

THE HOME BUILDERS INSTITUTE (HBI) CONSTRUCTION LABOR MARKET REPORT

Fall 2023



Building Careers.
Changing Lives.

Executive Summary

The health of the labor market is key to the outlook for monetary policy, interest rates and housing affordability. A return to stable inflation readings is dependent on gains for labor productivity (via worker training), labor recruitment and reductions for shelter price growth. The residential construction labor workforce lies at the center of these economic and social policy objectives.

Despite some recent weakening for the count of open construction sector jobs, there will be an upswing for housing production in 2024, increasing the demand for construction labor. Skilled construction workers will be needed to reduce the nation's housing deficit during the second part of this decade, a shortfall NAHB estimates to total 1.5 million homes.¹

This report provides an overview of the current state of the nation's construction labor market. Key findings include:

- There are currently 8 million construction workers
- The estimated, required amount of construction worker hiring is approximately 723,000 per year, according to NAHB analysis of BLS data and projections
- Demand for construction workers is weakening due to the housing downturn, but year-over-year gains remain solid, with 42,400 net residential construction jobs added over the last 12 months
- The 6-month moving average of job gains for residential construction was 3,500 a month, as of August
- Average hourly wages in the overall construction industry have increased 5.4% over the last year, with average wage levels exceeding national private sector averages
- Women make up a growing share of the construction employment, reaching 10.9% in 2022. This is a noticeable increase from 9.1% in 2017 and just a nudge below the record high share of 11% recorded in 2021.
- Construction payroll employment currently totals 8 million
 - Residential construction represents 3.3 million of this total
- The number of open construction sector jobs has declined to 363,000 by mid-2023 after peaking at just under 500,000 at the end of 2022
- Construction employment is broad-based across the nation
- Self-employment in construction is currently 23% of the labor force, down from 26% in 2010
- Immigrant workers now account for 24% of the construction workforce, down slightly from the 2016 record high share of 24.4%.
- Hispanics make up close to a third of the construction labor force (31.5%), a new record high share
- Construction attracts 6.5% of all employed veterans
- The median age of workers in construction is 42
 - However, due to aging trends, the share of construction workers aged 25 to 54 decreased from 72% in 2015 to 67.7% in 2021
- At the start of 2023, about 30% of workers worked at home at least two days a week boosting housing demand

¹ <https://eyeonhousing.org/2022/12/the-size-of-the-housing-shortage-2021-data/>
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Construction Employment Outlook

The health of the labor market is key to the outlook for monetary policy, interest rates and housing affordability. The skilled labor shortage, which began in sectors like construction, is having macro impacts on the overall economy. In a typical business cycle, a quick and dramatic Federal Reserve increase for the federal funds rate would ultimately produce a measurable impact on the unemployment rate. However, this is not a typical cycle. Inflation rates, that peaked around 9% on the CPI last summer, are a result of an excessive amount of stimulus during the covid period. And the labor market, which is typically a target for monetary policy, is tight due to demographic-based labor shortages.

While some cooling has been observed in the construction labor market with respect to open, unfilled jobs, the market remains tight. As of July, there were 363,000 open construction sector jobs. This is off an all-time higher of 488,000 in December of 2022. While a notable decline, reflecting among other factors that the number of single-family homes under construction is down 17% year-over-year, the number of open jobs remains elevated reflecting the ongoing lack of skilled construction workers.

The Federal Reserve is attempting to fight inflation by reducing demand for goods and services. However, this approach neglects the supply-side solution. For example, by increasing interest rates, the Fed reduces demand for hiring. However, alternatively, the government could seek programs that would increase worker productivity and bring more workers into active participation in market. Both of these policies objectives would be anti-inflationary.

Looking forward, the NAHB economic forecast expects the Federal Reserve to cut interest rates by mid-2024, which will reduce long-term mortgage interest rates, price-in demand, and produce a sustainable increase for single-family home building. As the housing industry approaches a turning point and a return to expanding construction volumes, labor demand will grow. Consequently, the nation will require additional construction workers to reduce the existing housing deficit of approximately one and a half million homes.

As explored in this report, there are several ways to measure the current need for additional workers. According to NAHB Economics analysis of Bureau of Labor Statistics (BLS) data and projections, the average annual number of occupational openings in construction totals approximately 723,000 a year.² This estimate is determined by estimating the required net growth in employment due to construction expansion **plus** workers required to replace individuals who leave the sector permanently. This estimate reflects a need of more than 60,000 adjusted net hires a month. Over the course of 2024-2026, this total represents a need for an additional 2.17 million adjusted net hires for construction.

This measure can be broken down for a few, specific occupations. For example, the number of occupational job openings for carpenters totals 9,100 per year. And the number of annual occupational job openings totals almost 8,000 for electricians, almost 5,200 for pipelayers, more than 5,000 for construction equipment operators, and more than 1,000 for drywall installers.

² BLS occupational projections are found here: <https://www.bls.gov/emp/tables/occupational-projections-and-characteristics.htm>

On a gross basis, over the period 2020-2022, total hires in the sector averaged approximately 4.57 million annually. These larger estimates reflect rehires (or intrafirm churn) in the sector as workers shift from business to business within the sector.

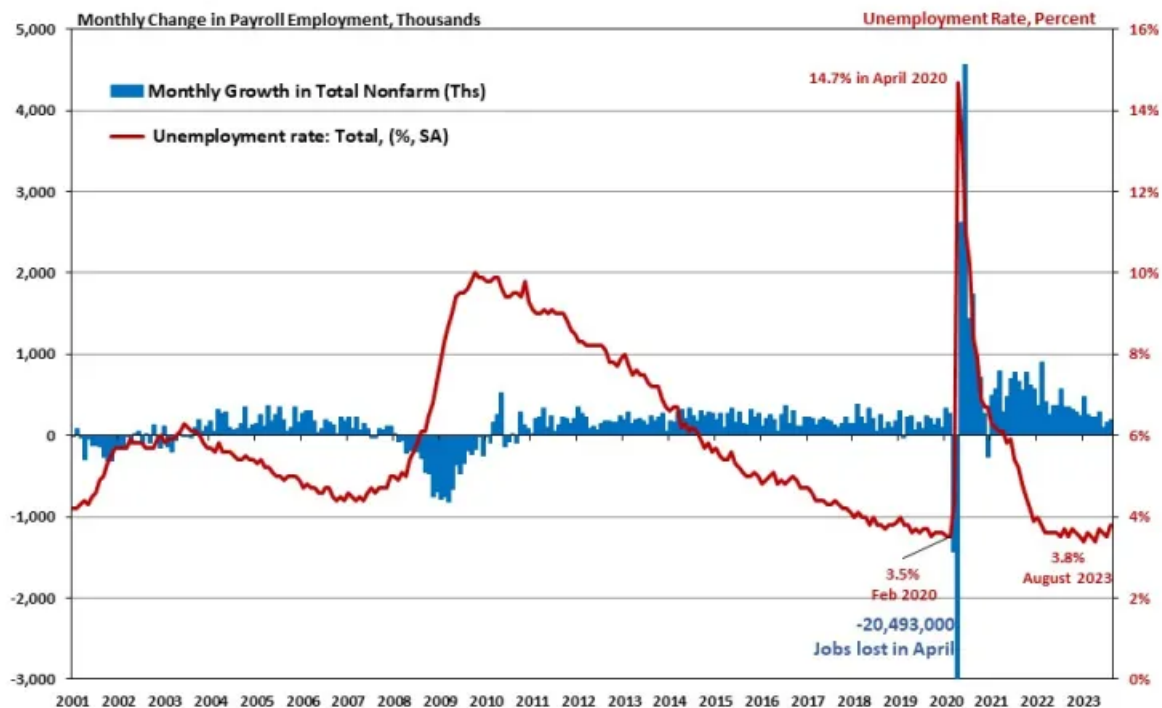
On a simple net basis, the 2021 BLS estimates find that total construction employment is forecasted to rise from 7.03 million in 2020 to 7.28 million in 2031, for a net need of more than 25,000 workers per year. This represents a forecast of average annual construction employment growth of 3.6% per year.

US Employment

Despite tight monetary policy, nearly 5.4 million jobs have been created since March 2022, when the Fed enacted the first interest rate hike. In the first eight months of 2023, nearly 1.9 million jobs were created, and monthly employment growth averaged 236,000 per month, following the average monthly growth of 399,000 in 2022. While the economy continues generating new jobs, the gains are decelerating, and the labor market is cooling gradually due to rising interest rates. This trend will likely continue due to ongoing tightening by the Federal Reserve and rising economic uncertainty.

According to the Bureau of Labor Statistics, nationwide total nonfarm payroll employment increased by 187,000 in August, following a gain of 157,000 in July, as reported in the Employment Situation Summary. The estimates for the previous two months were revised down. The estimate for June was revised lower by 80,000 from +185,000 to +105,000, while the July increase was revised down by 30,000, from +187,000 to +157,000

Figure 1. Monthly Change in Payroll Employment and Unemployment Rate



Source: Bureau of Labor Statistics.

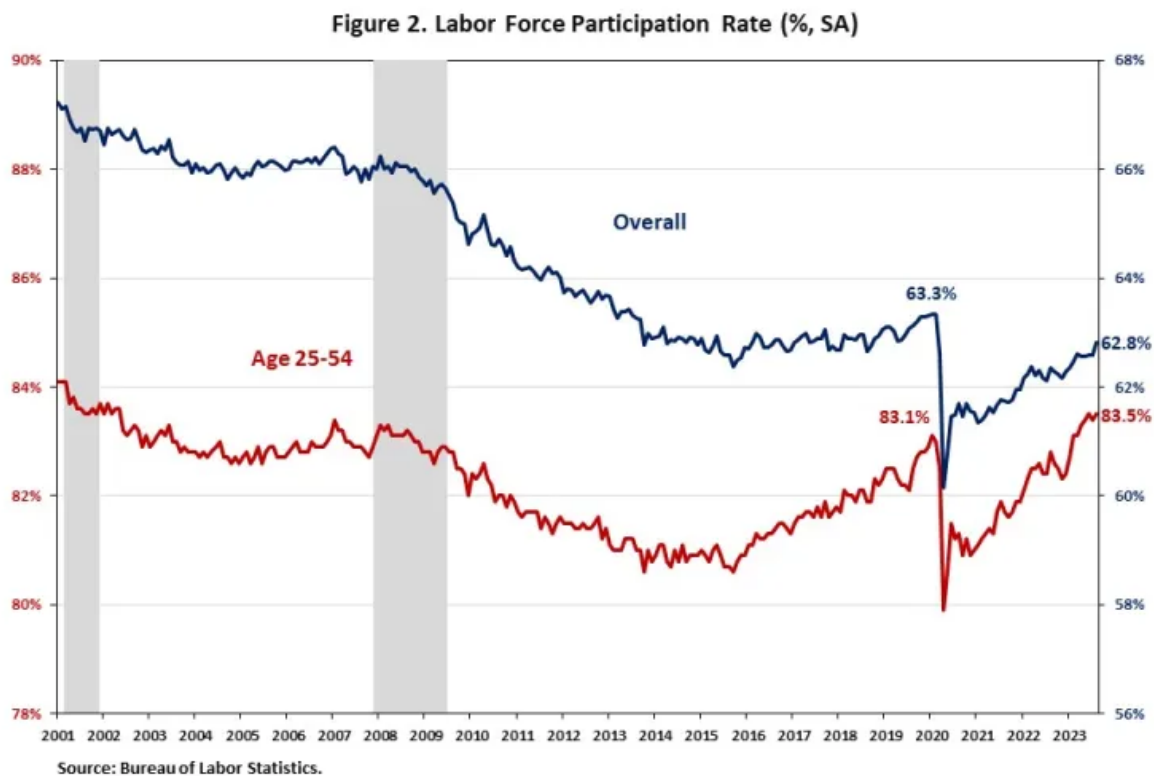
Employment in the overall construction sector increased by 22,000 in August, following a 16,000 gain in July. While residential construction added 1,400 jobs, non-residential construction employment gained 21,000 jobs. Construction industry employment (both residential and non-residential) currently totals 8 million, exceeding its pre-pandemic level. All residential and non-residential construction jobs lost in March and April 2020 have been restored, marking a full recovery of the construction labor market.

Among industry sectors, employment in health care (+71,000), leisure and hospitality (+40,000), social assistance (+26,000), and construction (+22,000) continued to trend up in August, while transportation and warehousing lost 34,000 jobs.

As a sign of a resilient labor market, the US unemployment rate has been hovering around its pre-pandemic level for over a year, despite the concurrent unprecedented interest rate hikes by the Federal Reserve. However, most recently in August, the unemployment rate rose by 0.3 percentage points to 3.8%. The number of unemployed persons increased by 514,000 to nearly 6.4 million, while the number of employed persons increased by 222,000.

The labor force participation rate, the proportion of the population either looking for a job or already holding a job, rose 0.2 percentage points to 62.8%. Moreover, the labor force participation rate for people who aged between 25 and 54 edged up 0.1 percentage point to 83.5%.

Despite the steady gains over the last three years, the US labor force participation rate remains historically low, below its pre-pandemic levels at the beginning of 2020. The higher share of older Americans, particularly aged 55 years and older, that continues to stay out of the labor force helps explain the ongoing tightness in the US labor market. Nevertheless, the labor force participation rate for people who aged between 25 and 54 currently exceeds the pre-pandemic level of 83.1%.

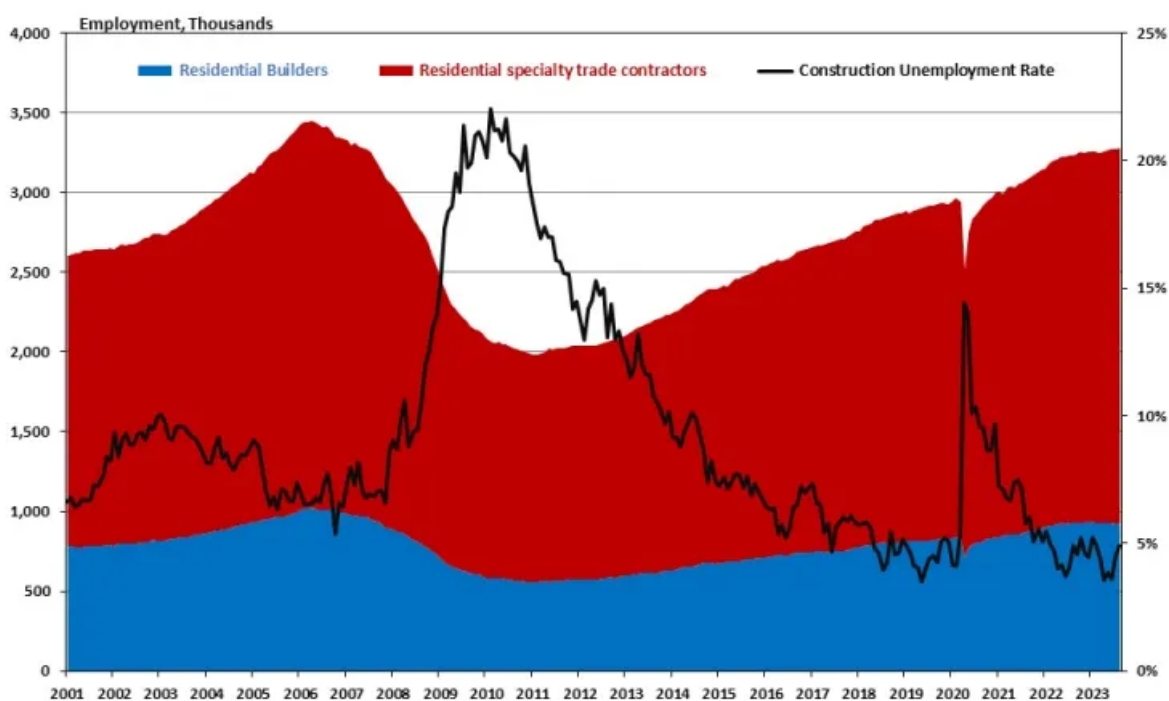


Residential Construction Employment

Residential construction employment now stands at 3.3 million, broken down as 925,000 builders and 2.4 million residential specialty trade contractors. As of August, the 6-month moving average of job gains for residential construction was 3,500 a month. Over the last 12 months, home builders and remodelers added 42,400 jobs on a net basis. Since the low point following the Great Recession, residential construction has gained 1,293,500 positions.

In August, the unemployment rate for construction workers rose by 0.4 percentage points to 4.9% on a seasonally adjusted basis. Despite the current uptick, the unemployment rate for construction workers remained historically low by the standards of the last 20 years. After reaching 14.2% in April 2020, the trend was downward reflecting fundamental shortages of construction labor.

Figure 3. Residential Construction Employment and Unemployment Rate



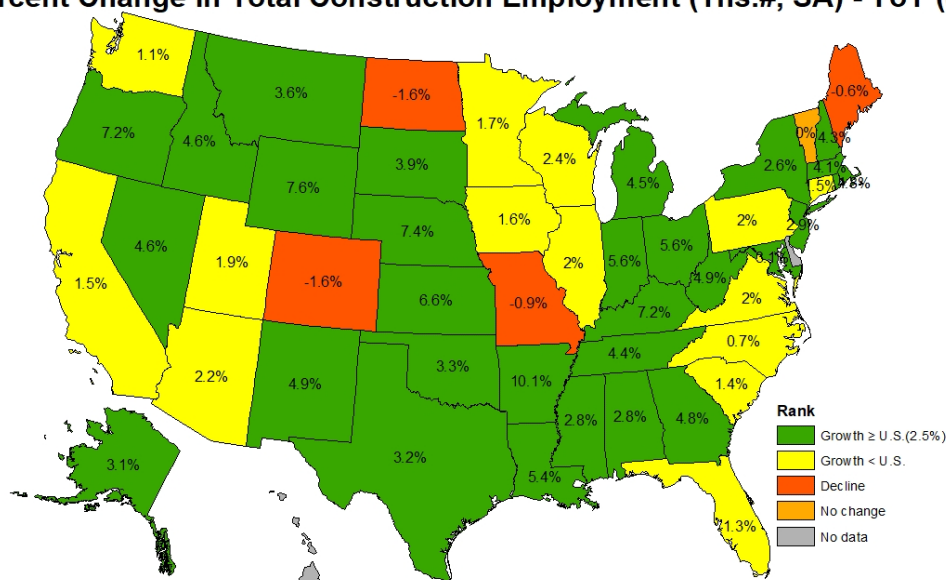
State-Level Employment Data

Recent employment gains were unevenly distributed across the United States. Nonfarm payroll employment increased in 36 states in July compared to the previous month, while 14 states and the District of Columbia lost jobs.

On a month-over-month basis, employment data was strong in Florida, which added 44,500 jobs, followed by California (+27,900), and Texas (+26,300). Fourteen states and the District of Columbia lost a total of 31,300 jobs. In percentage terms, employment in Vermont increased by 0.9% while Delaware reported a 0.6% decline between June and July.

Year-over-year ending in July, 3.4 million jobs have been added, marking a full recovery of the labor market. Except for Rhode Island, all the other states and District of Columbia added jobs compared to a year ago. The range of job gains spanned 441,700 jobs in Texas to 2,100 jobs added in Vermont. Rhode Island lost 5,600 jobs on a year-over-year basis. In percentage terms, Nevada reported the highest increase by 3.8%, while Rhode Island decreased by 1.1% compared to a year ago.

