

## Injuries, Illnesses, and Fatalities in Construction, 2004

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*Originally Posted: May 24, 2006*

*The safety efforts of a number of governmental organizations have been focused on the construction industry recently; construction workers accounted for 1 in 5 on-the-job fatalities and 1 in 10 nonfatal workplace injuries and illnesses in 2004.* To address the hazards inherent in construction work, such as trenches, heights, power lines, and dangerous equipment, the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) have established specific safety goals, which have contributed to safer working environments in the United States.<sup>1</sup> This attention stems from construction being one of the industries in which workers are most frequently injured or killed. Workers in establishments engaged in construction activities accounted for 1 in 5 on-the-job fatalities recorded in 2004 and 1 in 10 nonfatal workplace injuries and illnesses recorded that year.<sup>2</sup>

**Fatal injuries.** A total of 1,234 workers were killed on the job in the private construction industry in 2004.<sup>3</sup> (See table 1.) This represented a 9-percent increase from the 1,131 fatalities reported in 2003. But due to employment increases in this sector, the fatality rate increase from 2003 was not statistically significant. The fatality rate for the private construction industry was 12.0 fatalities per 100,000 workers in 2004, fourth highest among industry sectors. The comparable figure for all workers was 4.1.<sup>4</sup>

Fatal injuries to workers in the private construction industry occur throughout the United States. In 2004, Florida had the most fatalities among construction workers (115). Other States with a large number included Texas (114) and California (108).

Those fatally injured in the private construction industry in 2004 were overwhelmingly male (99 percent). Approximately 70 percent of the decedents were between the ages of 25 and 54. Almost 19 percent of the workers were self-employed. White non-Hispanic workers accounted for 65 percent of the fatally injured workers.

There were 312 Hispanic construction workers killed on the job in 2004, a 20-percent jump from the previous year, when 261 were killed. Employment for Hispanic construction workers increased 12 percent during the same period. Just under 18 percent of Hispanic decedents fell from roofs, and 11 percent were struck by falling objects.

Falls accounted for the largest number of fatalities in construction in 2004, with approximately 36 percent of all fatally injured workers in the industry killed in this manner. (See table 2.) Transportation incidents also accounted for a sizable portion of the fatalities--23 percent--while another 18 percent were killed by being struck by an object or being caught in collapsing materials, and 10 percent involved workers contacting an electric current.

Among all construction-related occupations, construction laborers suffered the highest number of fatalities in 2004, followed by carpenters and construction managers. (See table 3.) Roofers experienced a 75-percent increase in fatal injuries from 2003 to 2004. One-third of fatalities to roofers did not involve falls from roofs; instead, they involved falls from objects used to access roofs, motor vehicle accidents, and electrocutions.

Among construction fatalities, most decedents (759) were working in specialty trade contractor industries in 2004. (See chart 1.) Private sector workers in highway, street, and bridge construction incurred 100 fatalities, and those in utility system construction incurred 95 fatalities.

**Nonfatal injuries and illnesses.** Accounting for 9 percent of the 4.3 million incidents in private industry in 2004, a total of 401,000 nonfatal injuries and illnesses were incurred by workers in construction, down approximately 2 percent from the previous year. (See table 4.) The total recordable case rate (number of nonfatal injuries/illnesses per 100 full-time workers) in 2004 was 6.4, which was much higher than the total private industry rate of 4.8. This represents a decline of about 6 percent from the previous year, when the rate was 6.8.

Of those cases involving days away from work, the most common event for workers in private construction in 2004 was overexertion, which accounted for 20 percent of cases. (See table 5.) Struck by object (18 percent) and fall to a lower level (14 percent) were also frequent events.

Sprains and strains (37 percent) and cuts, lacerations (14 percent) were the most prominent types of injuries incurred. The back (21 percent) was the part of body most frequently injured.

In 2004, 38,970 injuries were due to musculoskeletal disorders (MSDs), up from 37,190 in 2003.<sup>5</sup> Nearly 10 percent of all MSD cases in 2004 occurred in construction. During that year, MSD cases in the industry caused the worker to miss a median of 10 days away from work--the same as the median for all workers. (See table 6.)

More than 28 percent of the cases in the private construction industry involving days away from work necessitated a worker missing 31 days or more, while 13 percent required missing 1 day of work. The median days away from work was 10 in the construction industry, while the median for all workers was 7 days. Injuries requiring 6 to 20 days away from work increased by 9 percent from 2003 to 2004. In contrast, more severe injuries requiring 21 days or more away from work decreased by nearly 9 percent.

