

THE HBI CONSTRUCTION LABOR MARKET REPORT

June 2022



Building Careers.
Changing Lives.

Executive Summary

A lack of skilled construction labor is a key limiting factor to expand home construction and improve housing inventory and affordability. Housing was a bright spot for the economy during the second half of 2020, as construction activity helped lead an economic rebound. However, sales outpaced home construction, resulting in growing backlog and supply-chain bottlenecks. These supply-side constraints have contributed to elevated inflation for an economy that now faces rising recession risk over the next two years.

These higher construction costs have resulted in increased buyer expense for homeowners and elevated rents for rental households. The combination of higher construction and development costs exacerbated by broader inflationary trends have made these problems worse. This has resulted in measurable declines for housing affordability and increasingly discouraged prospective homebuyers and renters. To offset these challenges, additional residential supply must be added. And for construction to expand further, more workers must be recruited and trained for the construction sector.

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

The estimated number of construction worker growth required for the sector is approximately 740,000 per year, according to NAHB analysis of BLS data and projections

- Demand for construction workers remains strong, with 103,000 net residential construction jobs added over the last 12 months and a recent monthly average of almost 12,000 additions
- Women make up a growing share of the construction employment, up to 10.9% in 2020 from 10.3% in 2019
- Construction employment currently totals 7.6 million
 - Residential construction represents 3.1 million of this total
- The number of open construction sector jobs currently averages between 300,000 to 400,000 each month
- Construction employment is broad-based across the nation
- Self-employment in construction is currently 22% of the labor force, down from 26% in 2010
- Half of payroll workers in construction earn more than \$49,070 annually and the top 25% make at least \$75,820.
 - In comparison, the U.S. median wage is \$45,760, while the top quartile (top 25%) makes at least \$68,590
- Immigrant workers now account for 24% of the construction workforce, down slightly from the 2016 record high share of 24.4%.
- The median age of construction workers is 41
 - However, due to aging trends, the share of construction workers aged 25 to 54 decreased from 72.2% in 2015 to 69.0% in 2019

Construction Employment Outlook

A lack of skilled construction labor is a key limiting factor for improving housing inventory and housing affordability. As detailed below, in recent months the number of open, unfilled jobs in the overall construction industry totals 300,000 to 400,000 positions. Moreover, given forecasts for additional home construction, required to reduce the existing housing deficit, and a rebound and recovery for nonresidential construction, the nation will require additional construction workers.

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 740,000 a year.¹ 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 61,000 net hires a month. Over the course of 2022-2024, this total represents a need for an additional 2.2 million net hires for construction.

It is worth noting that the pace of gross hiring in construction is larger than these net estimates. In fact, over the period 2017-2020, total hires in the sector averaged approximately 4.8 million annually. These larger estimates reflect rehires in the sector as workers shift from business to business within the sector.

On a simple net basis, 2021 BLS estimates find that total construction employment is forecasted to rise from 6.97 million in 2020 (reflecting declines in the spring of 2020 during the virus recession) to 7.37 million in 2030, for a net need of 40,000 workers per year. This represents a forecast of average annual construction employment growth of 5.7% per year.

However, the U.S. macroeconomic environment is now at an inflection point in terms of cyclical conditions. A forty-year high for inflation has caused the Federal Reserve to project an aggressive path of interest rate hikes. Combined with supply-side constraints for the economy, the U.S. now faces a rising risk of recession in 2023. NAHB places this risk as one chance in three as of April 2022 given a 24-month outlook. This macro risk will affect the housing industry, particularly given that the NAHB/Wells Fargo Housing Market Index is down to a level of 77 in April (after peaking at 90 in November 2020) and has declined for four straight months. Any downturn is expected to be temporary or a rest to allow income to catch-up with prices and costs. The long-term deficit of housing is expected to remain during any cyclical, interest-rate driven growth recession.

US Employment

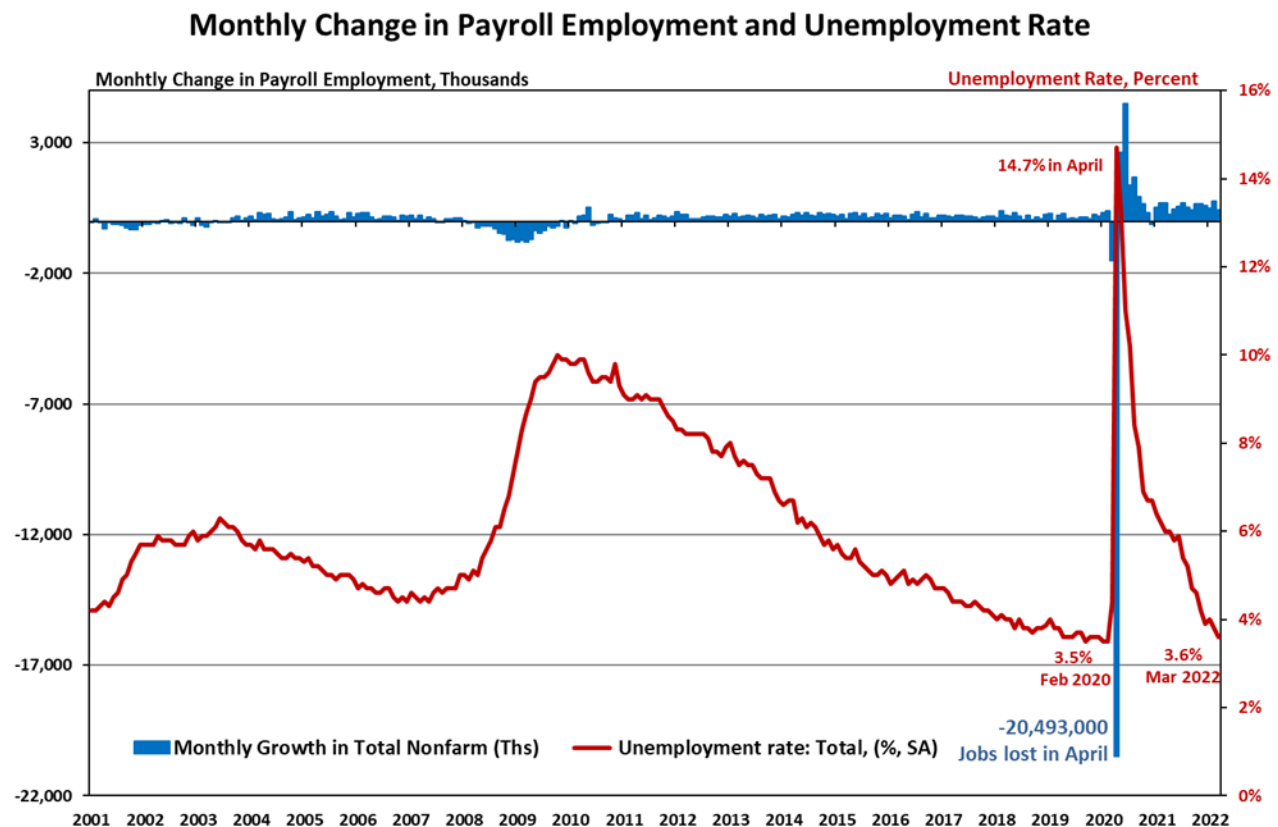
The US labor market recovery is continuing. In the first quarter of 2022, nearly 1.7 million jobs were created, and monthly employment growth averaged 562,000 per month, the same as the average monthly gain for 2021. The latest data show that 431,000 payroll jobs were added in March 2022, following a gain of 750,000 jobs in February.

As another sign of the continuing recovery in the labor market, the labor force participation rate, the proportion of the population either looking for a job or already with a job, continues to rise, as

¹ BLS occupational projections are found here: <https://www.bls.gov/emp/tables/occupational-projections-and-characteristics.htm>

more people are reentering the labor force. In March 2022, the labor force participation rate increased 0.1 percentage point and reached its highest level since March 2020, 62.4%.

Meanwhile, the unemployment rate decreased by 0.2 percentage points to 3.6% in March. It was 11.1 percentage points lower than its recent high of 14.7% in April 2020 and on a par with the pre-pandemic reading of 3.5% in February 2020.



Source: Bureau of Labor Statistics.

As of February 2022, total nonfarm employment is still 1.6 million below its pre-pandemic level. Nevertheless, employment in some sectors, such as professional and business services, financial activities, and retail sectors, is now above the February 2020 levels.

Job gains in leisure and hospitality, professional and business services, retail trade, and manufacturing continued in March, while employment in mining, wholesale trade, information, other services, and government changed little.

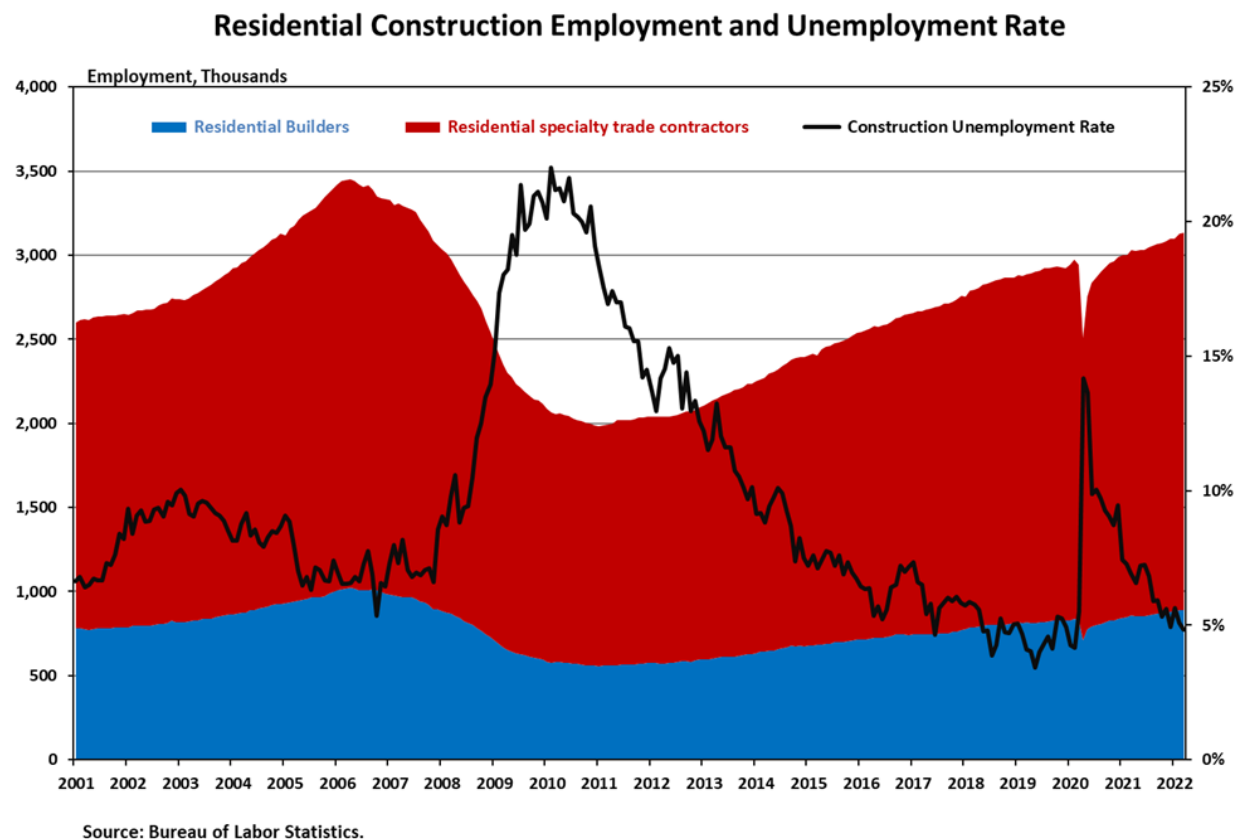
Construction industry employment (both residential and non-residential) totaled 7.6 million and has returned to its February 2020 level. Most recently, in March 2022, residential construction gained 7,600 jobs, while non-residential construction added 11,300 jobs. Job gains were even stronger in February, when the construction sector created 57,000 payroll jobs. Residential construction employment currently exceeds its February 2020 level, while non-residential construction managed to recover just over three quarters (76%) of jobs lost at the start of the pandemic.

Additionally, according to the Household Survey [supplemental](#) data, which come from questions added to the Current Population Survey (CPS) since May 2020, 10.0% of employed persons teleworked or worked at home in the last 4 weeks specifically because of the coronavirus pandemic in March, down from 13.0% in the previous month. The share of the employed who teleworked has declined over the past two months. A year ago, in March 2021, 21.0% of employed persons teleworked because of the coronavirus pandemic.

Residential Construction Employment

Residential construction employment stands at 3.1 million, as of March 2022. Out of this total, builders account for 889,000 jobs and residential specialty trade contractors make up the remaining 2.2 million payroll jobs. The 6-month moving average of job gains for residential construction was 11,783 a month. Over the last 12 months, home builders and remodelers added 103,000 jobs on a net basis. Since the low point following reached during the Great Recession, residential construction has gained 1,153,000 positions.

In March, the unemployment rate for construction workers declined by 0.2 percentage points to 4.8% on a seasonally adjusted basis. Driven by an unprecedented increase in housing demand due to the COVID-19 pandemic, the unemployment rate for construction workers has been trending lower, after peaking at 14.2% in April 2020.



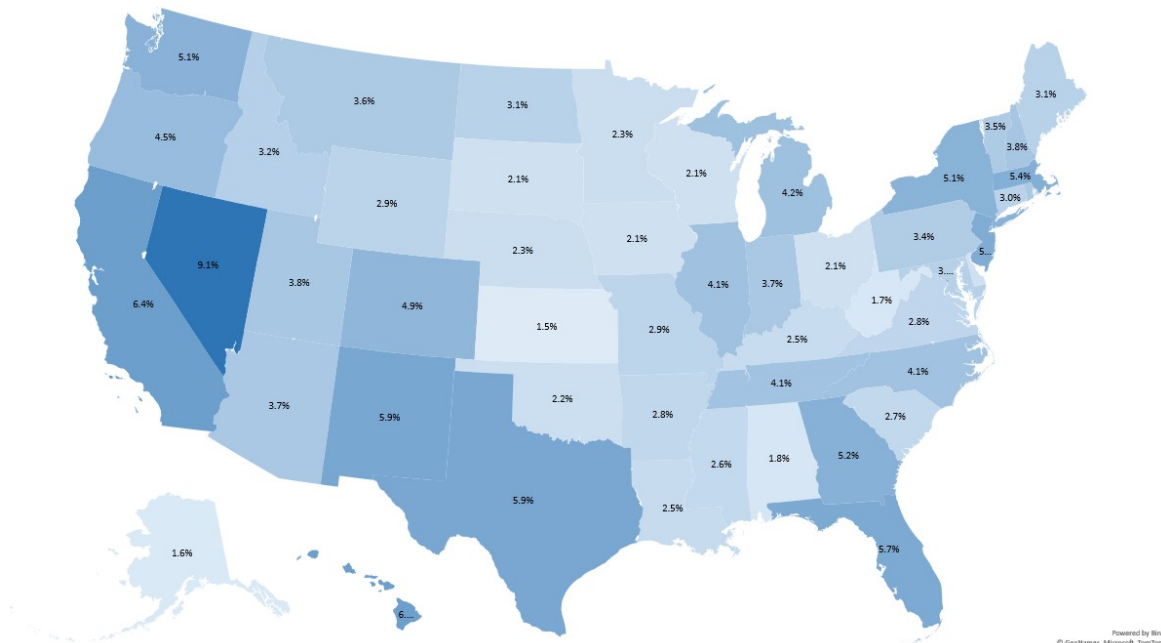
State-Level Employment Data

Recent employment gains were unevenly distributed across the United States. In March 2022, nonfarm payroll employment [increased](#) in 34 states and the District of Columbia compared to the previous month, while 16 states lost jobs.