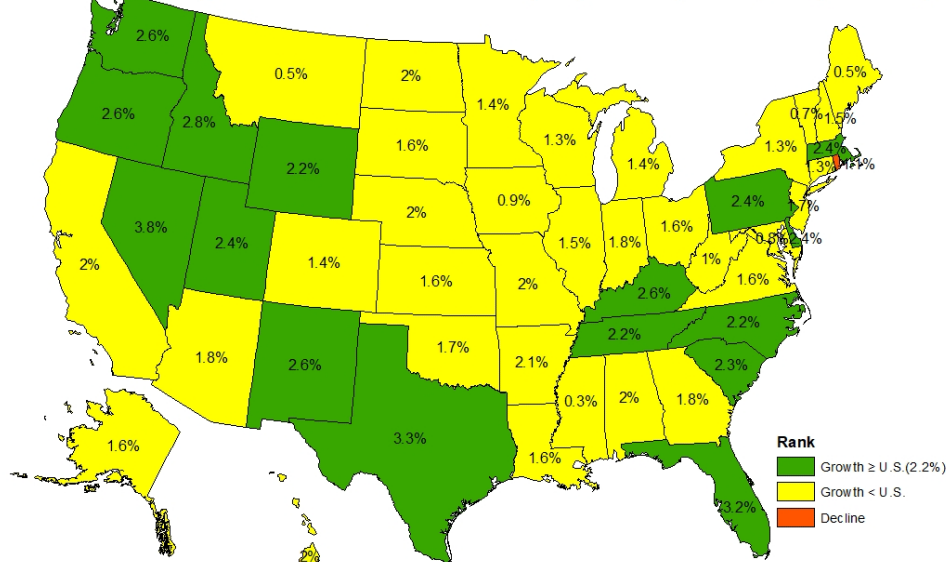
Percent Change in Total Construction Employment (Ths.#, SA) - YoY (July)



Across the 48 states which reported construction sector jobs data—which includes both residential as well as non-residential construction— 26 states reported an increase in July compared to June, while 21 states lost construction sector jobs. New Mexico reported no change on a month-over-month basis. Texas added 4,700 construction jobs, while Washington lost 2,500 jobs. Overall, the construction industry added a net 19,000 jobs in July compared to the previous month. In percentage terms, Nebraska increased by 3.1% while Maine reported a decline of 2.7% between June and July.

Year-over-year, construction sector jobs in the U.S. increased by 198,000, which is a 2.5% increase compared to the July 2022 level. Texas added 25,200 jobs, which was the largest gain of any state, while Colorado lost 3,000 construction sector jobs. In percentage terms, Arkansas had the highest annual growth rate in the construction sector by 10.1%. Over this period, Colorado reported a decline of 1.6%.

Percent Change in Total Nonfarm Employment (Ths.#, SA) - YoY (July)



Job Openings and Labor Turnover in Construction

The count of open, unfilled jobs for the overall economy continued to move lower in July, falling to 8.8 million. While certain inflation readings have raised the likelihood of a September Federal Reserve interest rate increase, the JOLTS survey is another data point indicating an ongoing but gradual cooling of macro conditions due to elevated interest rates.

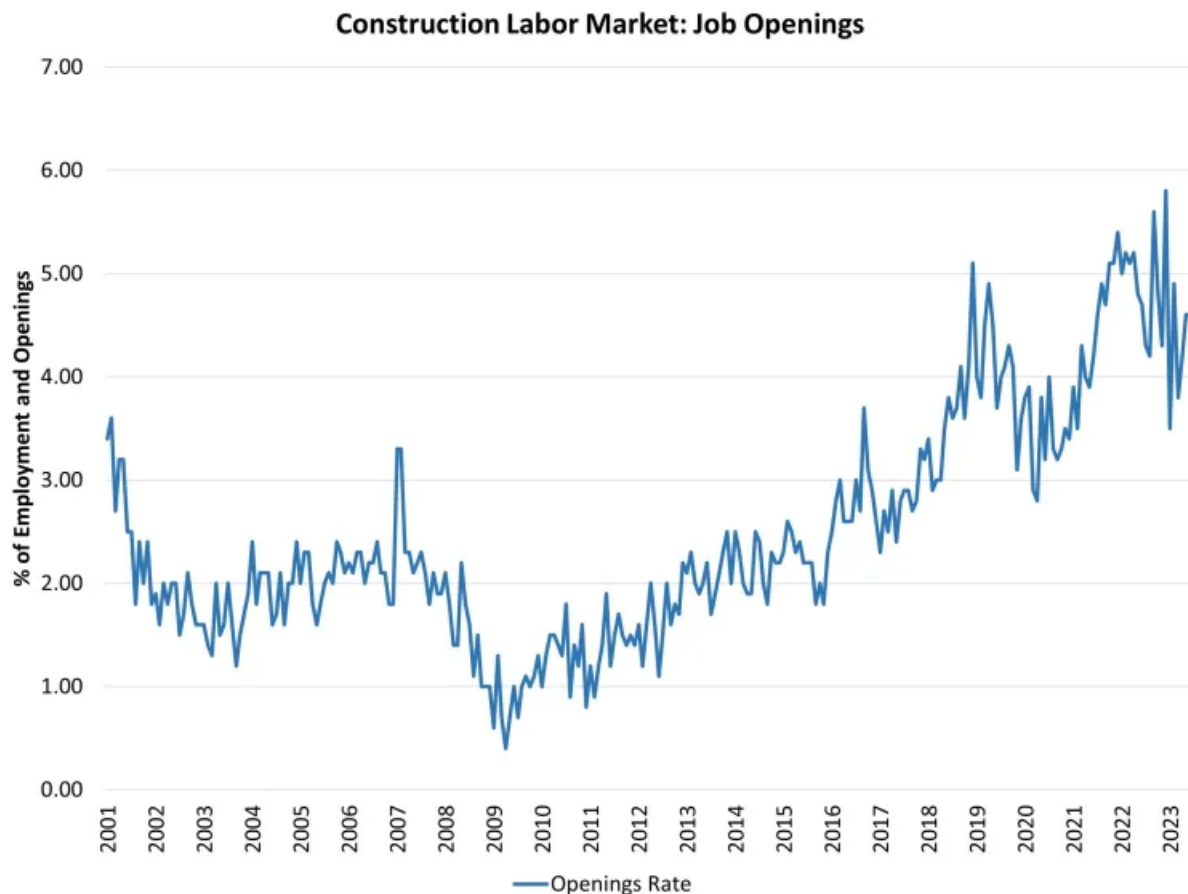
The count of open jobs was 11 million a year ago in July 2022. The count of total job openings will continue to fall in 2023 as the labor market softens and the unemployment rises. From a monetary policy perspective, ideally the count of open, unfilled positions slows to the 8 million range in the coming months as the Fed's actions cool inflation. The economy is approaching that level according to this new data release.

While higher interest rates are having an impact on the demand-side of the economy, the ultimate solution for the labor shortage will not be found by slowing worker demand, but by recruiting, training and retaining skilled workers. This is where the risk of a monetary policy mistake can be found. Good news for the labor market does not automatically imply bad news for inflation.

The construction labor market continued to cool in July. The count of open construction jobs decreased to 363,000. This estimate comes after a data series high of 488,000 in December 2022.

The overall trend is one of cooling for open construction sector jobs as the housing market slows and backlog is reduced, with a notable uptick in month-to-month volatility since late last year.

The construction job openings rate ticked down to 4.4% in July. The recent trend of these estimates points to the construction labor market having peaked in 2022 and is now entering a stop-start cooling stage as the housing market adjusts to higher interest rates.



Despite additional weakening that will occur in the second half of 2023, the housing market remains underbuilt and requires additional labor, lots and lumber and building materials to add inventory. Hiring in the construction sector ticked up to 4.8% in July after a 4.7% reading in June. The post-virus peak rate of hiring occurred in May 2020 (10.4%) as a post-covid rebound took hold in home building and remodeling.

Construction sector layoffs increased to 1.8% in July. In April 2020, the layoff rate was 10.8%. Since that time, the sector layoff rate has been below 3%, with the exception of February 2021 due to weather effects and March 2023 due to some market churn.

Looking forward, attracting skilled labor will remain a key objective for construction firms in the coming years. While a slowing housing market will take some pressure off tight labor markets, the long-term labor challenge will persist beyond the ongoing macro slowdown.

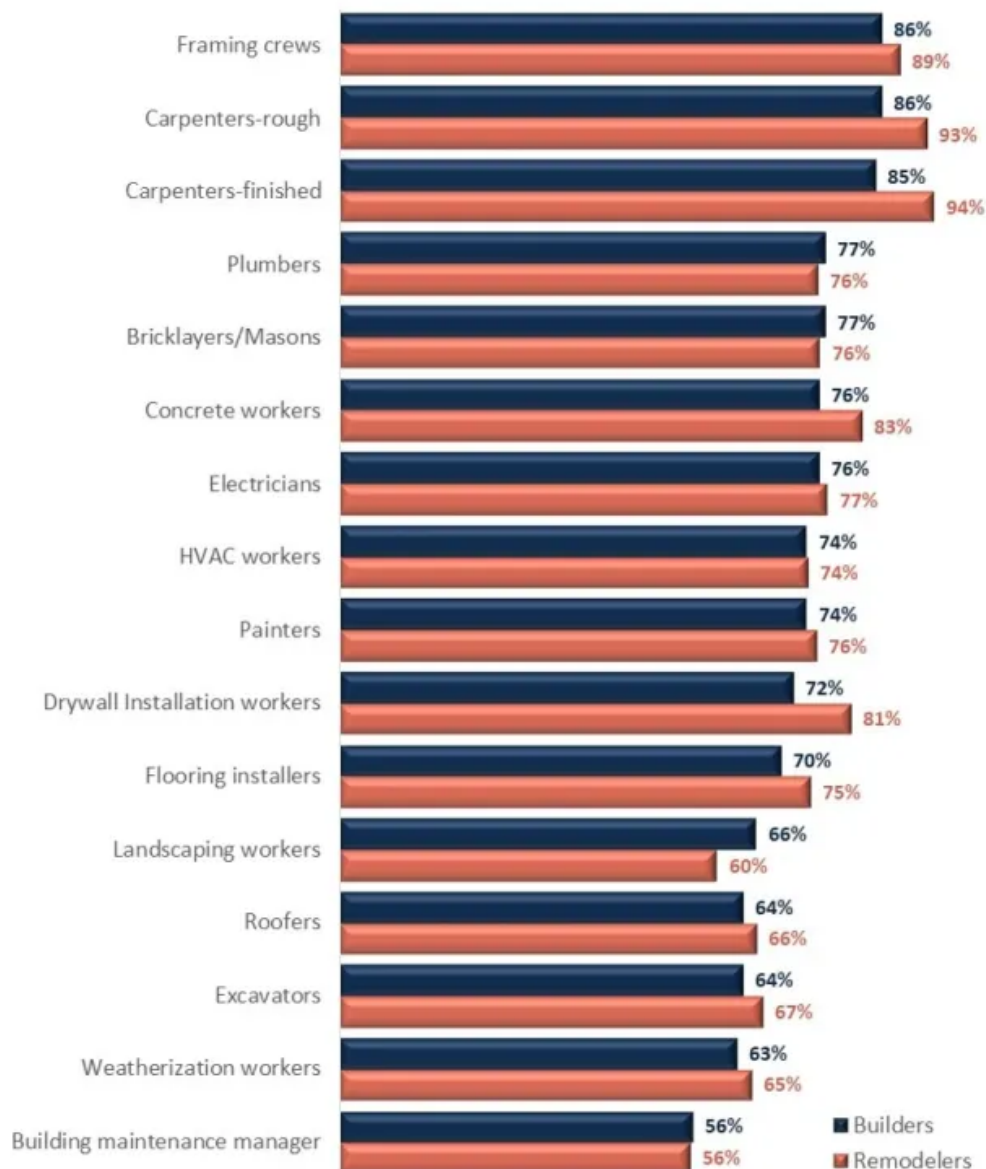
Labor Shortages

As construction labor market starts to loosen, it should help ease off the record labor shortages reported by NAHB members in recent surveys.

In the October 2021 survey for the NAHB/Well Fargo Housing Market Index (HMI), more than 55 percent of single-family builders reported a shortage (either serious or some) of each of the 16 trades listed in the questionnaire. At the high end, more than 80 percent reported a shortage of labor for each of the three categories of carpenters (rough, finished and framing crews).

Similarly, in the survey for the third-quarter 2021 NAHB/Royal Building Products Remodeling Market Index (RMI), over 55 percent of remodelers reported a shortage of each of the same 16 trades. In the most extreme cases, over 90 percent of remodelers reported shortages of workers needed to perform rough and finished carpentry.

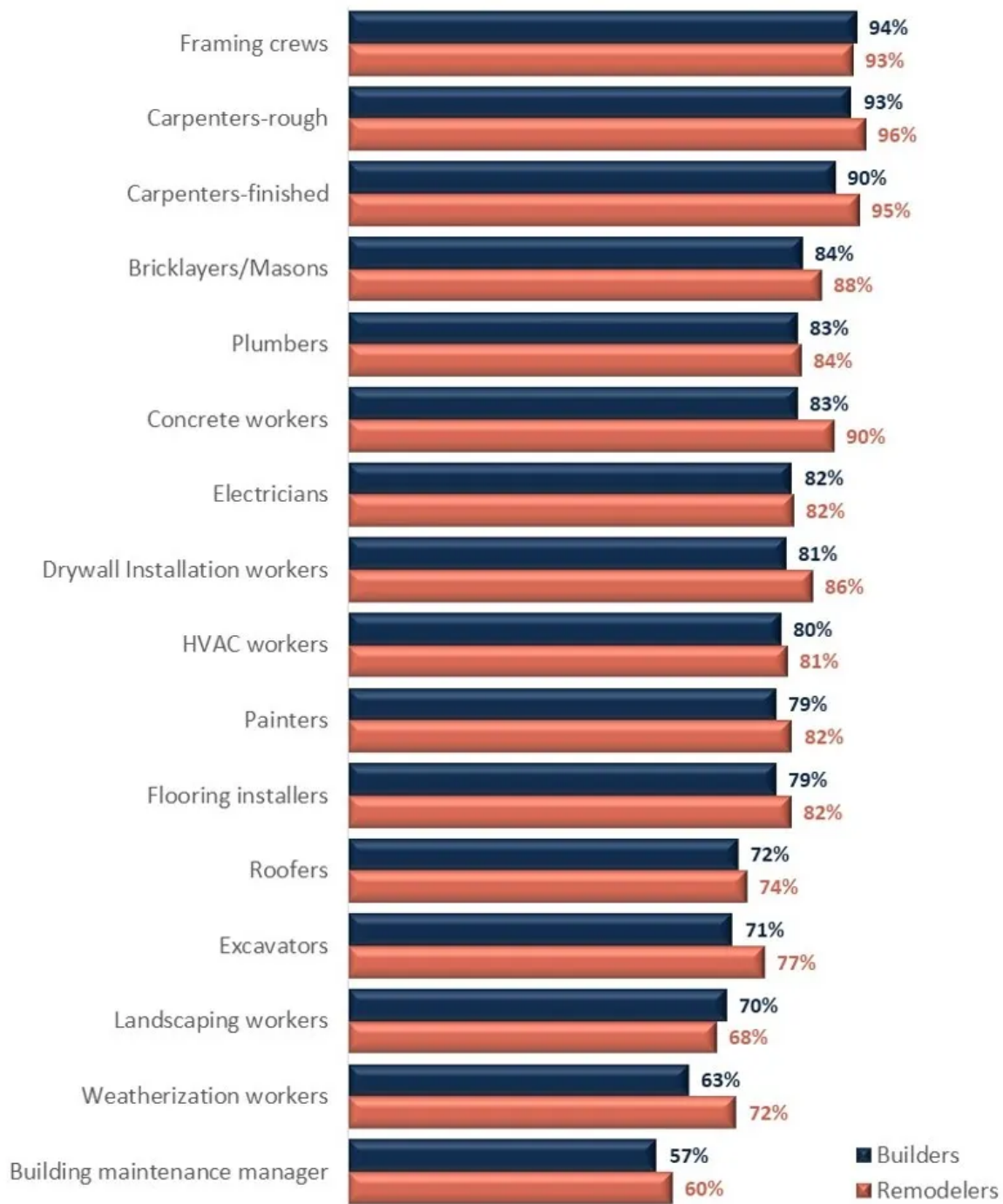
Percent of Builders & Remodelers Reporting Shortages of LABOR (Directly employed)



The above results are for labor directly employed by builders and remodelers. In residential construction, however, a substantial share of the physical work is performed by subcontractors. The same surveys indicate that subcontractor shortages are even more widespread than shortages of labor employed directly by the general contractors. At least 90 percent of single-family builders responding to the October HMI survey reported a shortage of subcontractors in each of the three categories of carpenters, and 80 to 85 percent reported a shortage of subcontractors in six other trades.

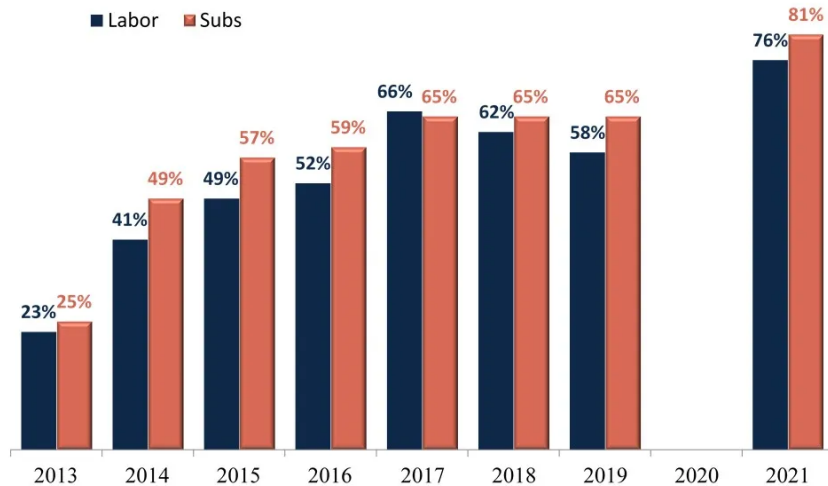
The shortages tended to be somewhat more widespread among remodelers. At least 90 percent of remodelers in the third-quarter RMI survey reported a shortage of subcontractors in four trades (concrete workers, in addition to the three types of carpenters). Overall, more than 80 percent of remodelers reported a shortage of subcontractors in 11 of the 16 trades.

Percent of Builders & Remodelers Reporting Shortages of SUBCONTRACTORS



NAHB began asking remodelers questions about labor shortages in the 2013 RMI survey. Initially, the survey covered 12 different trades. From 2013 to 2017, the average shortage percentage calculated across those trades increased from 23 to 66 percent for labor directly employed by remodelers, and from 25 to 65 percent for subcontractors. The percentages plateaued at those then-historic highs for a few years, before spiking to 76 and 81 percent, respectively, in the latest survey.

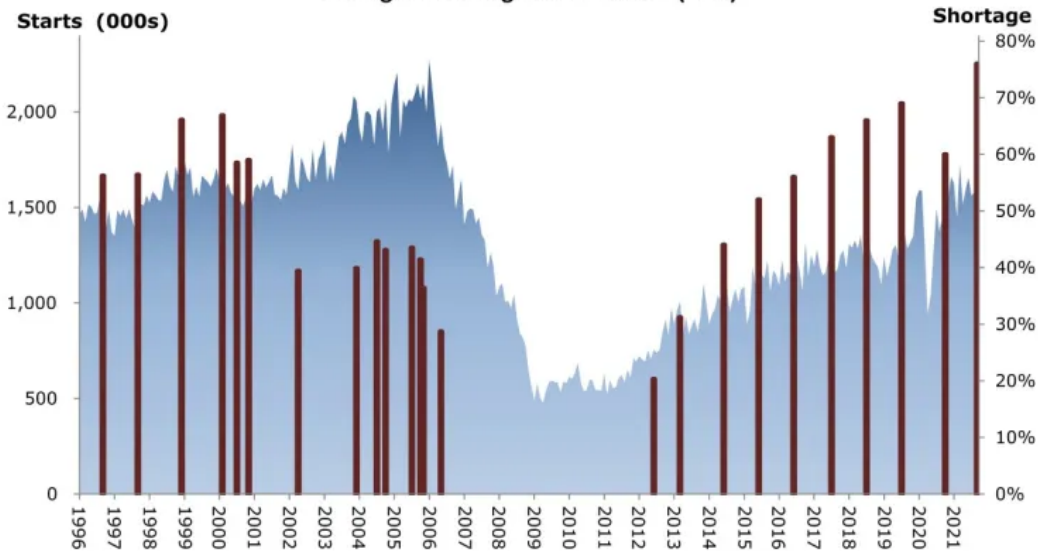
Shortages (Serious or Some) of Labor and Subcontractors Reported by Remodelers
Average Shortage Percentage for 12 Trades* – HISTORY



*Carpenters-rough, Carpenters-finished, Electricians, Excavators, Framing crews, Roofers, Plumbers, Bricklayers/Masons, Painters, Weatherization workers, HVAC workers, Building maintenance manager

Results from single-family builders in the HMI survey extend back even further, all the way to 1996 for labor directly employed by the builders. Averaged across the 9 trades covered in a consistent fashion since then, the share of builders reporting a shortage of labor hit a record 76 percent in October of 2021. This is significantly higher than the previous peak of 67 percent established at the end of the 1990s (when an extended period of GDP growth above 4.0 percent had driven down the unemployment rate down to under 4.0 percent and created particularly tight labor markets). And it is much higher than the 45 percent reached during the housing boom of the mid-2000s, when the industry needed to find enough labor to build 2 million homes a year.

