THE HOME BUILDERS INSTITUTE (HBI) CONSTRUCTION LABOR MARKET REPORT

Spring 2023

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Executive Summary

A lack of skilled construction labor is a key limiting factor to expanding home construction and improving housing inventory and affordability. Housing was a bright spot for the economy during the post-covid era, as construction activity helped lead an economic expansion.

However, the demand for residential labor will soften temporarily as the number of homes under construction declines in 2023 due to higher interest rates and weakened demand for housing. This downturn will then be followed by 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:

The estimated number of construction worker growth required for the sector 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 the year-over year gains remain solid, with 46,300 net residential construction jobs added over the last 12 months.
- However, the soft patch for housing has reduced the recent monthly average employment gain for home builders and remodelers to just 700 jobs a month.
- Women make up a growing share of construction employment, reaching a new record high of 11% in 2021, a 1.9% percentage point gain since 2017.
- Construction payroll employment currently totals 7.9 million.
    - Residential construction represents 3.2 million of this total.
- The number of open construction sector jobs currently averages between 300,000 to 400,000 each month, although this total is now slowing.
- 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.
- 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.

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 totaled 300,000 to 400,000 positions, although this is trending lower as home building activity slows on higher interest rates. Indeed, more homes are being completed than starting construction. In February 2023, 58,600 single-family homes started

[1] https://eyeonhousing.org/2022/12/the-size-of-the-housing-shortage-2021-data/https://eyeonhousing.org/2022/12/the-size-of-the-housing-shortage-2021-data/

construction. However, 77,100 (previously started builds) completed the construction process, reducing the count of homes under construction by 18,500. This narrowing of the construction pipeline is reducing demand for workers. However, this impact is only a short-run cyclical factor. As the housing industry approaches a turning and 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, per NAHB estimates.

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 for 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.

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 2021 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.

These numbers reflect a growing need for labor, particularly as the home building industry recovers from the weakness that began in 2022 due to tightening monetary policy. After declining in every month in 2022, the NAHB/Wells Fargo Housing Market Index has increased for four straight months at the start of 2023 and is approaching the breakeven point of 50 after reaching 45 in April. This survey data points to a turning for single-family construction later this year. It Is Important to keep in mind that the long-term deficit of housing is expected to persist during the cyclical, interest-rate driven growth recession.

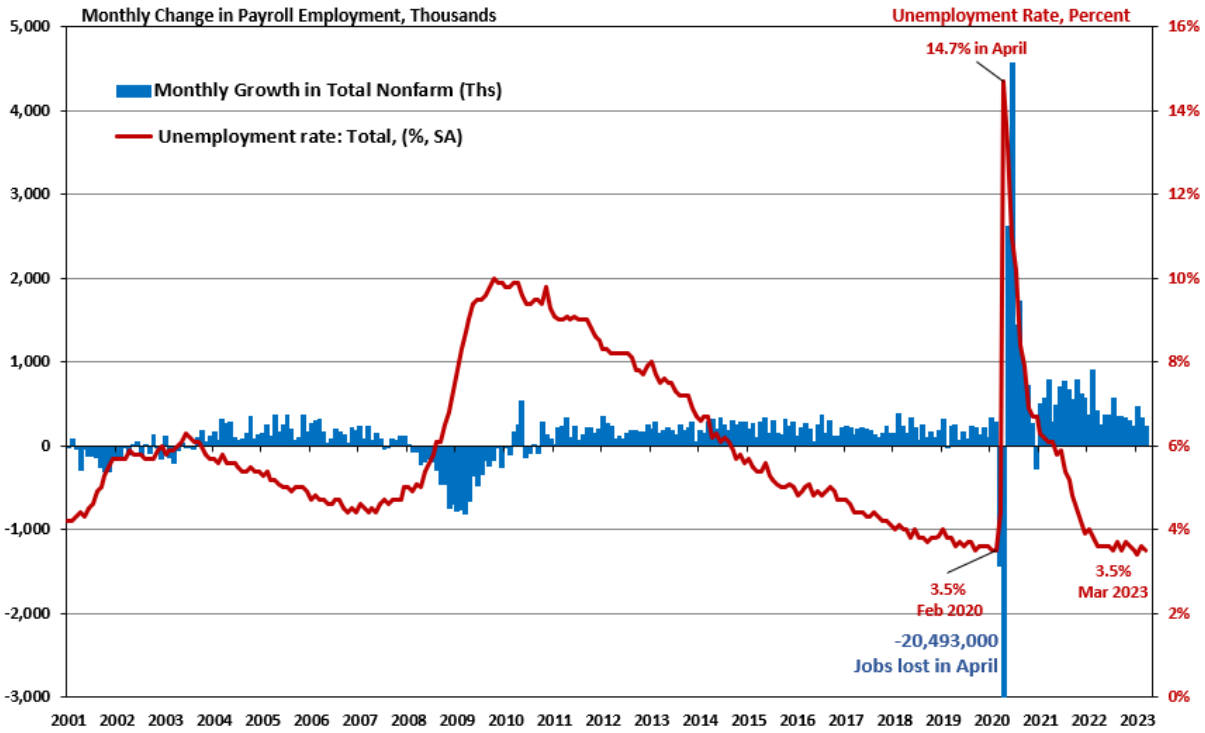
[2] BLS occupational projections are found here: https://www.bls.gov/emp/tables/occupational-projections-and-characteristics.htm

US Employment

Despite tight monetary policy, over 4.6 million jobs have been created since March 2022, when the Fed enacted the first interest rate hike. While the economy continues to generate new jobs, the gains are decelerating, and the labor market shows some signs of cooling off.

According to the Bureau of Labor Statistics, nationwide total nonfarm payroll employment increased by 236,000 in March, following a gain of 326,000 in February and a gain of 472,000 jobs in January. The March increase of 236,000 jobs was the slowest monthly gain in more than two years. This trend will likely continue in 2023 due to ongoing tightening by the Federal Reserve and rising economic uncertainty.

Figure 1. Monthly Change in Payroll Employment and Unemployment Rate



Source: Bureau of Labor Statistics.

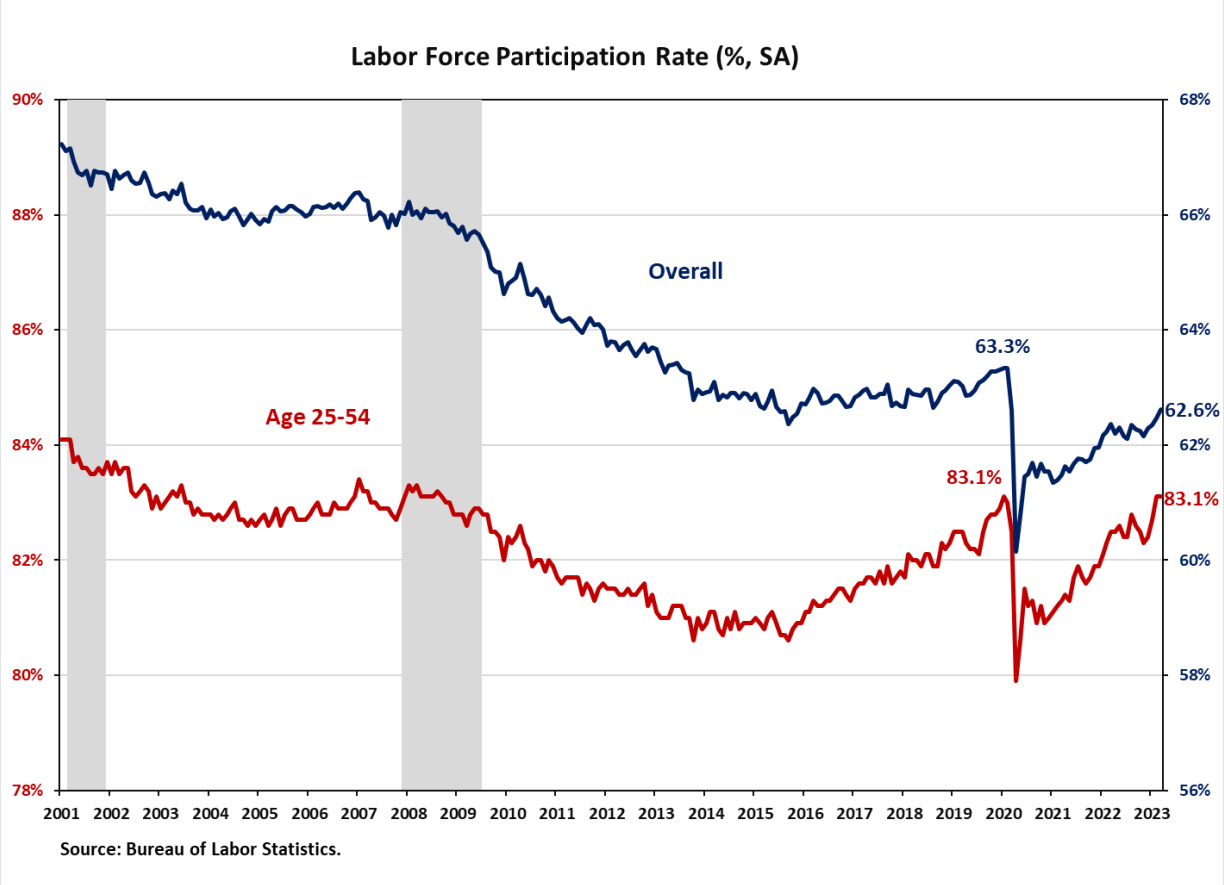
Construction industry employment (both residential and non-residential) currently totals 7.9 million, exceeding its pre-pandemic level. Employment in the overall construction sector decreased by 9,000 in March, following a 12,000 gain in February. Most construction jobs lost in March were in homebuilding. Residential construction shed 7,000 jobs, while non-residential construction employment lost 1,800 jobs. Nevertheless, residential construction employment currently exceeds its pre-pandemic level and all non-residential construction jobs lost in March and April 2020 have been recovered.

Among other industry sectors, employment in leisure and hospitality (+72,000), government (+47,000), professional and business services (+39,000), and health care (+34,000) continued to trend up in March.

As a sign of a resilient labor market, the US unemployment rate has been hovering around its pre-pandemic level for over a year now, despite the concurrent unprecedented interest rate hikes by the Federal Reserve. Most recently in March, the unemployment rate edged down to 3.5% as the number of employed persons increased by 577,000, while the number of unemployed persons decreased by 97,000.

The labor force participation rate, the proportion of the population either looking for a job or already holding a job, edged up 0.1 percentage point to 62.6% in March. This month's increase in the labor force participation rate reflected a simultaneous 480,000 increase for the total of the civilian labor force and a 320,000 decrease in the number of persons not in the labor force.

Despite the steady gains over the last three years, the US labor force participation rate remains historically low, below its pre-pandemic level. The higher share of 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. However, the labor force participation rate for people aged between 25 and 54 is now back to the pre-pandemic level, standing at 83.1%.

