (CPS). Since CPS counts only workers age 16 and above, only fatalities to those age 16 and above are included in the rate calculation.

NOTE: Fatality totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks.

SOURCE: U.S. Department of Labor; Bureau of Labor Statistics; Injuries, Illnesses, and Fatalities Program (IIF); in cooperation with State, New York City, District of Columbia, and Federal agencies.

Table 3. Percentage distribution of nonfatal occupational injuries to groundskeepers by days of work missed, 1992-2002

Case type	Percent
Cases involving 1 day	17
Cases involving 2 days	14
Cases involving 3-5 days	22
Cases involving 6-10 days	14
Cases involving 11-20 days	10
Cases involving 21-30 days	6
Cases involving 31 or more days	17

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Survey of Occupational Injuries and Illnesses (SOII), in cooperation with State, New York City, District of Columbia, and Federal agencies.

Table 4. Fatal occupational injuries to groundskeepers by selected characteristics, 1992-2002

Characteristics	Fatal injuries
Total	1,117
Employee Status	
Wage and salary workers(1)	890
Self-employed(2)	227
Sex	
Men	1,097
Women	20
Age	
16 to 17 years	18
18 to 19 years	35
20 to 24 years	142
25 to 34 years	276
35 to 44 years	260
45 to 54 years	165
55 to 64 years	128
65 and over	90
Race or ethnic origin (3)	
White	662
Black or African American	116
Hispanic or Latino	302
Event or Exposure	
Transportation incidents	340
Highway	112
Collision between vehicles or mobile equipment	56
Noncollision	36
Jack-knifed or overturned, no collision	24
Nonhighway	136
Noncollision accident	125
Overturned	74
Worker struck by vehicle or mobile equipment	85
Assaults and violent acts	51
Contact with objects or equipment	265

Footnotes:

- (1) May include volunteers and other workers receiving compensation.
- (2) Includes paid and unpaid family workers, and may include owners of incorporated businesses, or members of partnerships.
- (3) In this study, the racial categories "White" and "Black or African American" do not include persons from the ethnic category "Hispanic or Latino." Hispanic or Latino persons may identify themselves racially as white, black, or another race category.
- (4) n.e.c. = not elsewhere classified.
- (5) Includes fatalities to workers employed in governmental organizations, regardless of industry.

NOTE: Fatality totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks. Totals for major categories may include subcategories not shown separately.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries (CFOI), in cooperation with State, New York City, District of Columbia, and Federal agencies.

Characteristics	Fatal injuries
Struck by object	209
Struck by falling object	157
Caught in or compressed by equipment or objects	46
Falls	239
Fall to lower level	232
Fall from ladder	34
Fall to lower level, n.e.c.(4)	156
Exposure to harmful substances or environments	218
Contact with electric current	134
Contact with overhead power lines	114
Oxygen deficiency	52
Drowning, submersion	51
Industry	
Private industry	1,027
Agriculture, forestry, and fishing	810
Agricultural services	805
Landscape and horticultural services	803
Landscape counseling and planning	47
Lawn and garden services	272
Ornamental shrub and tree services	410
Finance, insurance, and real estate	40
Real estate	40
Services	127
Amusement and recreation services	58
Miscellaneous amusement, recreation services	57
Public golf courses	19
Membership sports and recreation clubs	29
Government(5)	90
Local government	73

Footnotes:

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- (3) In this study, the racial categories "White" and "Black or African American" do not include persons from the ethnic category "Hispanic or Latino." Hispanic or Latino persons may identify themselves racially as white, black, or another race category.
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NOTE: Fatality totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks. Totals for major categories may include subcategories not shown separately.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries (CFOI), in cooperation with State, New York City, District of Columbia, and Federal agencies.

Table 5. Fatal occupational injuries to groundskeepers by State of incident, 1992-2002

State	Fatal injuries
California	172
Florida	120
Texas	103
Georgia	69
North Carolina	56
Pennsylvania	41
Ohio	37
Virginia	36
New Jersey	33
Missouri	32

NOTE: Fatality totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries (CFOI), in cooperation with State, New York City, District of Columbia, and Federal agencies.