On a month-over-month basis, employment data was strong in California, which added 60,200 jobs, followed by Texas (+30,100) and New York (+28,100). Sixteen states lost a total of 22,000 jobs. In percentage terms, South Dakota employment increased by 0.6% while Wyoming reported a 0.4% decline between February and March.

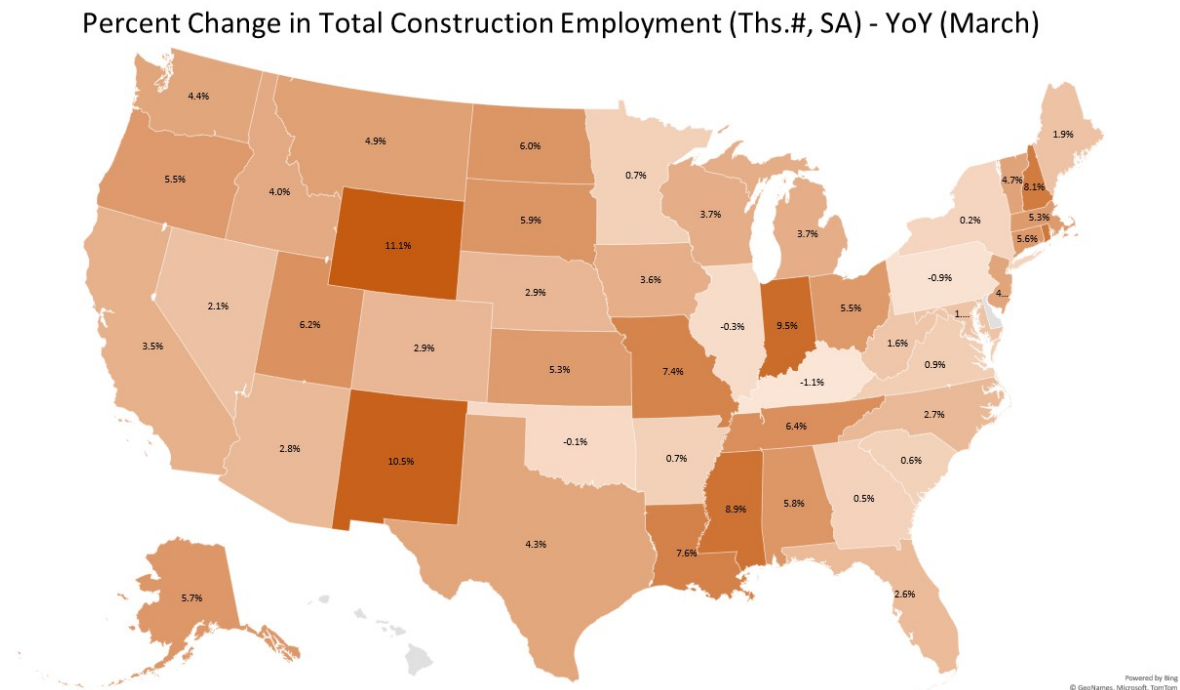
Year-over-year ending in March, 6.5 million jobs have been recovered, marking the economic rebound from the COVID-19 pandemic induced recession. All the states and District of Columbia added jobs compared to a year ago. The range of job gains spanned 1.0 million jobs in California to 5,000 jobs added in Alaska. In percentage terms, Nevada reported the highest increase by 9.1%, while Kansas increased by 1.5% compared to a year ago.

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



Across the 48 states which reported construction sector jobs data—which includes both residential as well as non-residential construction— 34 states reported an increase in March compared to February, while 13 lost construction sector jobs. Idaho reported no change. California added 8,900 construction jobs while New York lost 3,700 jobs. Overall, the construction industry added 19,000 jobs in March compared to the previous month. In percentage terms, South Dakota increased by 7.2% while Mississippi reported a decline of 3.3% between February and March.

Year-over-year, construction sector jobs in the U.S. increased by 220,000, which is a 3.0% increase compared to the March 2021 level. Texas added 31,800 jobs, which was the largest gain of any state, while Pennsylvania, lost 2,200 jobs. In percentage terms, Wyoming had the highest annual growth rate in the construction sector by 11.1%. Over this period, Kentucky reported a decline of 1.1%.



Job Openings and Labor Turnover in Construction

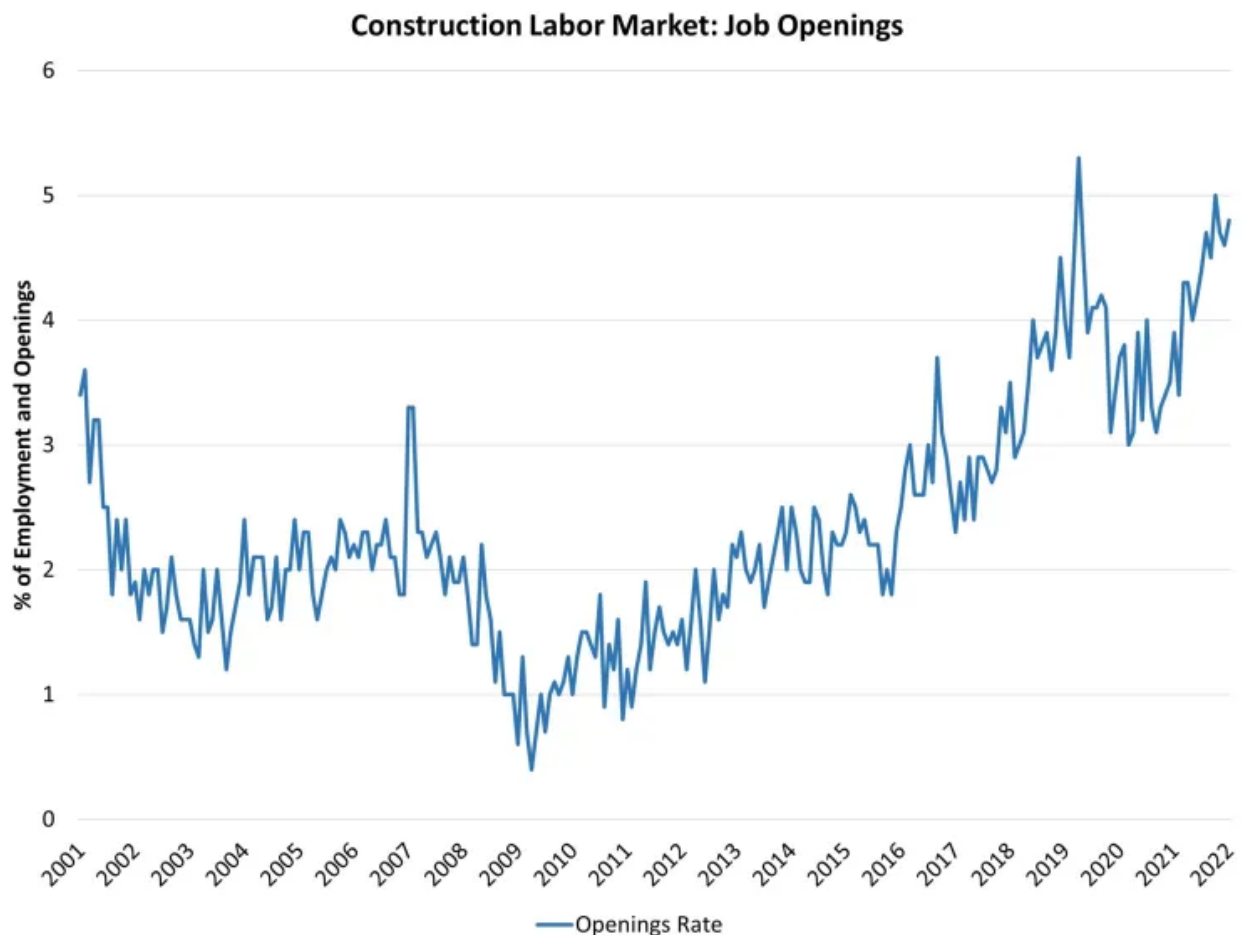
As the construction labor market remains tight, the industry sees a rising number of job openings year-over-year and job layoffs remain low.

As of February 2022, the count of open construction jobs remained steady at 381,000 unfilled positions. The highest measure in the history of the data series (going back to late 2000) was 416,000 in April 2019. The housing market remains underbuilt and requires additional labor, lots and lumber and building materials to add inventory.

Hiring in the construction sector increased in February, rising to a 5.2% rate. The post-virus peak rate of hiring occurred in May 2020 (10.4%) as a rebound took hold in home building and remodeling.

Construction sector layoffs remained low at a 2% rate in February. In April 2020, the layoff rate was 10.8%. Since that time however, the sector layoff rate has been below 3%, with the exception of February 2021 due to weather effects. The rate trended lower in 2021 due to the skilled labor shortage and remains low in 2022.

The job openings rate in construction remained elevated at 4.8% in February, with 381,000 open positions in the sector. This is significantly higher than the 257,000 count recorded a year ago.



The number of quits in construction in February (169,000) remained steady, although this is off a data series high in November (215,000).

Looking forward, the construction job openings rate is likely to see increased upward pressure as both the residential and nonresidential construction sectors expand. Attracting skilled labor will remain a key objective for construction firms in the coming quarters and will become more challenging as the labor market strengthens and the unemployment rate declines.

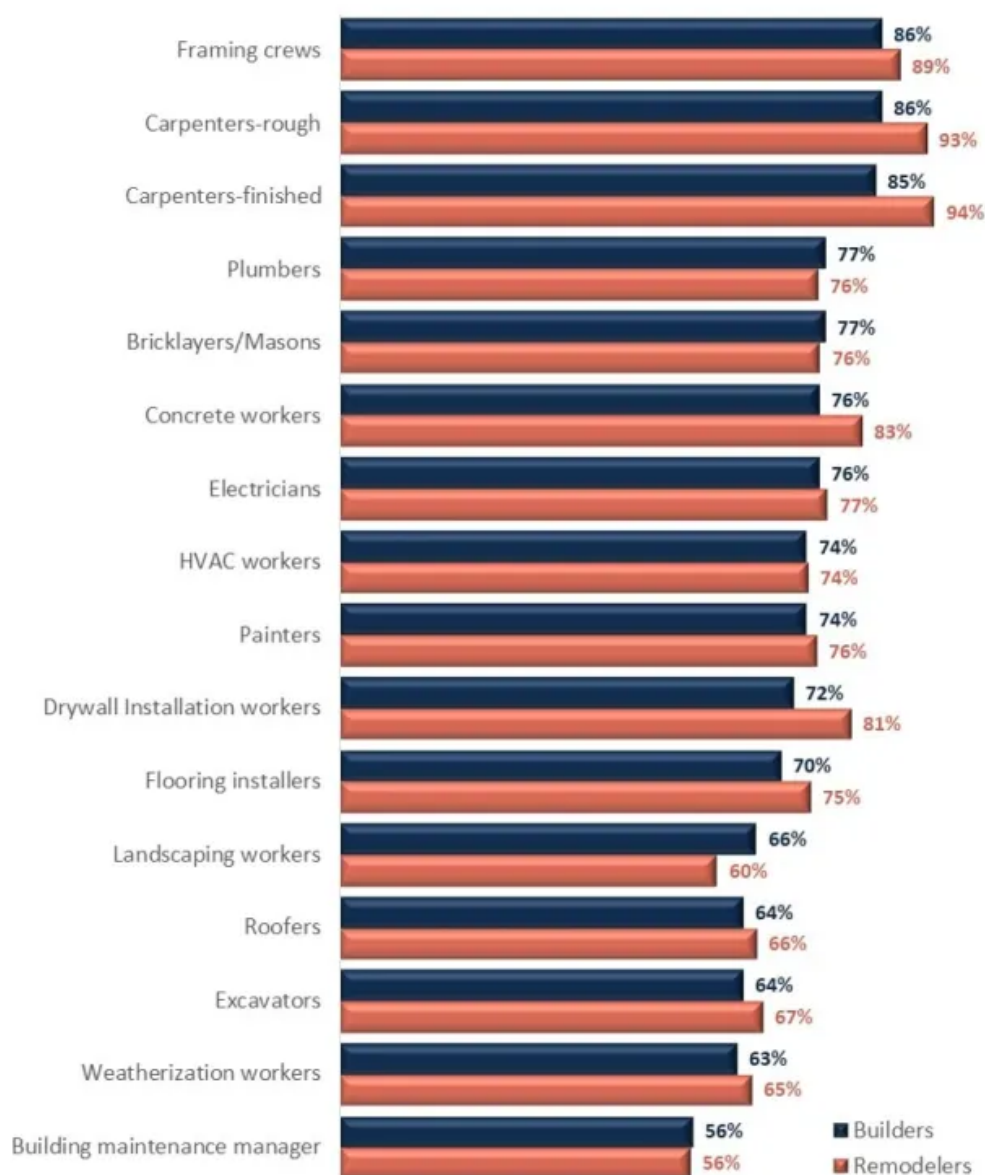
Labor Shortages

As another sign of the tight residential construction labor market, the record percentages of NAHB members reported labor shortages 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.

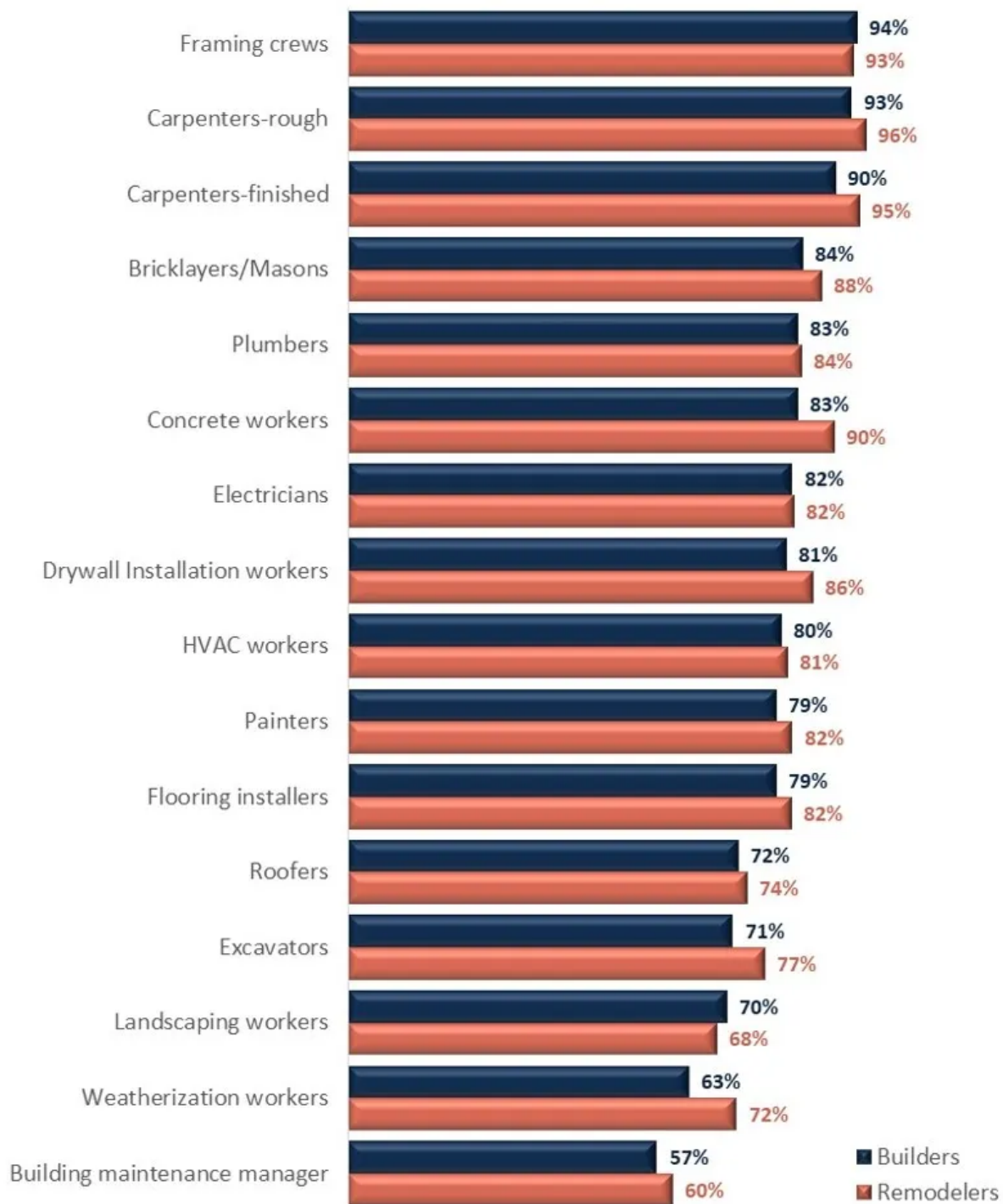
Percent of Builders & Remodelers Reporting Shortages of LABOR (Directly employed)



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.