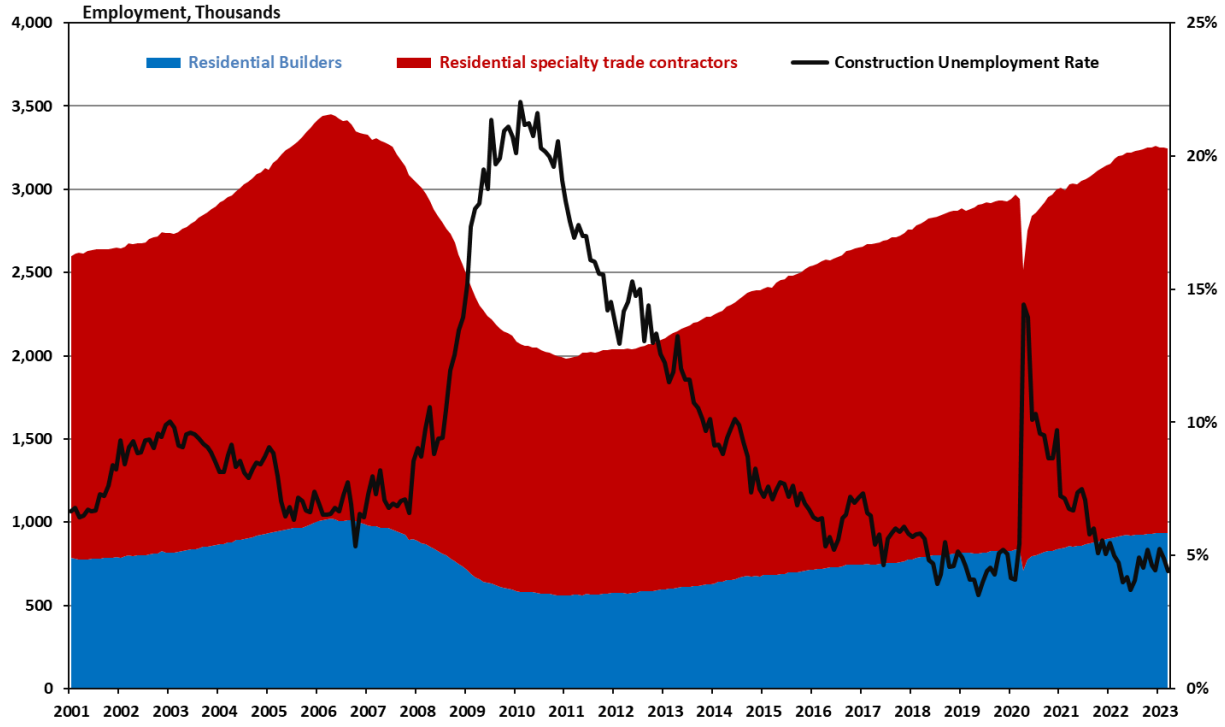


Residential Construction Employment

Residential construction employment now stands at 3.2 million, as of March 2023, broken down as 934,000 builders and 2.3 million residential specialty trade contractors. The 6-month moving average of job gains for residential construction was 700 a month, reflecting three monthly job losses that occurred in November 2022, January 2022, and March 2023. This is substantially lower than monthly job gains residential construction was averaging a year ago. Over the last 12 months, home builders and remodelers added 46,300 jobs on a net basis. Since the low point following the Great Recession, residential construction has gained 1,263,100 positions.

In March, the unemployment rate for construction workers decreased by 0.5 percentage points to 4.4% on a seasonally adjusted basis. The unemployment rate for construction workers has been trending lower, after reaching 14.2% in April 2020, driven by an unprecedented increase in housing demand due to the COVID-19 pandemic. Even as the housing market slowed in late 2022, the construction unemployment rate remained historically low by the standards of the last 20 years, reflecting fundamental shortages of construction labor.

Residential Construction Employment and Unemployment Rate



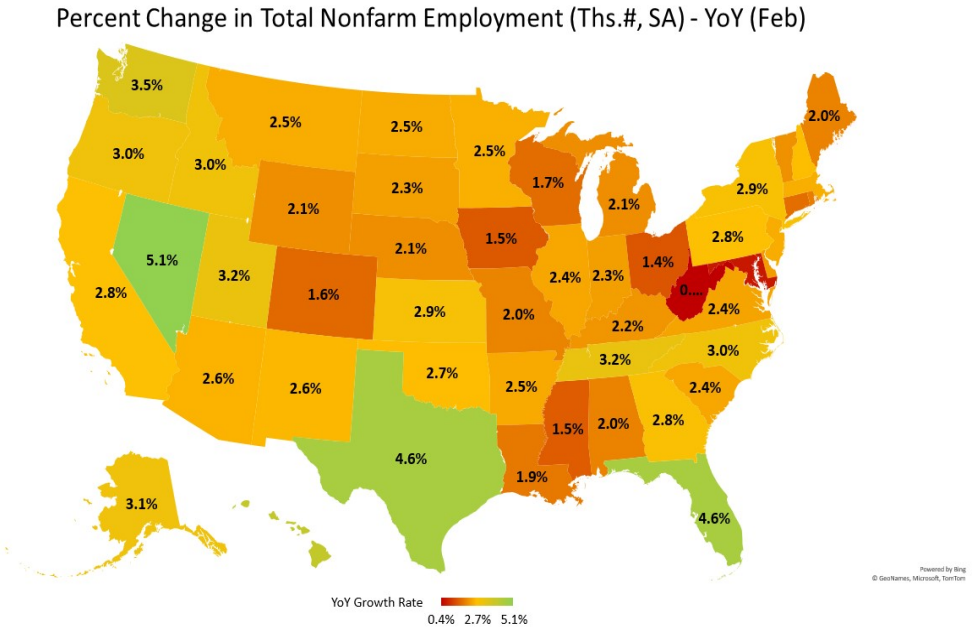
Source: Bureau of Labor Statistics.

State-Level Employment Data

Recent employment gains were unevenly distributed across the United States. Nonfarm payroll employment increased in 44 states and the District of Columbia in February compared to the previous month, while five states lost jobs. Oklahoma remained unchanged.

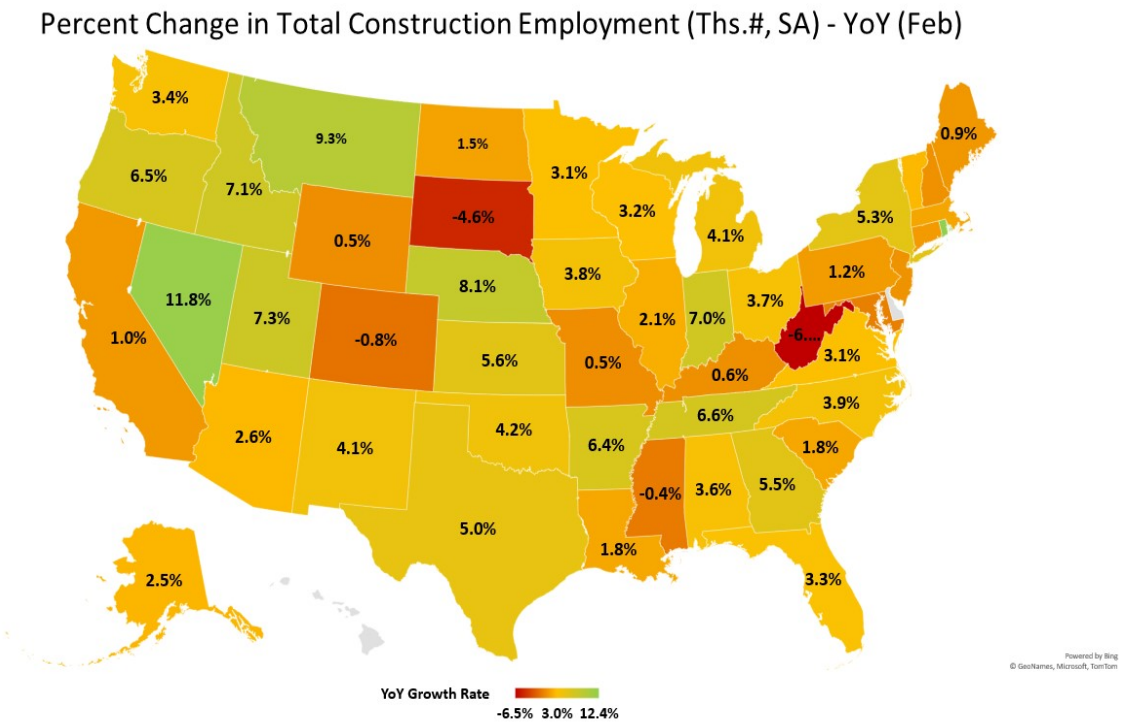
On a month-over-month basis, employment data was strong in Texas, which added 58,200 jobs, followed by Florida (+38,800), and California (+32,300). Oregon, New Hampshire, Kansas, Arkansas, and Maryland lost a total of 8,600 jobs. In percentage terms, employment in Utah increased by 0.6% while New Hampshire reported a 0.2% decline between January and February.

Year-over-year ending in February, 4.3 million jobs have been added, marking a more than full recovery of the labor market 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 611,400 jobs in Texas to 2,500 jobs added in West Virginia. In percentage terms, Nevada reported the highest increase by 5.1%, while West Virginia increased by 0.4% compared to a year ago.



Across the 48 states which reported construction sector jobs data—which includes both residential as well as non-residential construction— 24 states reported an increase in February compared to January, while 19 states lost construction sector jobs. Five states remained unchanged. California added 7,600 construction jobs, while Tennessee lost 1,700 jobs. Overall, the construction industry added a net 24,000 jobs in February compared to the previous month. In percentage terms, Rhode Island increased by 1.7% while Iowa reported a decline of 1.9% between January and February.

Year-over-year, construction sector jobs in the U.S. increased by 249,000, which is a 3.2% increase compared to the February 2022 level. Texas added 37,900 jobs, which was the largest gain of any state, while West Virginia lost 2,200 construction sector jobs. In percentage terms, Rhode Island had the highest annual growth rate in the construction sector by 12.4%. Over this period, West Virginia reported a decline of 6.5%.