Housing Starts (area) and Shortage of Labor Reported by Builders
Average Percentage for 9 Trades * (bars)

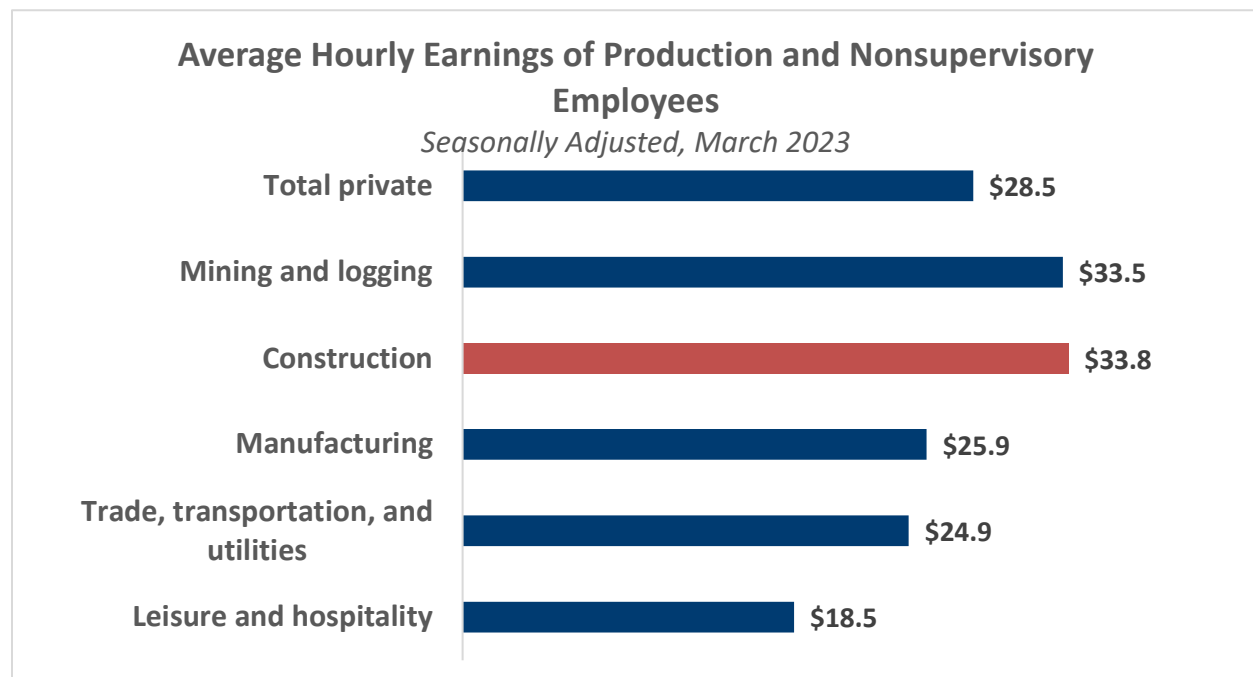


*Carpenter-Rough, Carpenter-Finished, Electricians, Excavators, Framing crews, Roofers, Plumbers, Bricklayers/Masons and Painters

Wages in Construction

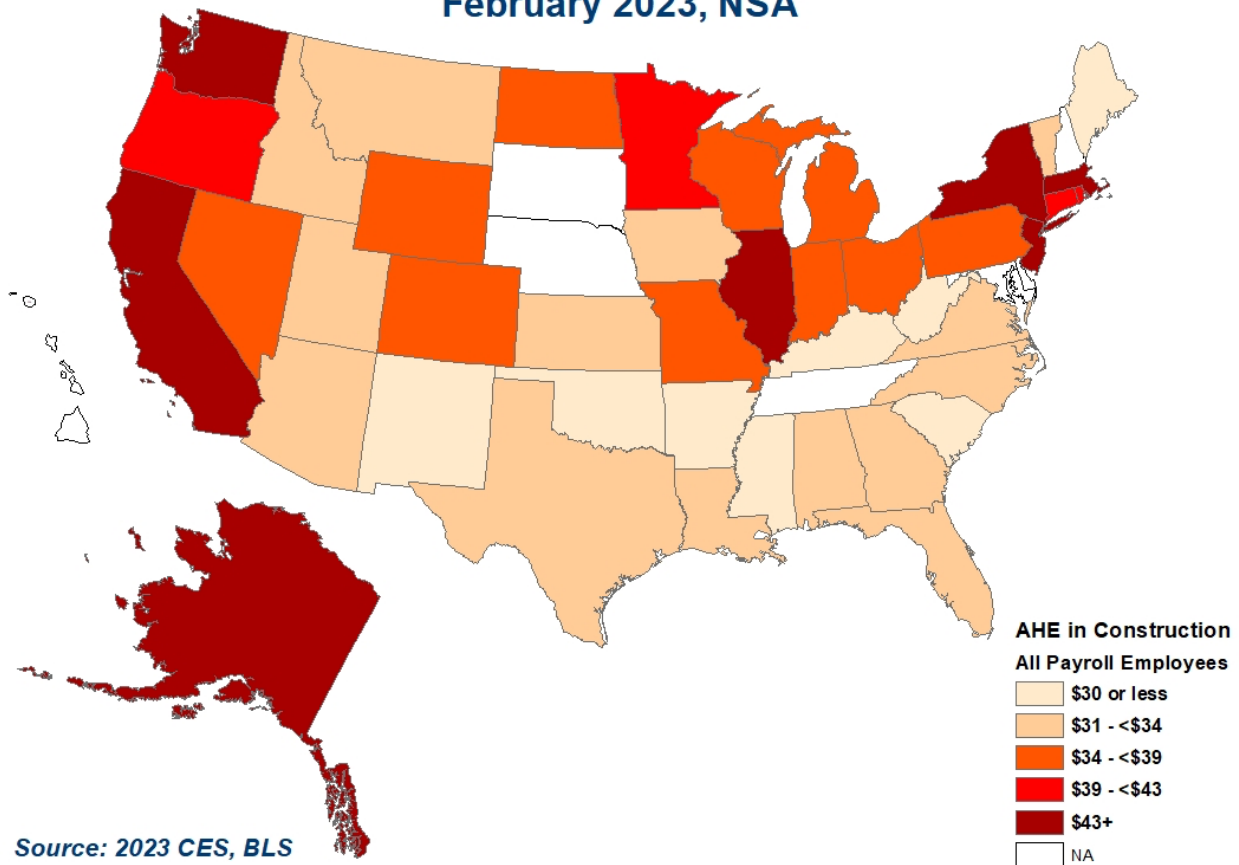
Despite a slowing housing market but reflecting persistent long-term labor challenges, wages in construction continue to rise, often outpacing and exceeding typical earnings in other industries. According to the latest Current Employment Statistics (CES) report from the Bureau of Labor Statistics (BLS), average hourly earnings (AHE) in construction increased 5.4% since a year ago and approached the \$36 mark in March 2023. At the same time, seasonally adjusted average hourly earnings in manufacturing were \$31.8, and \$27.67 in trade, transportation and utilities. The overall US private sector AHE were \$33.2.

Looking at wages of production and non-supervisory employees, the differences across industries persist, with production workers in construction earning some of the highest AHE - \$33.8 in March 2023. Nonsupervisory and production workers in mining and logging were averaging \$33.5 per hour, in manufacturing - \$25.9, in trade, transportation, and utilities - \$24.9, in leisure and hospitality - \$18.5. Averaging across the entire private sector, the mean hourly earnings of production and nonsupervisory workers were \$28.5.



Average hourly earnings in construction vary greatly across 43 states that reported these data. Some of the highest AHE are recorded by states in Northeast and along the Pacific coast. As of February 2023, ten states reported not seasonally adjusted average earnings in excess of \$40 per hour, including Massachusetts - \$45.9, New Jersey - \$45.4, Illinois - \$44.6, Alaska - \$44.4, Washington - \$44.2, New York - \$43.6, California - \$43, Rhode Island - \$42, Oregon - \$41.7, and Minnesota - \$41.34. At the same time, not seasonally adjusted US average hourly earnings in construction were \$35.9.

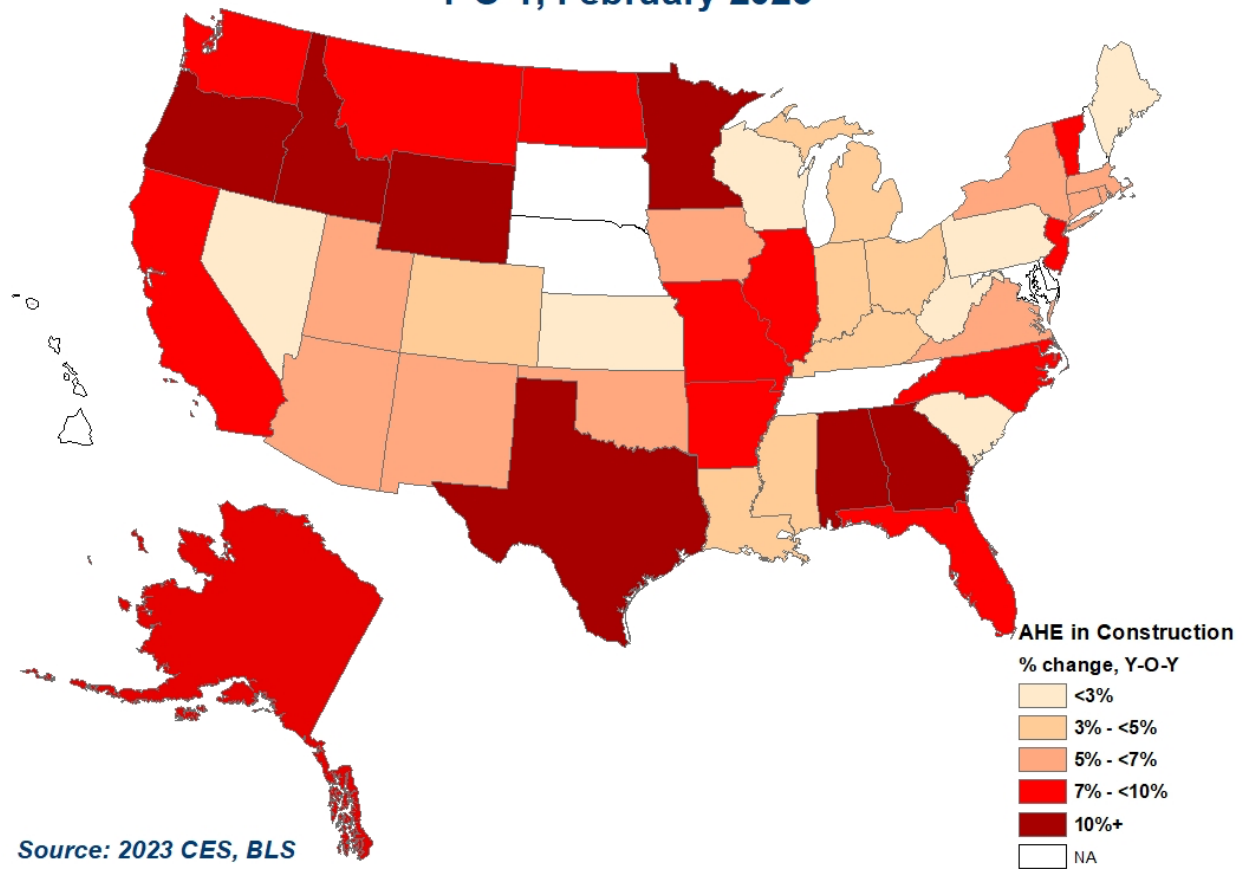
Average Hourly Earnings in Construction, February 2023, NSA



At the other end of the spectrum are mostly Southern states with their vast majority reporting not seasonally adjusted average hourly earnings in construction of \$31 or less. The bottom ten states with the lowest AHE include seven states in the South. The lowest hourly wages are in neighboring Mississippi and Arkansas - \$27.5, followed by South Carolina - \$29.3, New Mexico - \$29.4, West Virginia - \$29.8, Kentucky - \$30. Maine - \$30.2, Oklahoma - \$30.2, Idaho - \$30.6, and Alabama - \$30.7 conclude the bottom ten hourly wages in construction list.

While differences in regional hourly rates might reflect variation in the cost of living across states, the faster growing wages are more likely to point out to specific labor markets that are particularly tight. Year-over-year, all but four states reported rising not seasonally adjusted hourly wages in February 2023. Seven states reported the increase in hourly rates of over 10% - Georgia (12.1%), Texas (11.5%), Idaho (11.4%), Wyoming (11.1%), Oregon (10.5%), Minnesota (10.4%), Alabama (10.3%). Remarkably, the list includes three southern states with AHE below the national average but rising rapidly and outpacing the national average growth of construction wages of 5.7%.

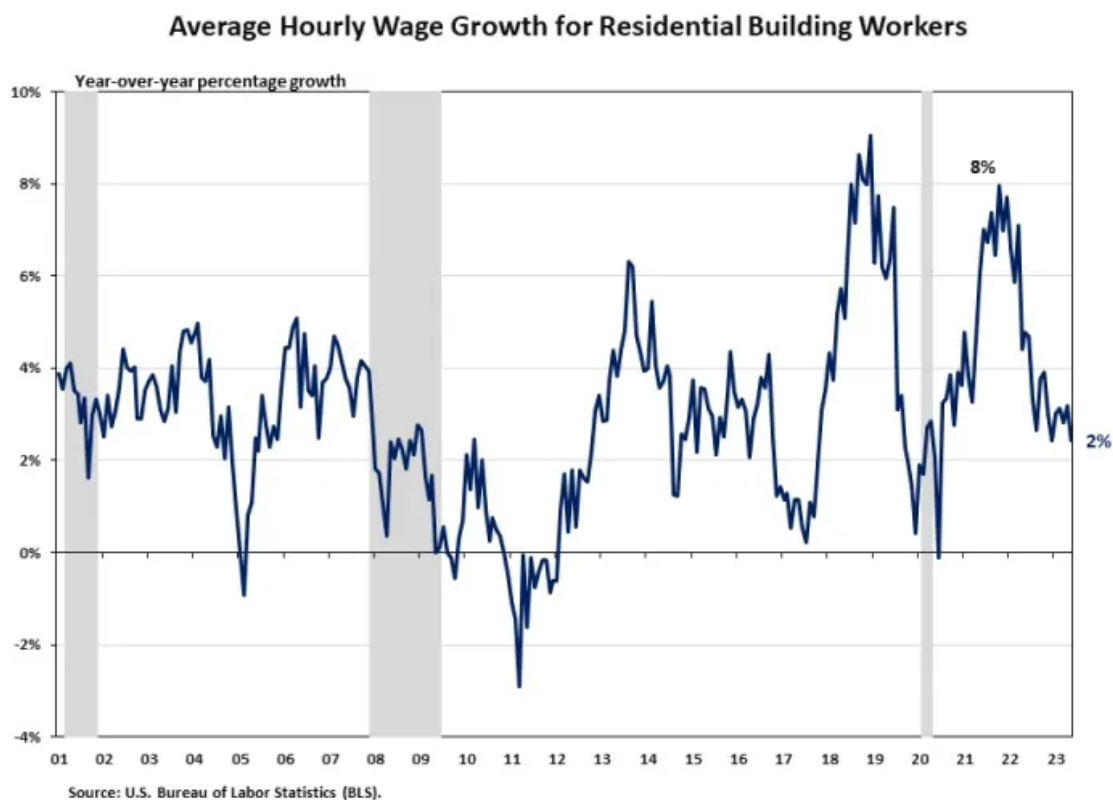
Percent Change in Average Hourly Earnings in Construction, Y-O-Y, February 2023



Wages in Residential Building Construction

Within the construction industry, the wage trends diverged recently. As a sign of a weakening housing market and softening hiring, wage growth for residential building workers slowed. Average seasonally adjusted hourly earnings of production and non-supervisory employees in home building grew at a relatively slower pace in the first five months of 2023, compared to the previous two years.

As of May 2023, annual wage growth for production and non-supervisory employees in home building retreated below 3%, half of the annual growth registered a year earlier in February 2022. In comparison, the year-over-year growth rate reached a high of 8% in October 2021, the highest rate since February 2019. The decelerating wage growth in residential building construction sends a strong signal that business hiring is weakening.

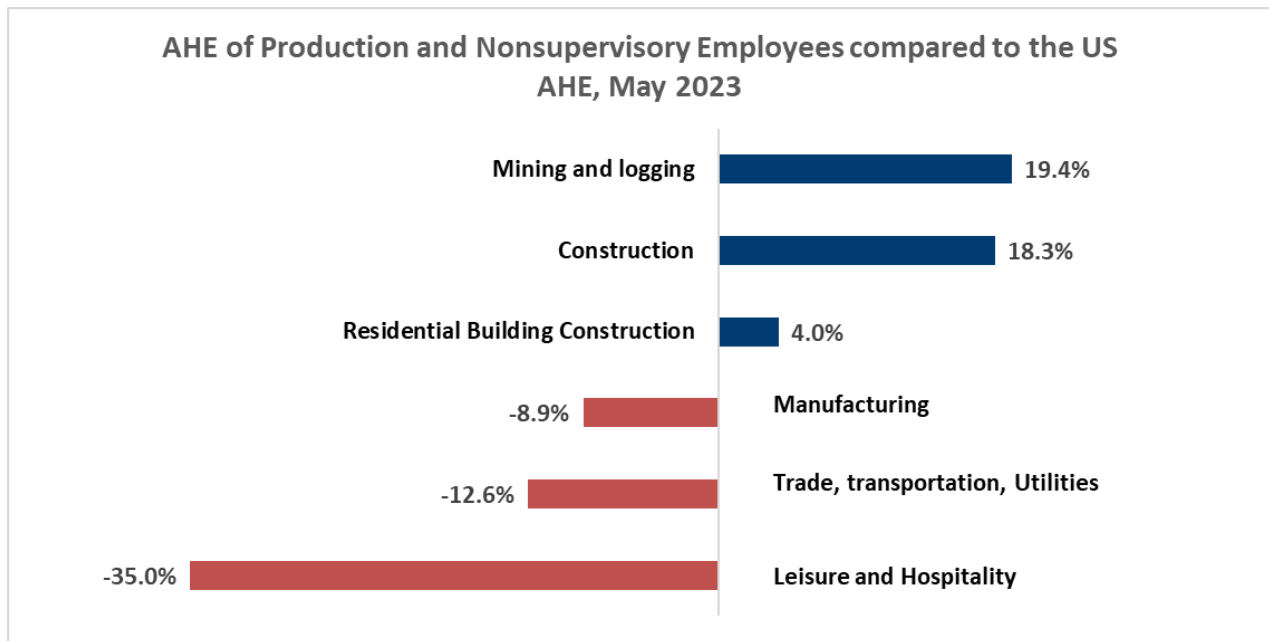


According to the Bureau of Labor Statistics (BLS) report, average seasonally adjusted hourly earnings of production and non-supervisory employees in home building have been fluctuating around \$29.5 since September 2022. More recently, average hourly earnings were \$29.87 in May 2023, increasing 2% from \$29.16 a year ago.