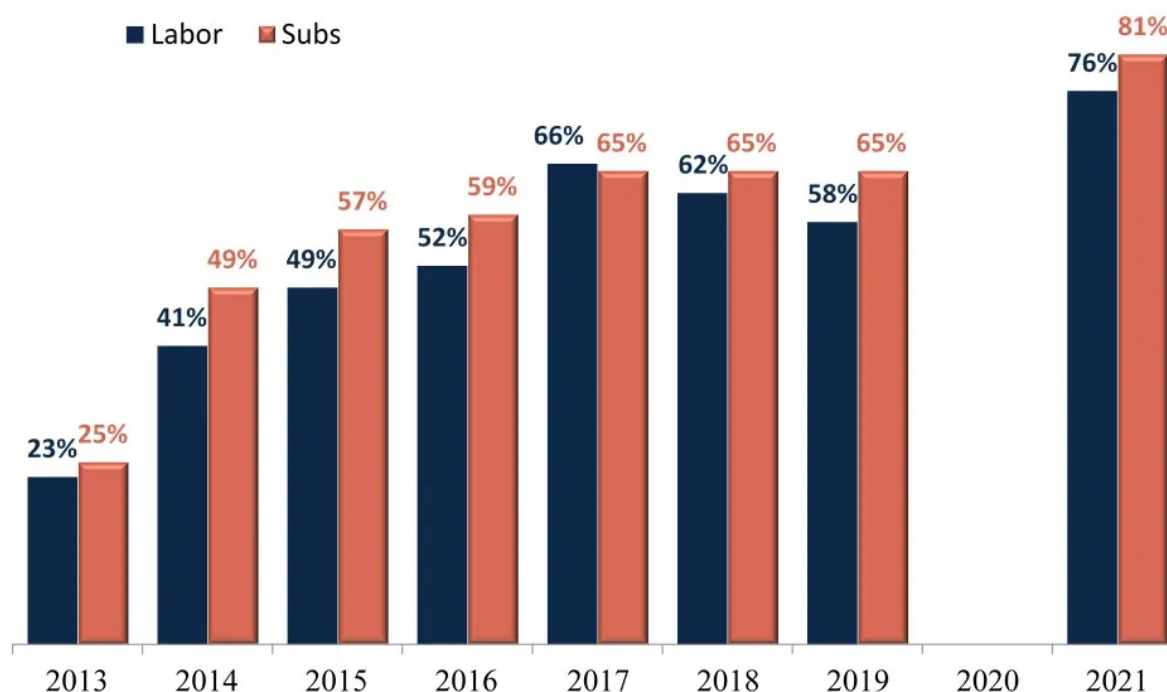
Percent of Builders & Remodelers Reporting Shortages of SUBCONTRACTORS



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

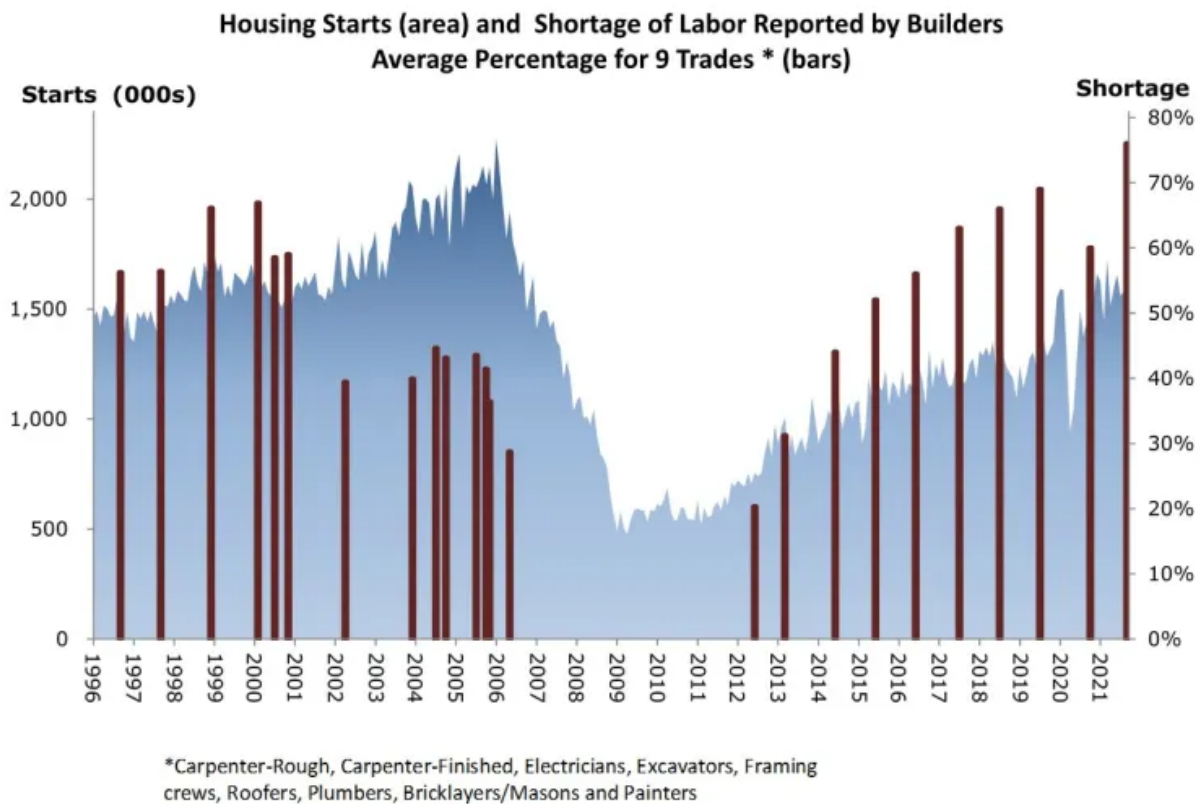
then-historic highs for a few years, before spiking to 76 and 81 percent, respectively, in the latest survey.

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.



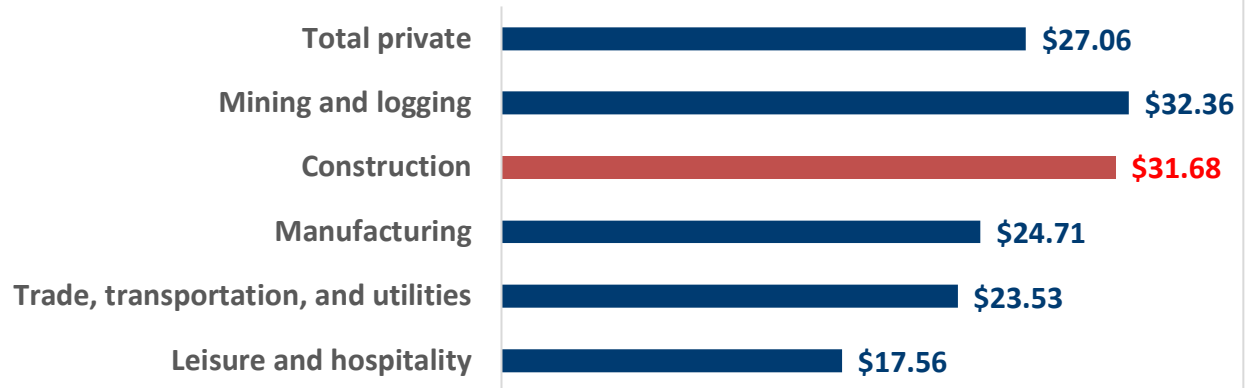
Wages in Construction

As the construction labor market remains tight and skilled labor shortages persist, wages in construction, and home building in particular, 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 5.7% since a year ago and exceeded \$34 (\$34.07 – seasonally adjusted (SA), \$34.01 – NSA) in March 2022. At the same time, seasonally adjusted average hourly earnings in manufacturing were \$30.55, and \$27.44 in trade, transportation and utilities. The overall US private sector AHE were under \$32.

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 - \$31.68 in March 2022. Nonsupervisory and production workers in manufacturing were averaging \$24.71 per hour, in trade, transportation, and utilities - \$23.53, in leisure and hospitality - \$17.56. Averaging across the entire private sector, the mean hourly earnings of production and nonsupervisory workers were \$27.06.

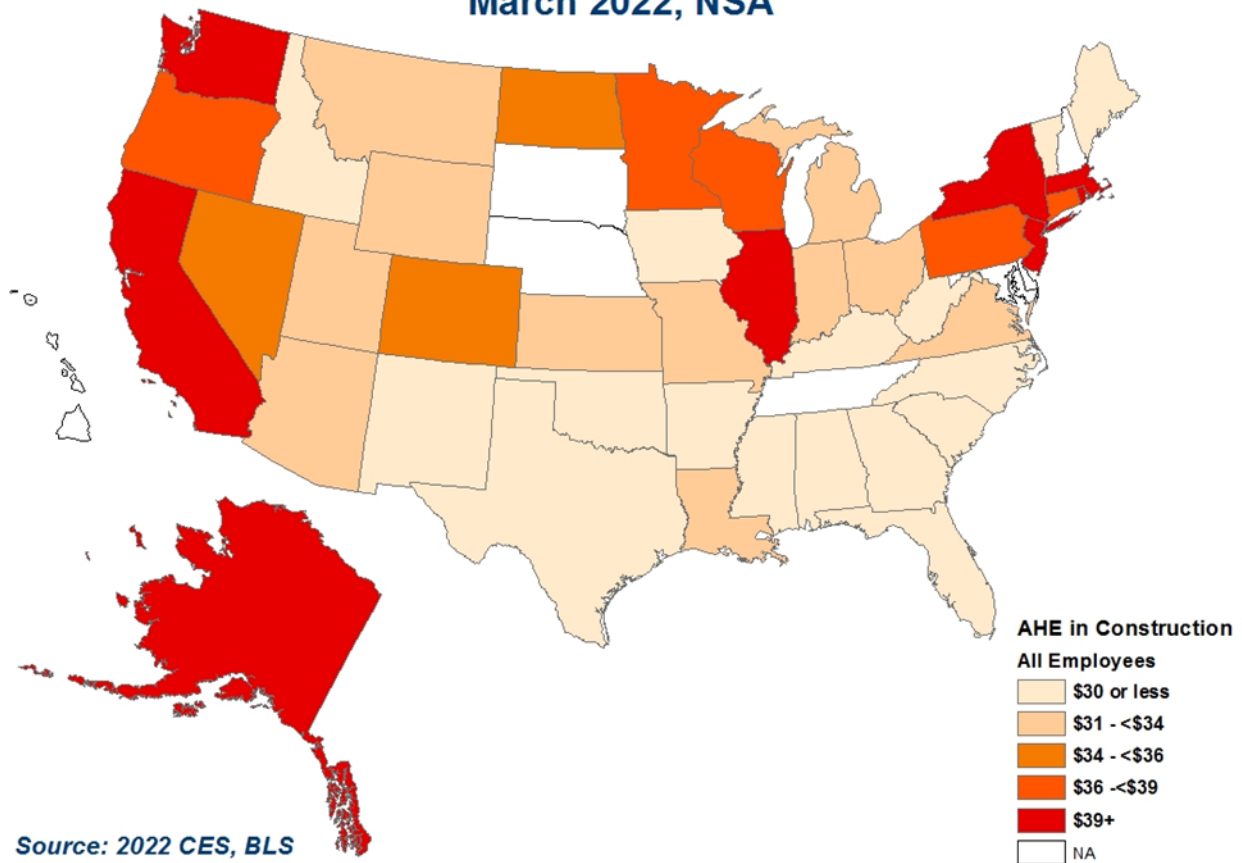
Average Hourly Earnings of Production and Nonsupervisory Employees

Seasonally Adjusted, March 2022



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 March 2022, seven states reported not seasonally adjusted average earnings in excess of \$40 per hour, including Massachusetts - \$43.89, New Jersey - \$42.17, Illinois - \$41.83, New York - \$41.61, Alaska - \$40.67, Rhode Island - \$40.26, and Washington - \$40.19. At the same time, not seasonally adjusted US average hourly earnings in construction were \$34.01.