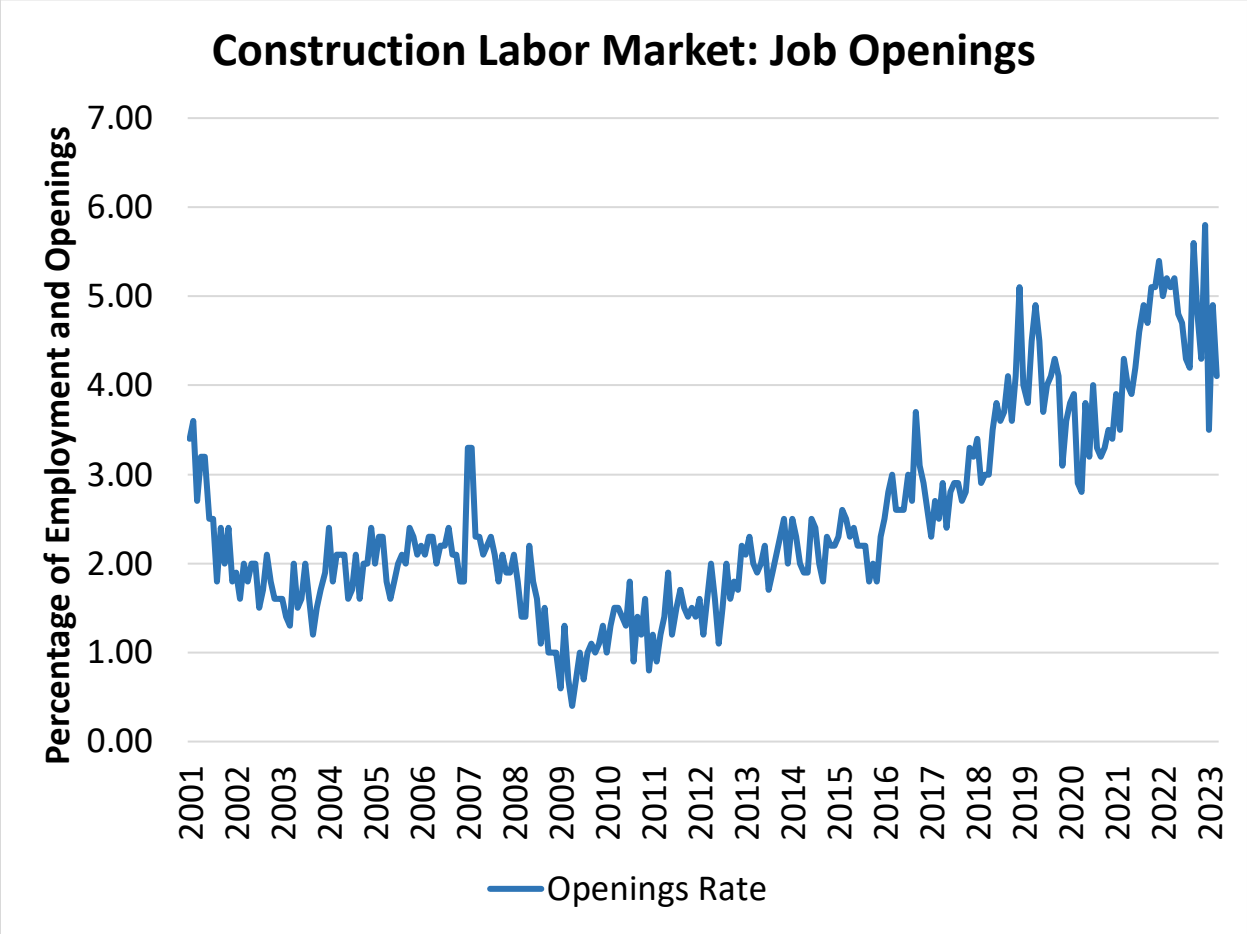
Job Openings and Labor Turnover in Construction

The count of open, unfilled jobs for the overall economy declined again in February, falling to 9.9 million, after an 11.2 million reading in December, which was the highest level since July, and 10.6 million in January. The count of total job openings should fall in 2023 as the labor market softens and unemployment rises. From an inflation perspective, ideally the count of open, unfilled positions slows to the 8 million range in the coming quarters as the Fed's actions cool inflation.

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.

The construction labor market saw a rebound for job openings in February after a sharp (and odd from a data perspective) decline in January. The count of open construction jobs increased from a revised reading of 283,000 in January to 412,000 in February. This came after a data series high of 488,000 in December 2022. The January data point appears to be an outlier, but the overall trend is one of cooling for open construction sector jobs as the housing market slows and backlog is reduced.

The construction job openings rate decreased to 4.9% in February after a 5.8% data series high in December 2022 (and an outlier reading of 3.5% in January). The combination of these estimates points to the construction labor market having peaked in 2022 and is now entering a cooling stage as the housing market weakens.



Despite the weakening that will occur in 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 down to a still solid 4.7% rate in February. 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 edged up to a 2.2% rate in February. 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. The layoff rate increasing above 3% in March matches the recent trend for a weakening of construction job openings.

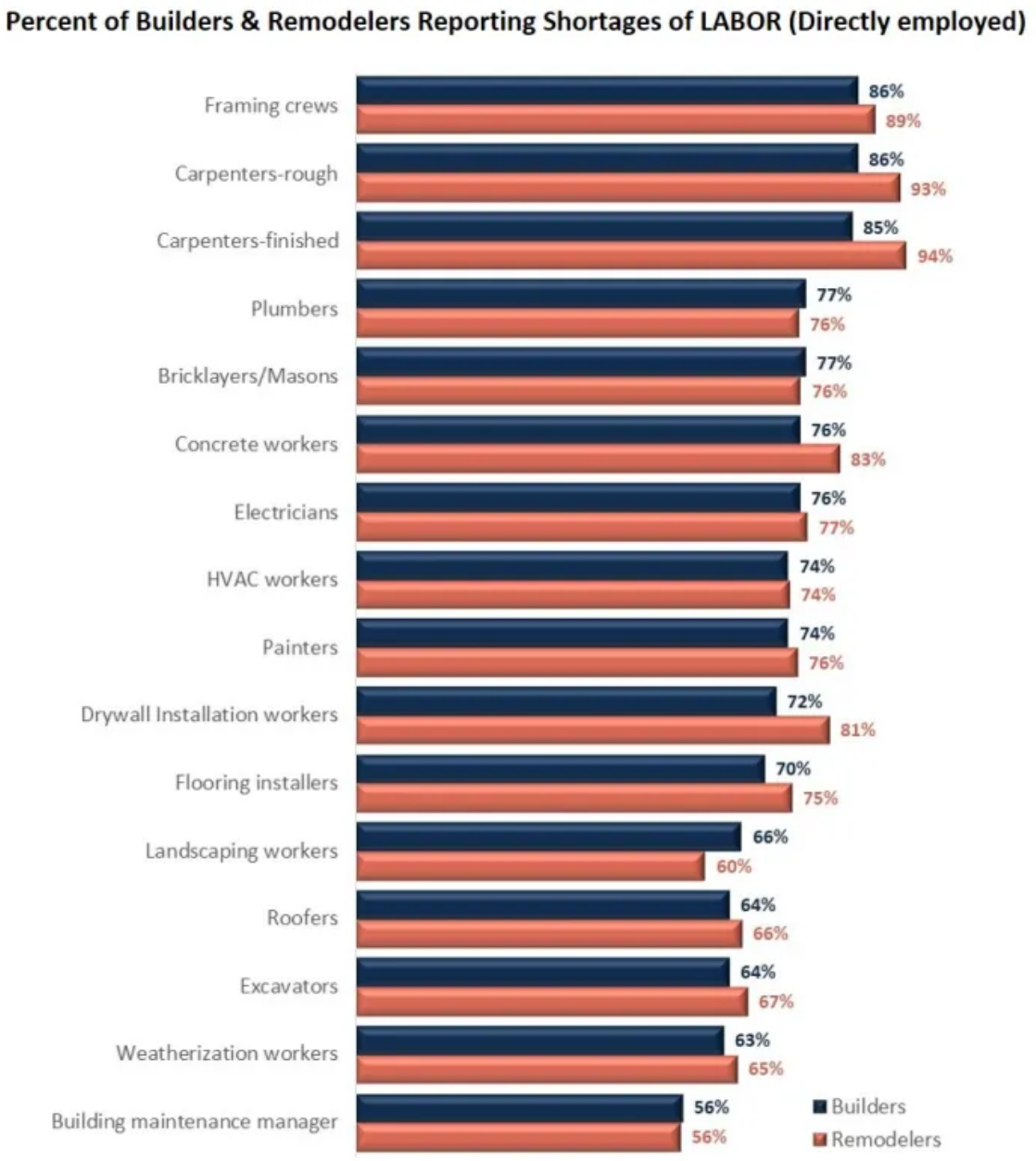
Looking forward, attracting skilled labor will remain a key objective for construction firms in the coming years. While a slowing housing market will take some pressure off tight labor markets, the long-term labor challenge will persist beyond the ongoing macro slowdown.

Labor Shortages

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

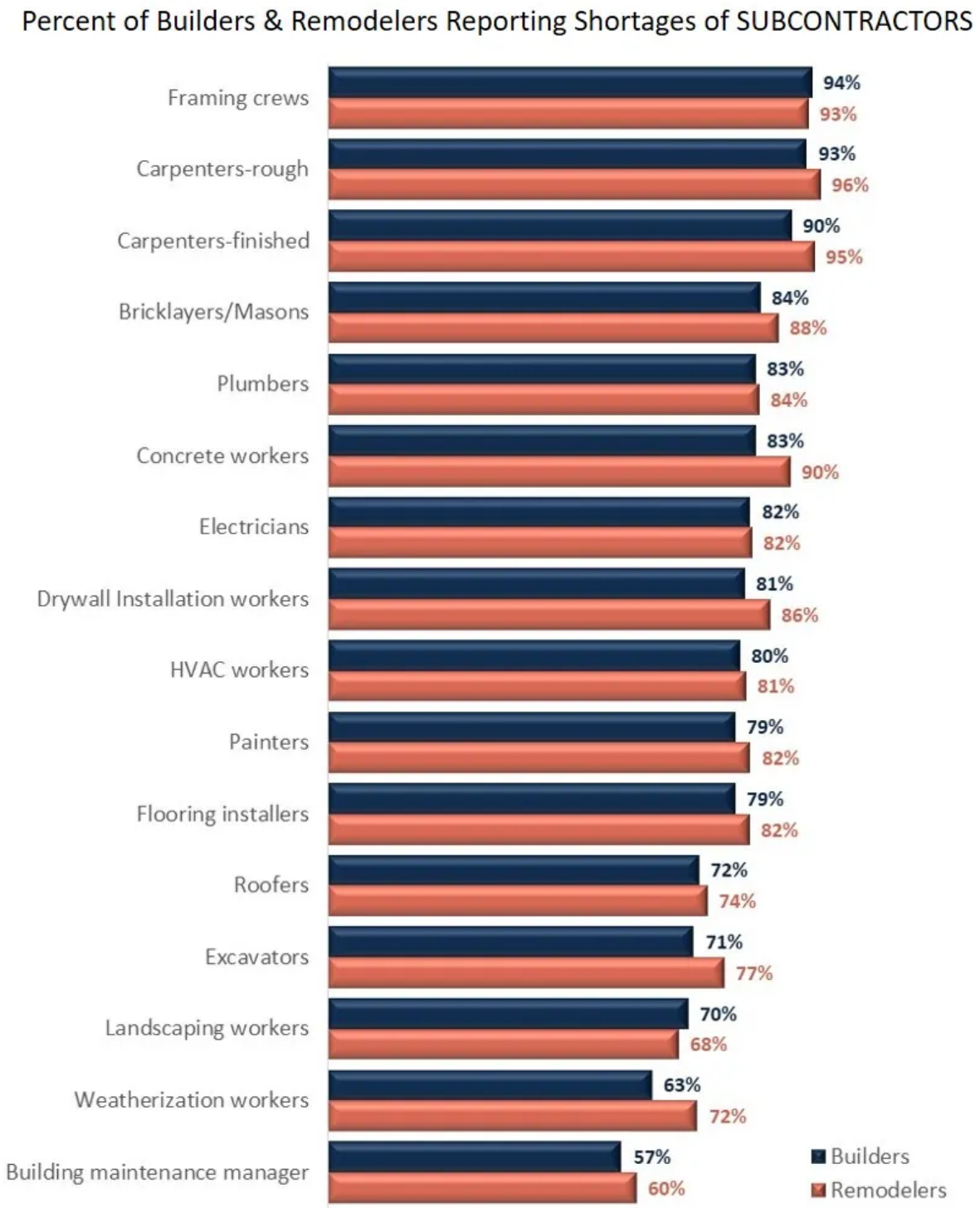
In the October 2021 survey for the NAHB/Well Fargo Housing Market Index (HMI), more than 55 percent of single-family builders reported a shortage (either serious or some) of each of the 16 trades listed in the questionnaire. At the high end, more than 80 percent reported a shortage of labor for each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