The States of California, Texas, and Florida together recorded more than one-quarter of all private construction nonfatal injuries and illnesses involving days away from work. California reported 15 median days away from work, Texas 14, and Florida 9. The national median number of days away from work was 10 in 2004.

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## Notes

**1** Both the [Occupational Safety and Health Administration \(OSHA\)](#) and the [National Institute for Occupational Safety and Health \(NIOSH\)](#) publish information on construction and have set specific goals to address each emphasis area in the industry. In addition, the second decade of NIOSH's National Occupational Research Agenda (NORA) will give specific attention to the Construction sector. For more information, see the following websites: OSHA Construction Industry page: <http://www.osha.gov/doc/index.html>; OSHA Local Emphasis Programs: [http://www.osha.gov/dep/local\\_emphasis\\_programs.html](http://www.osha.gov/dep/local_emphasis_programs.html); NIOSH Construction page: <http://www.cdc.gov/niosh/topics/construction/>; NIOSH Strategic Goals in Construction page: <http://www.cdc.gov/niosh/topics/construction/draftgoal-inst.html>; NORA's second decade page: <http://www.cdc.gov/niosh/nora/intro.html>.

**2** The data in this analysis come from two programs within the BLS Injuries, Illnesses, and Fatalities (IIF) program: data on fatalities are from the Census of Fatal Occupational Injuries (CFOI); data on nonfatal injuries and illnesses are from the Survey of Occupational Injuries and Illnesses (SOII) program, which collects data from a sample of business establishments in the United States. For more information on both programs, see "Chapter 9, Occupational safety and health statistics" in [BLS Handbook of Methods](#), available on the Internet at <http://www.bls.gov/opub/hom/home.htm>. The IIF program uses the [Occupational Injury and Illness Classification System \(OIICS\)](#) to define event. Occupation is defined using the [Standard Occupational Classification \(SOC\)](#) system, and industry is defined using the [North American Industrial Classification System \(NAICS\)](#).

**3** Fatalities in this study are based on revised and final fatality counts. Although 44 Government construction workers incurred fatal injuries in 2004, the focus of this analysis is on construction workers in the private sector.

**4** Employment data are from the BLS [Current Population Survey \(CPS\)](#). Private sector employment of workers aged 16 years and older in the construction industry was 9,632,000 in 2003 and 10,272,000 in 2004.

**5** Includes cases in which the nature of injury is among the following: sprains, tears; back pain, hurt back; soreness, pain, hurt, except back; carpal tunnel syndrome; hernia; or musculoskeletal system and connective tissue diseases and disorders; injury- or illness-causing events or exposures such as bodily reaction/bending, climbing, crawling, reaching, twisting; overexertion; or repetition. Cases of Raynaud's phenomenon, tarsal tunnel syndrome, and herniated spinal discs are not included. Although these cases may be considered MSDs, the cases are classified in categories that also include non-MSD cases.

**Table 1. Construction fatalities by event, 2003–04**

Event	2003	2004
<b>Total fatalities</b>	1,131	1,234
<b>Falls</b>	364	445
<b>Transportation incidents</b>	290	287
Highway incidents	145	148
Nonhighway incidents	48	45
Worker struck by vehicle, mobile equipment	84	78
<b>Contact with objects &amp; equipment</b>	231	267
Struck by object	111	150
Caught in or crushed in collapsing materials	78	71
<b>Exposure to harmful substances and environments</b>	179	170
Contact with electric current	132	122

**Table 2. Construction fatalities from falls, 2003–04**

Event	2003	2004
<b>Total fatalities</b>	1,131	1,234
<b>Falls</b>	364	445
Fall from roof	110	159
Fall from roof edge	59	62
Fall through skylight	12	27
Fall from scaffolding, staging	67	74
Fall from ladder	60	79
Fall from nonmoving vehicle	20	20

**Table 3. Construction fatalities by occupation, 2003–04**

Occupation	2003	2004
<b>Total fatalities</b>	1,131	1,234
<b>Construction laborers</b>	270	283
<b>Carpenters</b>	90	107
<b>Construction managers</b>	63	95
<b>Roofers</b>	53	94
<b>First-line supervisors</b>	96	93
<b>Electricians</b>	64	70
<b>Painters and paperhangers</b>	55	57
<b>Truck drivers</b>	42	56

