

Nonfatal Injury Trends in the Construction Industry

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OVERVIEW

Construction workers are exposed to numerous worksite hazards. Despite continuous intervention efforts, work-related injuries and illnesses occur daily in this industry. This Data Bulletin examines the trends in employer-reported nonfatal injuries in construction from 2003 through 2019, using the latest data from the Survey of Occupational Injuries and Illnesses (SOII)[†], a data collection by the U.S. Bureau of Labor Statistics (BLS). Due to changes in the injury and illness coding system in the SOII, injury type analyses span between 2011 and 2019. Since illnesses[±] account for less than 3% of nonfatal cases in construction, this report uses “injuries” as a broad category for both injuries and illnesses. Injury risk was measured by the number of injuries per 10,000 full-time workers (FTEs; assuming a full-time worker works 40 hours per week, 50 weeks per year). The Current Population Survey (CPS), another BLS data collection, was the source of denominators for injury rate estimates by age and race/ethnicity. This report analyzes nonfatal injuries resulting in days away from work (i.e., severe injuries, or lost workday injuries) among private wage-and-salary workers in construction; self-employed and government workers are not included.



An infographic developed as part of the National Campaign to Prevent Struck-By Incidents.

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Numbers in text and charts were calculated by the CPWR Data Center.

[†] BLS switched the industrial classification system from the 2012 North American Industry Classification System (NAICS) to 2017 NAICS in the 2019 SOII, but the construction industry was not much affected.

[±] Many work-related illnesses may have long latency periods, such as asbestosis or cancers. Thus, illnesses are potentially undercounted in the SOII data.

THIS ISSUE

This issue examines nonfatal injuries in construction between 2003 and 2019, identifying trends by injury cause, establishment size, subsector, and demographics.

KEY FINDINGS

The injury rate in construction has declined steadily since 2003 but was still 29% higher than all industries combined in 2019.

Chart 1

In 2019, 79,660 lost workday injuries were reported in construction, of which nearly one-third were due to contact with objects or equipment.

Chart 2

The number of injuries in construction due to falls to a lower level increased 41% from 2011 to 2019, while the number of total nonfatal injuries increased about 8% during this period.

Charts 2,4

In 2019, the injury rate among construction establishments with 11 to 49 employees was five times the rate for establishments with 1,000 or more employees.

Chart 5

The injury rate in construction was highest among workers under age 25.

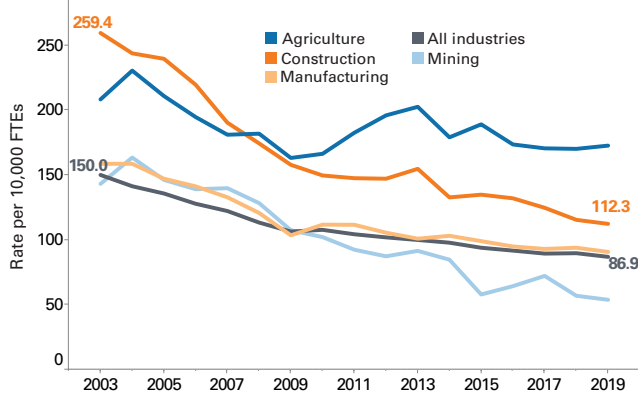
Chart 9

NEXT DATA BULLETIN

Fatal injury trends in the construction industry

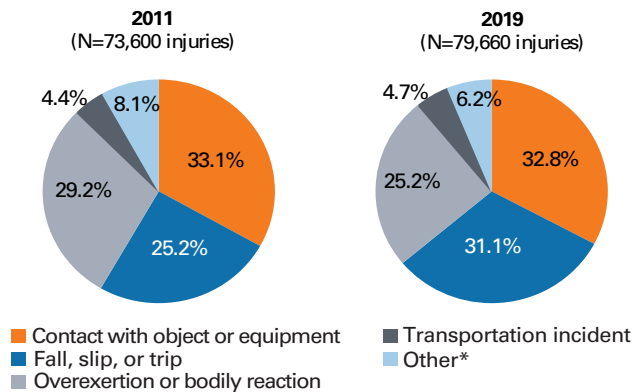
In 2019, 79,660 nonfatal injuries were reported in the construction industry. The rate of injuries was 112.3 per 10,000 FTEs in 2019, 56.7% lower than the 2003 rate (259.4 per 10,000 FTEs; chart 1). Although the injury rate steadily declined in construction, it was consistently higher than all industries combined, and 29.2% higher in 2019. Construction injuries were also more severe, as they typically caused more missed workdays than injuries in all industries (supplemental chart S3).