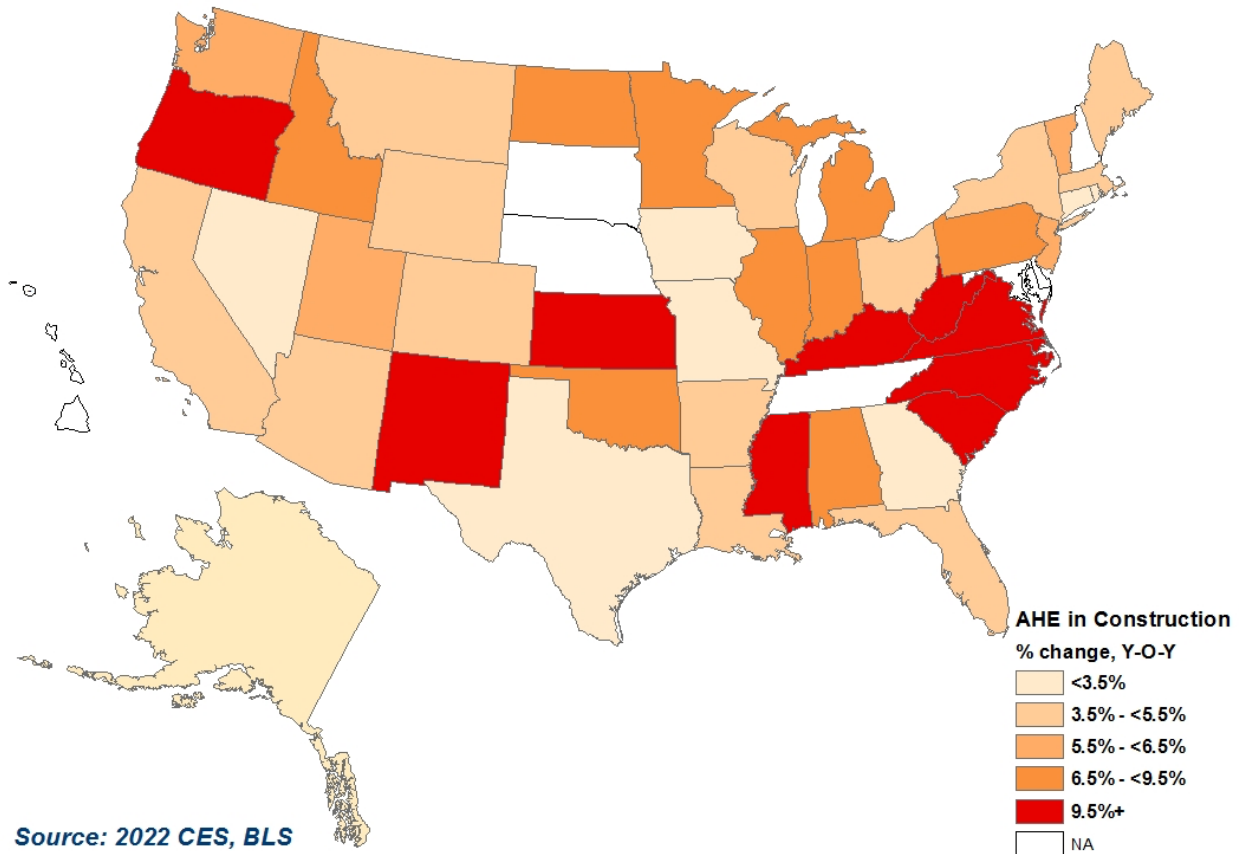
Average Hourly Earnings in Construction, March 2022, NSA



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 \$30 or less. The bottom ten states with the lowest AHE include eight states in the South. The lowest hourly wages are in Mississippi - \$25.36, Arkansas - \$26.41, followed by Idaho - \$27.4 and New Mexico - \$27.76. Alabama - \$28.44, Texas - \$28.6, Georgia - \$28.71, Oklahoma - \$28.86, Kentucky - \$29.04, and Florida - \$29.15 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 one state reported rising hourly wages. The only exception was Alaska where hourly rates declined 3.4%. Eight states reported the increase in hourly rates of over 10% - Oregon (14.3%), Mississippi (12.6%), North Carolina (12.5%), Virginia (11.8%), Kentucky (11%), West Virginia (10.9%), South Carolina (10.6%), New Mexico (10.4%).

Percent Change in Average Hourly Earnings in Construction, Y-O-Y, March 2022



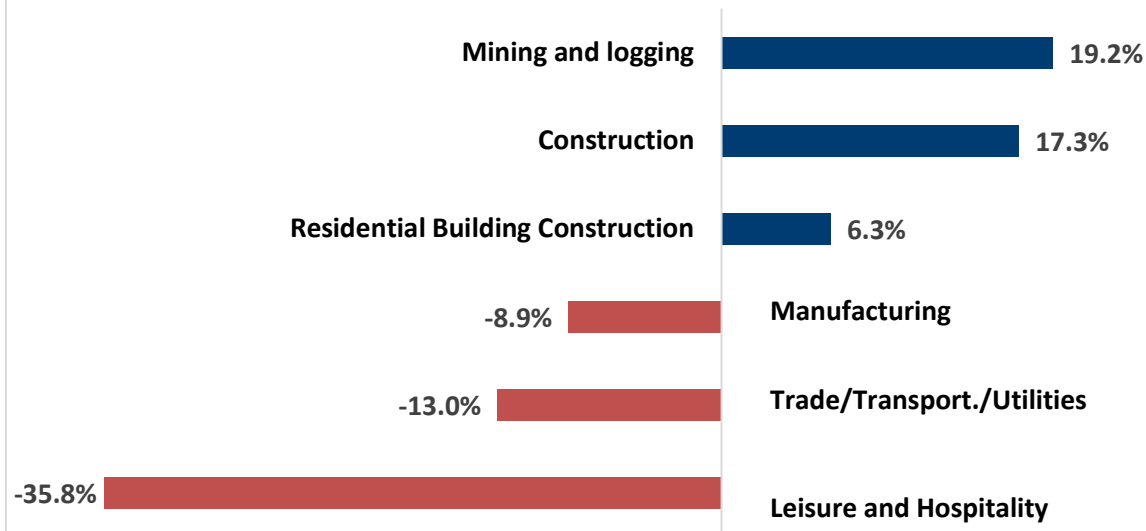
Wages in Residential Building Construction

The BLS monthly reporting of hourly earnings in residential construction has an additional lag of one month and only available for the entire US. As a result, the latest national estimates specific to home building are available for February 2022. At that time, average seasonally adjusted hourly earnings of all employees in the industry reached a new high of \$33.14, an increase of 4.8% since a year ago.

Focusing on production and non-supervisory employees in home building, the average hourly earnings grew even faster (6.1%) and reached a new high of \$28.66 in February 2022. At the same time production and nonsupervisory employees in manufacturing were averaging \$24.56, in trade, transportation and utilities - \$23.45, mining and logging - \$32.13, in leisure and hospitality - \$17.31 per hour. The US average hourly earnings for production and nonsupervisory employees across all industries were \$26.95.

As a result, average hourly earnings of production workers in residential building construction are 6.3% higher than 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%, -13% and -35.8%, respectively).

AHE of Production and Nonsupervisory Employees Compared to the US Average, February 2022



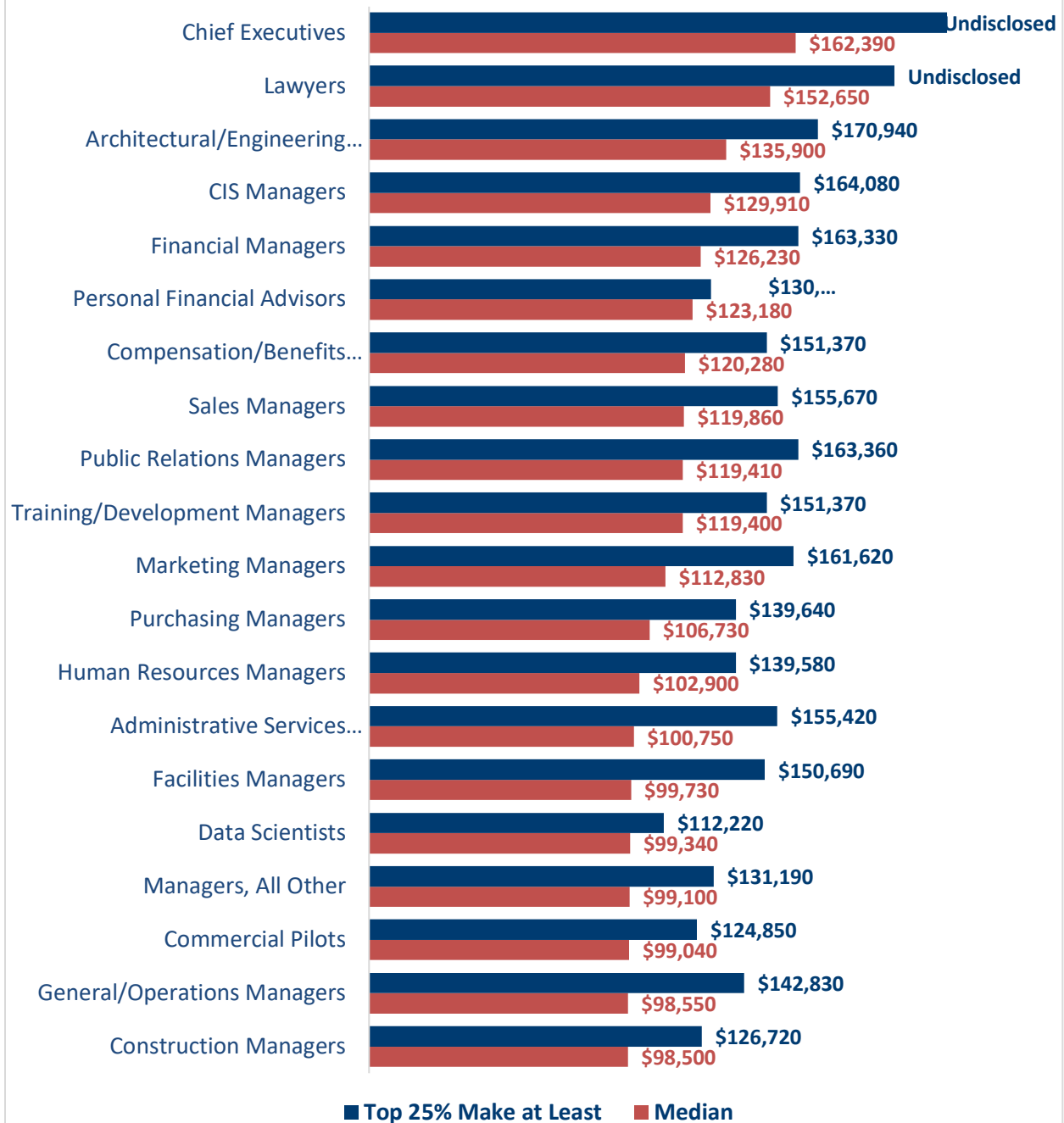
Occupational Wages in Construction

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 2021 estimates were released in April 2022. According to NAHB's analysis of these data, half of payroll workers in construction earned more than \$49,070 and the top 25% made at least \$75,820. In comparison, the U.S. median wage was \$45,760, while the top quartile (top 25%) made at least \$68,590.

The OEWS publishes wages for over 400 occupations in construction. Out of these, only 58 are construction trades. The other industry workers are in finance, sales, administration and other off-site activities.

The highest paid occupation in construction continues to be Chief Executive Officers (CEO) with half of CEOs making over \$162,390 per year. Lawyers working in construction are next on the list with the median wages of \$152,650. Out of the next 13 highest paid trades in construction, 12 are various managers. The highest paid managers in construction are architectural and engineering managers, with half of them making over \$135,900 and the top 25 percent on the pay scale earning over \$170,940 annually.

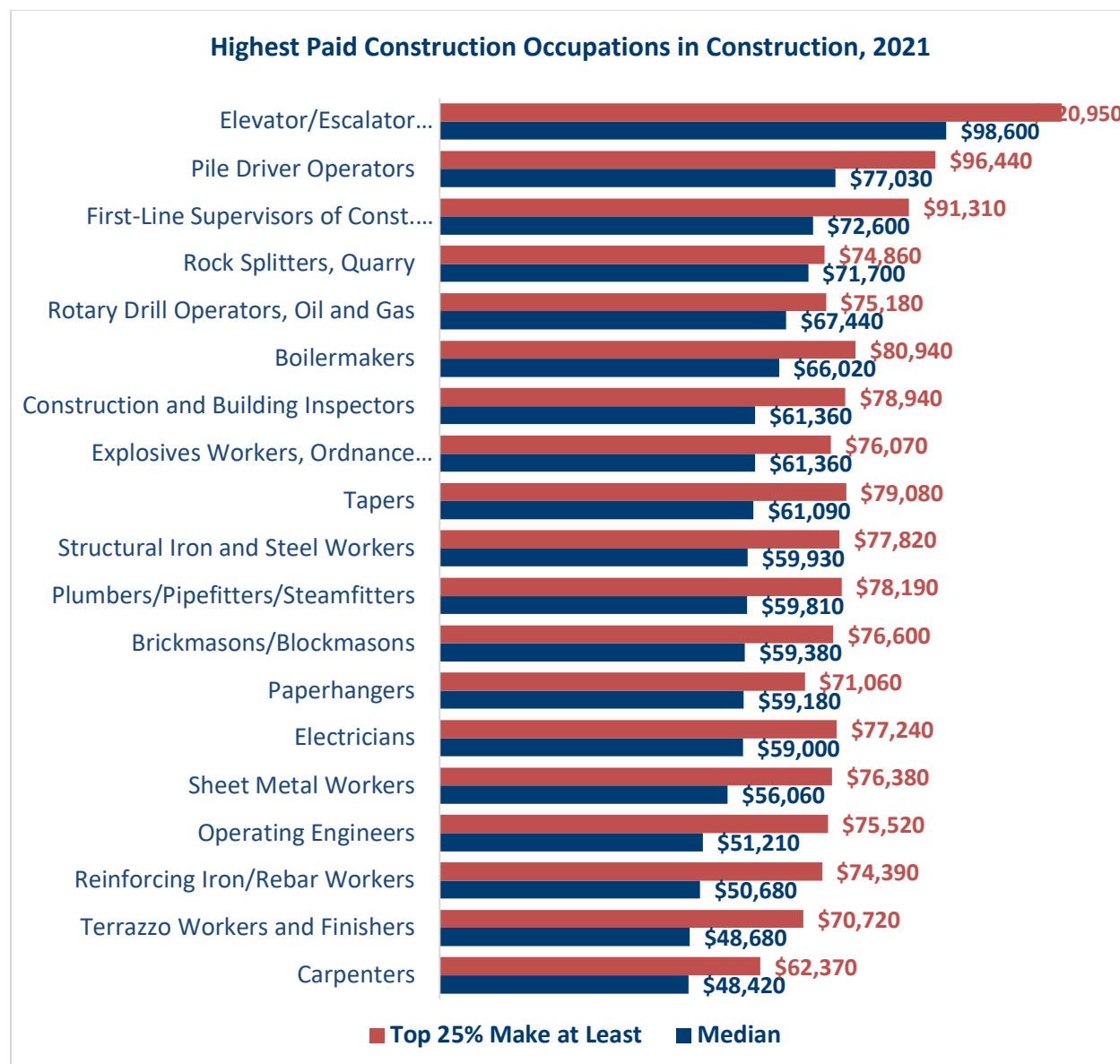
Highest Paid Occupations in Construction, 2021



Among construction trades, elevator installers and repairers top the median wages list with half of them earning over \$98,600 a year, and the top 25% making at least \$120,950. Pile driver operators are next on the list, with half of them making over \$77,030 and top quartile earning at least \$96,440. First-line supervisors of construction trades are next on the list. Their median wages are \$72,600, with the top 25% highest paid supervisors earning in excess of \$91,310.

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 \$61,360 and the wages in the top quartile of the pay scale exceed \$78,940. Half of plumbers in construction earn over \$59,810, with the top quartile making over \$78,190. 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 \$48,420 and the highest paid 25% bring in at least \$62,370.