While the wage growth slowed in home building, production and non-supervisory workers in residential construction continued to earn a premium, as the US average hourly earnings across all industries were \$28.72, below the home building average of \$29.87, as of May 2023.

At the same time production and nonsupervisory employees in manufacturing were averaging \$26.15, in trade, transportation and utilities - \$25.1, mining and logging - \$34.3, in leisure and hospitality - \$18.68 per hour.

This translates into a 4% premium for AHE of production workers in residential building construction compared to the US average for production and nonsupervisory employees. At the same time, production workers in manufacturing, trade, transportation, utilities and leisure and hospitality industries earn less than the national average (-8.9%, -12.6% and -35%, respectively).

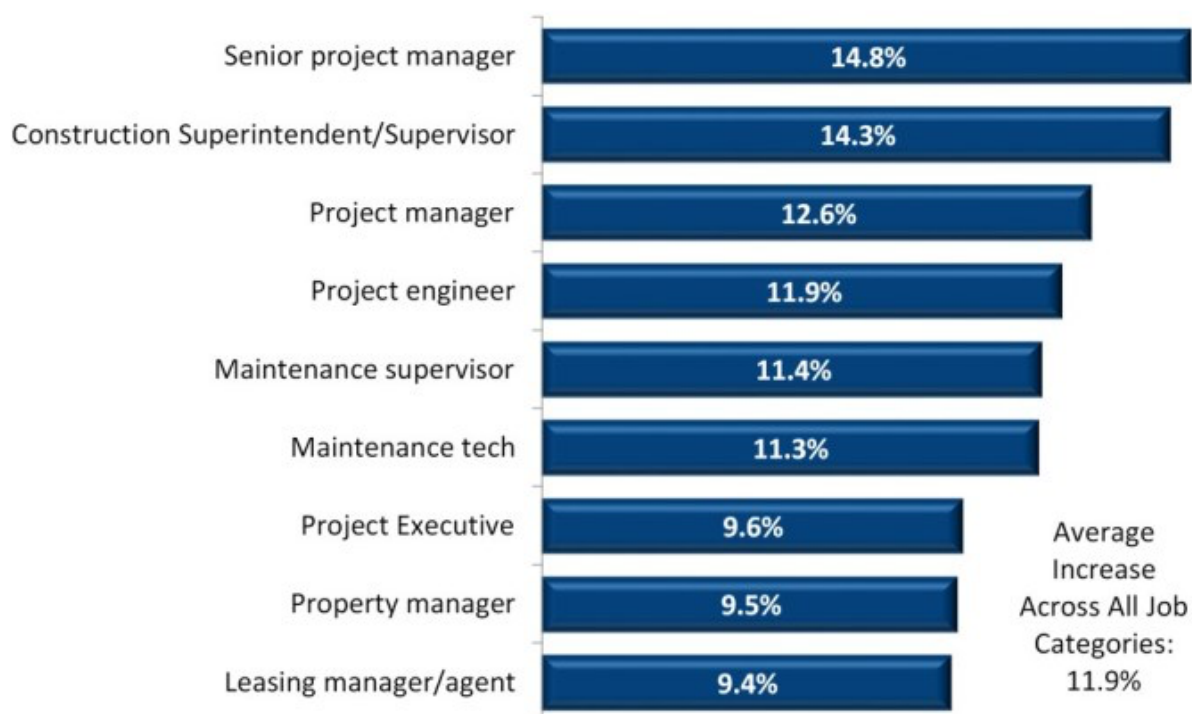


Multifamily Employee Compensation Costs

Separately, NAHB's Multifamily Market Survey (MMS) showed that the cost of compensating employees of multifamily developers rose substantially faster than compensation costs for all civilian workers. Over the course of the year, the cost to multifamily developers of compensating their employees increased by an average of nearly 12%, according to the results of the first quarter 2022 MMS.

The survey sent electronically to a panel of multifamily developers on April 12 included a special question on how much compensation costs have increased for nine specific job categories. At the top of the list, the cost of compensating senior project managers increased by an average of 14.8% over the past 12 months, followed by the costs of compensating construction superintendents or supervisors (14.3%) project managers (12.6%), and project engineers (11.9%). Even costs for the job least affected by wage inflation among the nine listed, leasing managers or agents, increased by 9.4%.

Average Increase in the Cost of Compensating Multifamily Employees Over the Past 12 Months



Averaged across all nine job categories listed in the survey, costs of compensating the employees of multifamily developers increased by 11.9% over the past 12 months. This is considerably higher than the 4.5% year-over-year increase in compensation costs for all civilian workers reported by the U.S. Bureau of Labor Statistics at that time. These data provide additional evidence illustrating how persistent labor shortages in construction translate into fast rising labor costs.

Occupational Wages in Construction

The Occupational Employment and Wage Statistics (OEWS) program, a different survey from the Bureau of Labor Statistics, provides comprehensive occupational wages. These statistics are detailed but less timely. The latest May 2022 estimates were released in April 2023. According to NAHB's analysis of these data, half of payroll workers in construction earn more than \$54,540 and the top 25% make at least \$77,030. In comparison, the U.S. median wage is \$46,310, while the top quartile (top 25%) makes at least \$73,460.

The OES publishes wages for over 406 occupations in construction. Out of these, only 46 are construction trades. The other industry workers are in finance, sales, administration and other off-site activities.

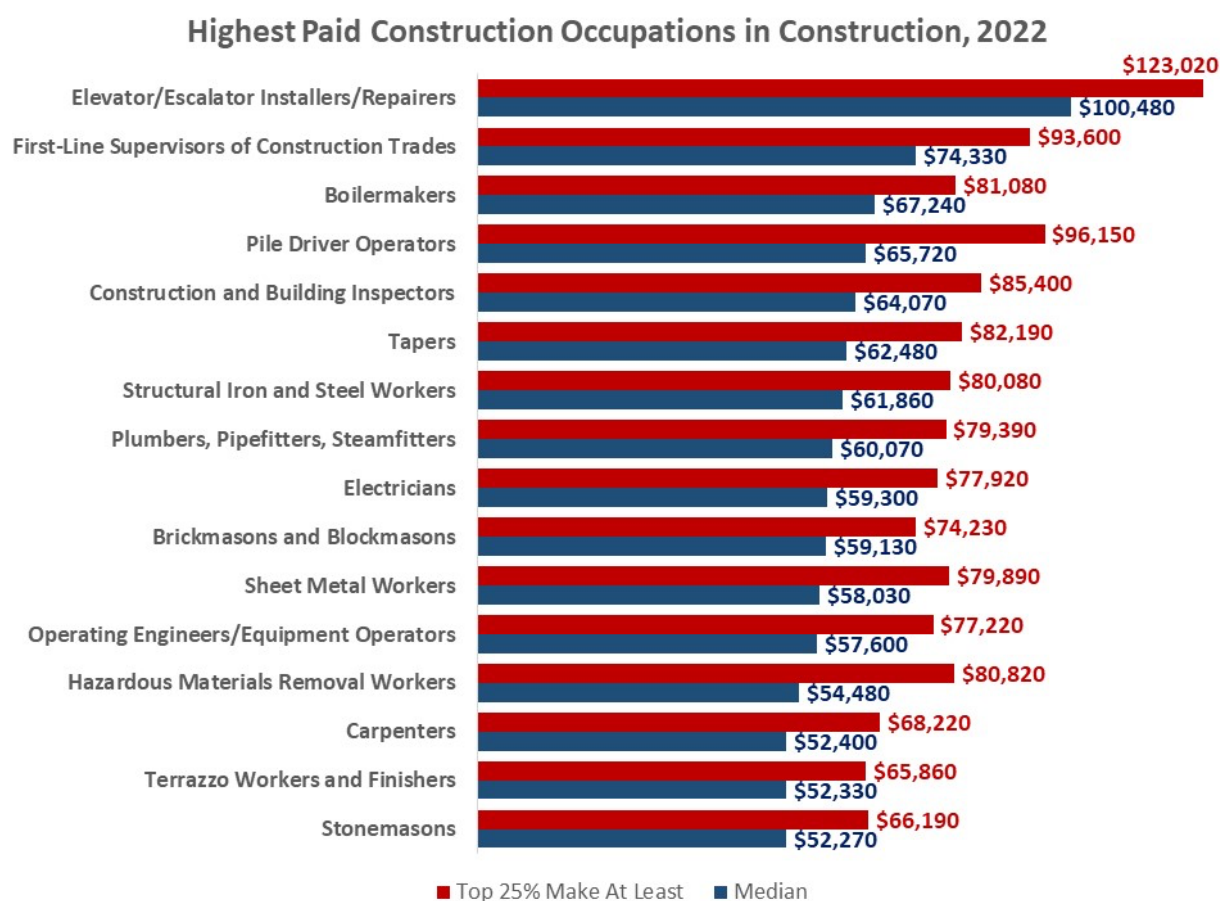
The highest paid occupation in construction is Chief Executive Officers (CEO) with half of CEOs making over \$163,410 per year and the top 25 percent highest paid CEOs earning more than \$234,090. Lawyers working in construction are next on the list with the median wages of \$156,000, and the top 25 percent on the pay scale making over \$213,120. Out of the next 12 highest paid trades in construction, 11 are various managers. The highest paid managers in construction are architectural and engineering managers, with half of them making over \$143,420 and the top 25 percent on the pay scale earning over \$174,880 annually.



Among construction trades, elevator installers and repairers top the median wages list with half of them earning over \$100,480 a year, and the top 25% making at least \$123,020. First-line supervisors of construction trades are next on the list. Their median wages are \$74,330, with the top 25% highest paid supervisors earning more than \$93,600.

In general, construction trades that require more years of formal education, specialized training or licensing tend to offer higher annual wages. Median wages of construction and building inspectors are \$64,070 and the wages in the top quartile of the pay scale exceed \$85,400. Half of plumbers in construction earn over \$60,070, with the top quartile making over \$79,390. Electricians' wages are similarly high.

Carpenters are one of the most prevalent construction crafts in the industry. The trade requires less formal education. Nevertheless, the median wages of carpenters working in construction exceed the national median. Half of these craftsmen earn over \$52,400 and the highest paid 25% bring in at least \$68,220.

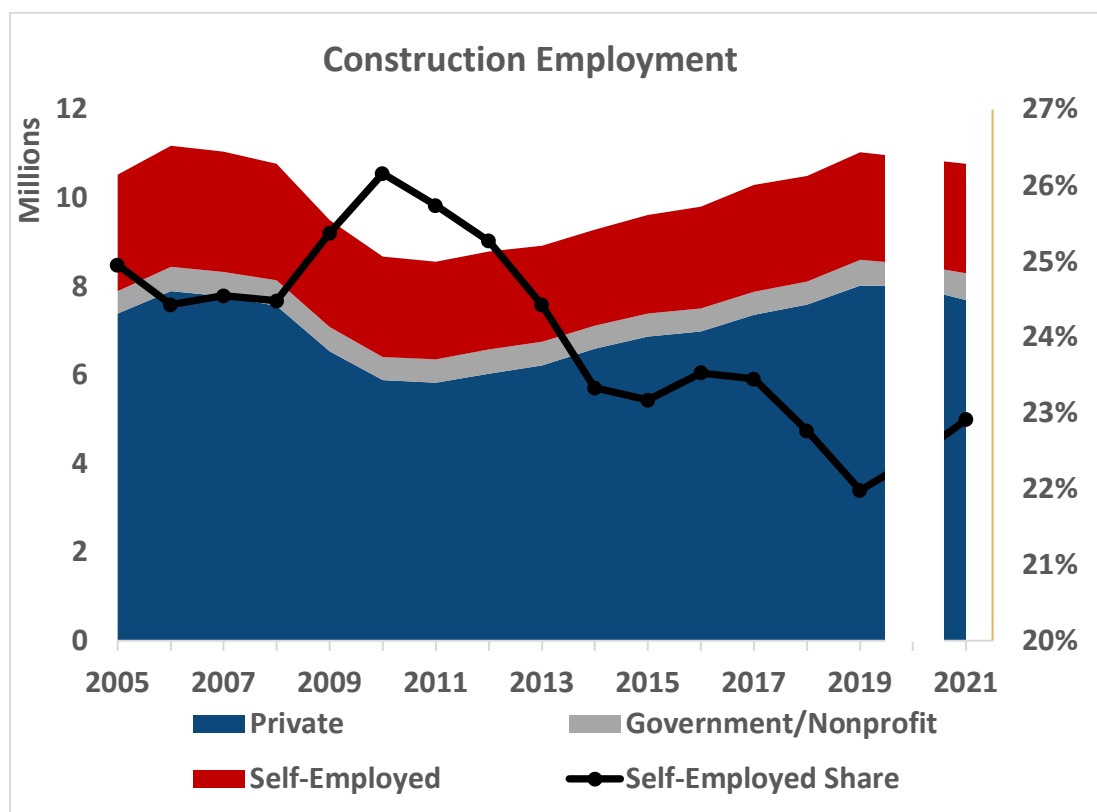


The OEWS program adopted a new estimation methodology in 2021. As a result, the previously published estimates are not directly comparable to the latest 2021 and 2022 editions. Nevertheless, comparing the median wages in construction over the last two years reveals that, on average, lower-paid occupations experienced a somewhat faster wage growth. Median wages of construction laborers, for example, grew 13.3%, while the overall construction median increased 11.1%, one of the largest increases among all industries.

Self-Employment in Residential Construction

The timely payroll employment and unemployment statistics from the Bureau of Labor Statistics (BLS) do not include self-employed workers. Counting self-employed is particularly important in the home building industry since they traditionally make up a larger share of the labor force. According to the 2021 American Community Survey (ACS), 23% (or close to 2.5 million) of workers employed in construction are self-employed. This is a whole percentage point higher than the share of self employed in construction in 2019, before the pandemic rattled the labor market. Even though the Covid-19 pandemic boosted self-employment across all industries, construction self-employment rates remain significantly higher than an economy-wide average of 10% of the employed labor force.

Under normal circumstances, [self-employment rates in construction are counter-cyclical](#), rising during the economic downturn and falling during the expansion. This presumably reflects a common practice among builders to downsize payrolls when construction activity is declining. Contrariwise, builders and trade contractors would offer better terms for employment and attract a larger share of pool of laborers to be employees rather than self-employed when workflow is steady and rising.



The Covid-19 pandemic disrupted this natural cycle with self-employment rates rising during the post-pandemic housing boom. The number of self-employed in construction approached 2.5 million in 2021, slightly exceeding the pre-pandemic levels, while the number of private payroll workers in construction remained slightly below the 2019 levels. As a result, the share of self-employed increased by a whole percentage point from 22% to 23%.

It is likely that rising self-employment in construction reflects divergent trends within the industry - a faster V-shape recovery for home building and a slower delayed improvement for commercial construction that is less dependent on self-employed. It is also possible that some construction employees laid off during the Covid-19 recession of early 2020 were pushed into self-employment. Similarly, and consistent with economy-wide "Great Resignation" trends, some workers might have chosen self-employment because it offers more independence and flexibility in hours, pay, type and location of work. Given the widespread labor shortages in construction, securing a steady workflow was less of a concern for construction self-employed in post-pandemic times.

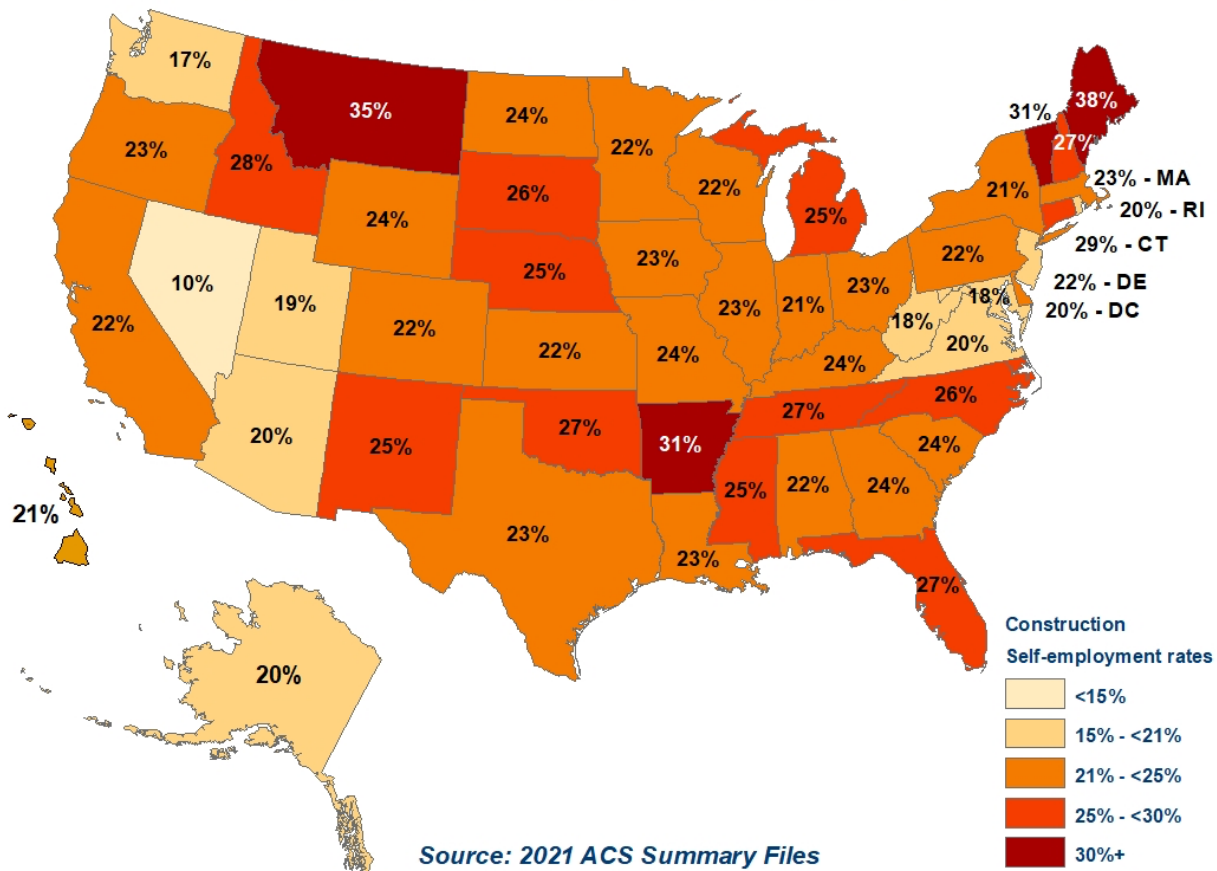
Since the 2020 ACS data are not reliable due to the data collection issues experienced during the early lockdown stages of the pandemic, we can only compare the pre-pandemic 2019 and 2021 data (hence the omitted 2020 data in the chart above). As a result, it is not clear whether self-employed in construction managed to remain employed during the short Covid-19 recession or able to recover jobs faster afterwards, compared to private payroll workers. It is also unclear whether the booming residential construction sector attracted self-employed from other more vulnerable or slow recovering industries, including commercial construction.

The Quarterly Census of Employment and Wages (QCEW), that relies on the unemployment insurance accounting system in each state, provides data on employment and establishment counts throughout the pandemic. Even though self-employed are not covered by the QCEW, the survey reveals a shift in construction employment towards smaller size establishments. As of January 2022, construction establishments with fewer than 50 employees were able to recover all jobs lost early in the pandemic and currently have larger payrolls than in January 2020 before the pandemic wreaked havoc on labor markets. At the same time, construction establishments with 500 or more employees have not reached their pre-pandemic employment levels, with payroll employment being 10% lower for establishments with 500-999 employees and 19% lower for the largest companies with 1,000 or more workers.

Given [the current record high top builder market share](#), a shift in construction employment towards smaller size establishments may seem puzzling but likely reflects substantial employment gains by residential construction firms and slower recovery in commercial construction. It also reflects strength in remodeling.