Table 6. Percentage distribution of fatal occupational injuries to groundskeepers and all workers, 1992-2002

Characteristics	Groundskeepers	All workers
Total	1,117	67,373
Percentage	100	100
Employee Status		
Wage and salary workers(1)	80	80
Self-employed(2)	20	20
Sex		
Men	98	92
Women	2	8
Age		
16 to 17 years	2	1
18 to 19 years	3	2
20 to 24 years	13	8
25 to 34 years	25	21
35 to 44 years	23	25

Footnotes:

- (1) May include volunteers and other workers receiving compensation.
- (2) Includes paid and unpaid family workers, and may include owners of incorporated businesses, or members of partnerships.
- (3) In this study, the racial categories "White" and "Black or African American" do not include persons from the ethnic category "Hispanic or Latino." Hispanic or Latino persons may identify themselves racially as white, black, or another race category.
- (4) n.e.c. = not elsewhere classified.
- (5) Includes fatalities to workers employed in governmental organizations, regardless of industry.

NOTE: Fatality totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks. Totals for major categories may include subcategories not shown separately.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries (CFOI), in cooperation with State, New York City, District of Columbia, and Federal agencies.

Characteristics	Groundskeepers	All workers
45 to 54 years	15	21
55 to 64 years	11	13
65 and over	8	8
Race or ethnic origin (3)		
White	59	73
Black or African American	10	10
Hispanic or Latino	27	11
Event or Exposure		
Transportation incidents	30	42
Highway	10	22
Collision between vehicles or mobile equipment	5	11
Noncollision	3	6
Jack-knifed or overturned, no collision	2	5
Nonhighway	12	6
Noncollision accident	11	5
Overtuned	7	3
Worker struck by vehicle or mobile equipment	8	6
Assaults and violent acts	5	18
Contact with objects or equipment	24	16
Struck by object	19	9
Struck by falling object	14	6
Caught in or compressed by equipment or objects	4	5
Falls	21	11
Fall to lower level	21	10
Fall from ladder	3	2
Fall to lower level, nec(4)	14	2
Exposure to harmful substances or environments	20	9
Contact with electric current	12	5
Contact with overhead power lines	10	2
Oxygen deficiency	5	2
Drowning, submersion	5	1
Industry		
Private industry	92	90

Footnotes:

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- (3) In this study, the racial categories "White" and "Black or African American" do not include persons from the ethnic category "Hispanic or Latino." Hispanic or Latino persons may identify themselves racially as white, black, or another race category.
- (4) n.e.c. = not elsewhere classified.
- (5) Includes fatalities to workers employed in governmental organizations, regardless of industry.

NOTE: Fatality totals for 2001 exclude fatalities resulting from the September 11 terrorist attacks. Totals for major categories may include subcategories not shown separately.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries (CFOI), in cooperation with State, New York City, District of Columbia, and Federal agencies.

Characteristics	Groundskeepers	All workers
Agriculture, forestry, and fishing	73	13
Agricultural services	72	3
Landscape and horticultural services	72	2
Landscape counseling and planning	4	<1
Lawn and garden services	24	1
Ornamental shrub and tree services	37	1
Finance, insurance, and real estate	4	2
Real estate	4	1
Services	11	12
Amusement and recreation services	5	1
Miscellaneous amusement, recreation services	5	1
Public golf courses	2	<1
Membership sports and recreation clubs	3	<1
Government(5)	8	10
Local government	7	5

Footnotes:

- (1) May include volunteers and other workers receiving compensation.
- (2) Includes paid and unpaid family workers, and may include owners of incorporated businesses, or members of partnerships.
- (3) In this study, the racial categories "White" and "Black or African American" do not include persons from the ethnic category "Hispanic or Latino." Hispanic or Latino persons may identify themselves racially as white, black, or another race category.
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