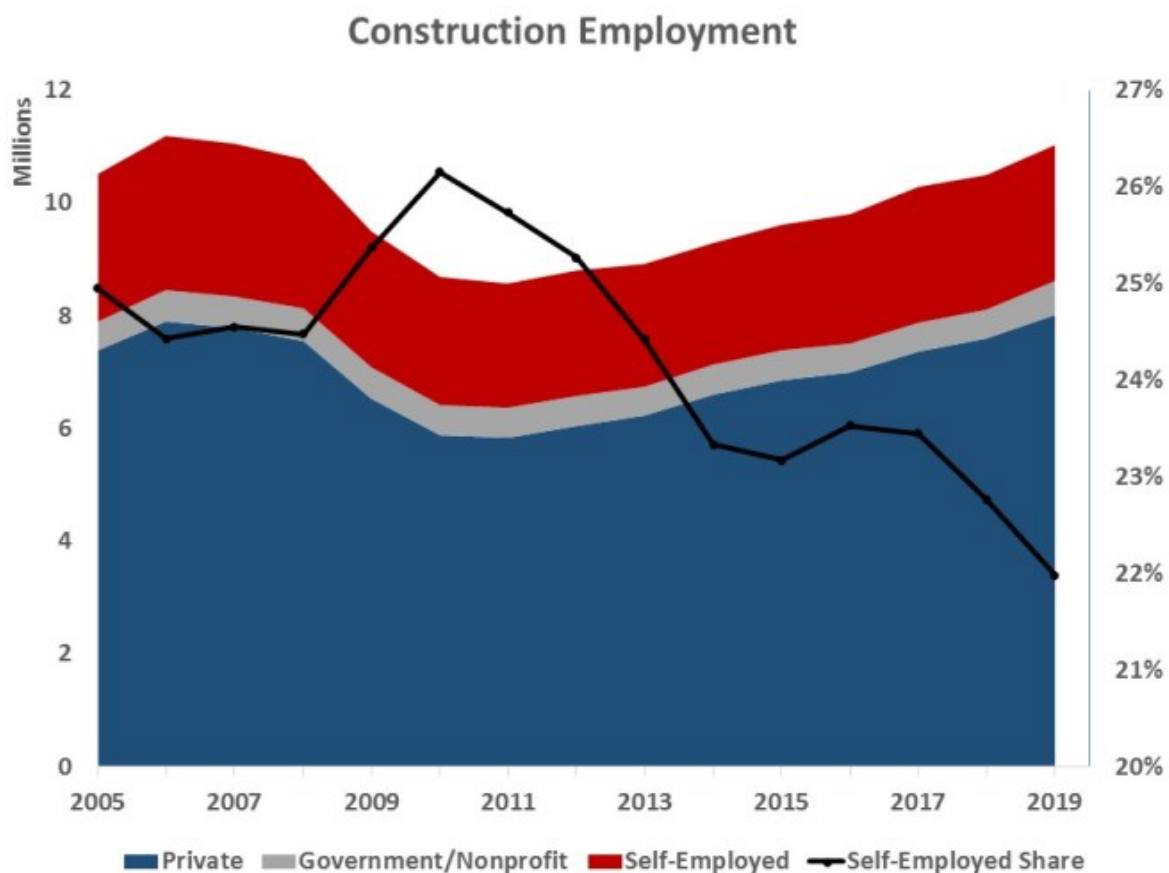
With the May 2021 estimates, the OEWS program adopted a new estimation methodology. As a result, the previously published estimates are not directly comparable to the latest 2021 edition. While the recent methodological changes prevent direct comparison with the earlier estimates, the new design is expected to improve the data users' ability to compare occupational wages

across years in the future and better access the changing demand for particular occupations in the labor market.

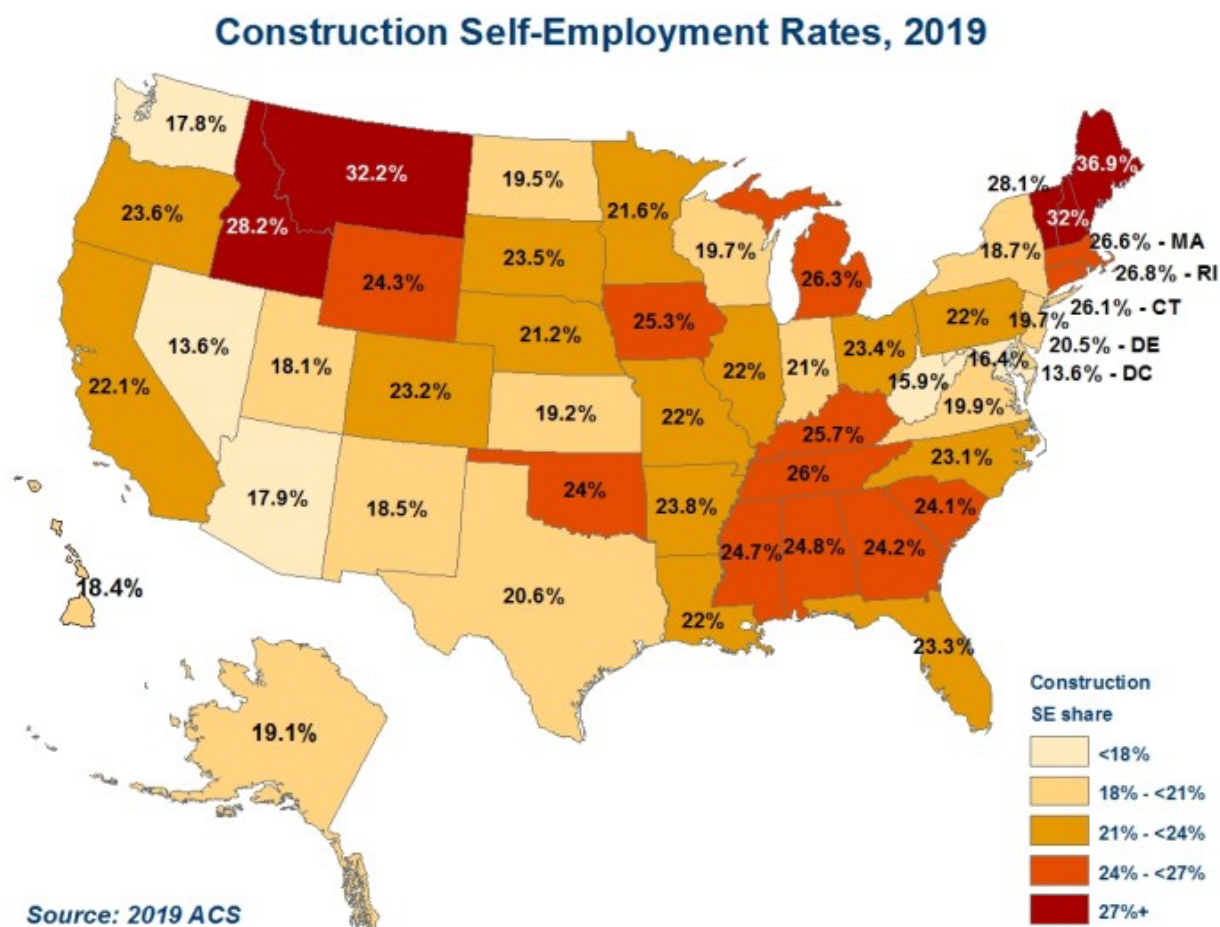
Self-Employment in Residential Construction

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 2019 American Community Survey (ACS), 22% (2.4 million) of construction workers are self-employed. This is significantly higher than an economy-wide average of 9.7% of the employed labor force. Nevertheless, construction self-employment rates are now lowest on record, down from a record high of over 26% in 2010.

The construction industry has been adding payroll jobs since 2011 while the number of self-employed construction workers continued dwindling until 2015 and registered only modest gains since then. In 2019, construction payroll employment exceeded 8 million workers thus breaking the previous payroll record of 7.9 million set in 2006. In comparison, the number of self-employed workers in construction remained 11% below the cyclical high of 2.7 million reached in 2006.



Additional insights into construction self-employment rates can be gained by examining a cross-state variation. Many states, where home building accounts for a higher share of the labor force, also register higher shares of self-employed. Notably, Maine, Montana, New Hampshire, Idaho and Vermont have the highest shares of self-employed construction workers in the nation and some of the highest shares of residential construction workers in the state labor force. The share of self-employed reaches 37% in Maine, 32% in Montana and New Hampshire, and over 28% in Idaho and Vermont.



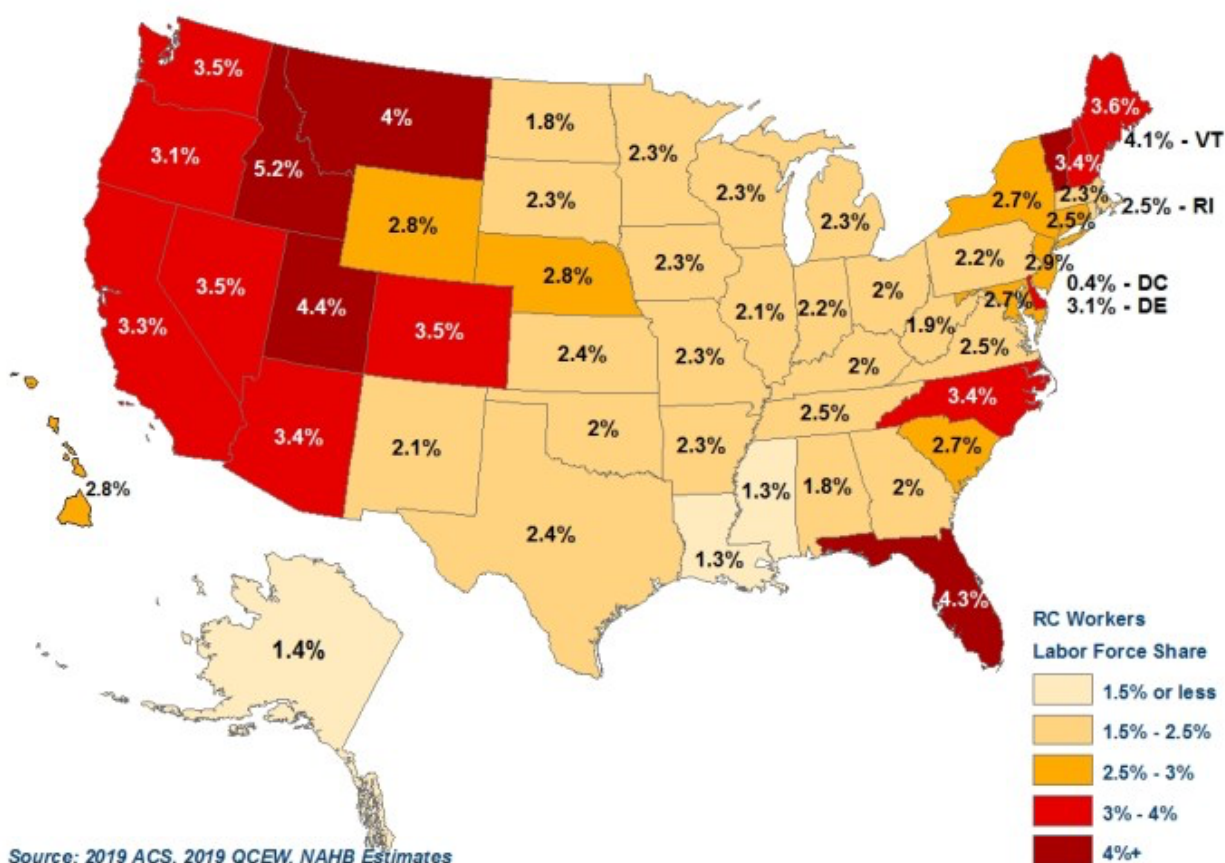
Residential Construction Employment across States and Congressional Districts

According to the latest 2019 American Community Survey (ACS), over 11 million people, including self-employed workers, worked in construction in 2019. The residential construction employment estimates, which 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), totaled 4.4 million people. It accounts for 2.8% of the US employed civilian labor force. In 2020, despite the widespread curtailment of economic activity due to Covid-19, home building created additional jobs as the rest of the economy struggled.

Not surprisingly, the most populous state—California—also has the most residential construction workers. Close to 640,000 California residents worked in home building in 2019, accounting for over 3.3% of the state employed labor force. Florida comes in second with over 430,000 residential construction workers. Florida has fewer residents than Texas but owing [to its large vacation and seasonal housing stock](#), employs more residential construction workers. In Florida, residential construction workers account for a relatively high 4.3% of the employed labor. Even though this share is well above the national average (2.8%), it is drastically lower than in 2006 when Florida registered the highest share among all 50 states and the District of Columbia, 6.5%.

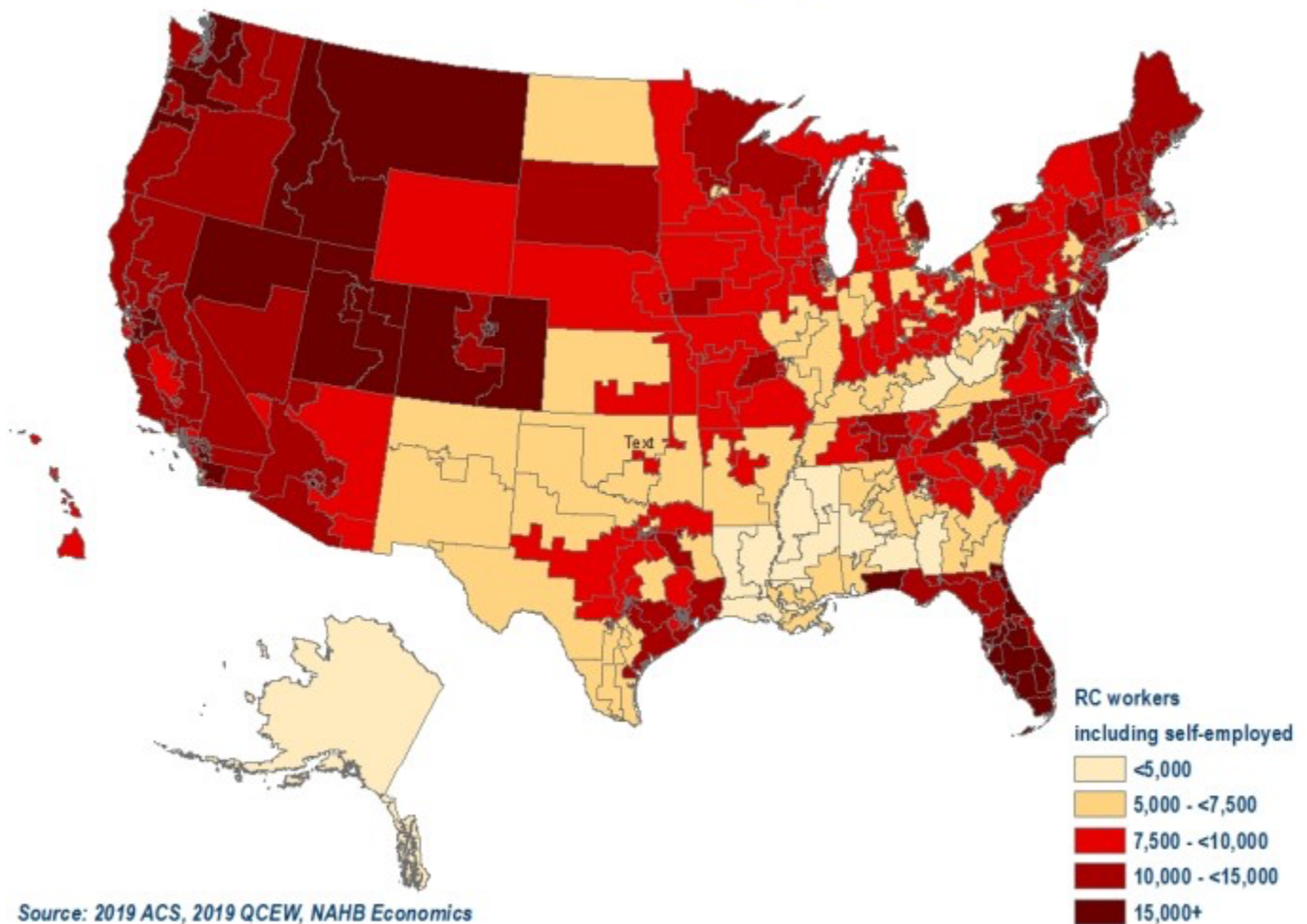
Other states with a high prevalence of seasonal, vacation homes top the list of states with the highest share of residential construction workers in 2019. Idaho with 5.2% of the employed labor force working in home building takes the top spot on the list. Utah and Florida follow with 4.4% and 4.3%, respectively. Vermont and Montana also register shares in excess of 4%. In addition, ten other states register shares of residential construction workers that exceed 3%: Maine (3.6%), Nevada (3.5%), Washington (3.5%), Colorado (3.5%), New Hampshire (3.4%), Arizona (3.4%), North Carolina (3.4%), California (3.3%), Oregon (3.1%) and Delaware (3.1%).