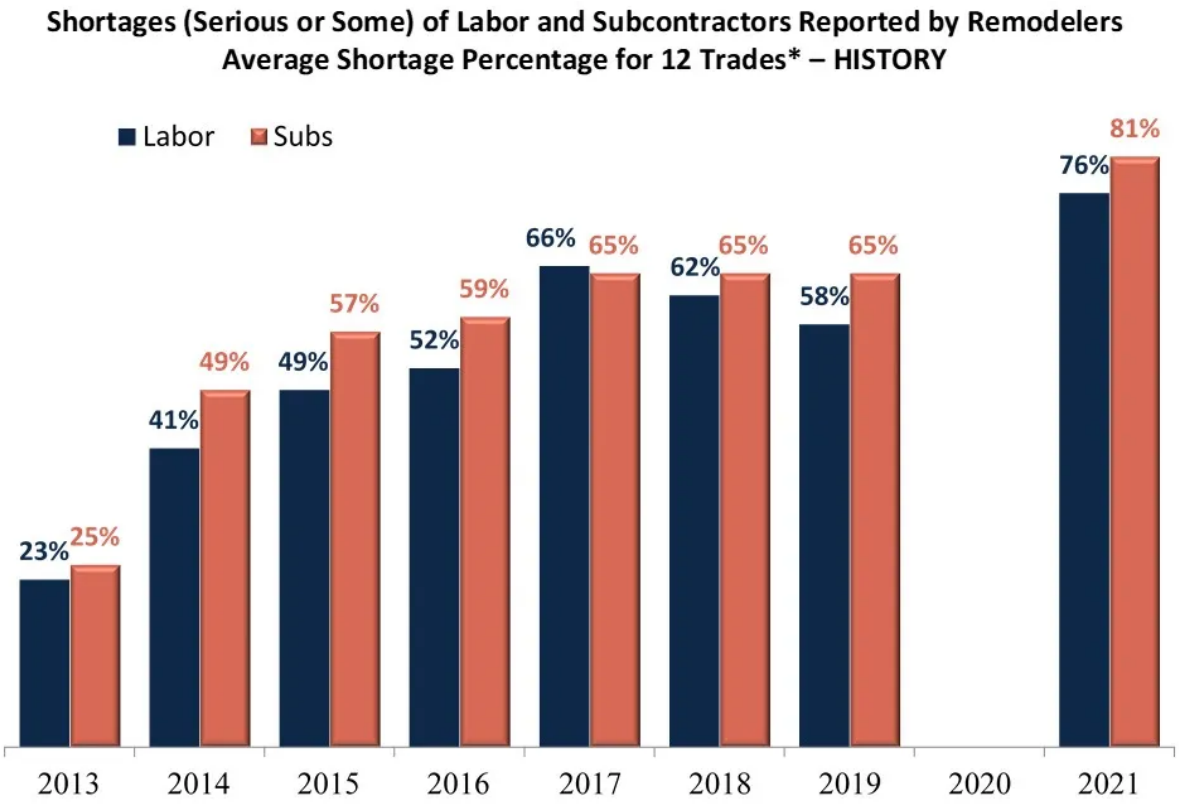


The above results are for labor directly employed by builders and remodelers. In residential construction, however, a substantial share of the physical work is performed by subcontractors. The same surveys indicate that subcontractor shortages are even more widespread than shortages of labor employed 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.

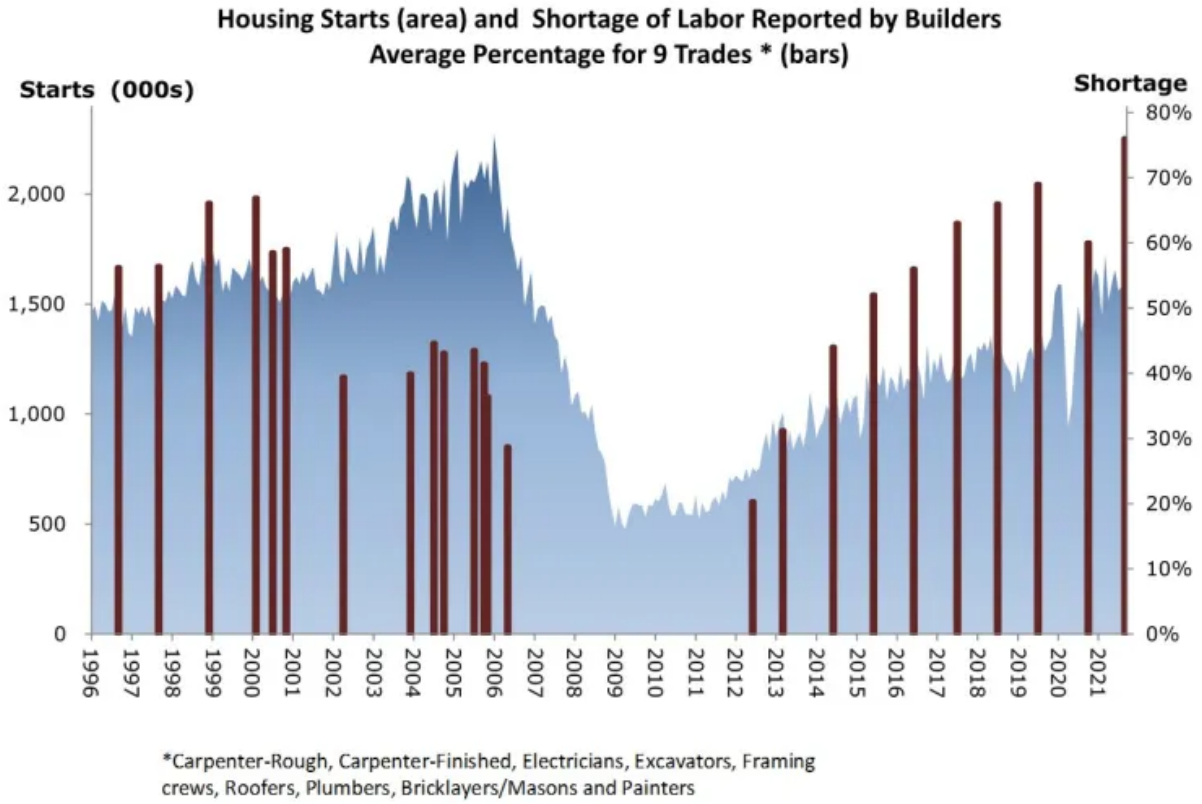


NAHB began asking remodelers questions about labor shortages in the 2013 RMI survey. Initially, the survey covered 12 different trades. From 2013 to 2017, the average shortage percentage calculated across those trades increased from 23 to 66 percent for labor directly employed by remodelers, and from 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.



*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 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.

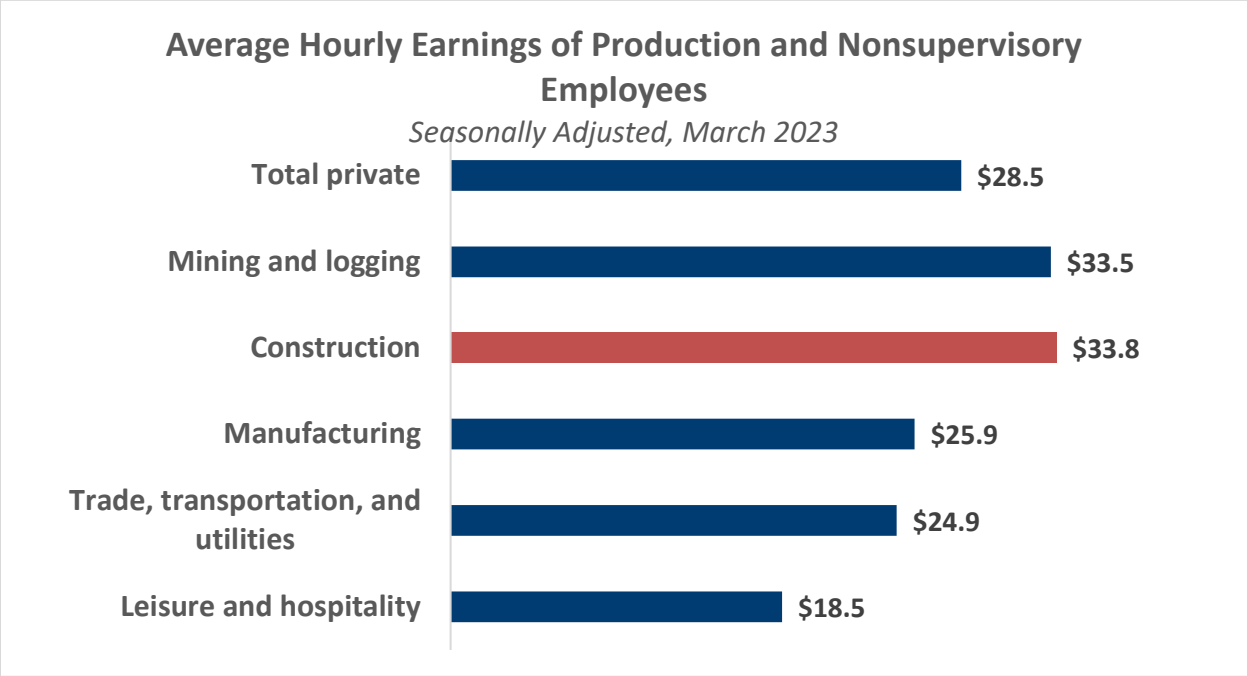


*Carpenter-Rough, Carpenter-Finished, Electricians, Excavators, Framing crews, Roofers, Plumbers, Bricklayers/Masons and Painters

