CPWR THE CENTER FOR CONSTRUCTION RESEARCH AND TRAINING

Data Bulletin

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Employment Trends and Projections in Construction

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OVERVIEW

This Data Bulletin provides information on employment in construction, including trends over the past decade, the impact of COVID-19, and future projections. Current and future construction workforce trends provide stakeholders with information to identify resources needed to train the evolving workforce, as well as safety and health interventions. All national employment estimates and projections were obtained from the U.S. Bureau of Labor Statistics (BLS). Total employment, employment by demographic and worker characteristics, and unemployment from 2011 to 2021 were estimated using BLS's Current Population Survey (CPS),[2] which is published monthly. Employment for private *nonfarm wage-and-salary* workers and for construction subsectors from 2011 to 2021 was obtained from BLS's Current Employment Statistics (CES) program, which collects monthly data from payroll establishments. National occupational employment projections from 2020 to 2030 accounting for the economic impact of the COVID-19 pandemic were collected from the BLS Employment Projections program. State-level employment projections were obtained through Projections Central, a product of the Projections Managing Partnership, which the U.S. Department of Labor funds.

THIS ISSUE

This issue examines 1) employment trends from 2011 to 2021, including the impact of COVID-19, and 2) employment projections through 2030.

KEY FINDINGS

From 2011 to 2019, employment grew 12.6% in all industries and 26.7% in construction.

Chart 1

From 2011 to 2021, there were increases in the construction workforce among those who were 55 years or older (16.9% to 21.9%), Hispanic (24.3% to 32.6%), and/or female (9.2% to 11.0%).

Chart 3

Between April-June 2019 and April-June 2021, private wage-and-salary employment fell 2.1% in Heavy and Civil Engineering Construction (NAICS 237) but rose 1.9% in Construction of Buildings (NAICS 236).

Chart 7

Construction employment is projected to grow 4.4% in total from 2020 to 2030, with the Construction of Buildings (NAICS 236) subsector increasing the fastest (+4.9%).

Chart 8

The construction laborer occupation is expected to have the largest number of openings by 2030 (n=1.4 million).

Chart 11

NEXT DATA BULLETIN

Fatal and Nonfatal Injury Trends in the Construction Industry

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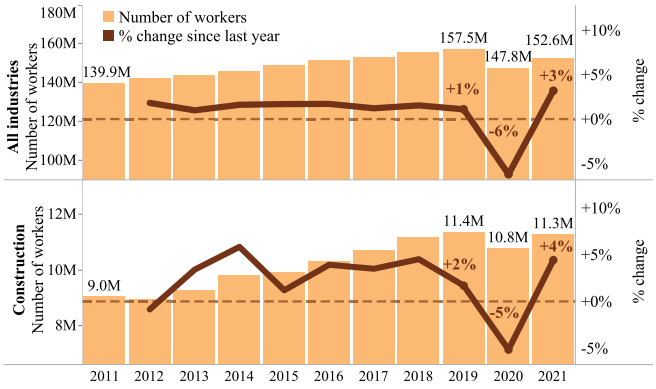
[2]The CPS is conducted by the U.S. Census Bureau for BLS.
Numbers in text and charts were calculated by the CPWR Data Center.

Total employment (CPS data) grew 12.6% in all industries (139.9 million (M) to 157.5M) and 26.7% in construction (9.0M and 11.4M) from 2011 to 2019 (chart 1). From 2019 to 2020, there were 6.2% and 5.3% decreases in all industries and construction, respectively, reflecting the beginning of the COVID-19 pandemic (chart 1). Employment rose 3.2% in all industries and 4.6% in construction from 2020 to 2021, though both figures remained slightly below 2019 levels.