The Share of Home Building Workers in the Labor Force, 2019



As of 2019, the average congressional district has about 10,000 residents working in residential construction, but that number is often significantly higher in some congressional districts. In Idaho's 1st (Rep. Russ Fulcher – R), 24,000 residents are in home building. Florida's 25th (Rep. Mario Díaz-Balart – R) that stretches from west of Miami to east of Naples and Marco Island and Arizona's 7th (Rep. Ruben Gallego – D) that includes much of inner Phoenix and comprises the western part of the state are close second and third with about 22,000 residents employed in home building. Utah's 4th (Rep. Burgess Owens – R) and Montana's single Congressional district (Rep. Matt Rosendale – R) have over 21,000 residents working in home building.

Residential Construction Employment, 2019



Next on the list are three congressional districts in Florida and Idaho's 2nd (Rep. Mike Simpson- R) with about 20,000 residents working in home building. Florida's 19 (Rep. Byron Donalds– R) and Florida's 21st (Rep. Lois Frankel – D) are in the south and Florida's 14th (Rep. Kathy Castor – D) serves most of Tampa. California's 41st (Rep. Mark Takano – D) in western Riverside and 29th (Rep. Tony Cárdenas – D) in the north central San Fernando Valley and Florida's 10th (Rep. Val Demings – D) in Orange County conclude the top dozen list with close to 19,000 residential construction workers.

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. Three districts in Florida (Florida's 19th, 17th, and 25th) register the highest shares of residential construction workers in the employed labor force, 6%, 5.8% and 5.7%, respectively, by far exceeding the national average of 2.8%. The other congressional districts on the top 10 list all register the shares of residential construction workers in excess of 5%. These include Arizona's 7th, Idaho's 2nd, Texas's 33rd and 29th, Florida's 21st, and California's 41st and 29th.

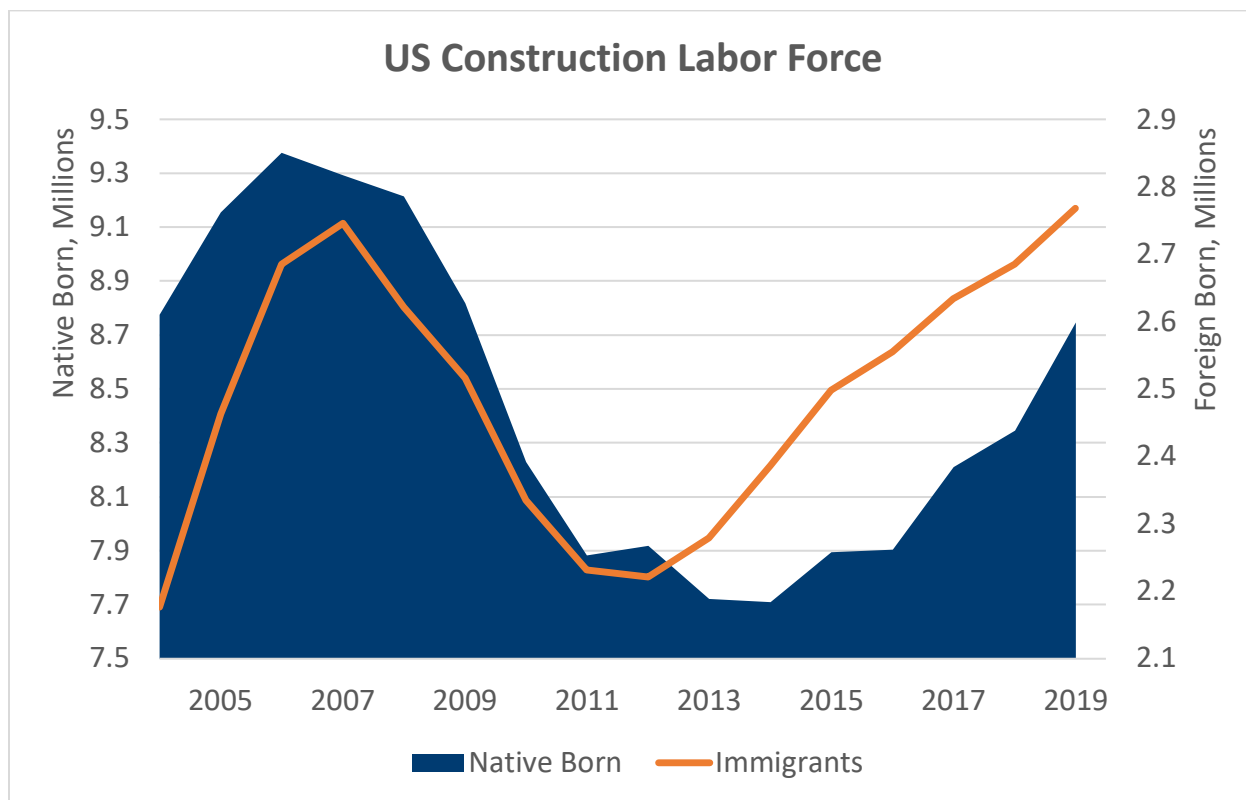
At the other end of the spectrum there are several districts that contain parts of large urban areas: the District of Columbia (Rep. Eleanor Holmes Norton – D), Pennsylvania's 3rd (Rep. Dwight Evans – D) that includes areas of the city of Philadelphia, Georgia's 5th (Rep. Nikema Williams – D) that includes most of Atlanta, the 12th of New York (Rep. Carolyn Maloney – D), located in New York City, and among others, Louisiana's 2nd (currently vacant) 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 1,500. At the same time, it has a disproportionately 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.

Immigrants in Construction

According to the most recent American Community Survey (ACS), the number of immigrant workers in construction approached 2.8 million in 2019, the highest level recorded by the ACS. Immigrant workers now account for 24% of the construction workforce, slightly below the 2016 record high share of 24.4%. The share of immigrants is higher in construction trades, reaching 30%. The latest statistics confirm that immigrant workers remain a vital source of labor to the construction industry amid ongoing skilled labor shortages exacerbated by a pandemic boost to housing demand.

The latest ACS data show that 11.5 million workers, including self-employed, worked in construction in 2019. Out of these, 8.7 million were native-born, and 2.8 million were foreign-born.

While the number of immigrant workers in construction reached a new record high, breaking the housing boom era record levels, the number of native-born workers in construction remained 7% below the cyclical high reached in 2006, when 9.4 million native-born workers were in construction.

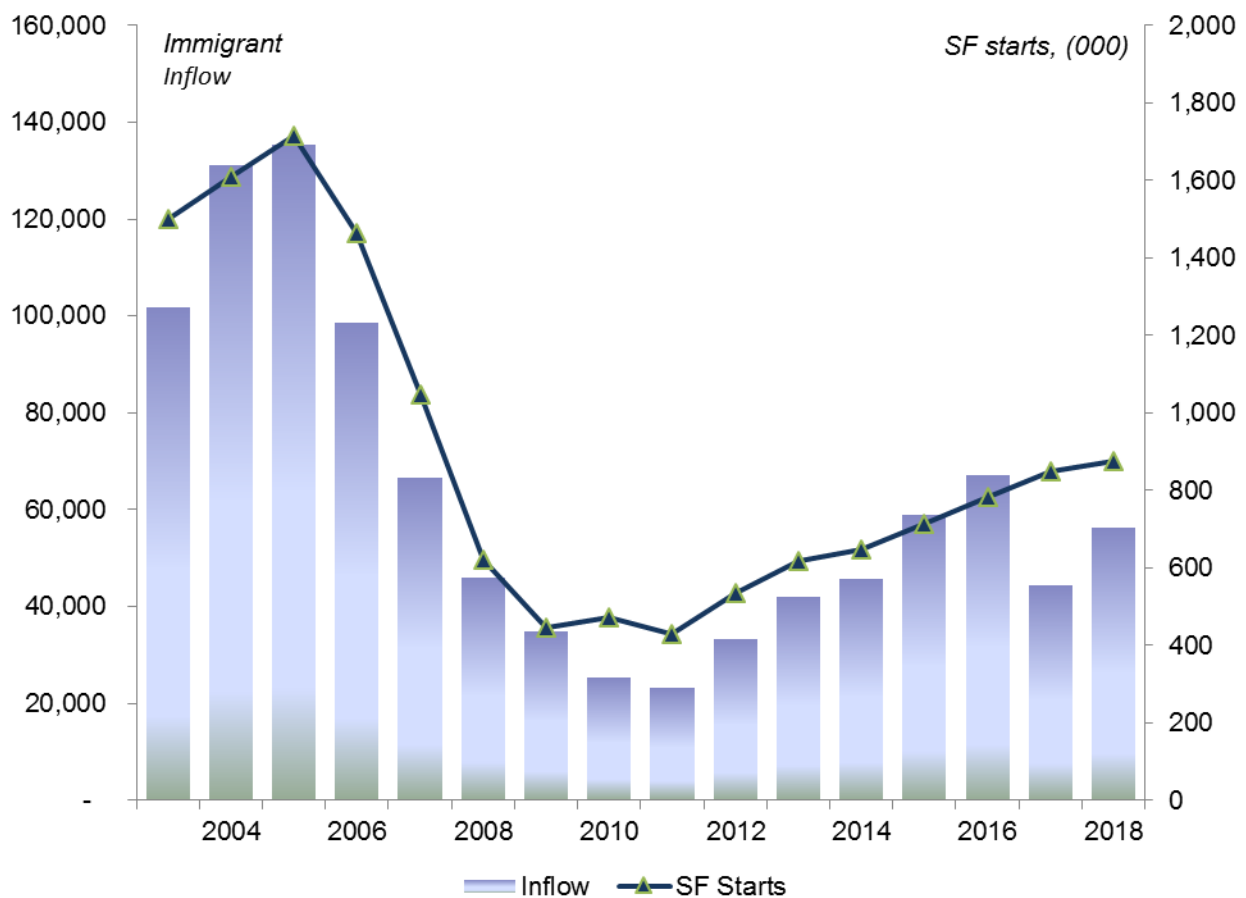


Source: 2004-2019 ACS PUMS, NAHB estimates

Even as native-born workers have generally been a lagging source of construction workforce growth, 2019 registered a noticeable increase in their numbers. As a result, the share of immigrants declined slightly in 2019 but nevertheless remains at historically high levels.

Another contributing factor to the recently declining share of immigrants was a noticeable decrease in the inflow of newly arrived immigrants into the construction work force. Just over 44,000 new immigrants entered the construction industry in 2017 and additional 56,000 in 2018. This is a substantial drop even compared to 2016, when over 67,000 new immigrants joined in. In comparison, over 130,000 new immigrants were joining the construction labor force annually in 2004 and 2005.

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



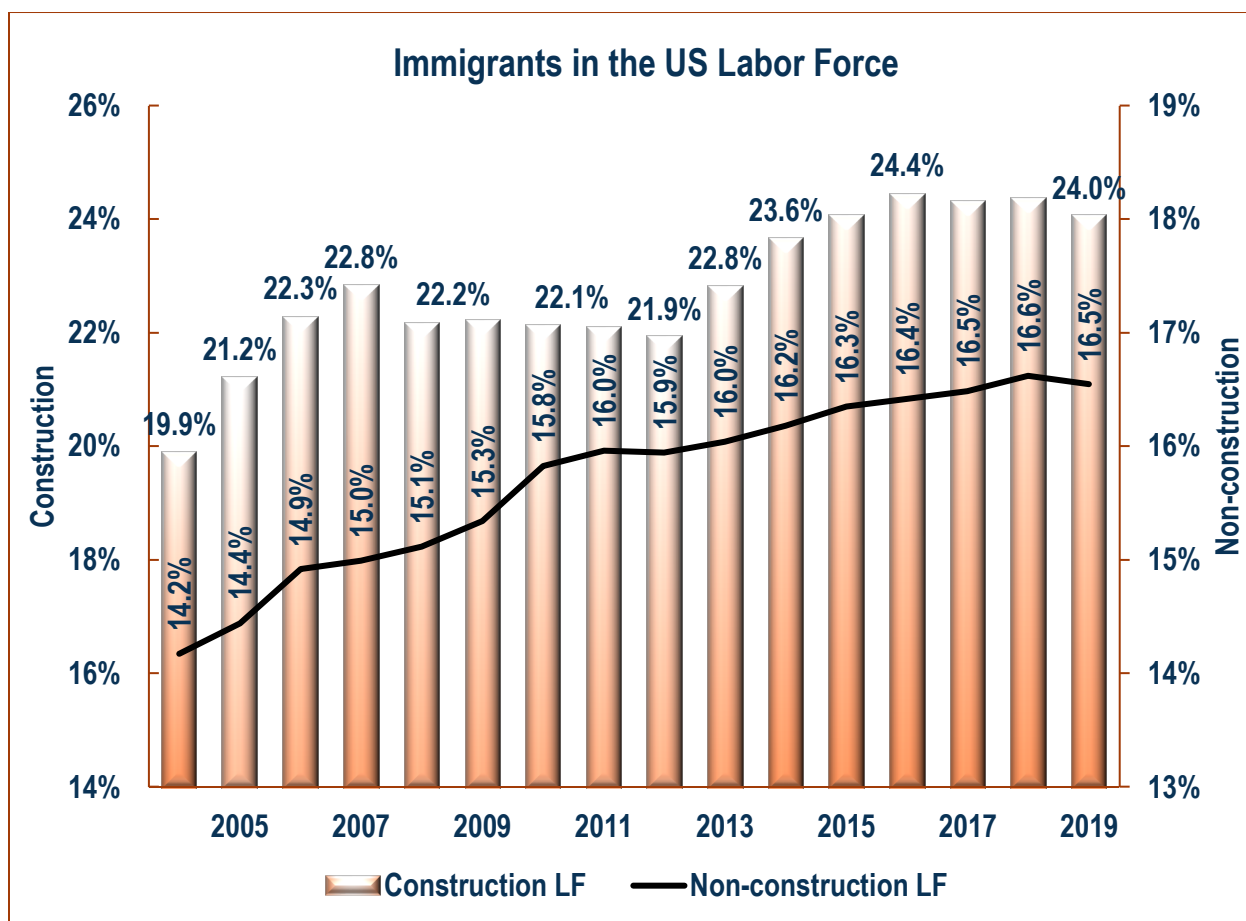
Source: 2004-2019 ACS PUMS, NAHB estimates

NAHB's earlier research showed that over the last 15 years, the time span these data are available, the annual flow of new immigrant workers into construction remained highly correlated with measures of new home construction, especially new single-family starts. 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 has been quite rapid, occurring in the same year as a change in the single-family construction activity. This correlation 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 2017 noticeable drop and 2018 anemic gains in the number of new immigrants in construction may seem puzzling given favorable economic conditions but most likely reflect changes in the US immigration policies.

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. Over the last 15 years, the entire US labor force has become more dependent on foreign-born labor with its share rising from less than 15% in 2004 to 17% in 2019. 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 2019.