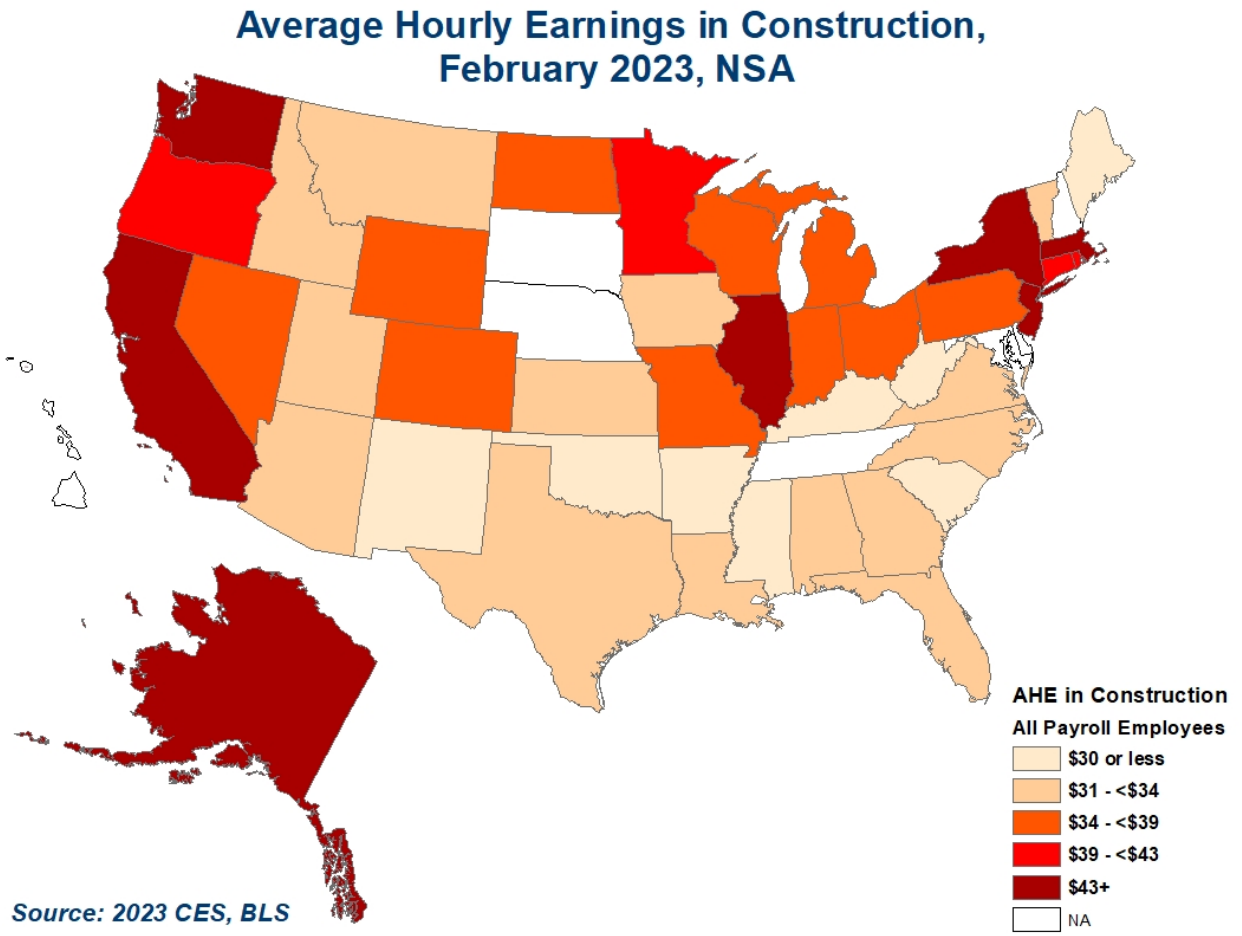
Wages in Construction

Despite a slowing housing market but reflecting persitent long-term labor chalenges, 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.

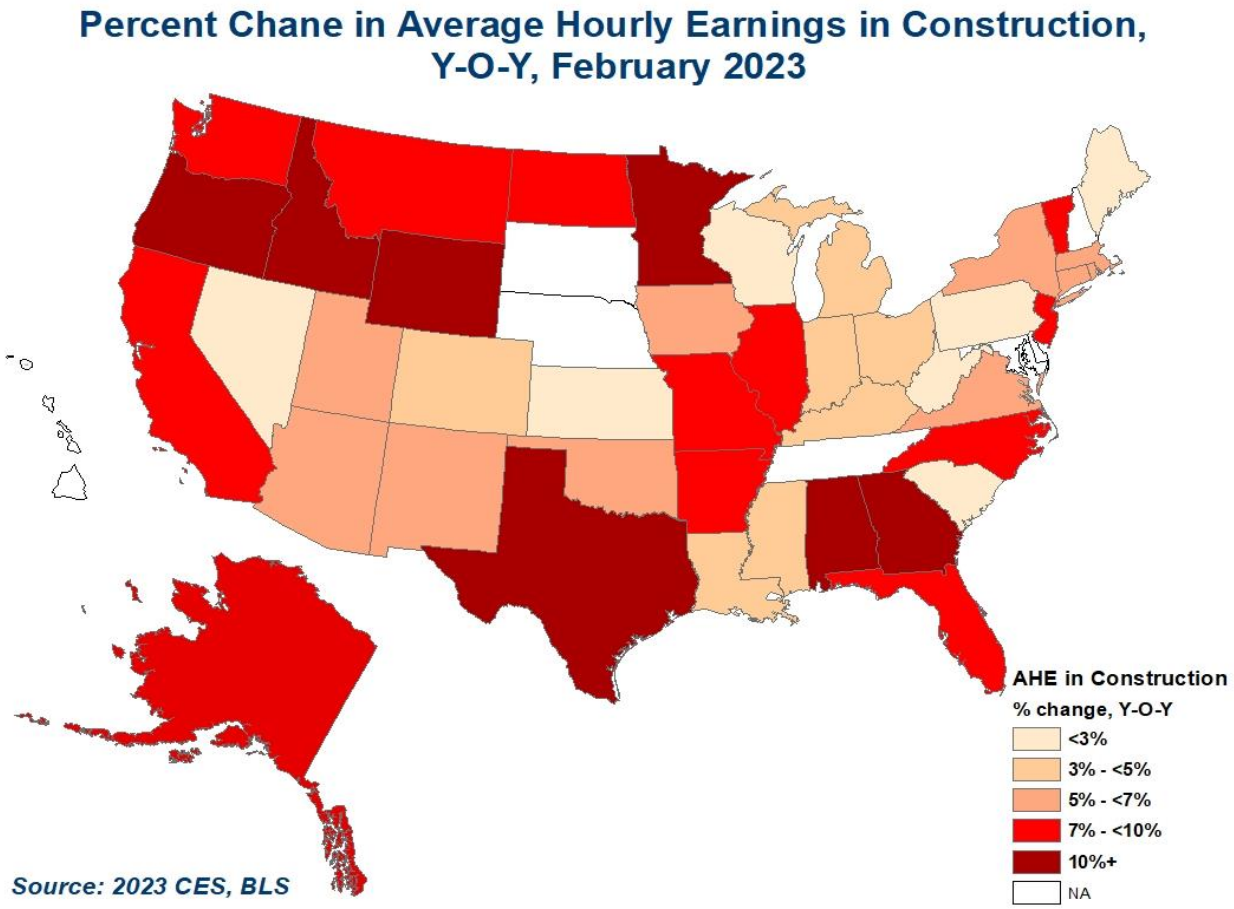


Average hourly earnings in construction vary greatly across 43 states that reported these data. Some of the highest AHE are recorded by states in Northeast and along the Pacific coast. As of February 2023, ten states reported not seasonally adjusted average earnings in excess of $40 per hour, including 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.



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.

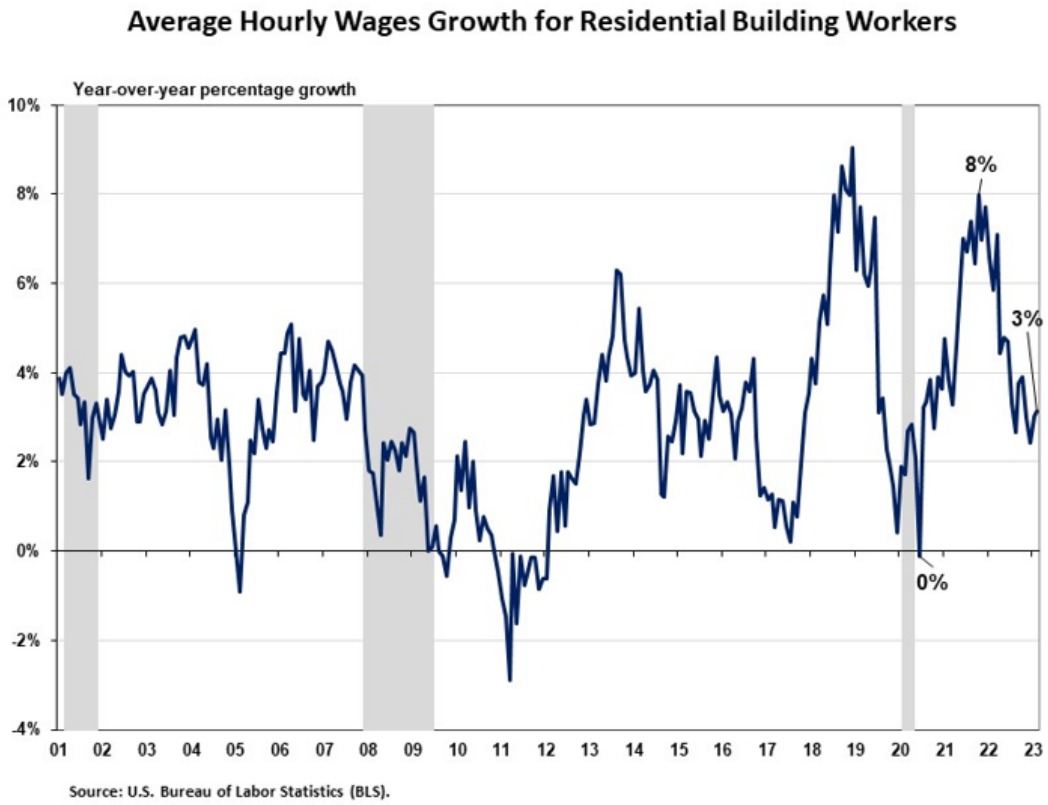
While differences in regional hourly rates might reflect variation in the cost of living across states, the faster growing wages are more likely to point out to specific labor markets that are particularly tight. Year-over-year, all but four states reported rising not seasonally adjusted hourly wages 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%.



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 two months of 2023, compared to the previous two years.

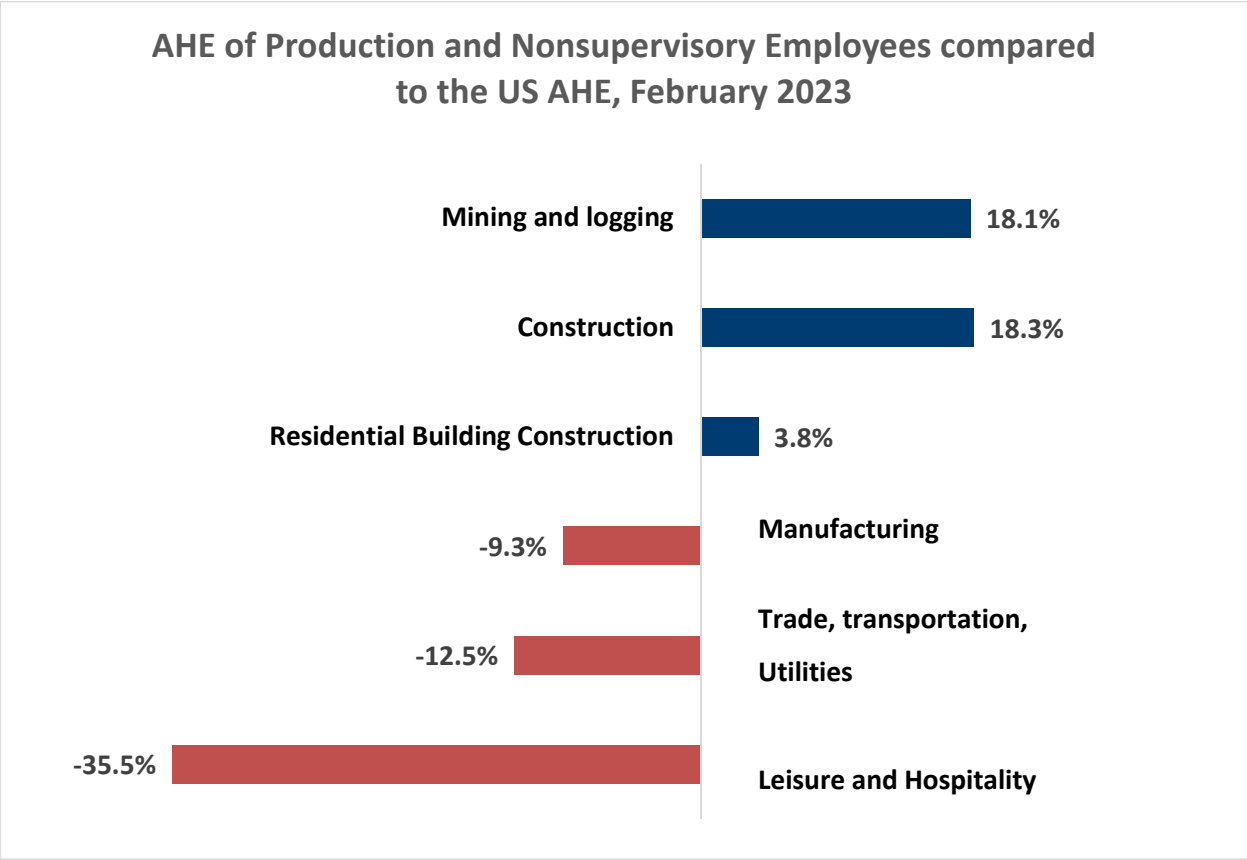
As of February 2023, annual wage growth for production and non-supervisory employees in home building retreated below 3%, half of the annual growth registered a year earlier in February 2022. In comparison, the year-over-year growth rate reached a high of 8% in October 2021, the highest rate since February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



As a result, average seasonally adjusted hourly earnings of production and non-supervisory employees in home building have been fluctuating around $29.5 since September 2022. The BLS monthly reporting of hourly earnings in residential construction has an additional lag of one month and only available for the entire US. Consequently, the latest national estimates specific to home building are available for February 2023.