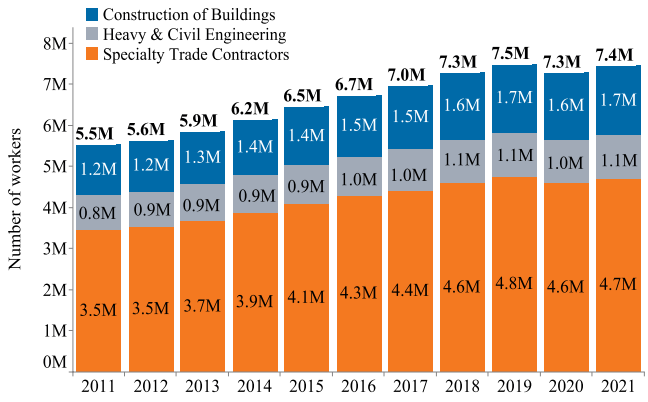
1. Employment, construction versus all industries, 2011-2021



Source: *U.S. Bureau of Labor Statistics, 2011-2021 Current Population Survey.*
**Percent change calculated based on exact (not rounded) employment estimates.*

Private, nonfarm wage-and-salary employment (CES data) followed a similar pattern as total employment (chart 2). By *major subsector*, private payroll construction employment from 2011 to 2021 grew fastest in Construction of Buildings (NAICS 236), from 1.2M to 1.7M (+38.5%[3]), and slowest in Heavy and Civil Engineering (NAICS 237), from 0.8M to 1.1M (+25.0%). Specialty Trade Contractors (NAICS 238) grew 35.4% during the same period, from 3.5M to 4.7M.

2. Construction employment, by major subsector, 2011-2021* (Private wage-and-salary employment)

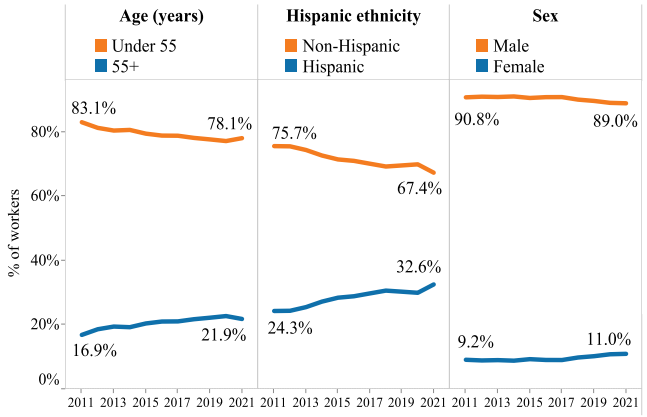


Source: *U.S. Bureau of Labor Statistics, 2011-2021 Current Employment Statistics.*
**2021 estimate is preliminary. Subsector totals may not equal total shown due to rounding.*

[3]*Percent changes for chart 2 calculated based on exact (not rounded) employment estimates.*

The demographic composition of the construction workforce shifted over the last decade (chart 3). Between 2011 and 2021, there were increases in the percentage of workers who were 55 years or older (16.9% to 21.9%), Hispanic (24.3% to 32.6%), and/or female (9.2% to 11.0%).

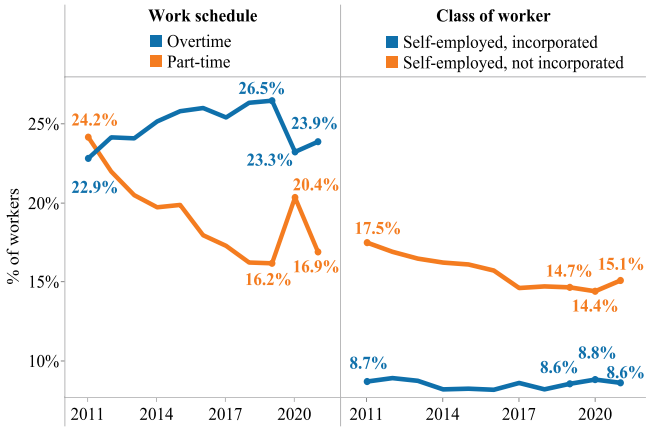
3. Demographic composition of construction workers, 2011-2021 (All employment)



Source: *U.S. Bureau of Labor Statistics, 2011-2021 Current Population Survey.*

The percentage of construction workers who worked *part-time* dropped from 24.2% in 2011 to 16.9% in 2021, with a notable spike of 20.4% in 2020 (chart 4). The percentage of construction workers who worked *overtime* increased from 22.9% to 26.5% from 2011 to 2019, with a striking decrease to 23.3% in 2020, although this figure increased in 2021 to 23.9%. Workers who were *self-employed, incorporated* declined slightly, from 17.5% in 2011 to 15.1% in 2021, and those who were *self-employed, not incorporated* remained around 8.5% throughout the same period.