Additional insights into construction self-employment rates can be gained by examining cross-state variation. Maine and Nevada constitute two opposites, with Maine registering the highest (38%) and Nevada showing lowest (10%) self-employment rates in construction. The substantial differences likely reflect a predominance of home building in Maine and a higher prevalence of commercial construction in Nevada.

Construction Self-Employment Rates, 2021



The New England states are where it takes longer to build a house. Because of the short construction season and longer times to complete a project, specialty trade contractors in these states have fewer workers on their payrolls. The 2012 Economic Census data show that specialty trade contractors in Montana, Maine, Rhode Island, Vermont, Idaho, New Hampshire have the smallest payrolls in the nation with 5 to 6 workers, on average. The national average is close to 9 workers. As a result, a greater share of work is done by independent entrepreneurs, thus explaining high self-employment shares in these states, which matches the elevated shares of residential construction workers in these local labor forces.

[Residential Construction Employment across States and Congressional Districts](#)

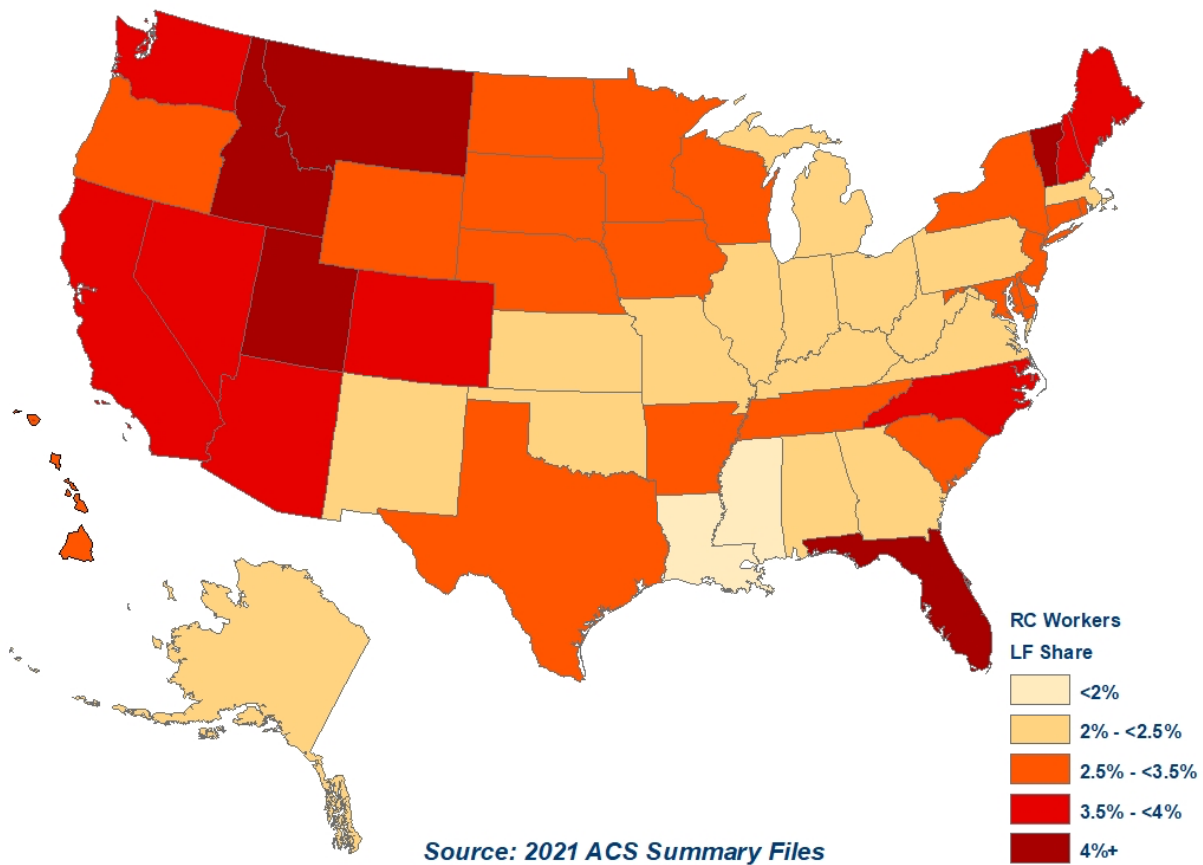
According to the latest 2021 ACS, close to 11 million people, including self-employed workers, worked in construction in 2021. NAHB Economics estimates that out of this total, 4.5 million people worked in residential construction, accounting for 2.9% of the US employed civilian labor force. Home building in multiple states in the Mountain Division, as well as in Vermont, Florida, and Maine stand out for generating a significantly higher share of jobs. NAHB's analysis also identifies congressional districts where home building accounts for particularly high employment levels and share of local jobs.

Not surprisingly, the most populous state—California—also has the most residential construction workers. Over 633,000 California residents worked in home building in 2021, accounting for over 3.5% of the state employed labor force.

Fast growing Florida comes in second with close to 440,000 residential construction workers. The state stands out for registering [one of the fastest growing populations](#) since the start of the pandemic that undoubtedly boosted housing and construction workforce demand. Florida is also known for its [large stock of vacation and seasonal housing](#), further boosting demand for residential construction workers. As a result, in Florida, residential construction workers account for a relatively high 4.4% of the employed labor. Even though this share is well above the national average (2.9%), it is drastically lower than in 2006 when Florida registered the highest share among all 50 states and the District of Columbia, 6.5%.

Similarly to Florida, [fast growing states](#) with a high prevalence of seasonal, vacation homes top the list of states with the highest share of residential construction workers in 2021. Idaho and neighboring Montana take the top two spots on the list with 5.4% and 5.2% of the employed labor force working in home building. Utah and Vermont follow with 4.6% and 4.5%, respectively. In addition, ten other states register shares of residential construction workers that approach 4%: Maine (3.9%), Colorado (3.8%), Nevada (3.6%), Washington (3.6%), New Hampshire (3.6%), North Carolina (3.6%), Arizona (3.5%) and California (3.5%).

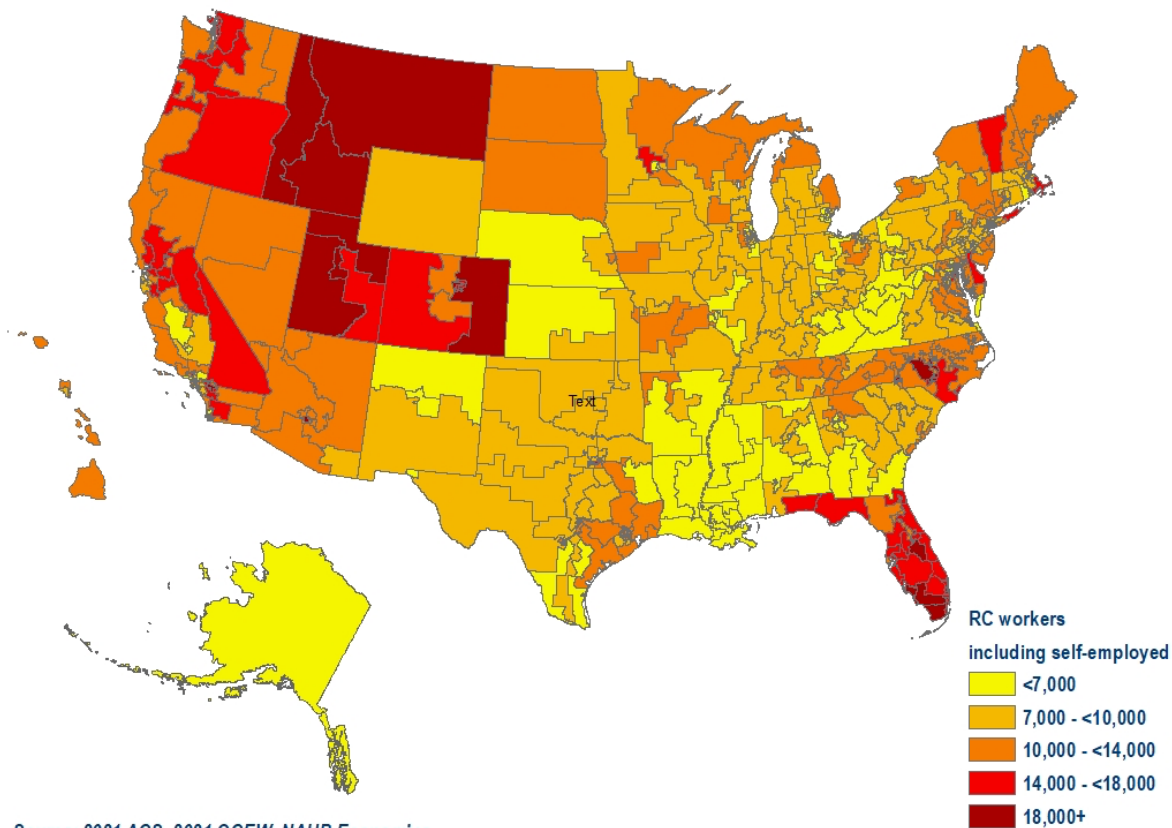
Share of Home Building Workers in the Labor Force, 2021



As of 2021, the average congressional district has about 10,300 residents working in residential construction, but that number is often significantly higher. In Idaho's 1st, 28,400 residents are in home building. Montana's single Congressional district is a close second with 27,400 residents working in home building.

Five other congressional districts have over 20,000 residents working in residential construction – Florida's 9th (23,500), Utah's 4th (23,000), Florida's 19th (21,000), California's 41st (20,500), and Idaho's 2nd (20,000).

Residential Construction Employment, 2021



Source: 2021 ACS, 2021 QCEW, NAHB Economics

By design, Congressional districts are drawn to represent roughly the same number of people. So generally, large numbers of residential construction workers translate into high shares of RC workers in their district employed labor forces. Idaho's 1st registers the highest share of residential construction workers in the employed labor force, 6%. California's 41st, Texas's 29th and two districts in Florida (Florida's 19th and 17th) register shares between 5.7% and 5.8%, by far exceeding the national average of 2.9%.

Ten other congressional districts register the shares of residential construction workers exceeding 5%. These include California's 29th, 8th and 40th, Texas's 33rd, Montana's at-large, Arizona's 7th, Utah's 4th, and Florida's 25th, 9th, and 6th.

At the other end of the spectrum there are several districts that contain parts of large urban areas: the District of Columbia, Pennsylvania's 3rd that includes areas of the city of Philadelphia, the 12th of New York, located in New York City, Illinois's 7th, Georgia's 5th that includes most of Atlanta, and among others, Louisiana's 2nd that contains New Orleans. Most residents in these urban districts tend to work in professional, scientific, and technical services. The District of Columbia stands out for having the lowest number of RC workers residing in the district, around 1,200. At the same time, it has a disproportionally large share of public administration workers. The 12th District of New York and the 7th District of Illinois are home to a very large group of finance and insurance workers. Meanwhile, in Pennsylvania's 2nd, more than a third of residents work in health care and educational services.

The NAHB residential construction employment estimates include self-employed workers. Counting self-employed is particularly important in the home building industry since they traditionally make up a larger share of the labor force.

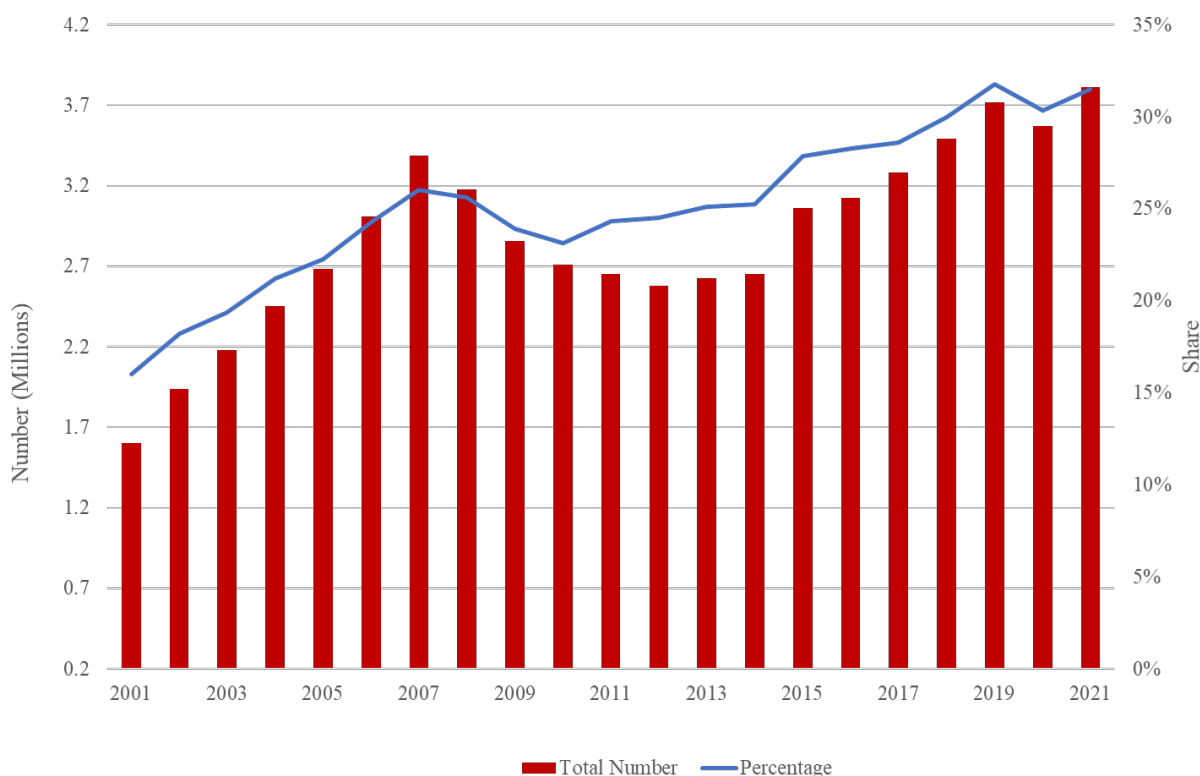
The new NAHB home building employment estimates only include workers directly employed by the industry and do not count jobs created in related industries— such as design and architecture, furniture making, building materials, landscaping, etc. As a result, the estimates underestimate the overall impact of home building on local employment.

Racial and Ethnical Composition of the Construction Labor Force

The latest labor force statistics from the 2021 Current Population Survey show that Non-Hispanic Whites account for the majority of workers in the construction industry (59%). Hispanics make up close to a third of the construction labor force (31.5%). The share of African Americans and Asians in construction are substantially smaller 5.9% and 1.6%, respectively.

The most noticeable trend in the ethnical composition of the construction labor force is the increase in the number and share of Hispanics over time. During the Great Recession, the number of Hispanic construction workers declined sharply by 20%, from 3.3 million in 2007 to 2.6 million in 2010. From 2010 to 2017, Hispanic construction employment recovered to around 3.2 million but remained below the pre-recession levels. Most recently, the number of Hispanic workers in construction grew rapidly and reached a record high employment of 3.8 million in 2021, after a small dip during the volatile start of the pandemic.

Hispanics in Construction Industry 2001 - 2021

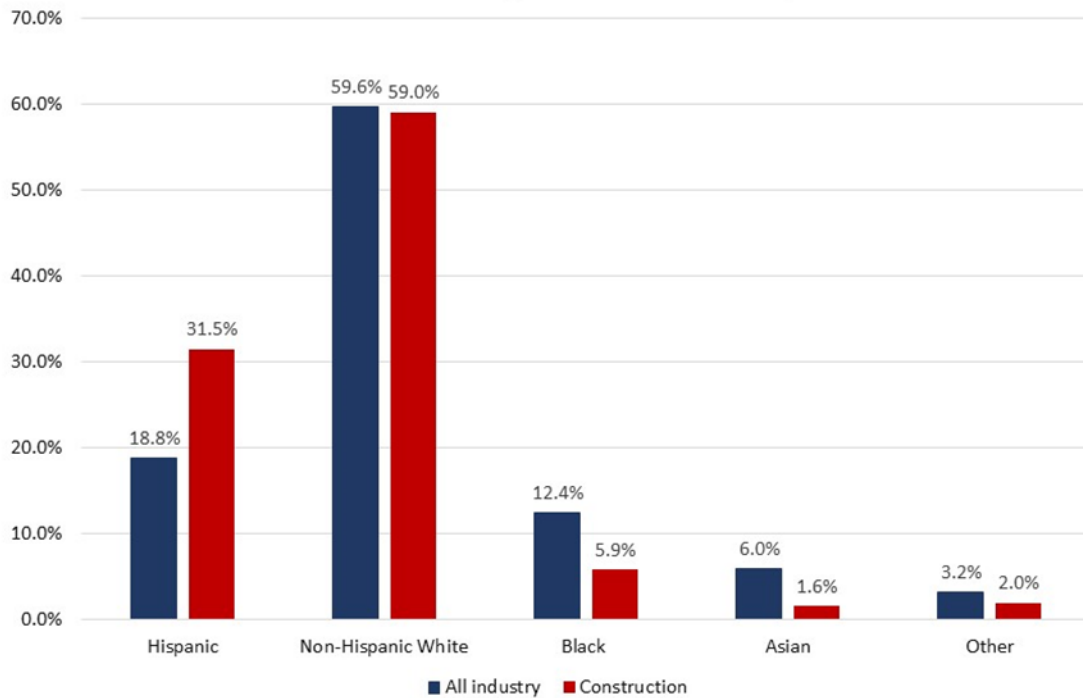


Source: NAHB Estimates of 2001-2021 Current Population Survey, March Supplements

Similarly, the share of Hispanics employed in the construction industry grew rapidly over the past two decades, from 16.7% in 2001 to 31.5% in 2021. Now close to a third of workers in construction is Hispanic.

Hispanics are overrepresented in the construction industry, as they make up 31.5% of construction employment compared to 18.8% across all industries. Non-Hispanic Whites account for 59%, about the same as across all industries (59.6%). Blacks and Asians are underrepresented in the construction industry.

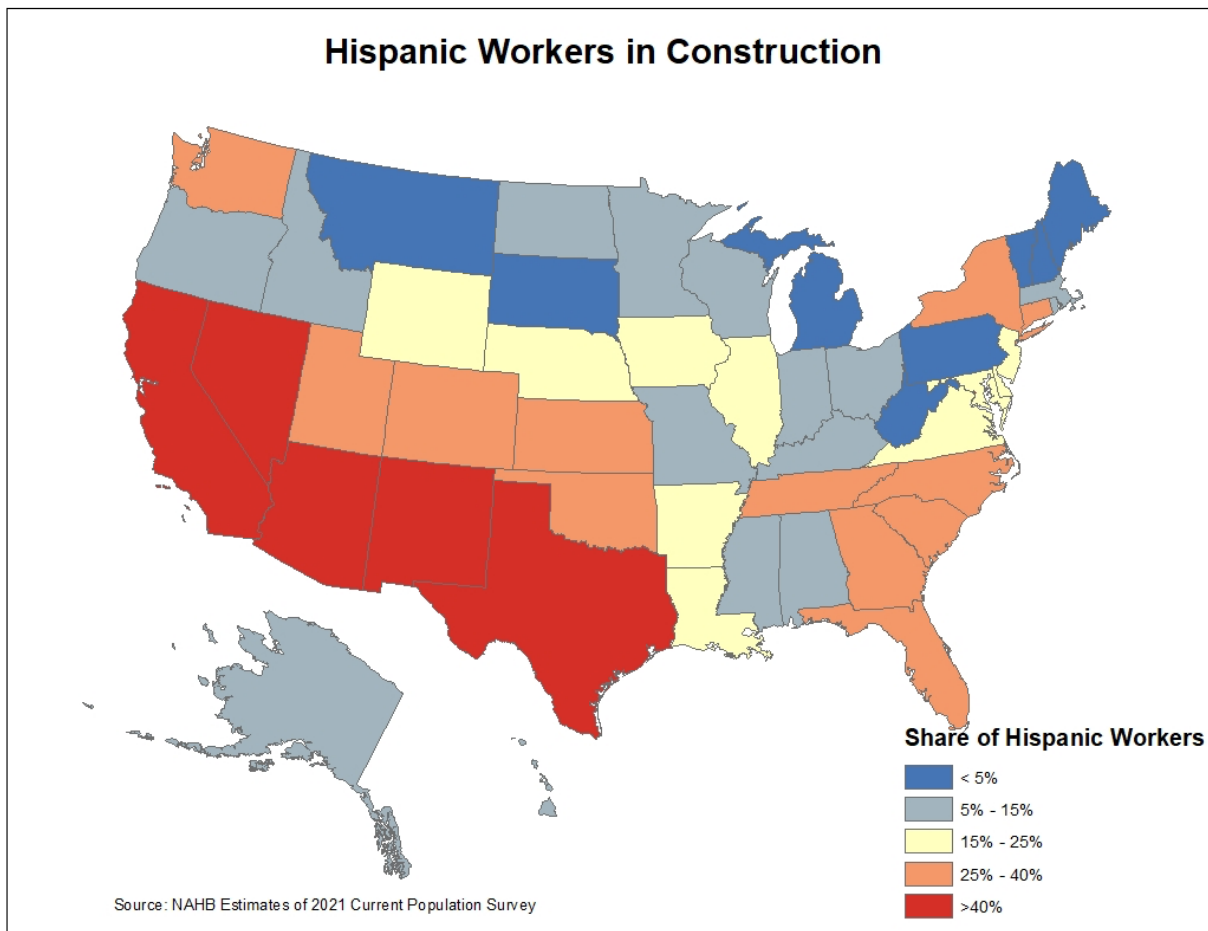
Labor Force by Race and Ethnicity



Source: NAHB Estimates of 2021 Current Population Survey, March Supplements

The share of Hispanics employed in construction varies considerably by state, ranging from less than 1% in West Virginia, Vermont, and New Hampshire to more than 50% in Texas and California. Hispanics working in the construction industry are more geographically concentrated in the Southern and Western states, where a large number of Hispanics reside. In fact, 52% of the nation's Hispanic construction workforce is concentrated in three states – Texas (834,000), California (808,000), and Florida (317,000).