1. Rate of nonfatal injuries resulting in days away from work, selected industries, 2003-2019



The leading cause of nonfatal injuries was contact with objects or equipment (e.g., excavators, loaders, graders, etc.), accounting for nearly one-third of the total nonfatal injuries in construction (32.8%); followed by falls, slips, and trips (31.1%); and overexertion or bodily reactions (25.2%; chart 2). Falls, slips, and trips accounted for a larger proportion of construction injuries in 2019 (31.1%) than in 2011 (25.2%).

2. Distribution of leading causes of nonfatal injuries resulting in days away from work in construction, 2011 versus 2019

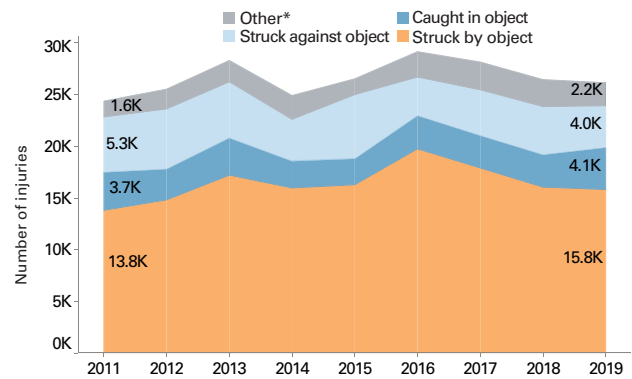


*"Other" includes exposure to harmful substances and environments; fires and explosions; assaults and violent acts; and non-classifiable exposures.

Breaking down detailed injury categories year-to-year, most injuries due to contact with objects or equipment were caused by an object striking a worker (chart 3). Such struck-by incidents resulted in 15,830 injuries in 2019, or one in five of all construction injuries (19.9% of 79,660).

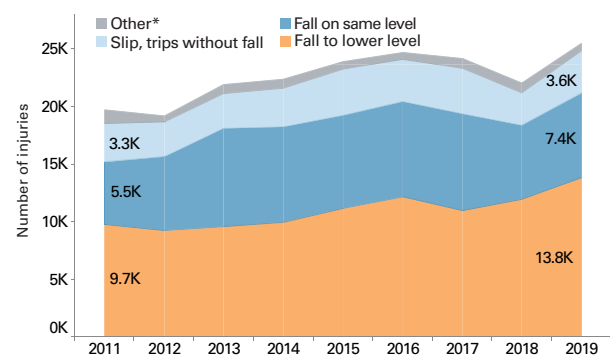
Most nonfatal fall injuries in construction were due to falls to a lower level (chart 4). In 2019, there were approximately 13,770 lower-level nonfatal falls in this industry, a 41.4% increase from 2011 (9,740 injuries).

3. Number of nonfatal injuries due to contact with objects or equipment in construction, 2011-2019



*"Other" category includes needlesticks; struck, caught, or crushed in collapsing material; rubbed or abraded by friction or pressure; vibration; and unspecified/unclassifiable injuries involving objects.