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 $28.4, below the home building average of $29.5, as of February 2023. At the same time production and nonsupervisory employees in manufacturing were averaging $25.8, in trade, transportation and utilities - $24.9, mining and logging - $33.5, in leisure and hospitality - $18.3 per hour.

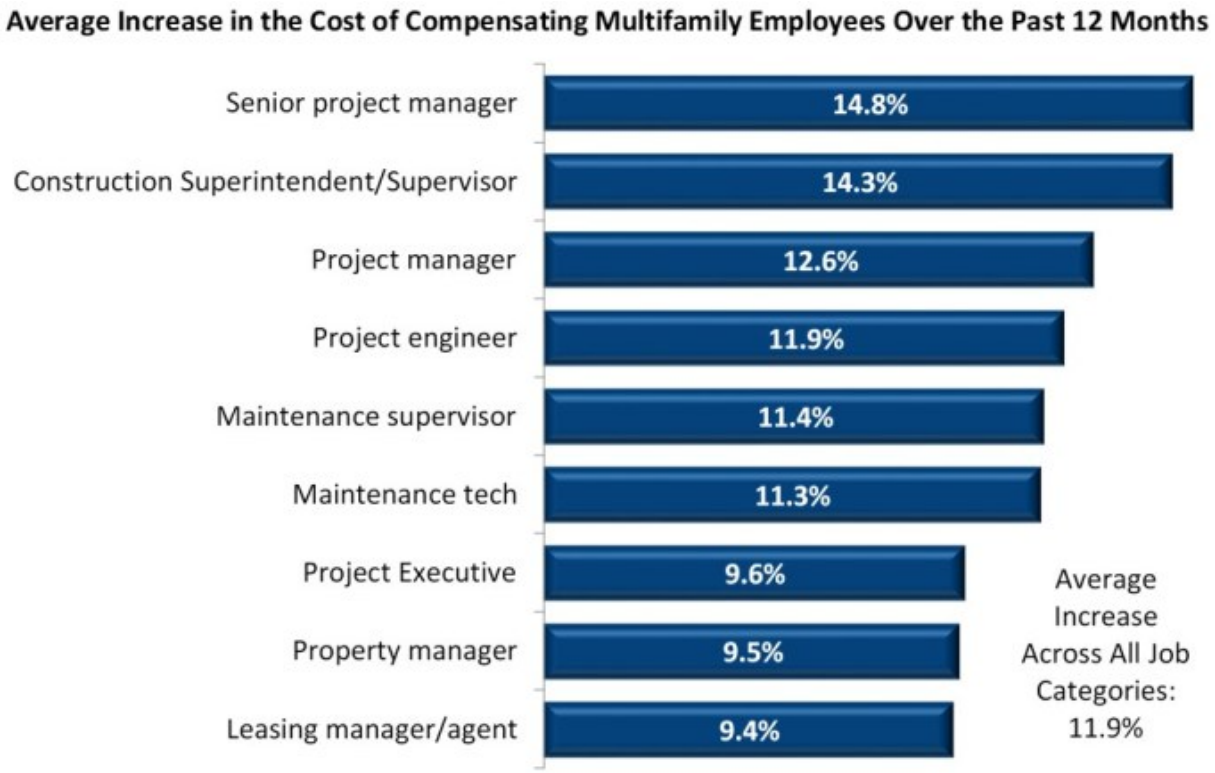
This translates into a 3.8% premium for AHE of production workers in residential building construction compared to the US average for production and nonsupervisory employees. At the same time, production workers in manufacturing, trade, transportation, utilities and leisure and hospitality industries earn less than the national average (-9.3%, -12.5% and -35.5%, 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%.



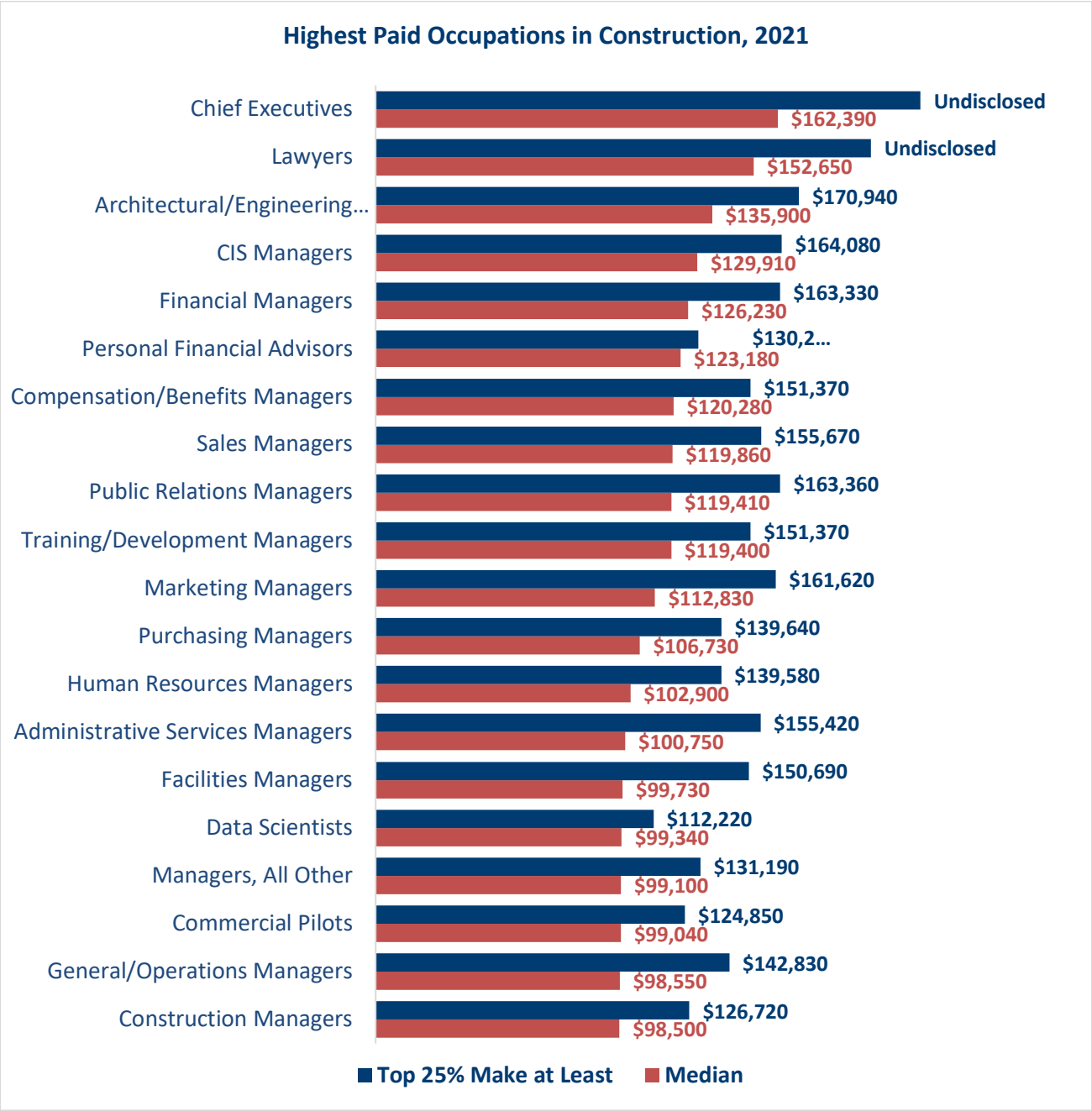
Averaged across all nine job categories listed in the survey, costs of compensating the employees of multifamily developers increased by 11.9% over the past 12 months. This is considerably higher than the 4.5% year-over-year increase in compensation costs for all civilian workers reported by the U.S. 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 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.

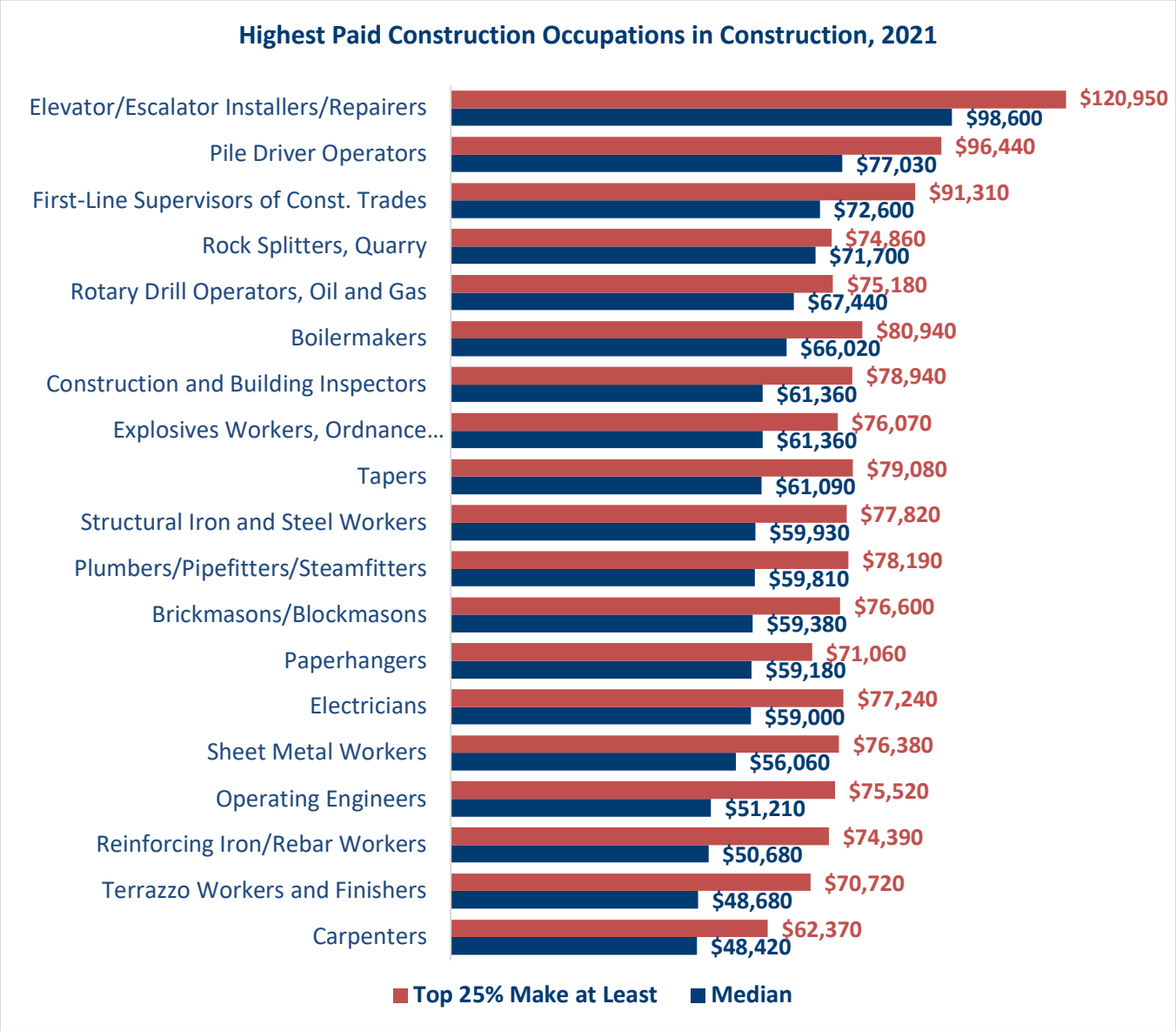
The highest paid occupation in construction continues to be Chief Executive Officers (CEO) with half of CEOs making over $162,390 per year. Lawyers working in construction are next on the list with median wages of $152,650. Out of the next 13 highest paid trades in construction, 12 are various managers. 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.