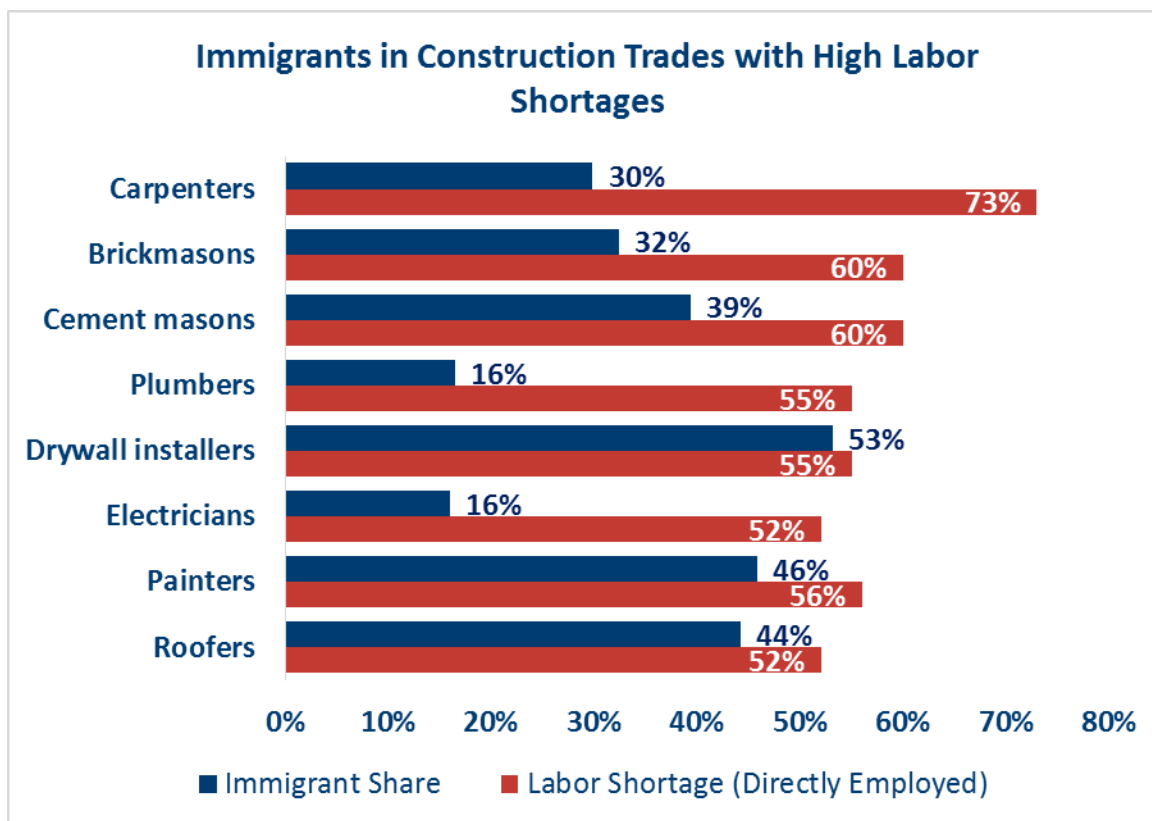


Source: 2004-2019 ACS PUMS, NAHB estimates

Concentration of immigrants is particularly high in some of the trades needed to build a home, like drywall/ceiling tile installers (53%), painters (46%), roofers (44%), cement masons (39%), 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).

The most recent October 2020 HMI survey shows ongoing labor shortages exacerbated by a pandemic boost to housing demand. Over 73% of builders report shortages of carpenters and framing crews and 60% of builders report shortages of brick masons and cement masons directly employed by their firms.

Comparing the HMI survey data over the recent years, construction trades with the most consistent labor shortages are framing crews, carpenters and bricklayers – all requiring unique technical expertise but less formal education.

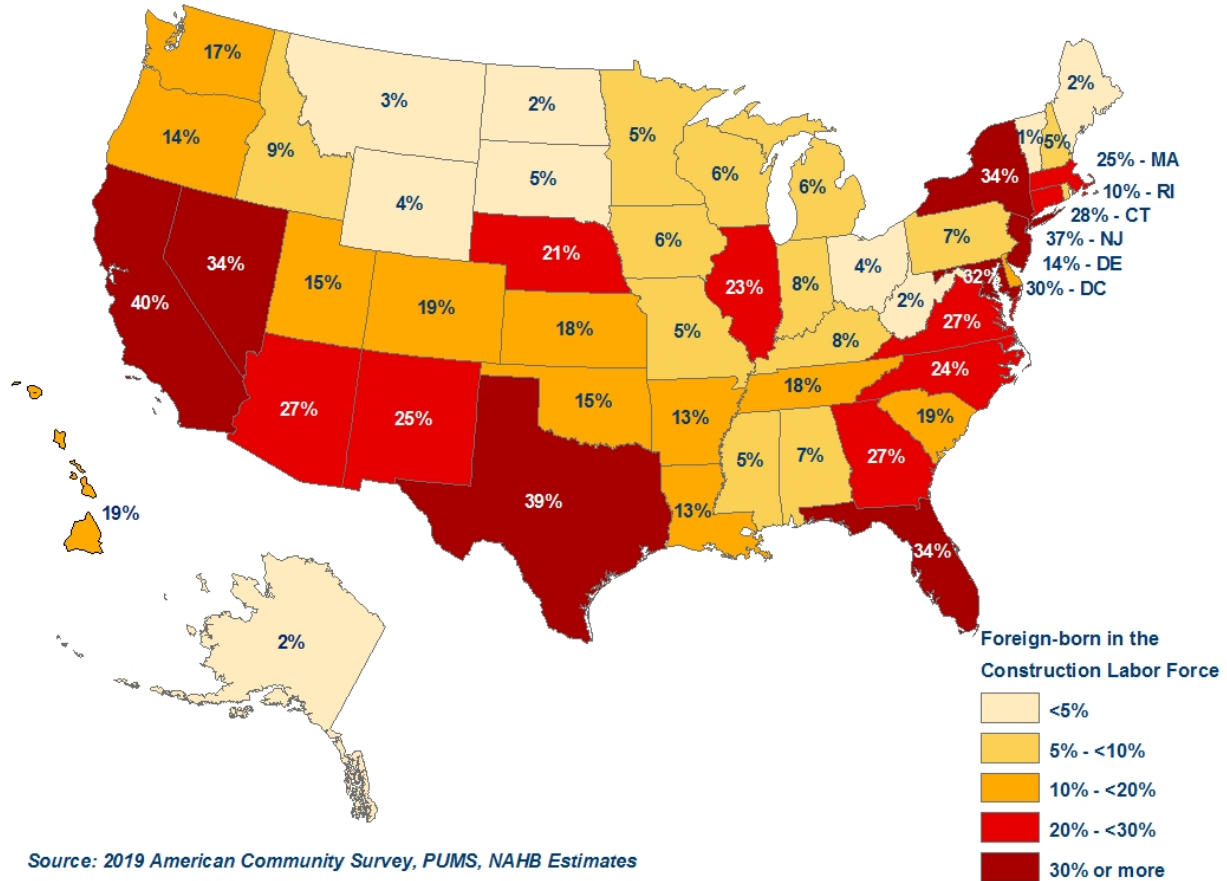


The two most prevalent construction occupations, laborers and carpenters, account for about 30% of the construction labor force. More than a third of all construction laborers (38%) and 30% of carpenters are of foreign-born origin.

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 New Jersey, 37% of the construction labor force is foreign-born. In Nevada, New York and Florida, 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 (56%) 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, 2019



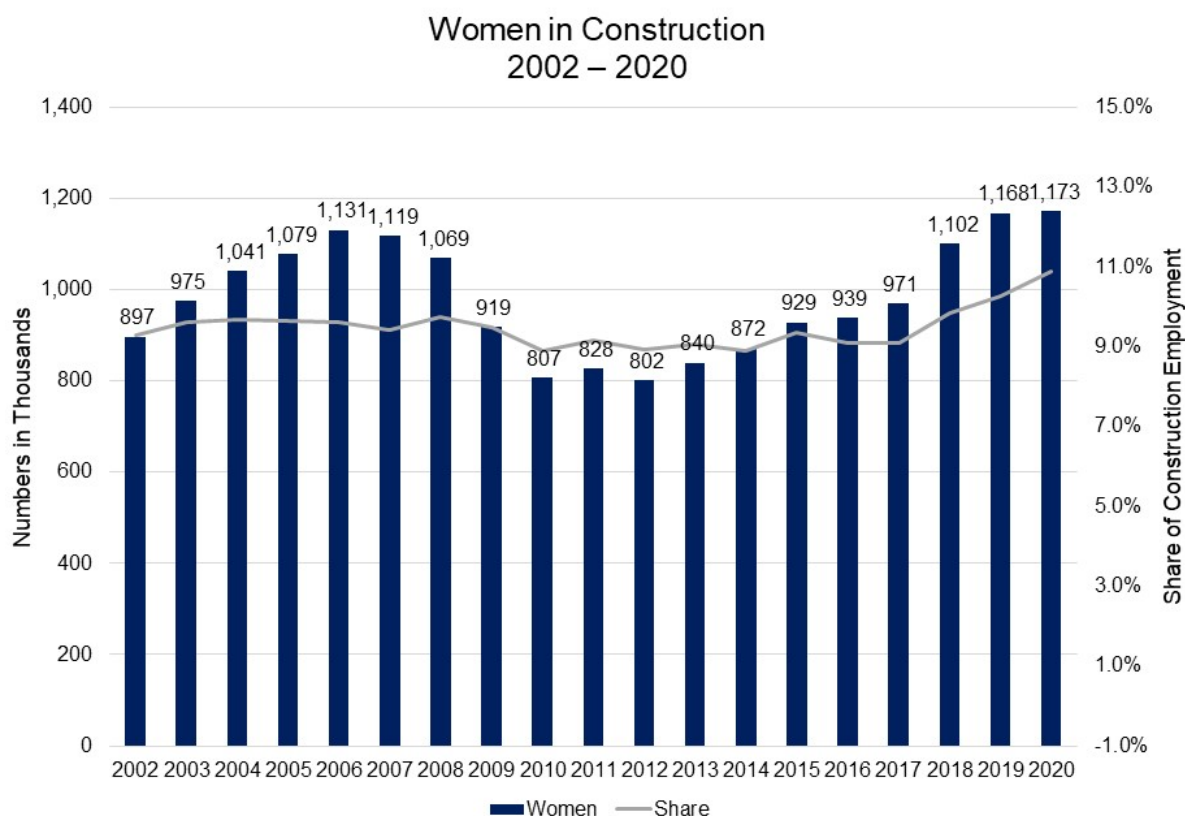
However, the reliance on foreign-born labor is also noticeable outside of these traditional immigrant magnets. This is evident in states like Nevada, New Jersey, Maryland, and Connecticut, where immigrants, as of 2019, account for between 28 and 34% of the construction labor force.

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 grew slightly in 2020, rising to around 1.17 million, while the construction industry lost 587,000 jobs in 2020 when the pandemic hit the economy. Currently, women make up a growing share of the construction employment, up to 10.9% in 2020 from 10.3% in 2019. As the construction skilled labor shortage remains a key challenge, 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. Here we explore the state of women in the construction industry using labor force statistics from the Current Population Survey (CPS).

During the Great Recession, the number of female construction workers declined sharply by almost 30 percent 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 increased to 1.17 million in 2020, edged up by 0.4% in 2020 during the pandemic.

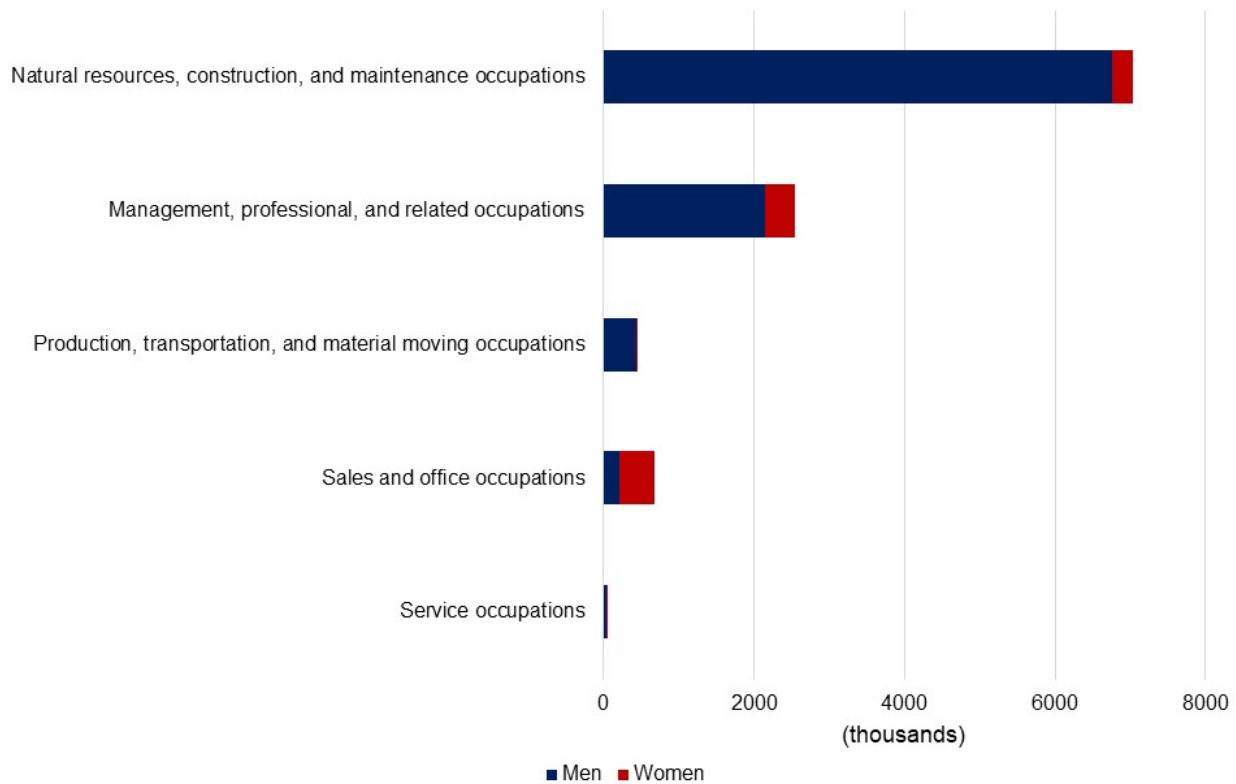


Source: Labor Force Statistics from the Current Population Survey

Overall, the share of women in construction increased to 10.9% in 2020. According to the Current Population Survey, women in the 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 69 percent of workers in sales and office occupations, including 444,000 women in office and administrative support, and 32,000 in sales and related occupations in 2020. Around 398,000 women were engaged in management, professional, and related occupations.

While construction and maintenance occupations account for the largest number of employees in construction, and is where additional workers are needed, women comprised only 6 percent of the such occupations. More improvement is needed here. Other groups such as production, transportation, and material moving occupations, and service occupations employed only around 14,000 female workers.