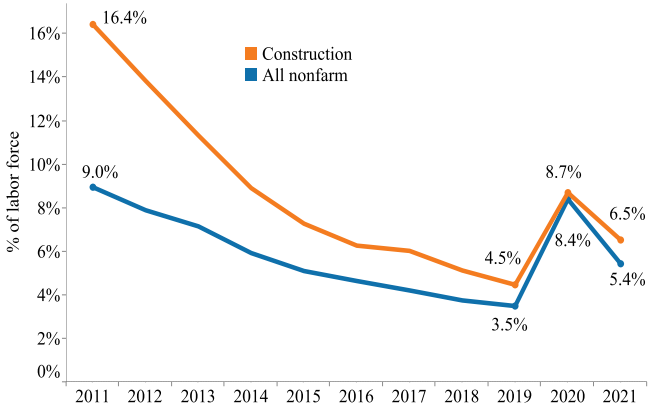
4. Construction workforce composition, by work characteristics, 2011-2021 (All employment)



Source: *U.S. Bureau of Labor Statistics, 2011-2021 Current Population Survey.*

Among private wage-and-salary workers, the *unemployment rate* was consistently higher in construction than in all nonfarm industries from 2011 to 2021, which is consistent with trends observed since the early 2000s (chart 5). Unemployment dropped at a faster rate in construction than in all nonfarm industries from 2011 to 2019 (-72.6% and -61.1%, respectively). This was a result of the Great Recession, as employment grew fastest in the industries that lost the most jobs. Unemployment rose less in construction than in all nonfarm industries at the start of the pandemic (+93.3% versus +140.0% from 2019 to 2020, respectively) which is consistent with prior documented employment trends. In 2021, unemployment was 6.5% in construction, compared to 5.4% in all nonfarm industries.

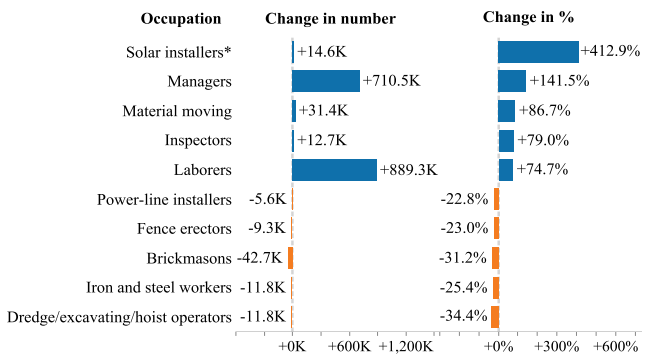
5. Annual unemployment rate, construction versus all nonfarm industries, 2011-2021 (Private wage-and-salary employment)



Source: *U.S. Bureau of Labor Statistics, 2011-2021 Current Population Survey, Table A-14. https://www.bls.gov/webapps/legacy/cpsatab14.htm (Accessed January 2022).*

The top growing and shrinking occupations from 2011 to 2021 were then examined (chart 6). The fastest growing during this period were solar installers (+412.9%), *managers* (+141.5%), and *material moving workers* (+86.7%). The largest declines were for dredge/excavating/hoist operators (-34.4%), structural iron and steel workers (-25.4%), and brickmasons (-31.2%).

6. Change in construction employment, by top 5 growing and shrinking occupations*, 2011-2021

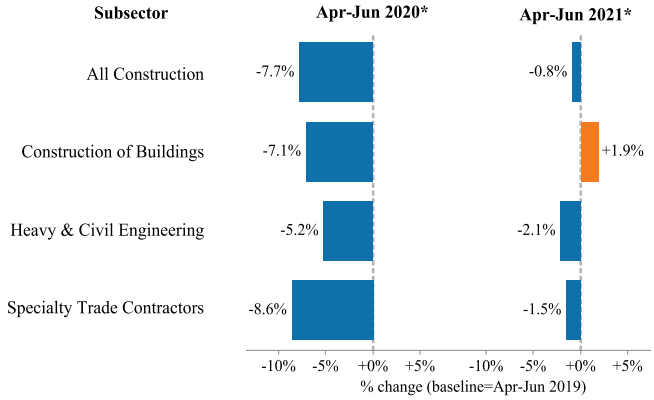


Source: *U.S. Bureau of Labor Statistics, 2011 & 2021 Current Population Survey.*