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 the 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.

Carpentry is 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.

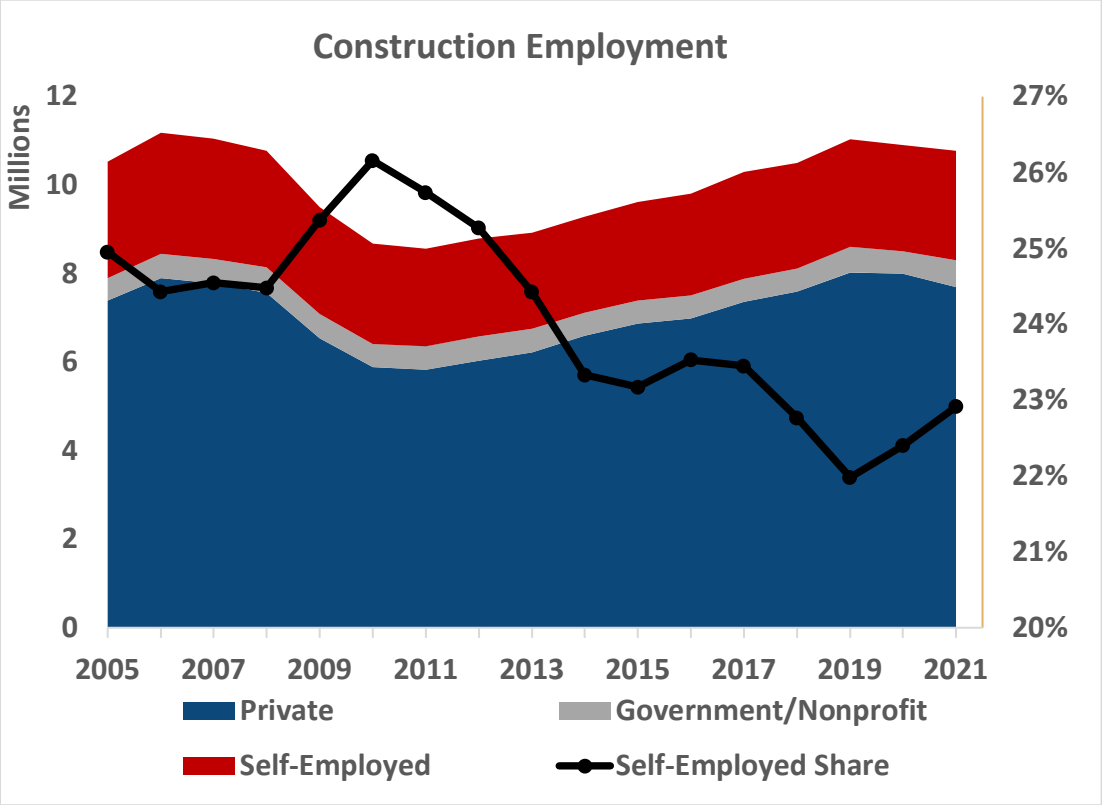


With the May 2021 estimates, the OEWS program adopted a new estimation methodology. As a result, the previously published estimates are not directly comparable to the latest 2021 edition. While the recent methodological changes prevent direct comparison with the earlier estimates, the new design is expected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

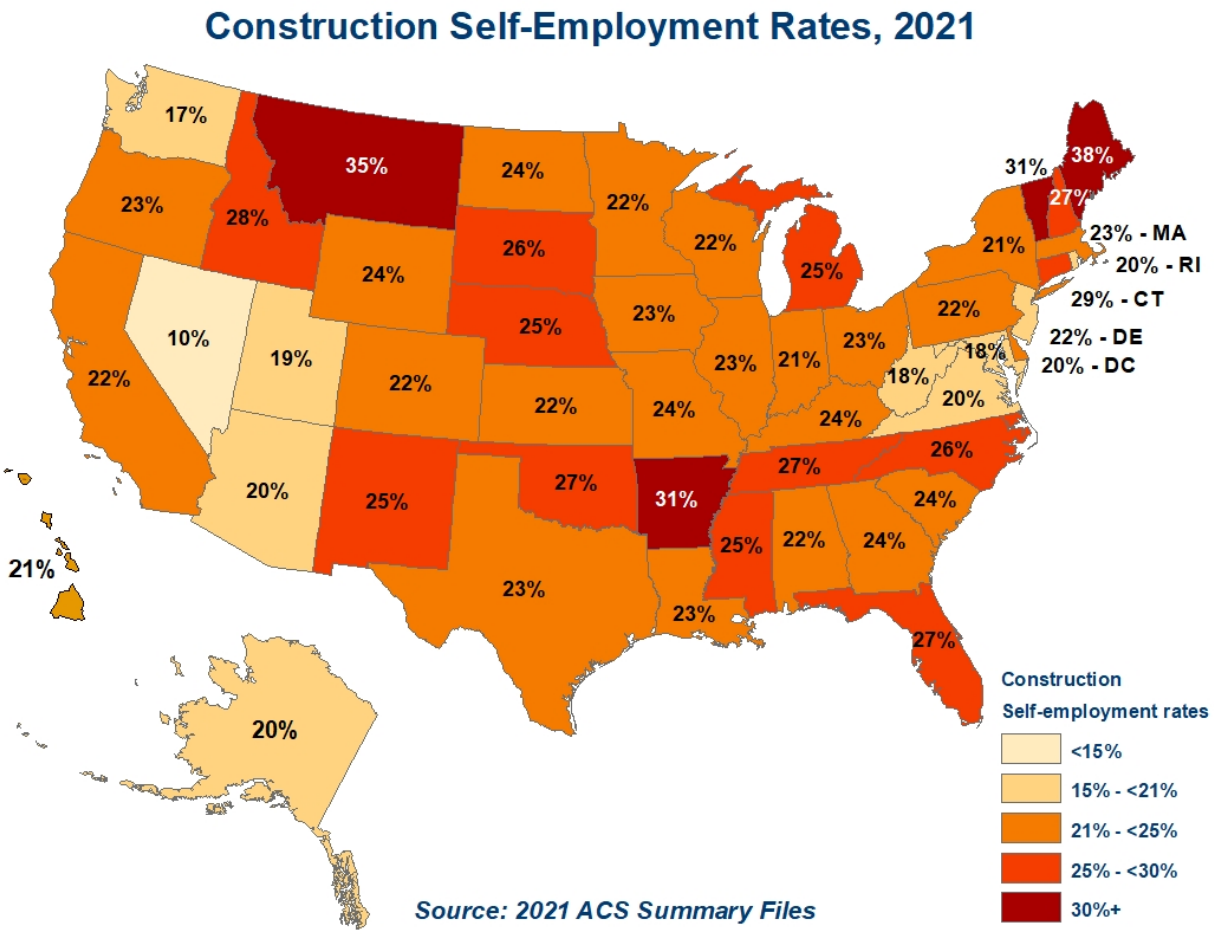
It is likely that rising self-employment in construction reflects divergent trends within the industry - a faster V-shape recovery for home building and a slower delayed improvement for commercial construction that is less dependent on self-employed. It is also possible that some construction employees 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.



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

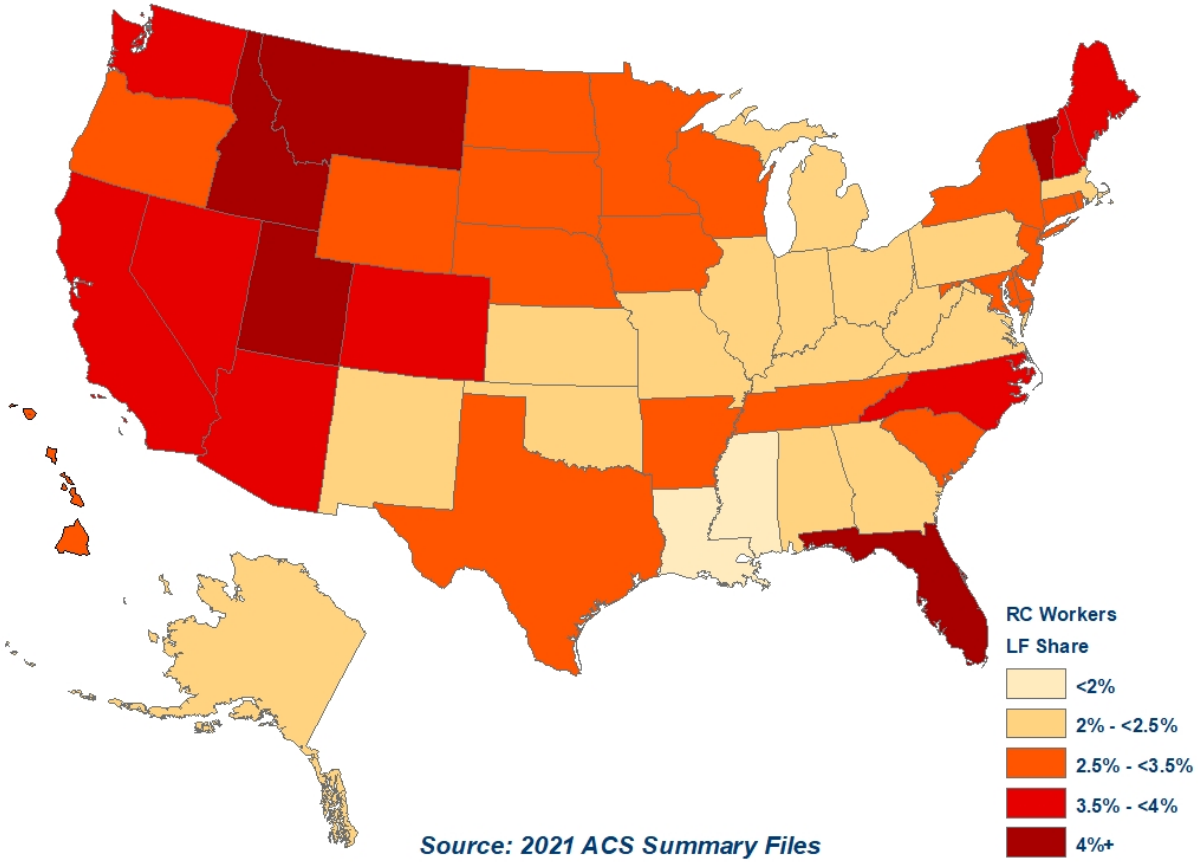
According to the latest 2021 ACS, close to 11 million people, including self-employed workers, worked in construction in 2021. NAHB Economics estimates that out of this total, 4.5 million people worked in residential construction, accounting for 2.9% of the US employed civilian labor force. Home building 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%.