**Table 4. Number and rate of nonfatal injuries and illnesses in the construction industry, 2003–04**

Case Type	2003		2004	
	Number	Rate	Number	Rate
<b>Total cases</b>	408,300	6.8	401,000	6.4
<b>Days away from work, job transfer, or restriction</b>	218,000	3.6	212,200	3.4
<b>Days away from work</b>	155,400	2.6	153,200	2.4
<b>Job transfer or restriction</b>	62,500	1.0	59,000	0.9
<b>Other recordable cases</b>	190,300	3.2	188,900	3.0

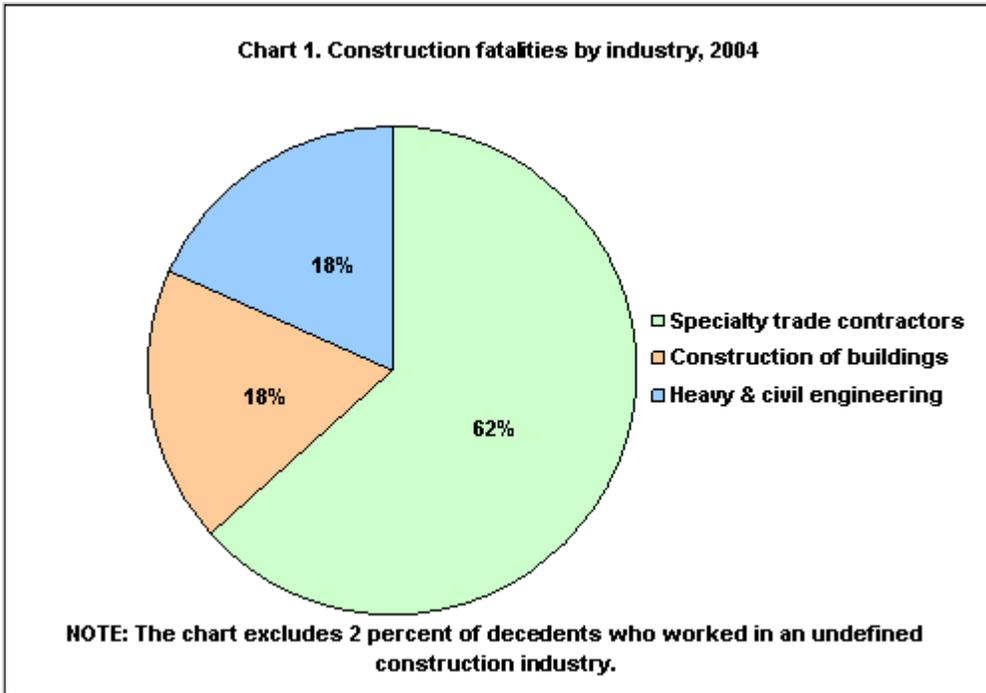
Note: Rate equals number of injuries and illnesses per 100 full-time workers.

**Table 5. Nonfatal injuries and illnesses involving days away from work in the construction industry, 2003–04**

Event or exposure	2003	2004
<b>Total</b>	155,420	153,200
<b>Overexertion</b>	30,390	30,460
<b>Struck by object</b>	28,890	27,950
<b>Fall to lower level</b>	20,280	20,950
<b>Fall to same level</b>	14,050	12,700
<b>Struck against object</b>	13,570	12,720

**Table 6. Percent distribution of days away from work due to nonfatal injuries and illnesses in the construction industry, 2003–04**

Days away from work (DAFW)	2003	2004
<b>Total injuries with DAFW</b>	155,420	153,200
Percent distribution:		
<b>Total</b>	100.0	100.0
<b>1 day away from work</b>	13.1	13.5
<b>2 days</b>	10.4	10.1
<b>3 to 5 days</b>	16.7	17.1
<b>6 to 10 days</b>	11.1	12.2
<b>11 to 20 days</b>	10.6	11.8
<b>21 to 30 days</b>	7.2	7.0
<b>31 or more days</b>	30.9	28.3
<b>Median days away from work</b>	10	10



**Data for Chart 1. Construction fatalities by industry, 2004**

Industry	Percent distribution
Specialty trade contractors	62%
Construction of buildings	18%
Heavy and civil engineering	18%