Texas also stands out for registering the highest share of Hispanics in the construction labor force (61%). California is next on the list, with Hispanics accounting for 55% of its construction workforce, followed by Arizona where 49% of construction workforce are Hispanics.



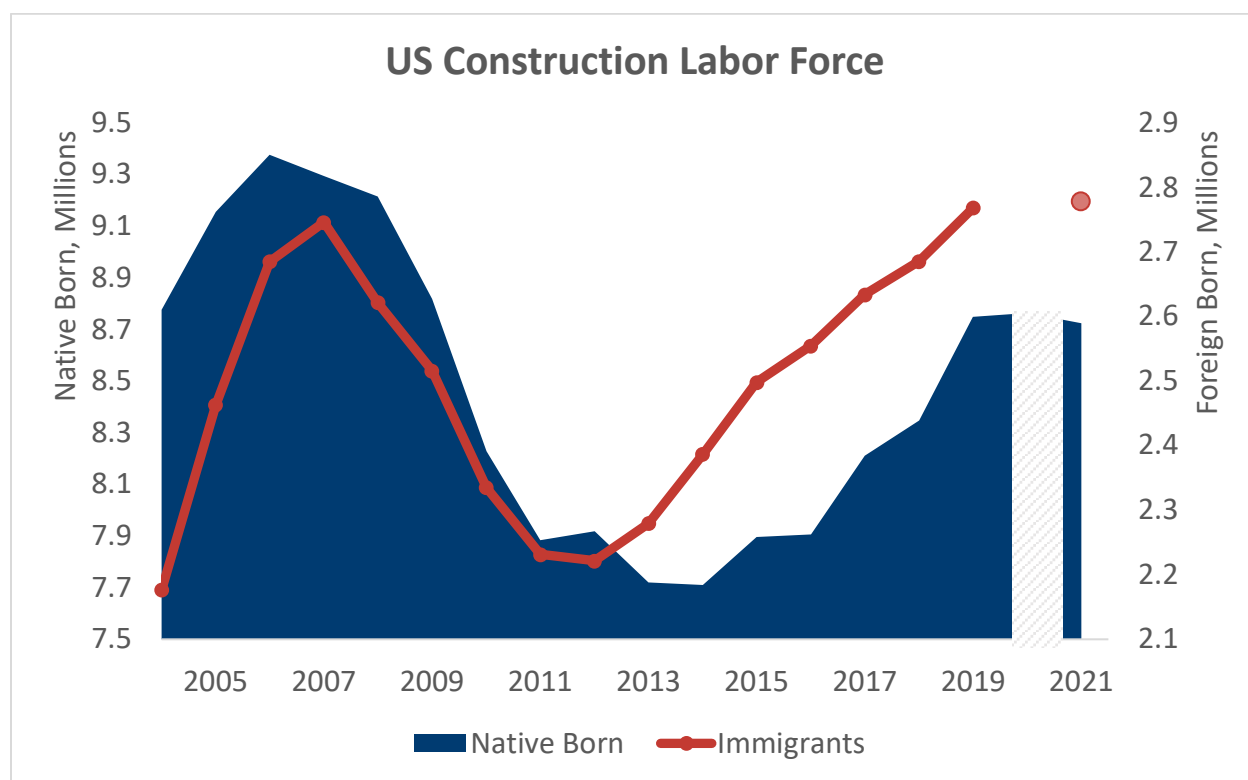
In contrast, the construction industry in the Northeast region relies heavily on non-Hispanic White Americans. Non-Hispanic Whites make up more than 95% of the construction workforce in New Hampshire, West Virginia, Vermont, Maine.

African Americans and Asian Americans are underrepresented in the construction industry in most states. African Americans comprise less than 6% of the construction workforce, while their share in the US labor force exceeds 12%. States with the largest share of African Americans working in construction are Maryland (18%), followed by Georgia (15%), and Louisiana (14%). Asian Americans account for less than 2% of the US construction workforce. However, their share is significant in Hawaii, where one out of every three construction workers are Asian Americans.

Immigrants in Construction

Immigrants remain a significant source of construction labor. According to the most recent 2021 American Community Survey (ACS), the number of immigrant workers in construction, including self-employed, remained close to 2.8 million, on a par with the levels recorded by the ACS before the Covid-19 pandemic wreaked havoc on labor markets. The share of immigrant workers stayed at 24% of the construction workforce, slightly below the 2016 record high share of 24.4% but on a par with the 2019 pre-pandemic reading. The share of immigrants remained higher in construction trades, reaching 30%.

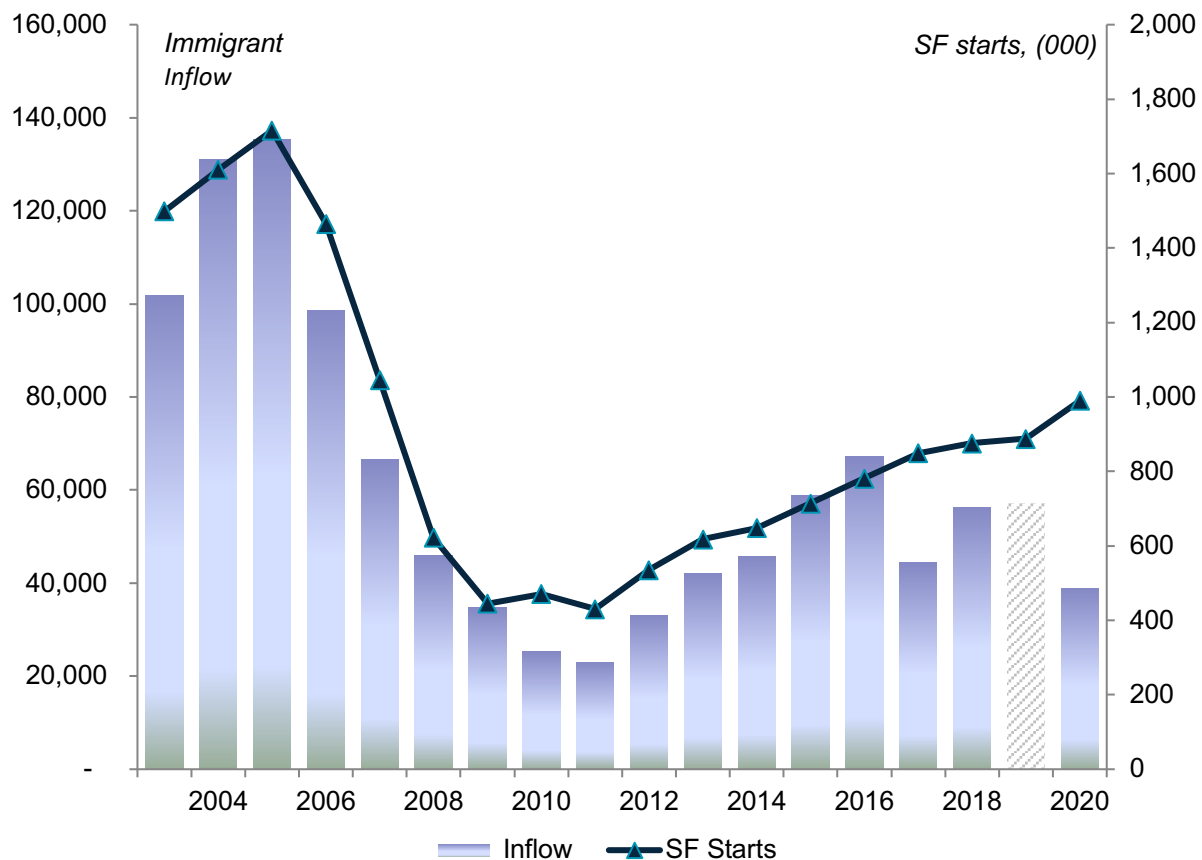
The latest ACS data show that 11.5 million workers, including self-employed and unemployed, comprised the construction workforce in 2021. Out of these, 8.7 million were native-born, and 2.8 million were foreign-born. Due to the data collection issues during the early pandemic lockdown stages, we do not have reliable estimates for 2020 and omit these in the chart below. Regardless, the construction labor force, including both native- and foreign-born workers, was back to the pre-pandemic levels by 2021.



Source: 2004-2021 ACS PUMS, NAHB estimates

The fact that construction workforce was back to the pre-pandemic levels while single-family starts increased 27% from 2019 to 2021 illustrates how incredibly tight the construction labor market was at that time. By 2021, the annual flow of new immigrant workers into construction slowed to the lowest levels since 2012 despite ongoing skilled labor shortages exacerbated by a pandemic boost to housing demand.

Annual Flow of New Immigrants into Construction and Single-Family Starts



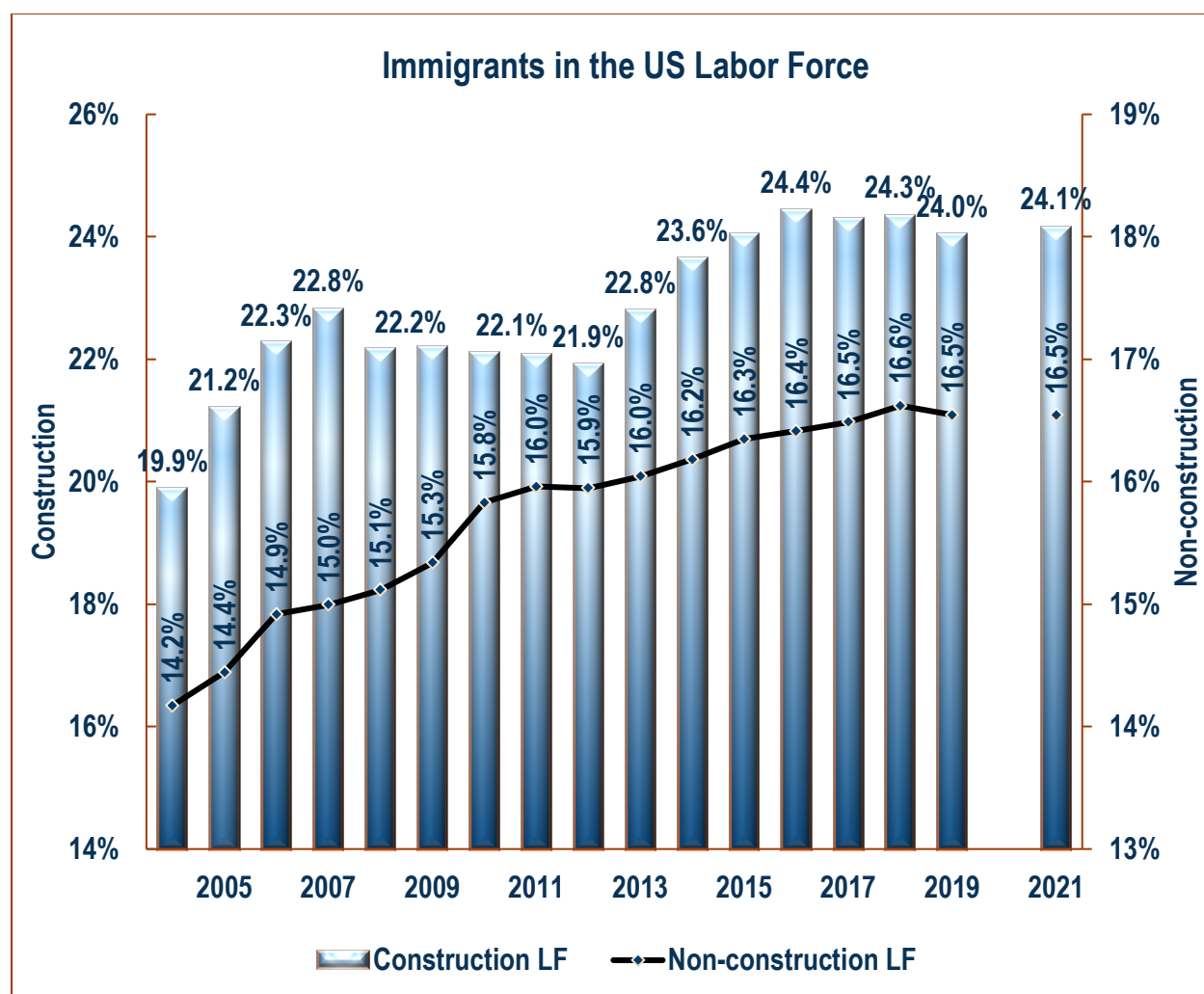
Source: 2004-2021 ACS PUMS, NAHB estimates

In the past, the annual flow of new immigrant workers into construction was highly responsive to the changing labor demand. The number of newly arrived immigrants in construction rose rapidly when housing starts were rising and declined precipitously when the housing industry was contracting. The response of immigration had been quite rapid, occurring in the same year as a change in the single-family construction activity. Statistically, the link was captured by high correlation between the annual flow of new immigrants into construction and measures of new home construction, especially new single-family starts.

This connection first broke in 2017 when NAHB's estimates showed a surprising drop in the number of new immigrants in construction despite steady gains in housing starts. The pandemic-triggered lockdowns and restrictions on travel and border crossings drastically interrupted flow of new immigrant workers and further damaged this link.

Similar trends are observed in the rest of the US economy, with the share of immigrants in the labor force stabilizing at record high levels but showing no further gains in recent years despite very tight labor market conditions. Excluding construction, where the reliance on foreign-born workers is greater, the share of immigrants in the US labor force increased from just over 14% in

2004 to 16.6%, the highest level recorded by the ACS, in 2018. The share of immigrants stabilized at these record high levels with no further increases in the post-pandemic market.

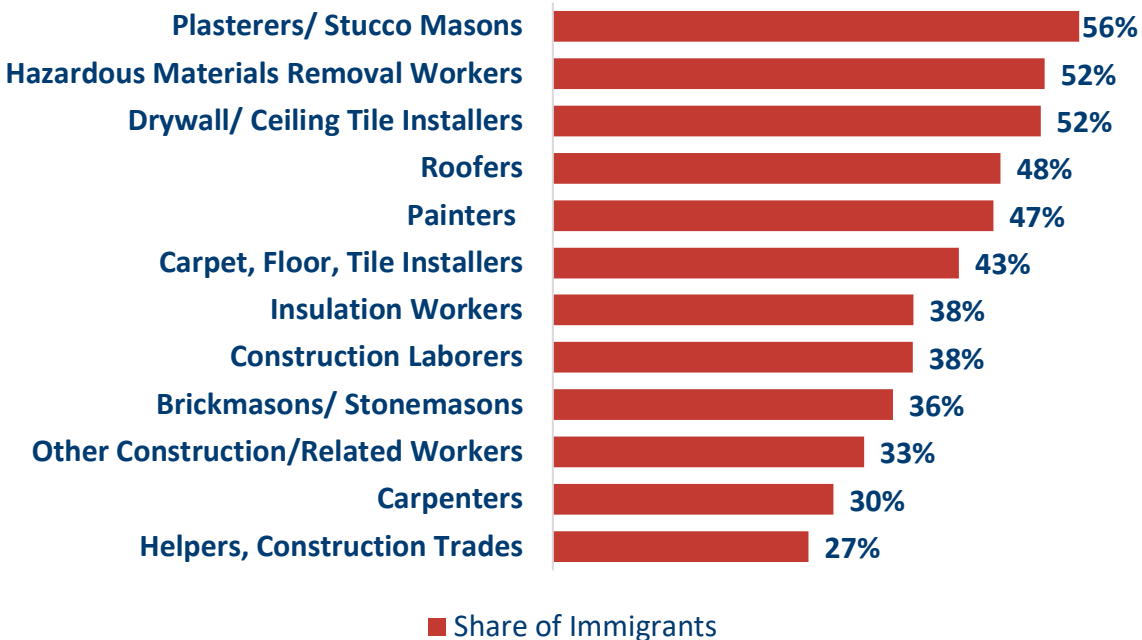


Source: 2004-2021 ACS PUMS, NAHB estimates

While immigrants make one in four construction workers, the share is significantly higher among construction tradesmen. According to the government's system for classifying occupations, the construction industry employs workers in over 380 occupations. Out of these, only 33 are construction trades, but they account for almost two thirds of the construction labor force. The other one-third of workers are in finance, sales, administration and other off-site activities. Immigrants account for 30% of all workers in construction trades.

Concentration of immigrants is even higher in some of the trades needed to build a home, like plasterers and stucco masons (56%), drywall/ceiling tile installers (52%), roofers (48%), painters (47%), carpet/floor/tile installers (43%), and construction laborers (38%) – trades that require less formal education but consistently register some of the highest labor shortages in the NAHB/Wells Fargo Housing Market Index (HMI) surveys and NAHB Remodeling Market Index (RMI).