**Occupations with N of 19 or less were excluded. Solar installers had a low frequency (N=20) in 2011. Interpret estimate with caution.*

To further examine the impact of the COVID-19 pandemic, employment trends from 2019 to 2020 by major subsector were explored (chart 7). Consistent with other findings, employment among Specialty Trade Contractors (NAICS 238) was initially hit particularly hard by the pandemic, falling 8.6% between April-June 2019 and April-June 2020, compared to declines of 7.1% in Construction of Buildings (NAICS 236) and 5.2% in Heavy and Civil Engineering (NAICS 237). However, by April-June 2021, employment was within 2.1% of 2019 levels in all subsectors, and Construction of Buildings employment even surpassed 2019 levels by 1.9%.

7. Change in construction employment since April-June 2019*, by major subsector (Private wage-and-salary employment)

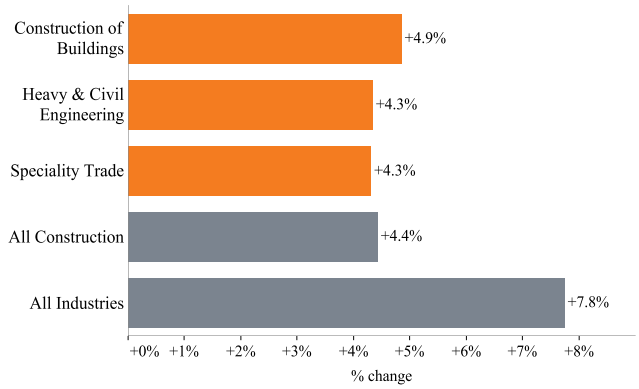


Source: *U.S. Bureau of Labor Statistics, 2019-2021 Current Employment Statistics.*

**Employment was summed across months.*

Employment projections were then examined to explore longer-term trends and the future of the workforce, especially following the COVID-19 pandemic. Construction industry employment is expected to increase a total of 4.4% from 2020 to 2030, which is almost 50% less than that of all industries (+7.8%; chart 8). Of the three major subsectors, Construction of Buildings (NAICS 236) is projected to grow the fastest (+4.9%), compared to 4.3% for both Heavy and Civil Engineering (NAICS 237) and Specialty Trade Contractors (NAICS 238).

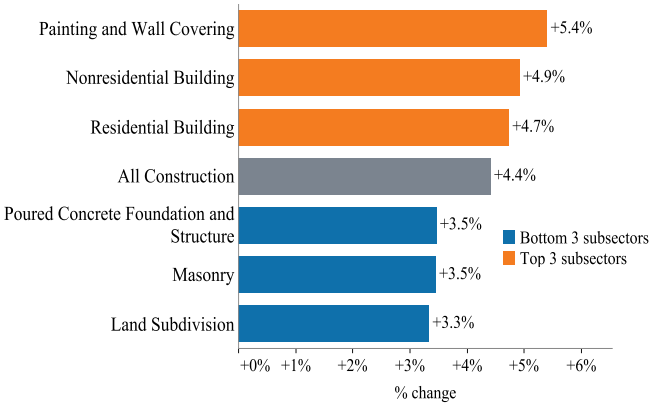
8. Projected change in construction employment, by major subsector, 2020-2030



Source: *U.S. Bureau of Labor Statistics, industry-occupation employment matrices, 2020-2030 Employment Projections.*

Among *detailed subsectors* in construction, Painting and Wall Covering Contractors (NAICS 23832) are projected to grow the fastest (+5.4%), followed by Nonresidential Building Construction (NAICS 2362; +4.9%), and Residential Building Construction (NAICS 2361; +4.7%) from 2020 to 2030 (chart 9). No detailed subsector was projected to shrink, but the slowest growing was Land Subdivision (NAICS 23721; +3.3%).