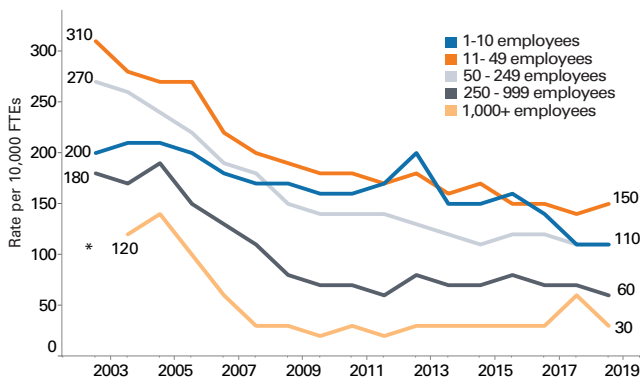
4. Number of nonfatal falls, slips, and trips in construction, 2011-2019



**"Other" category includes jumps to the lower level, falls or jumps curtailed by a personal fall arrest system, and unspecifiable/unclassifiable falls.

Injury risk varied greatly by construction establishment size (chart 5). In 2019, the injury rate in establishments with 11 to 49 employees was five times higher than their large counterparts with 1,000 or more employees (150 versus 30 injuries per 10,000 FTEs). In general, the larger the establishment size, the lower the injury rate was in construction. However, the rate for establishments with 10 or fewer employees was lower than establishments with 11 to 49 employees in 2019. Previous research suggests injuries in the smallest construction establishments could be [underrepresented or underreported](#) in the BLS injury data.

5. Rate of nonfatal injuries resulting in days away from work in construction, by establishment size, 2003-2019



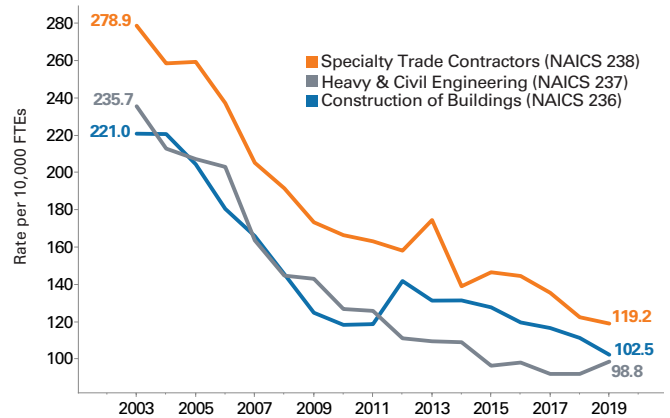
*2003 nonfatal injury rate not provided for 1000+ employees category.

The number and rate of nonfatal injuries varied by construction subsector. Specialty Trade Contractors (NAICS 238) – the largest subsector in the construction industry – had a higher injury rate than the other two major subsectors throughout the study period (chart 6).

Among Specialty Trade Contractors, Framing (NAICS 23813) had a small number of injuries, but the highest injury rate, reaching an annual average of 292.7 per 10,000 FTEs between 2017 and 2019, about 2.5 times higher than overall construction (117.5 per 10,000 FTEs; chart 7). Three other high-risk Specialty Trade Contractors were Poured Concrete (NAICS 23811), Flooring (NAICS 23833), and Drywall and Insulation (NAICS 23831): each had an injury rate at least 30% higher (>140 per 10,000 FTEs) than overall construction.

While the injury rate for Building Construction (NAICS 236) was similar to construction overall, the rate in Residential Building (NAICS 2361) was 146.5 per 10,000 FTEs, nearly double the rate of Nonresidential Building (NAICS 2362; 78.0 per 10,000 FTEs).

6. Rate of nonfatal injuries resulting in days away from work, by construction subsector, 2003-2019



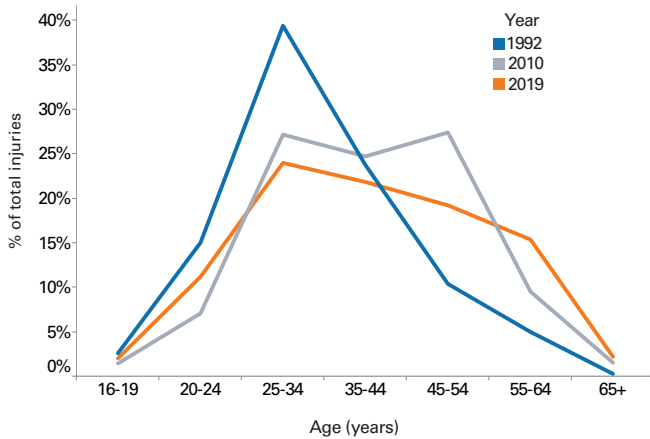
7. Number and rate of nonfatal injuries resulting in days away from work, by selected construction subsector, 2017-2019 average