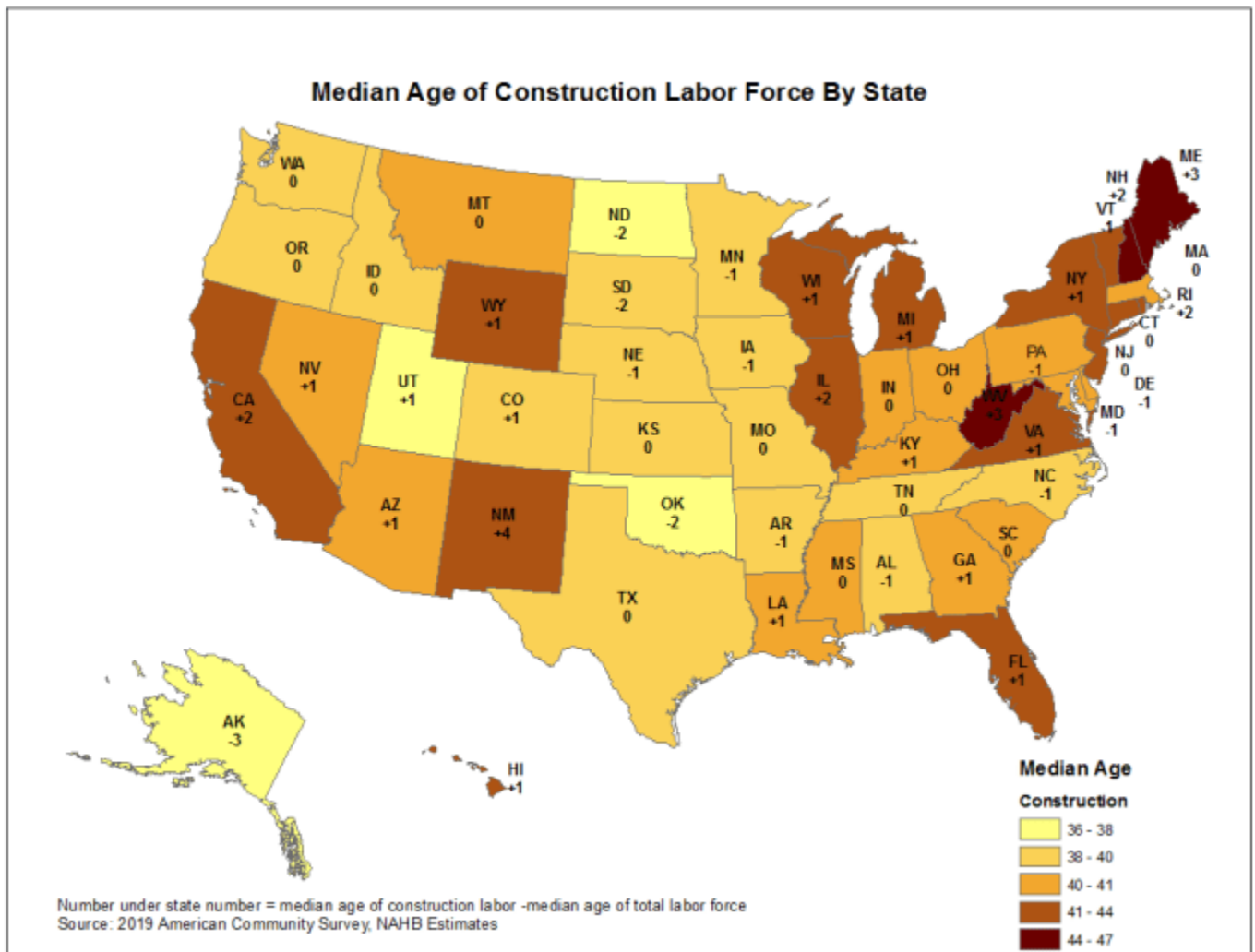
Construction Workers by Occupation Categories and Gender



Source: 2020 Labor Force Statistics from the Current Population Survey

Age of Construction Labor Force

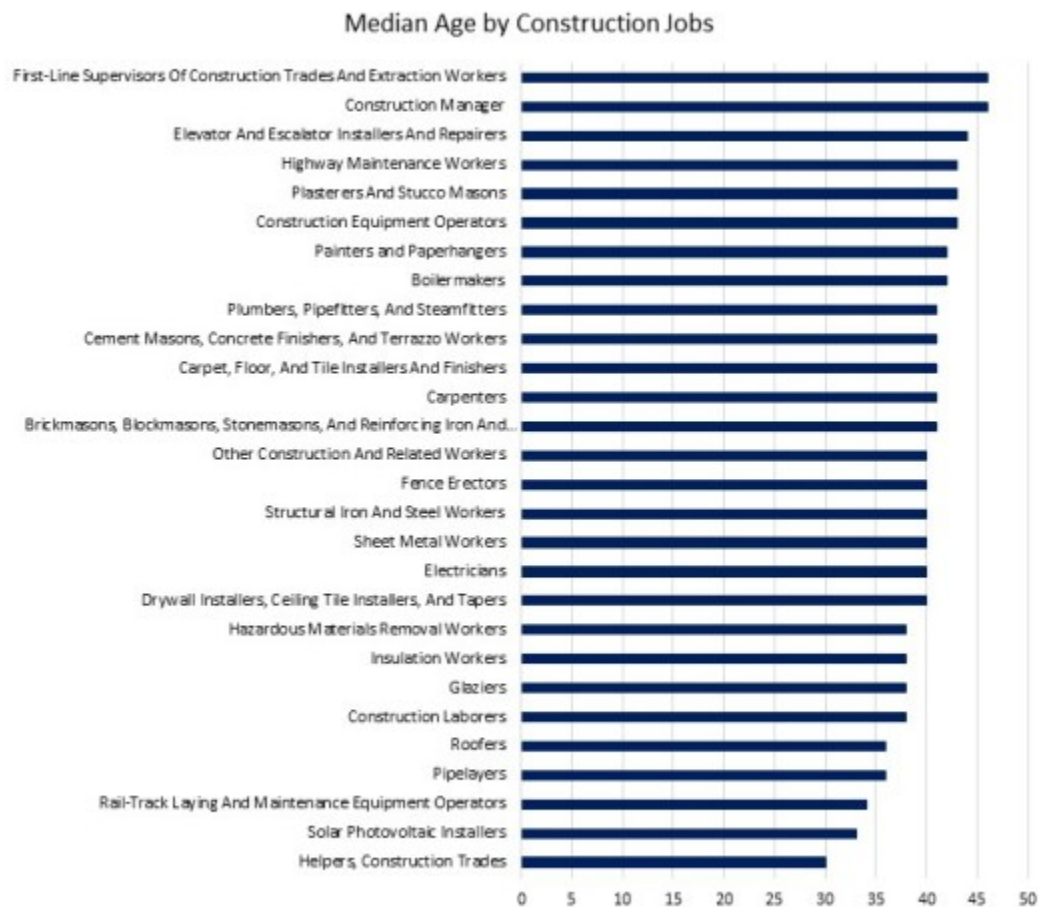
NAHB analysis of the most recent 2019 American Community Survey (ACS) data reveals that the median age of construction workers is 41, the same as a typical worker in the national labor force. While the residential construction has been adding jobs during the pandemic, access to skilled labor is still a business challenge in 2021. The 2019 ACS data are used due to data issues in the 2020 ACS.



The median age of construction workers varies across the states. The color coding in the map above tracks the median age of construction workers. States with the oldest median age of construction workers (47 years old) are Maine, followed by New Hampshire (46 years old) and West Virginia, where the median age of construction workers is 45. Construction workers are younger on average in the central part of the nation. Half of all construction workers in North Dakota and Alaska are under 36, while in Oklahoma and Utah half are under 38.

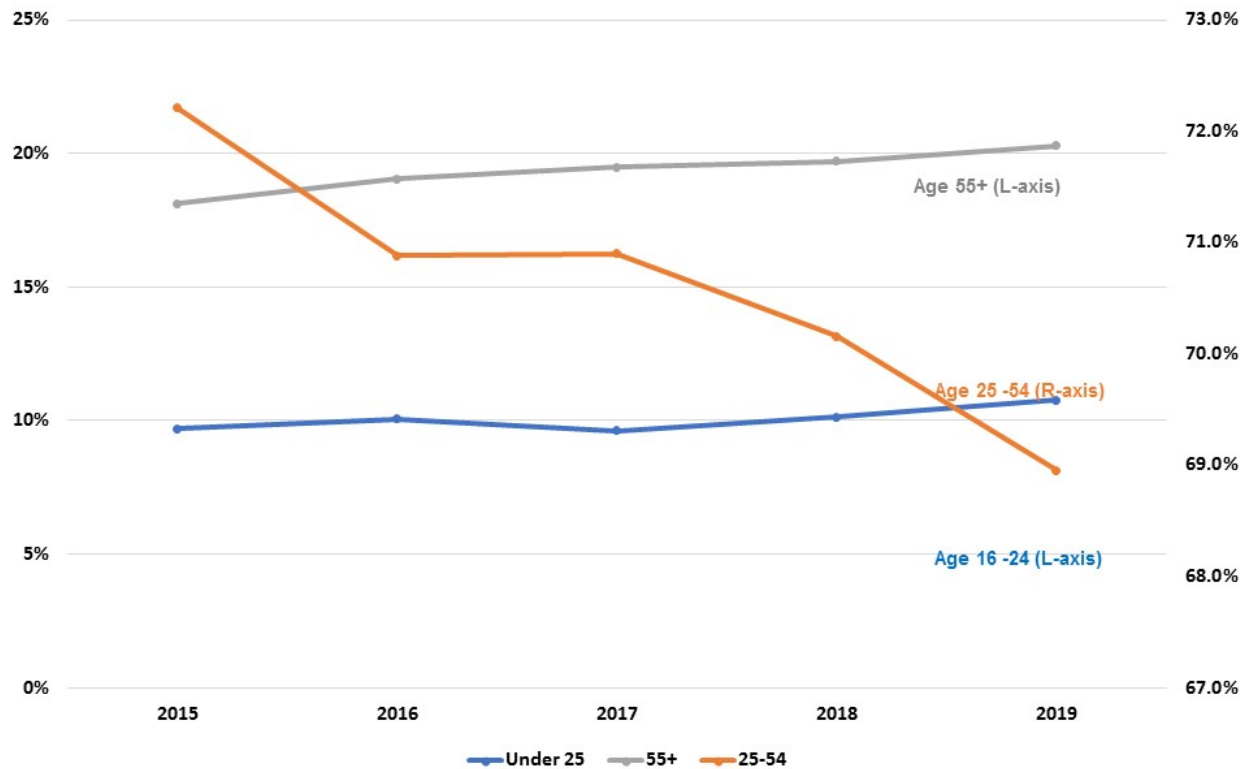
The second data series mapped above is the difference between the median age of construction workers in each state and the median age of the overall workforce. These estimates are reported as the numbers printed on each state. A positive number indicates that on average, construction workers are older than a typical worker in the state labor force. New Mexico is the state where the median age of construction workers is 4 years higher than the overall median, followed by Maine and West Virginia (+3). Meanwhile, a negative number indicates construction workers are, in general, younger than the state labor force. In Alaska, the median age of construction workers is 3 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.



More young people are entering the construction trades, as the share of workers under the age of 25 reached 10.8% in the construction industry in 2019, compared to only 9.7% in 2015. Consequently, the [median age of construction workforce](#) is 41 in 2019, a year younger than in 2018. This is good news for the long-run objective of the industry bringing in a new generation of skilled labor, but more needs to be done.

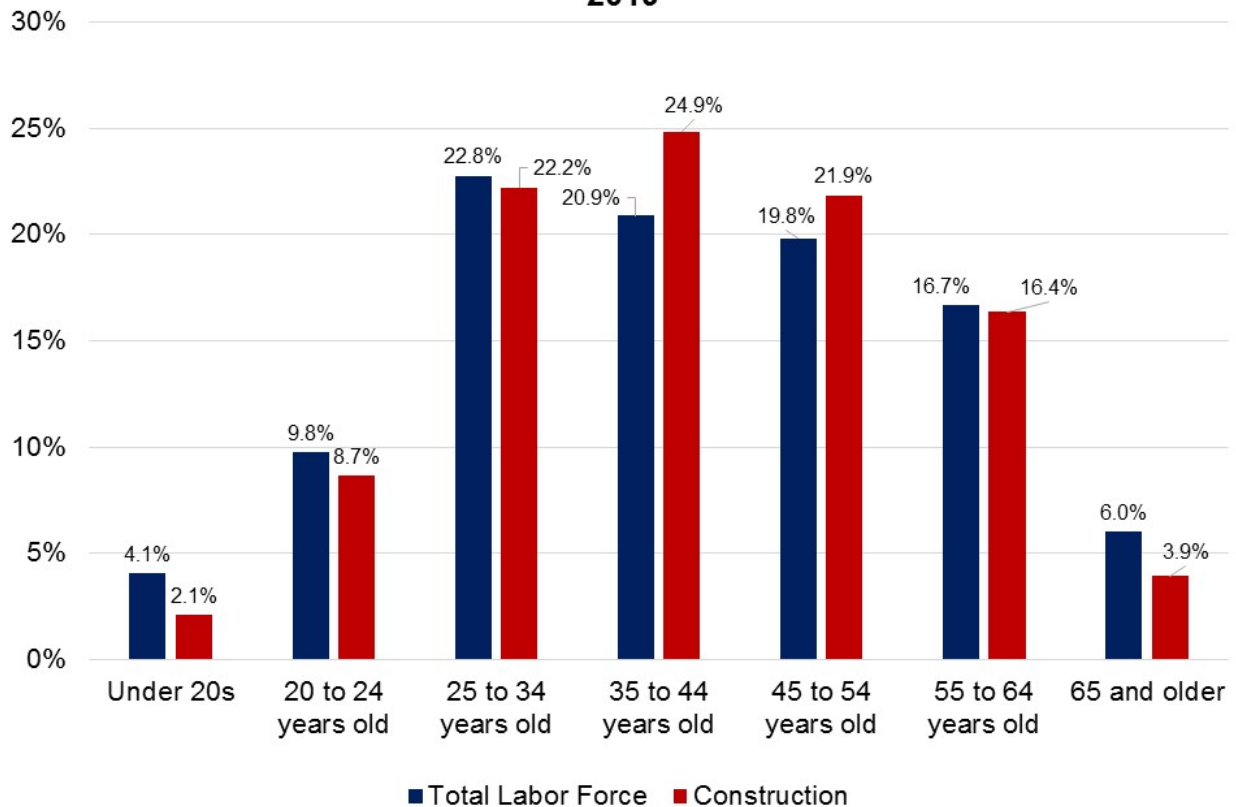
Distribution of Construction Employment by Age 2015 – 2019



Source: 2019 American Community Survey, PUMS data

However, the proportion of older construction workers, ages 55+, also increased from 18.1% to 20.3%. Simultaneously, the share of construction workers ages 25 to 54 decreased from 72.2% in 2015 to 69.0% in 2019. This change in age composition of construction labor force is largely because the last elements of the Baby Boomer generation are entering the 55+ group and a large share of skilled workers displaced during the Great Recession left the construction industry.

Age Breakdown: Construction Industry vs All Industries 2019



Source: 2019 American Community Survey, PUMS data

Compared to the workforce in all industries, construction has a relatively smaller share of younger workers, but a larger proportion of workers in their prime-working age. The chart above shows that, as of 2019, only 8.7% of construction workers were 20-24 years old and 2.1% under 20, less than the employment share of these two age groups in all industries. Around 69% of construction workforce were in the prime working years of 25-54, compared to 63% in overall workforce.

The relative 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 20.3% in construction, implying that a substantial portion of workforce could retire in near future, highlight the need for more efforts in attracting talent in the industry.



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

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