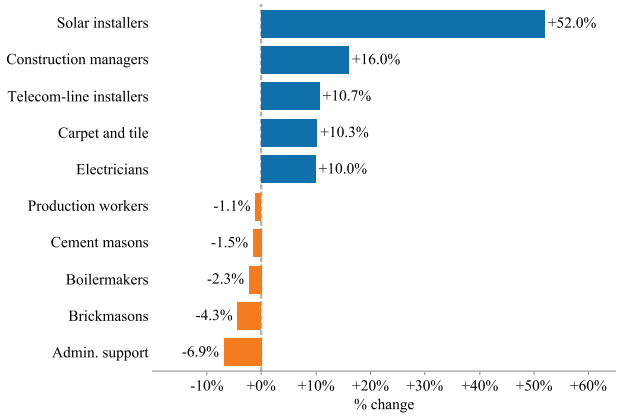
9. Projected change in construction employment, by growth rate of top and bottom 3 detailed subsectors*, 2020-2030



Source: *U.S. Bureau of Labor Statistics, industry-occupation employment matrices, 2020-2030 Employment Projections.*
**Subsectors with "Other" in title were excluded (NAICS: 23799, 23829, 23899).*

Projections among different occupations show a range of trends (chart 10). Those jobs expected to grow most quickly from 2020 to 2030 include solar installers (+52.0%), construction managers (+16.0%), and telecom-line installers (+10.7%). Occupations expected to shrink include *administrative (admin) support* (-6.9%), brickmasons (-4.3%), and boilermakers (-2.3%).

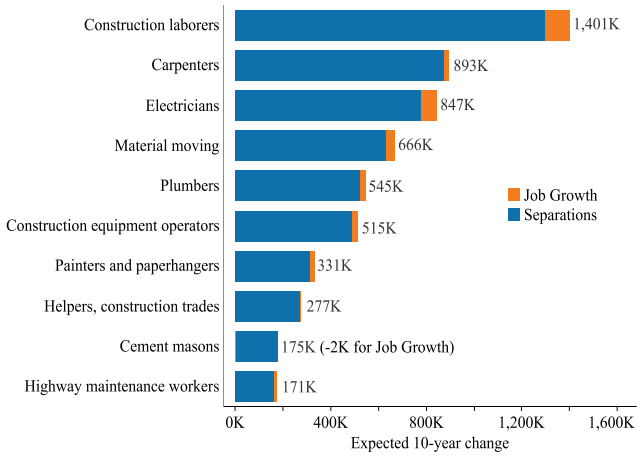
10. Projected change in construction employment, by top 5 growing and shrinking occupations, 2020-2030



Source: *U.S. Bureau of Labor Statistics, industry-occupation employment matrices, 2020-2030 Employment Projections.*

To understand the replacement needs of the industry, *job growth* and *separations* were examined for the top 10 occupations for 2020 to 2030 (chart 11). The highest demand is expected to be construction laborers (1.4M openings), with a majority of these being needed due to separations.

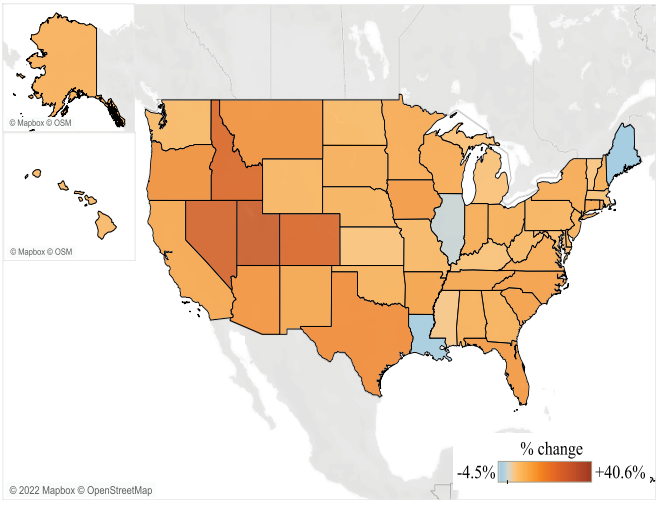
11. Projected construction job openings by job growth and separations, top 10 occupations by number of openings, 2020-2030



Source: *U.S. Bureau of Labor Statistics, Occupation Table 1.10, 2020-2030 Employment Projections.*

From 2018 to 2028, the majority of states are projected to see construction employment growth (chart 12). The five states with the highest projected growth rates are Utah (+30.4%), Nevada (+27.7%), Colorado (+26.0%), Idaho (+25.5%), and Texas (+15.8%). States with projections for shrinking construction employment include Maine (-4.5%), Louisiana (-3.5%), and Illinois (-1.2%).