Subsector	Number of Injuries	Rate per 10,000 FTEs
Building Construction (NAICS 236) Subsector total*	16.4K	110.3
Residential Building	10.3K	146.5
Nonresidential Building	6.1K	78.0
Heavy & Civil Engineering (NAICS 237) Subsector total*	10.0K	94.4
Highway, Street, & Bridge	3.8K	117.6
Utility System	4.9K	84.2
Specialty Trade Contractors (NAICS 238) Subsector total*	52.6K	125.8
Framing	2.2K	292.7
Poured Concrete	3.2K	155.1
Flooring	1.0K	148.8
Drywall & Installation	3.2K	142.2
Plumbing & HVAC	13.4K	130.9
Electricity & Wiring	7.2K	85.0

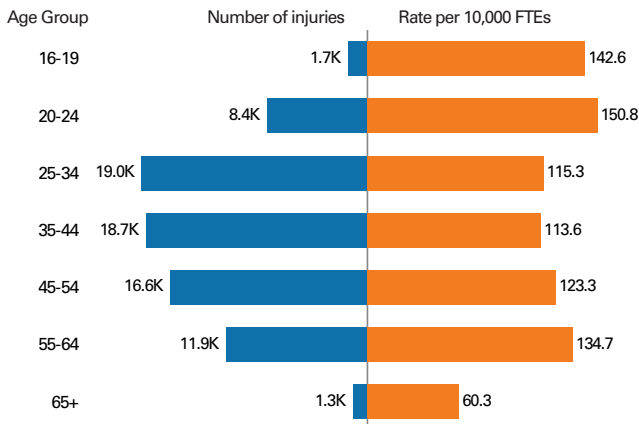
*Totals include subsectors not displayed in chart.

By demographics, older construction workers have accounted for an increasing percentage of nonfatal injury numbers over the past three decades (chart 8), reflecting the [aging construction workforce](#). However, in terms of rate, workers under age 25 had the highest nonfatal injury rate in construction on average between 2016 and 2019 (chart 9).

8. Distribution of nonfatal injuries resulting in days away from work in construction, by age group, selected years

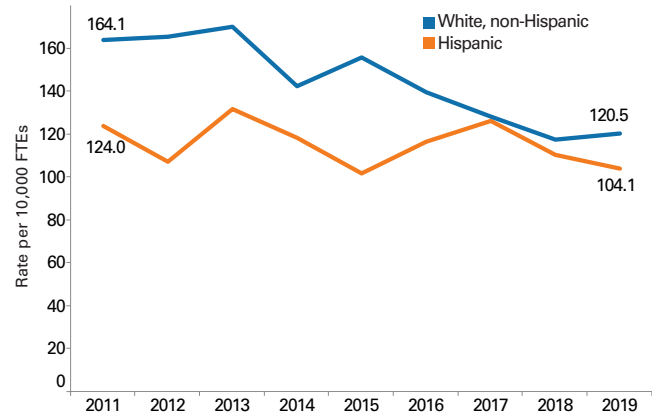


9. Number and rate of nonfatal injuries resulting in days away from work in construction, by age group, 2016-2019 average