Construction Trades Most Reliant on Immigrants

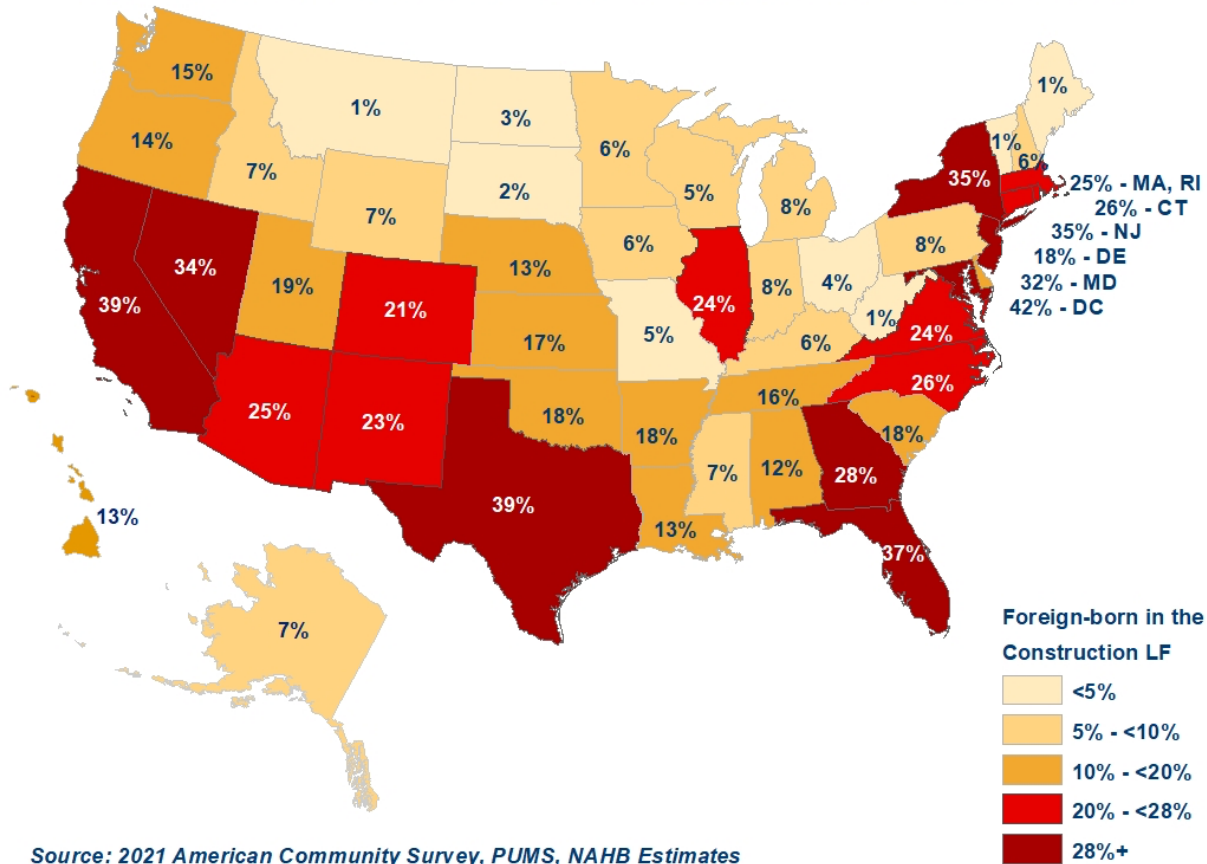


The two most prevalent construction occupations, laborers and carpenters, account for about 30% of the construction labor force. More than a third of all construction laborers (38%) and 30% of carpenters are of foreign-born origin.

Reliance on foreign-born labor is quite uneven across the US states. Immigrants comprise close to 40% of the construction workforce in California and Texas. In Florida, 37% of the construction labor force is foreign-born. In New York and New Jersey, one out of three construction industry workers come from abroad.

Traditionally, construction immigrants are concentrated in a few populous states, with more than half of all immigrant construction workers (55%) residing in California, Texas, Florida, and New York. These are not only the most populous states in the U.S. (together accounting for a third of the country's population), they are also particularly reliant on foreign-born construction labor, as more than a third of the construction industry workforce in these states comes from abroad.

Immigrant Workers in the Construction Labor Force, 2021



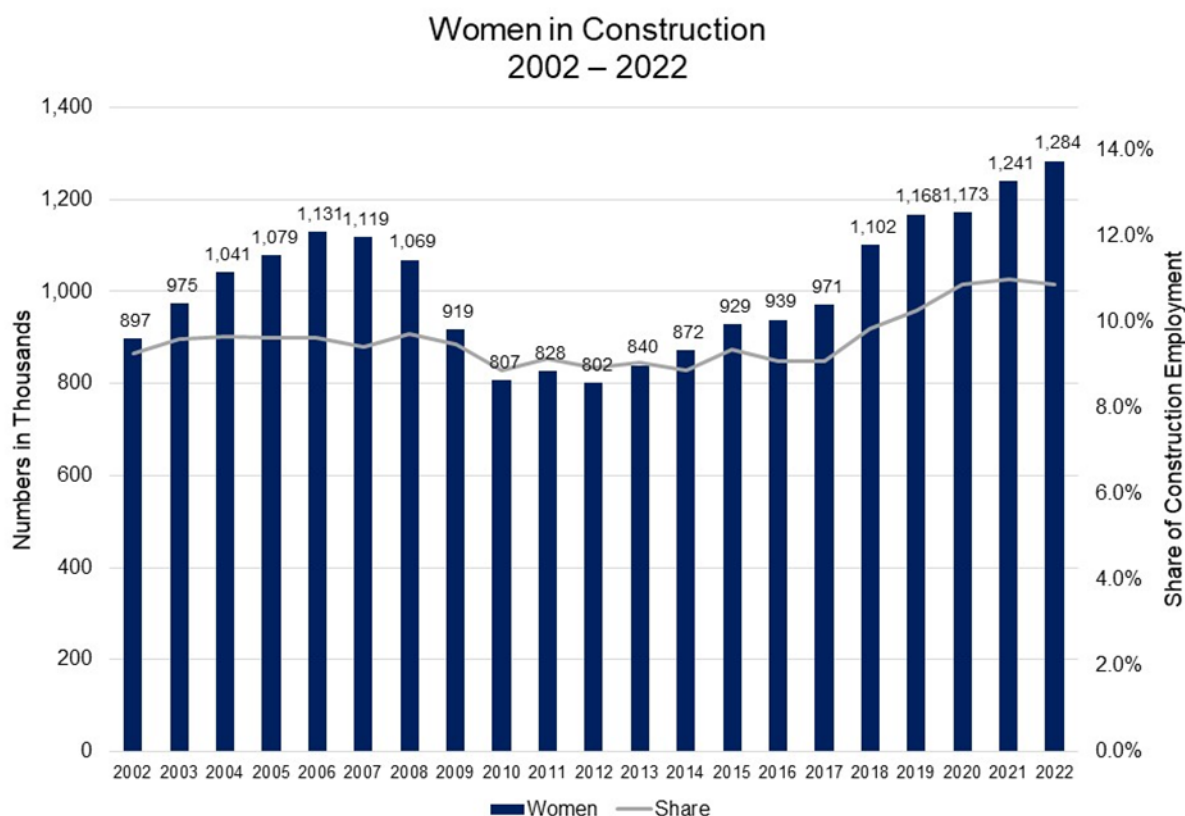
However, the reliance on foreign-born labor continues to spread outside of these traditional immigrant magnets. This is evident in states like Nevada, New Jersey, Maryland, and Georgia, where immigrants, as of 2021, account for between 28% and 35% of the construction labor force. In Connecticut, North Carolina, Rhode Island, Arizona, Massachusetts, one out of four construction workers are foreign-born.

While most states draw the majority of immigrant foreign-born workers from the Americas, Hawaii relies more heavily on Asian immigrants. European immigrants are a significant source of construction labor in North East and Illinois.

Women in Construction

The number of women employed in the construction industry increased to over 1.28 million in 2022, as the construction industry recovered all jobs lost during the pandemic induced recession. According to the 2022 Current Population Survey (CPS), women currently make up 10.9% of the construction workforce. This is a noticeable increase from 9.1% in 2017 and just a nudge below the record high share of 11% recorded a year earlier. As the construction skilled labor shortage remains a key challenge for housing, adding new workers is an important goal of the industry. Bringing additional women into the construction labor force represents a potential opportunity for the future.

During the Great Recession, the number of female workers in construction declined sharply by almost 30% to 807,000 by 2010. From 2010 to 2017, the total slowly expanded to around 970,000 but remained below the peak of pre-recession levels. The number of women working in construction grew rapidly in recent years, reaching a new high of 1.28 million in 2022.



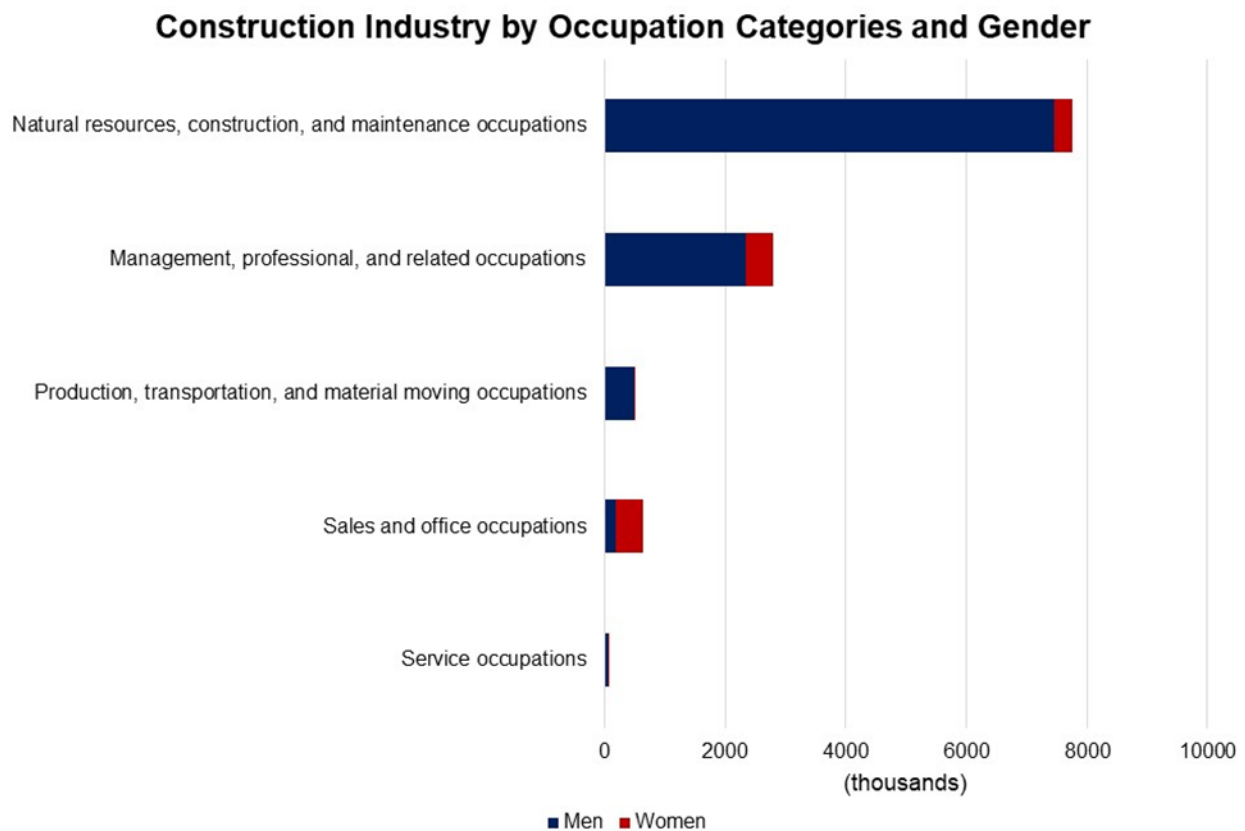
Source: Labor Force Statistics from the Current Population Survey

Job gains by women have been outpacing overall job gains in construction in recent years. As a result, the share of women in construction increased 1.9 percentage points since 2017 to reach a record high level of 11% in 2021.

According to the CPS, women in construction are mostly involved in such occupations as office and administrative support, management, business and financial operations. Sales and office occupations employed the largest number of women within the construction industry. For example, women accounted for 72% of workers in sales and office occupations, including 440,000 women in office and administrative support, and 24,000 in sales and related occupations in 2022. Around 460,000 women were engaged in management, professional, and related occupations, taking up only 17% of all management positions

While construction and maintenance occupations account for the largest number of employees in construction and is where additional workers are most needed, women comprised only 4% of such occupations. Additional steps should be taken to attract female workers into these high demand

occupations. Other groups such as production, transportation, and material moving occupations, and service occupations employed only around 26,000 female workers.



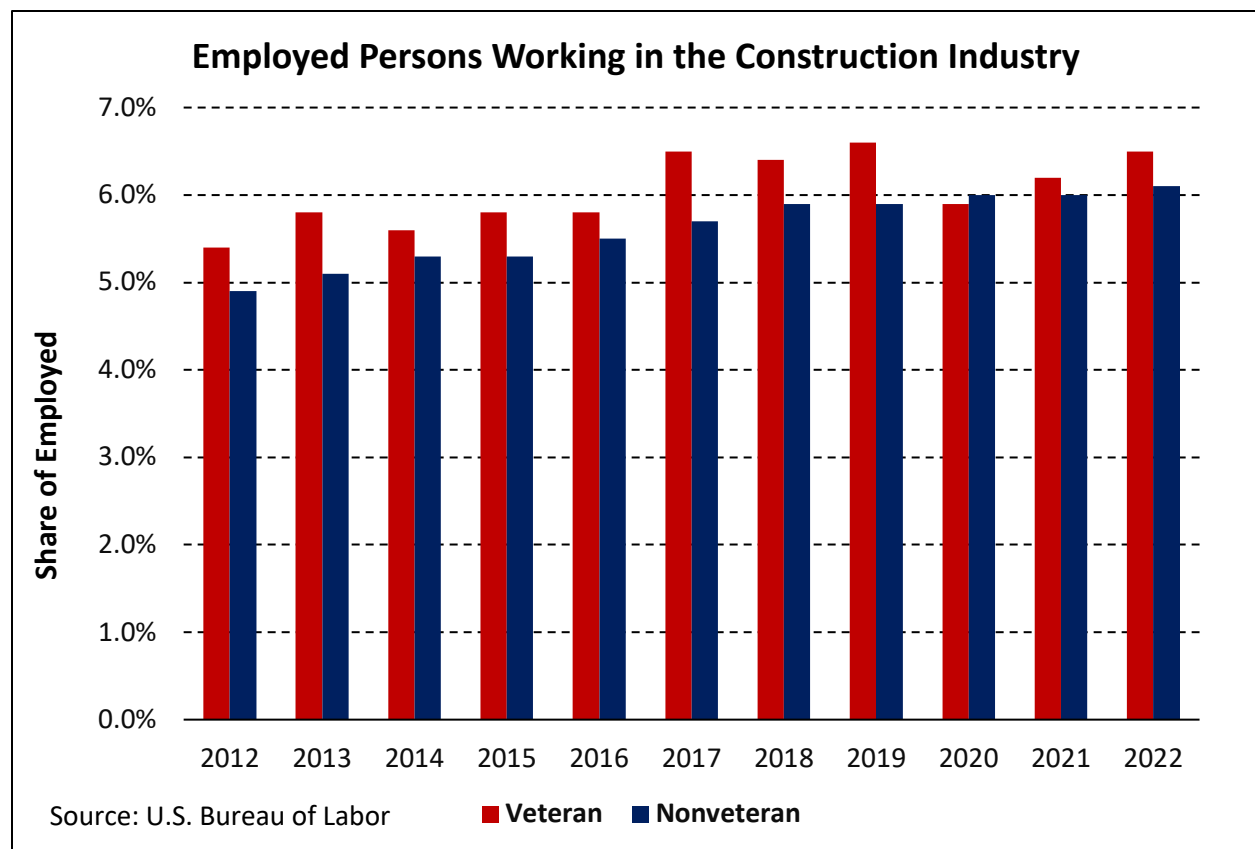
Source: 2022 Labor Force Statistics from the Current Population Survey

Veterans

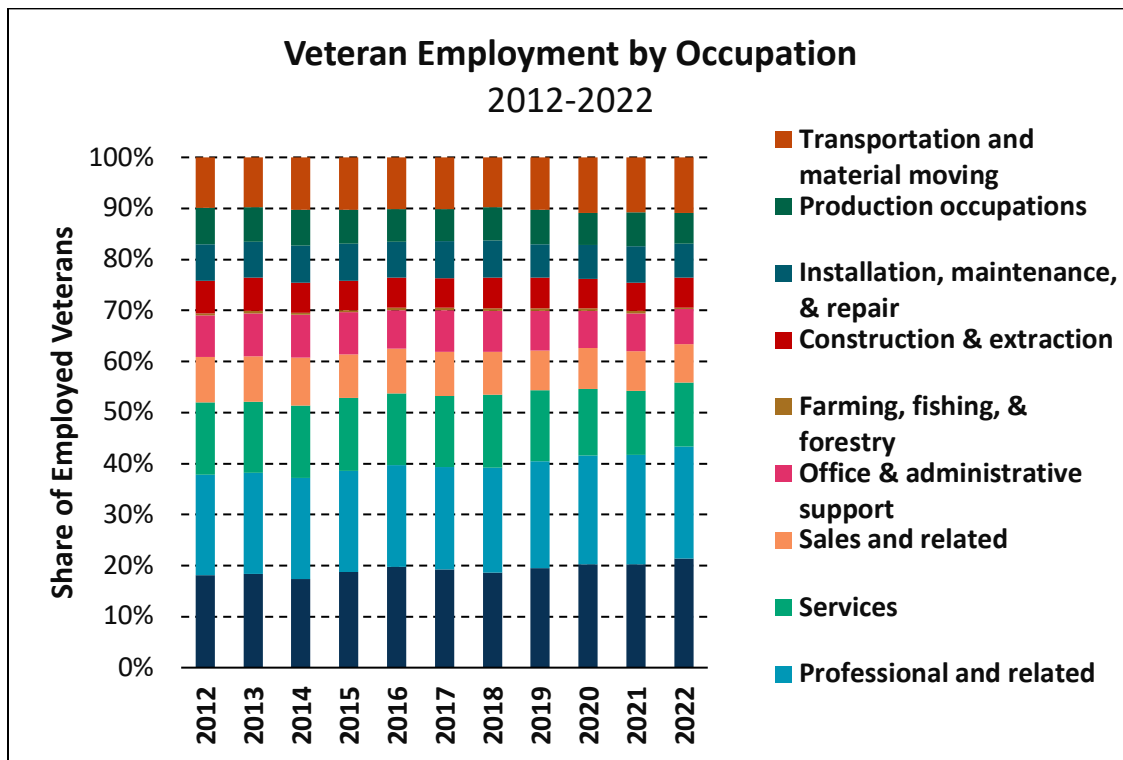
Military veterans are another group of potential workers that builders turned to in search of labor to fill job openings in the construction sector. According to the latest Employment Situation of Veterans report released by the U.S. Bureau of Labor Statistics, close to 560,000 veterans were employed in the construction industry in 2022. This total includes employed workers in residential construction and remodeling, as well as commercial and civil construction.

The 2022 total makes up 6.5% of all employed veterans. This stands in contrast to the 6.1% of non-veterans employed in construction.

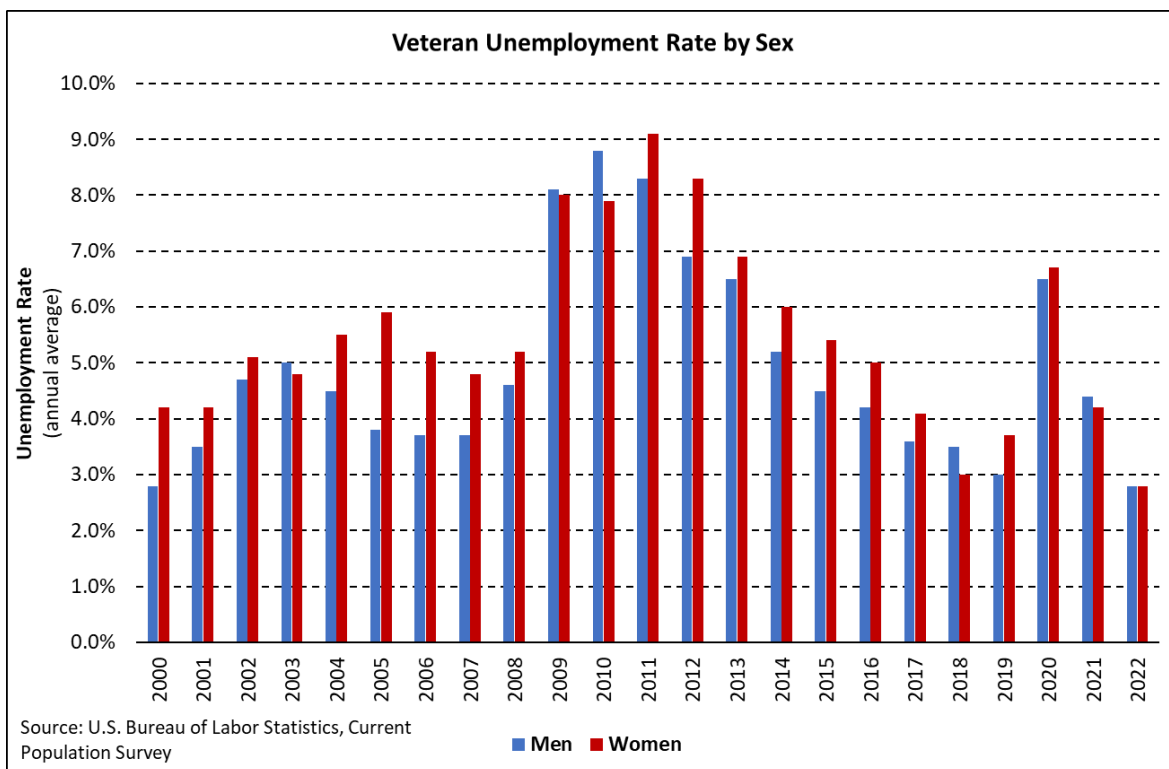
The share of employed veterans working in the construction industry increased in 2022 - the second consecutive annual increase. The share has climbed 0.6 percentage point since 2020 and is just one-tenth lower than the most recent peak reached in 2019.