12. Projected change in construction employment, by state, 2018-2028



Source: *Projections Central, State Occupational Projections, Long Term Projections, 2018-2028.*

Over the past 10 years, employment in construction grew twice as fast as that in all industries. Construction workers are increasing in age, are more likely to be Hispanic, and more likely to be female. Given the increased risk of fatal work-related injuries in older and Hispanic workers, these trends may have important occupational safety implications. Although the COVID-19 pandemic slowed employment growth in 2020, data from 2021 continued to show a rebound to nearly 2019 levels consistent with prior data bulletins.

The BLS found for construction and extraction occupations that 95% of the employment change from 2020 to 2030 is attributable to *pandemic recovery*. However, the longer-term impact of the COVID-19 pandemic on the construction industry is uncertain. Projected growth, while slower than all industries, is positive across all construction subsectors. The same cannot be said for all occupations and states. It is important to monitor how occupations grow and shrink as various jobs present unique risks, as well as to identify trends in states to ensure resources for workers and workplace safety are properly allocated.

In addition to these trends, the impact of the Infrastructure Investment and Jobs Act on the construction industry needs to be monitored. The act is expected to increase construction spending and create 1.5 million jobs across all industries in the next decade. Due to these increases the construction industry is predicted to face a worker shortage. To address the evolving needs of the workforce, CPWR, NIOSH, and OSHA have developed materials to address top and emerging concerns in the construction industry. In addition, CPWR has prepared a webpage that compiles our Spanish resources.

ACCESS THE CHARTS & MORE

View the charts in PowerPoint and the data underlying the charts in Excel. Downloading will start when you click on each link. These files can also be found under this Data Bulletin at: https://www.cpwr.com/research/data-center/data-reports/. In addition, see our latest Interactive Data Dashboards on Construction Employment Trends, Construction Employment Projections, and Women in Construction.

DEFINITIONS

Administrative support *– Workers in the construction industry with their main occupation coded as 5000-5940 according to the 2018 Census Classification Scheme. This includes positions such as tellers, clerks, telephone operators, receptionists, and administrative assistants.*

Detailed subsector *– 4- or 5-digit NAICS codes within construction (depending on the level available in the data).*

Job growth *– The net occupational employment change between years not including separations.*

Major subsector *– 3-digit NAICS codes within construction, including Construction of Buildings (NAICS 236), Heavy and Civil Engineering (NAICS 237), and Specialty Trade Contractors (NAICS 238).*

Managers *– Workers with occupations in general management, such as chief executives, operations managers, financial managers (excluding construction managers specifically, coded as 0220 according to the 2018 Census Classification Scheme).*

Material moving workers – *Workers with occupations dealing with transportation and/or moving supplies (excluding truck drivers and crane, tower, dredge, excavating, and hoist operators).*

Nonfarm wage-and-salary *– Workers who receive wages, salaries, commissions, tips, or pay from their employer excluding farm industries.*

Overtime – *Reported working more than 40 hours at one's main job the week before the survey.*

Pandemic recovery *– Represents the reversal of employment declines from 2019 to 2020 from the COVID-19 pandemic for occupations projected to grow.*

Part-time *– Reported working less than 35 hours at one's main job the week before the survey.*

Self-employed, incorporated *– Individuals who work for their own legal corporation (e.g., small business owners).*

Self-employed, not incorporated *– Individuals who work for themselves apart from an established corporation (e.g., freelancers, independent contractors, and independent consultants).*

Separations *– Total number of workers permanently leaving an occupation including labor force exits and occupational transfers.*

Unemployment rate *– Number of unemployed people as a percentage of the labor force (the labor force is the sum of the employed and unemployed).*

DATA SOURCES

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- Construction Safety and Health Network
  https://safeconstructionnetwork.org/
- Construction Solutions
  https://www.cpwrconstructionsolutions.org/
- Construction Solutions ROI Calculator
  https://www.safecalc.org/
- COVID-19 Construction Clearinghouse
  https://covid.elcosh.org/index.php
- COVID-19 Exposure Control Planning Tool
  https://www.covidcpwr.org
- Electronic Library of Construction Occupational Safety and Health
  https://www.elcosh.org/index.php
- Exposure Control Database
  https://ecd.cpwrconstructionsolutions.org/
- Safety Climate - Safety Management Information System (SC-SMIS)
  www.scsmis.com
- Stop Construction Falls
  https://stopconstructionfalls.com/
- Work Safely with Silica
  https://www.silica-safe.org/

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