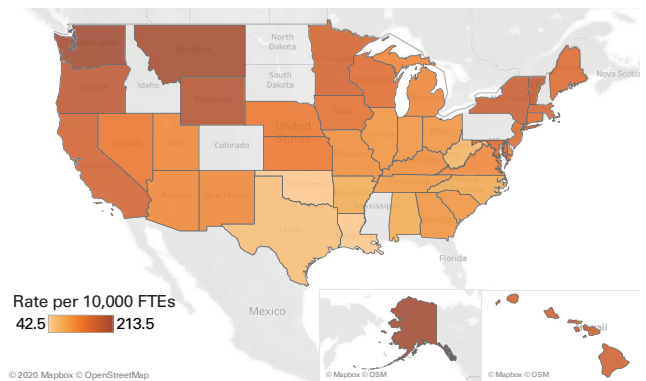
Although the gap between the two groups narrowed over time, injury rates were consistently higher among white, non-Hispanic construction workers than their Hispanic counterparts from 2011 to 2019 (chart 10). However, injuries among Hispanic construction workers may be [underreported](#) in the data source.

10. Rate of nonfatal injuries resulting in days away from work in construction, by selected race/ethnicity, 2011-2019



Construction injury rates varied by state. From 2015 to 2019, the average annual injury rates in Washington, Montana, Wyoming, Oregon, and Vermont were at least 60% more than overall construction (>180 injuries per 10,000 FTEs). It is possible that nonfatal injuries were [underreported in some states](#).

11. Rate of nonfatal injuries resulting in days away from work in construction, by state, 2015-2019 average



*States in grey indicate data do not meet BLS publication guidelines.

Despite reductions in recent years, nonfatal injuries remain 29% higher in construction than all industries combined. In 2019 alone, the construction industry recorded nearly 80,000 lost workday injuries. Of these, struck-by incidents were responsible for one in five injuries overall, remaining the leading cause of injury in construction. Falls to a lower level accounted for another large proportion of construction injuries, increasing by 41% from 2011 to 2019. Moreover, several subsectors in Specialty Trades Contractors had much higher injury rates than construction overall, and the injury rate in Residential Building Construction was nearly double the rate of Nonresidential Building Construction.

Construction injuries are preventable. To help construction employers and workers reduce leading causes of injuries, OSHA, NIOSH, and CPWR and its partners have developed various resources and training courses. CPWR manages a [series of websites](#) that address specific hazards or audiences, including [Stop Construction Falls](#), [Construction Solutions](#), and [Construction Safety & Health Network](#). CPWR has also developed a group of [infographics](#) for the National Campaign to Prevent Struck-By Incidents, helping raise awareness of the struck-by risk, and providing ways to prevent such injuries in work zones. These resources provide users with the latest information, research findings, new tools, solutions, and programs in construction safety and health, and materials to share with other industry stakeholders.

ACCESS THE CHARTS & MORE

View the [charts](#) (including supplement charts) in PowerPoint and the [data](#) underlying the charts in Excel. Downloading will start when you click on each link.

DATA SOURCES

U.S. Bureau of Labor Statistics. Current Population Survey (CPS). 2016-2019. <https://www.census.gov/programs-surveys/cps.html>

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The CPWR Data Center is part of CPWR—The Center for Construction Research and Training. CPWR is a 501(c)(3) nonprofit research and training institution created by NABTU, and serves as its research arm. CPWR has focused on construction safety and health research since 1990. The Data Bulletin, a series of publications analyzing construction-related data, is part of our ongoing surveillance project funded by the National Institute for Occupational Safety and Health (NIOSH).

Besides cpwr.com, visit CPWR's other online resources to help reduce construction safety and health hazards:

- Choose Hand Safety
<http://choosehandsafety.org/>
- Construction Safety and Health Network
<https://safeconstructionnetwork.org/>
- Construction Solutions
<http://www.cpwrconstructionsolutions.org/>
- Construction Solutions ROI Calculator
<http://www.safecalc.org/>
- COVID-19 Construction Clearinghouse
<http://covid.elcosh.org/index.php>
- COVID-19 Exposure Control Planning Tool
<https://www.covidcpwr.org>
- Electronic Library of Construction Occupational Safety and Health
<http://www.elcosh.org/index.php>
- Exposure Control Database
<http://ecd.cpwrconstructionsolutions.org/>
- Stop Construction Falls
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<http://www.silica-safe.org/>

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