Looking across all industries, management, business, and financial operations, as well as professional and related occupations made up the largest share of veterans' occupations, accounting for 43.3% of employment. The only other occupations that made up more than 10 percent were transportation and material moving and services occupations. Construction and extraction jobs made up 5.8% of the total.



The unemployment rate for all veterans declined from 4.4% in 2021 to 2.8% in 2022. The average unemployment rate among veterans was the same for men and women, in contrast to 2021 when the rate for women was 0.2% less than that of males. Since 2000, the annual unemployment rate among veterans has averaged 0.6% higher for women than men.

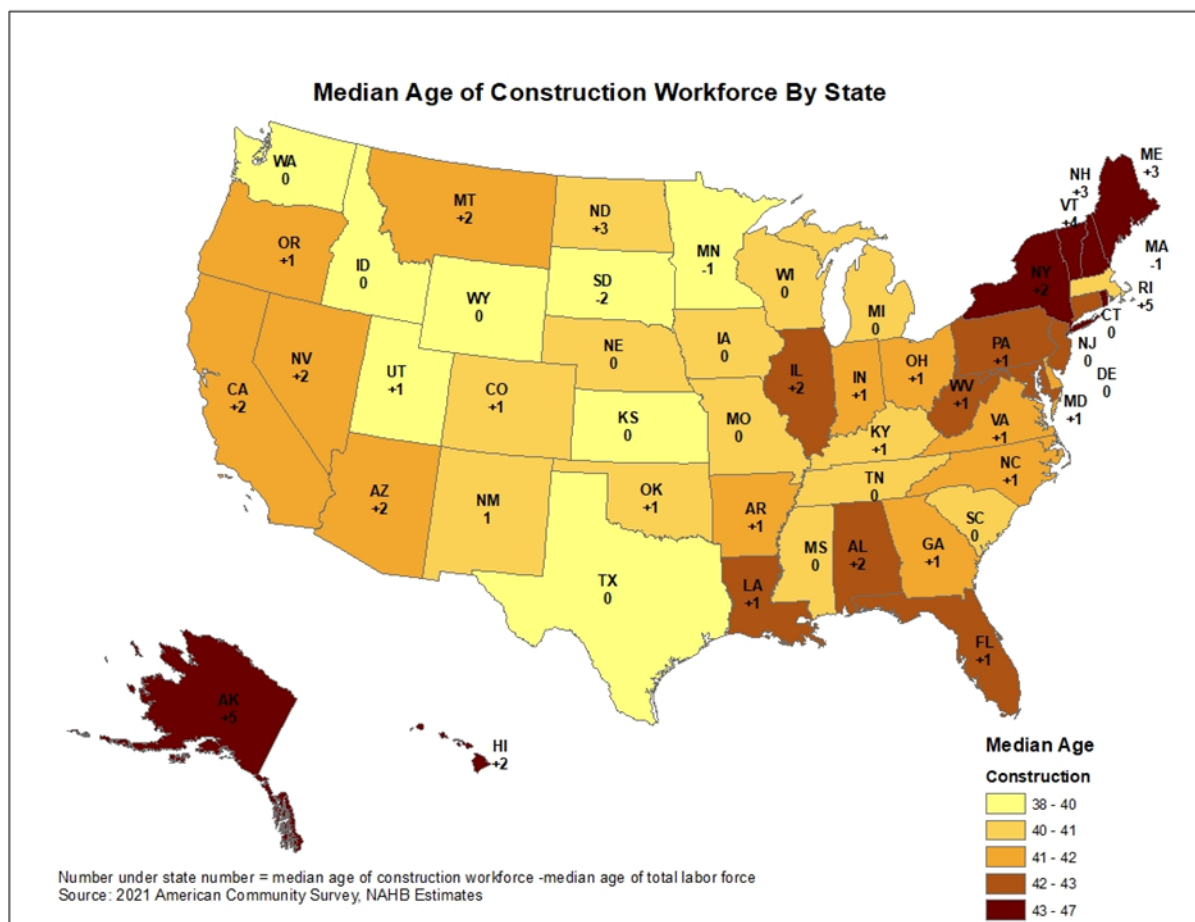


Age of Construction Labor Force

Even as a slowing housing market has eased some pressure off the tight labor market, attracting skilled labor remains the primary long-term goal for construction. NAHB analysis of the most recent 2021 American Community Survey (ACS) data reveals that the industry continues to struggle to attract younger workers, with the share of older workers in construction rising and the share of younger workers remaining below the national average for other industries. The median age of construction workers is 42, one year older than a typical worker in the national labor force.

The median age of construction workforce varies across states. The color coding in the map above tracks the median age of people working in the construction industry. States with the oldest median age of construction workers (47 years old) are Maine and Vermont, followed by New Hampshire and Rhode Island (46 years old) and Alaska, Hawaii, New Hampshire and New York, where the median age of construction workers is 44.

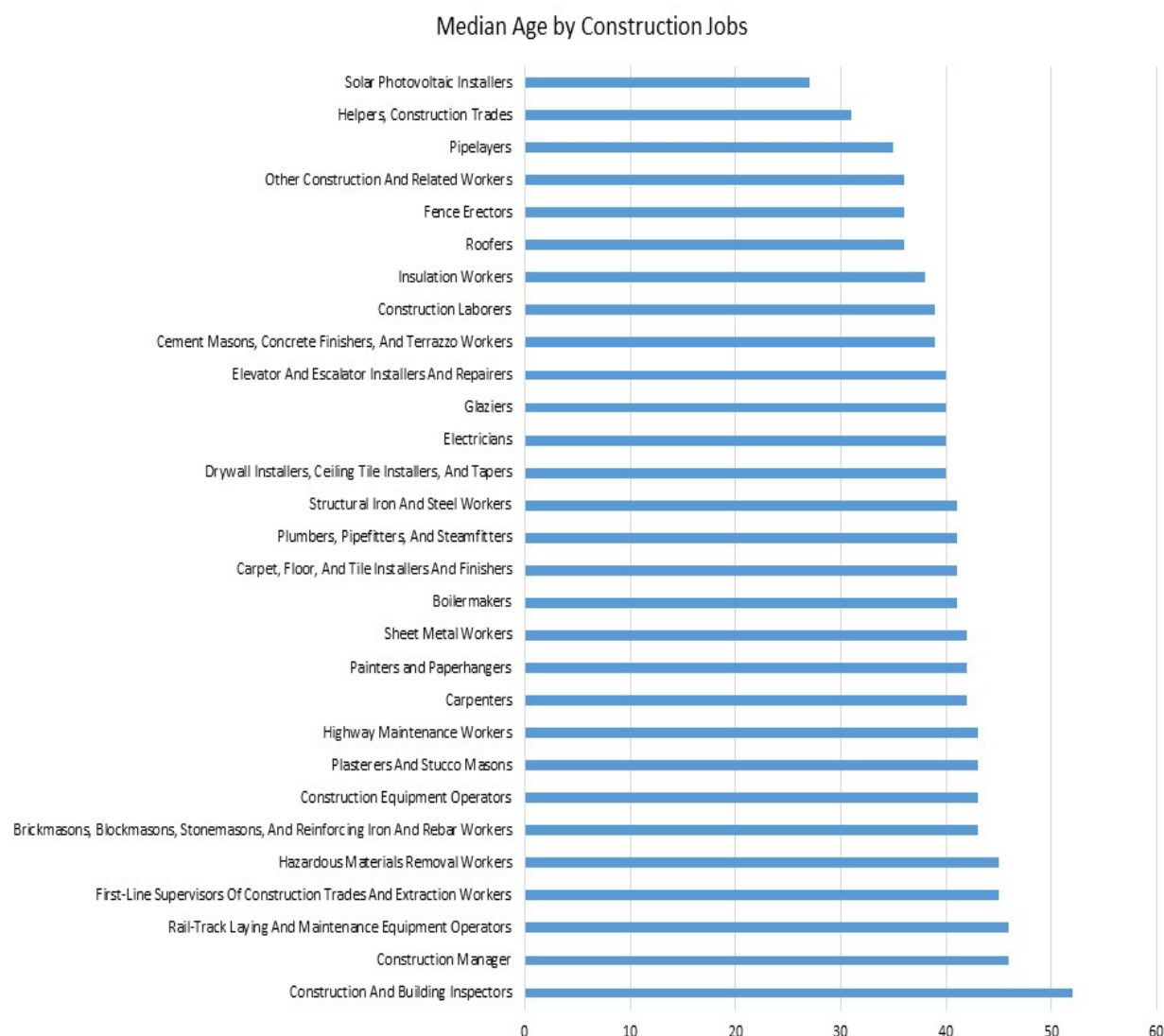
Construction workers are younger on average in the central part of the nation. Half of all construction workers in South Dakota and Utah are under 38.



The second data series mapped above is the difference between the median age of construction workforce in each state and the median age of the overall workforce. These estimates are reported as the numbers printed on each state. A positive number indicates that on average, construction workers are older than a typical worker in the state labor force. Rhode Island and Alaska are the

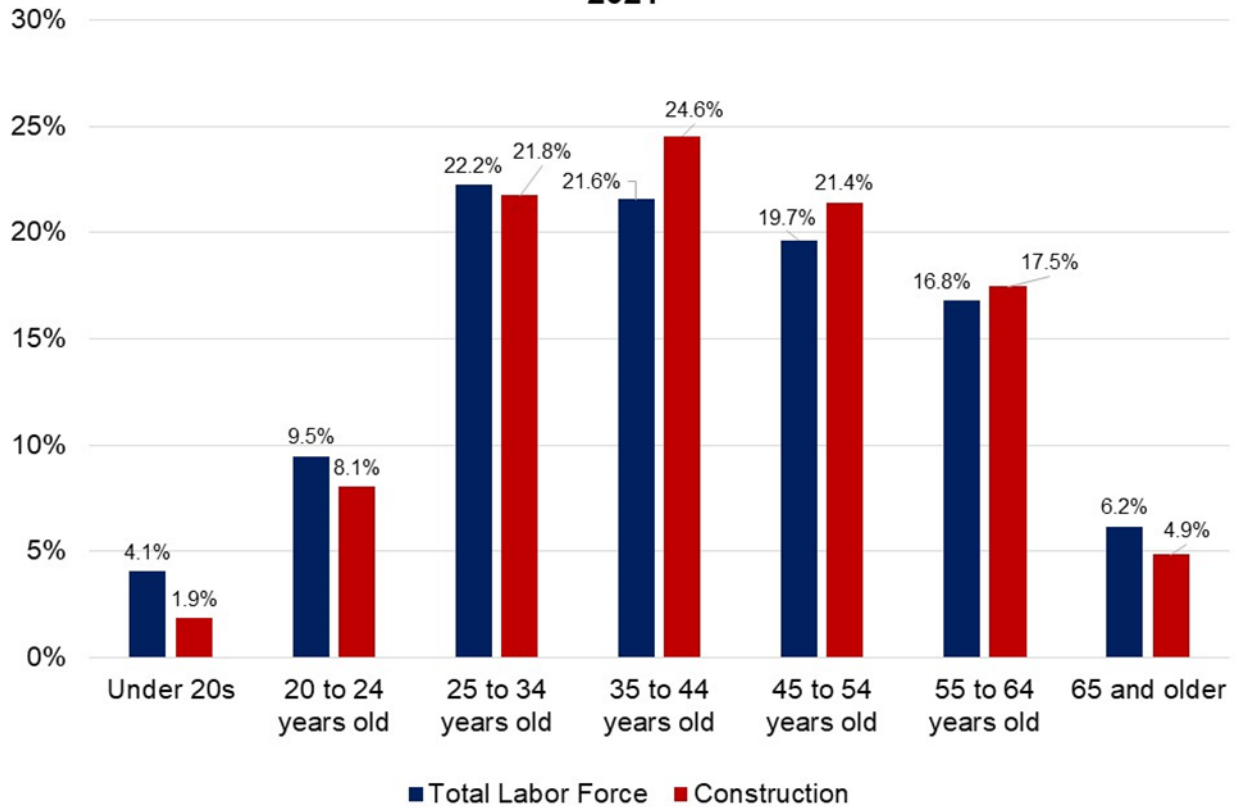
states where the median age of construction workers is 5 years higher than the overall median, followed by Vermont (+4). Meanwhile, a negative number indicates construction workers are, in general, younger than the state labor force. In South Dakota, the median age of construction workers is 2 years younger than the overall median.

The ACS data also allow analyzing median age by occupations. Construction occupations with younger workers include helpers, construction trades, solar photovoltaic installs. Older workers are concentrated in managerial positions such as inspectors, construction supervisors and construction managers.



The construction industry continues to struggle to attract younger workers. While workers under the age of 25 comprised 13.6% of the US labor force, their share in the construction industry reached only 10.0% in 2021. Meanwhile, the share of older construction workers ages 55+ increased from less than 19.3% in 2015 to almost 22.3% in 2021. Around 67.7% of the construction workforce were in the prime working years of 25-54, compared to 63.5% in overall workforce.

Age Breakdown: Construction Industry vs All Industries 2021

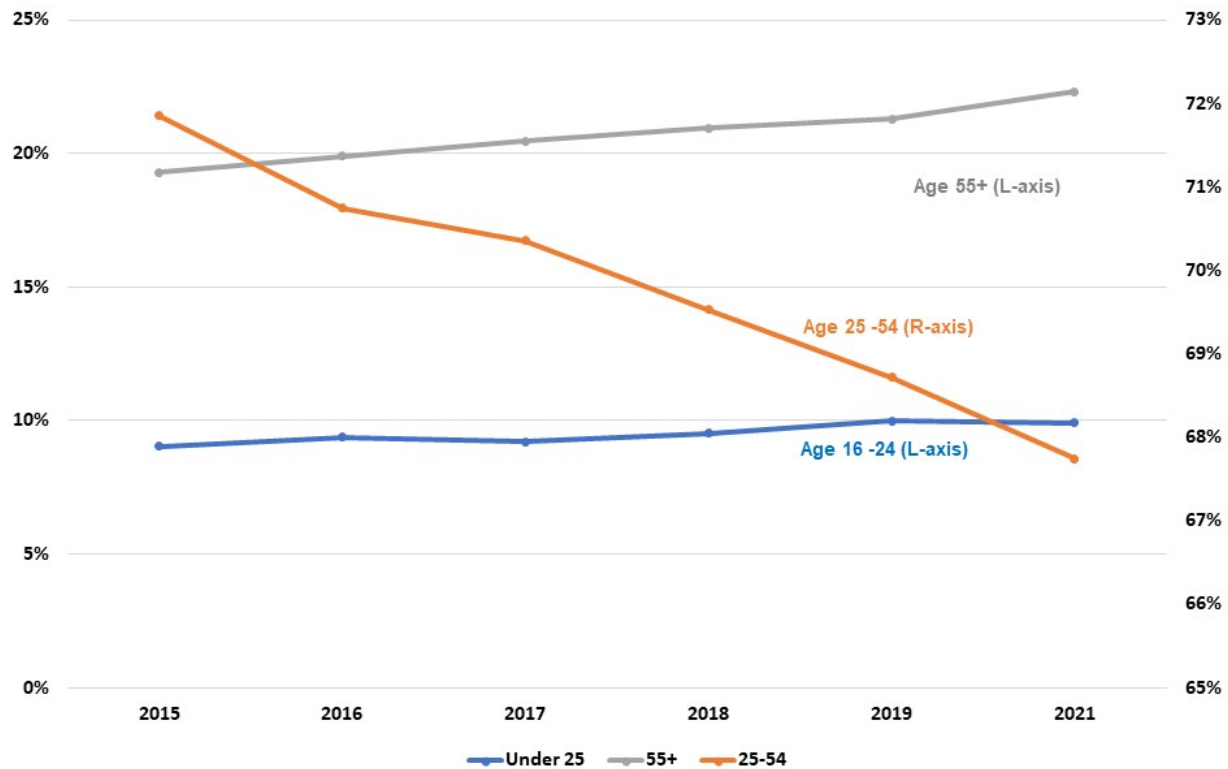


Source: 2021 American Community Survey, PUMS data

As seen in the chart above, the relatively greater share of workers in construction in the 35-55 age group, mostly Gen X-ers, reveals the current challenge. Gen X is a smaller generational group than the Baby Boomers. The share of workers ages 55 and older was 22.3% in construction, implying that a substantial portion of workforce would retire in near future. Attracting more skilled labor remains the primary long-term goal for the construction industry.

Analysis of the age distribution of construction workers over time reveals that the construction workforce is aging, with the share of older workers ages 55+ rising from 19.3% in 2015 to 22.3% in 2021. At the same time, the proportion of workers ages 25 to 54 declined from 71.9% to 67.7%. This change in age composition of construction labor force is largely because the last elements of the Baby Boomer generation are entering the 55+ age group. The share of younger construction workers ages 25 under edged up to 9% from 10%.

Distribution of Construction Employment by Age 2015 – 2021



Source: 2015-2021 American Community Survey, PUMS data

Work from Home Trends

Findings from a March 2023 national poll conducted for NAHB by Morning Consult reveal that 30% of American adults typically work from home at least two days a week. Income, age and educational level seem to play a bigger role in explaining differences when it comes to working from home. At the same time, employment sector, housing tenure and gender appear to play a lesser role.

The survey result show, for example, that 45% of government workers report being able to work from home at least twice a week, not significantly different from the 41% in the private sector. Similarly, tenure makes little difference: 33% of home owners can work from home this frequently, compared to 28% of renters. And though gender is somewhat more significant, the gap is still below 10 percentage points, as 35% of men report being able to work from home at least two days a week, compared to 26% of women.

**% of Adults who Typically Work from Home at Least Twice a Week
March 2023**

All Adults	30%
Employment	
Private Sector	41%
Government	45%
Tenure	
Own	33%
Rent	28%
Gender	
Male	35%
Female	26%
Generation	
Gen Zers: 1997-2005	35%
Millennials: 1981-1996	45%
Gen Xers: 1965-1980	31%
Boomers: 1946-1964	15%
Income Level	
Under 50k	22%
50k-100k	33%
100k+	46%
Education Level	
< College	25%
Bachelors degree	39%
Post-grad	44%

Source: Morning Consult Poll, March 16-21, 2023. n=17,623.

In contrast, the three demographic characteristics that make the biggest difference are generation, income and education level. While 45% of millennials, 35% of Gen Zers, and 31% of Gen Xers can work from home at least twice a week, the share is only 15% among boomers. And not surprisingly, the ability to spend less time commuting to work is positively correlated with income and education level. Among adults with annual incomes below \$50,000, only 22% can work from home at least twice a week, compared to 33% for those earning \$50,000 to \$100,000, and 46% for those whose incomes exceed \$100,000. Education has a similar effect: 25% of adults with less than a college education reported typically working from home at least two days a week, compared to 39% among those with a bachelor's degree, and 44% among those with a graduate degree.



The Home Builders Institute (HBI) wishes to thank the Economics Group of the National Home Builders Association for its invaluable contributions to this report.

[HBI.ORG/CRISIS](https://www.hbi.org/crisis)