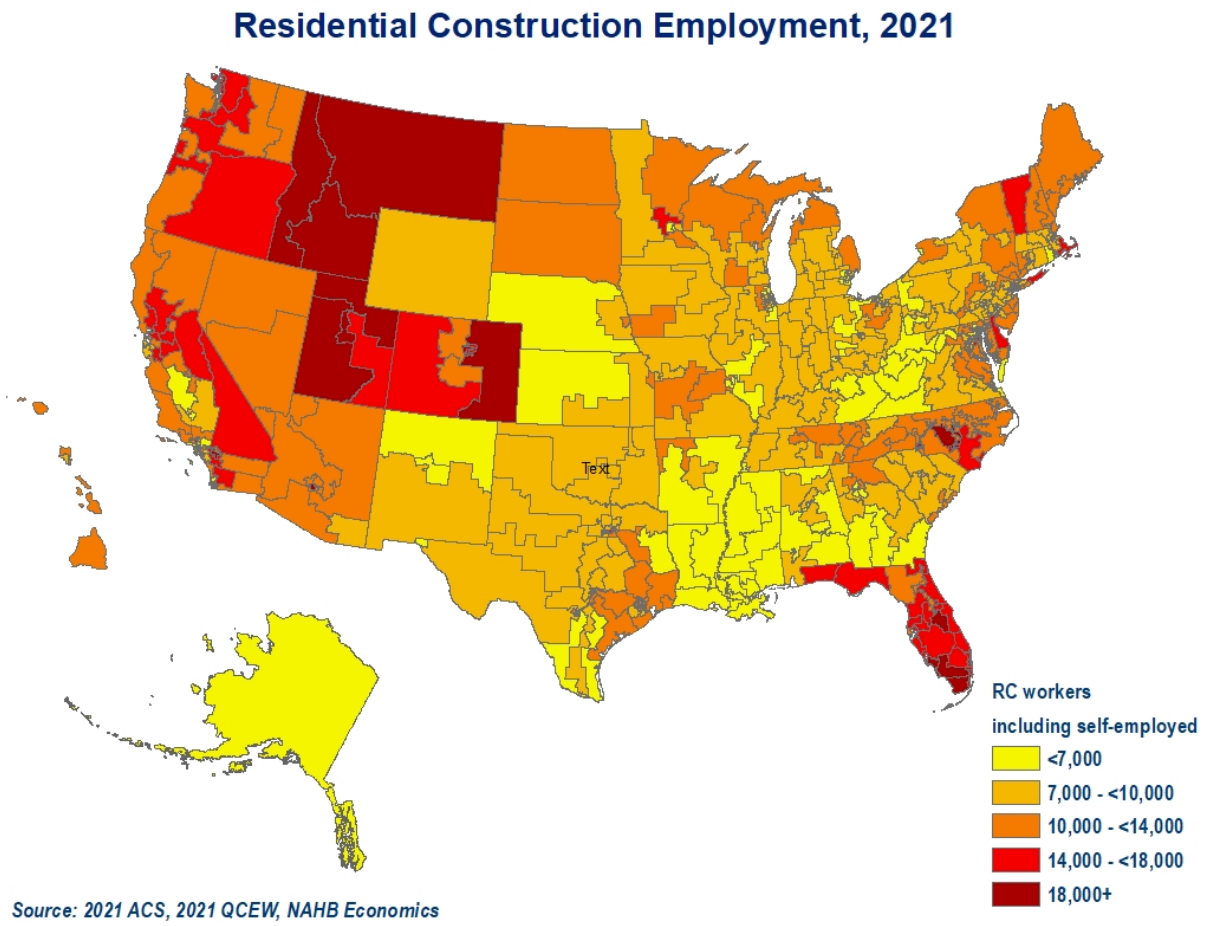
Similarly to Florida, fast growing states with a high prevalence of seasonal, vacation homes top the list of states with the highest share of residential construction workers in 2021. Idaho and neighboring Montana take the top two spots on the list with 5.4% and 5.2% of the employed labor force working 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).



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.

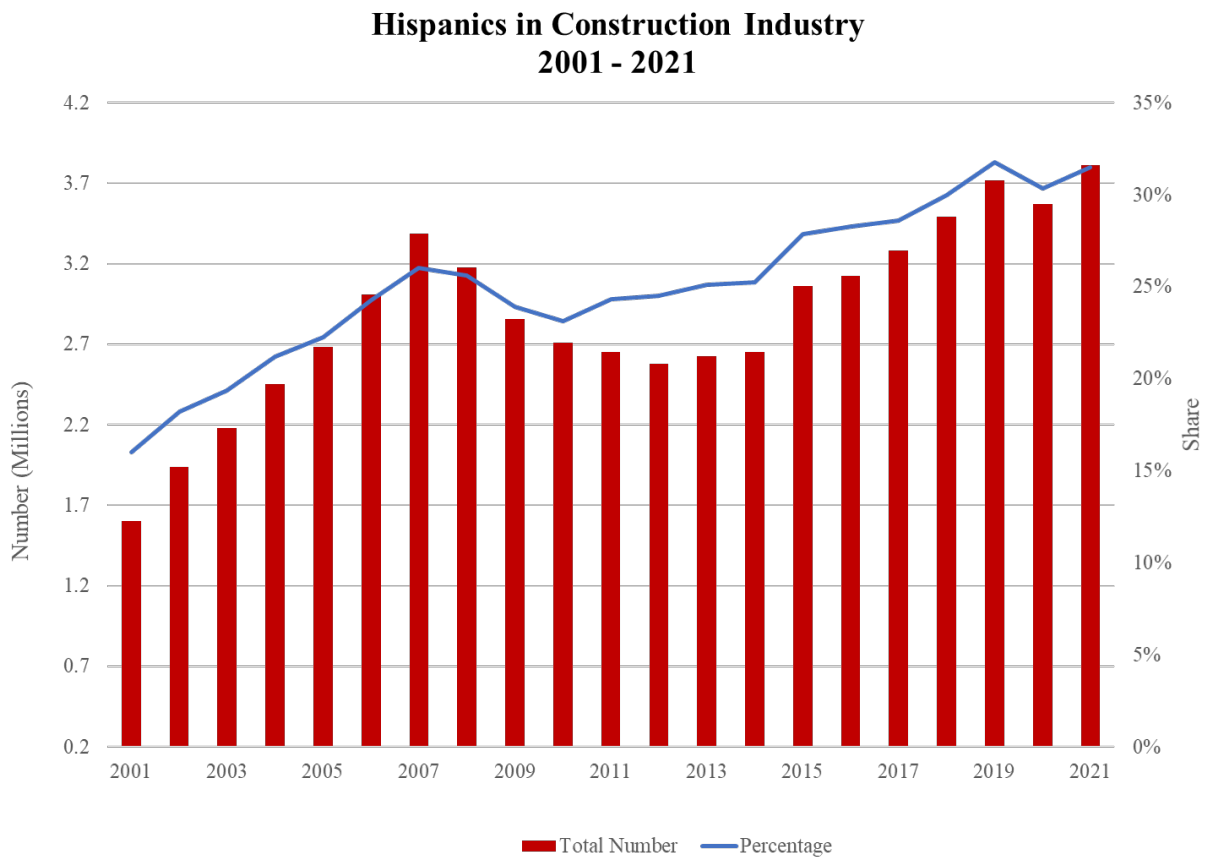
The NAHB residential construction employment estimates include self-employed workers. Counting self-employed is particularly important in the home building industry since they traditionally make up a larger share of the labor force.

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.

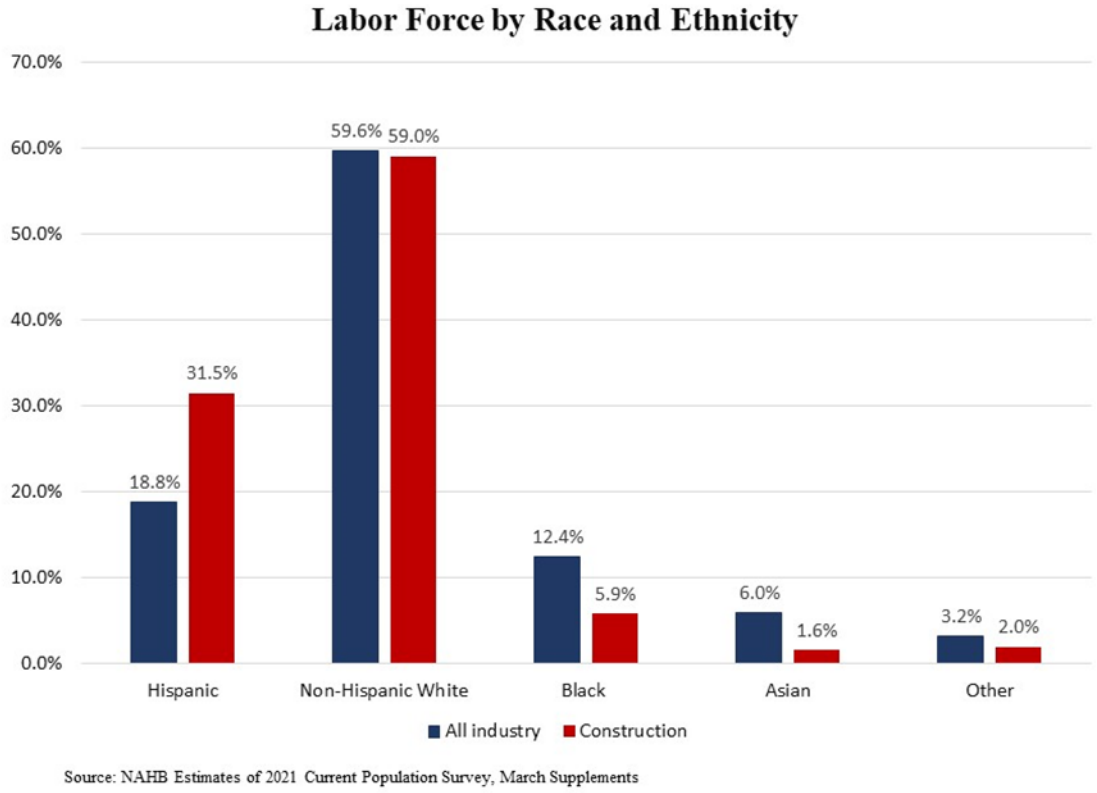
The most noticeable trend in the ethnical composition of the construction labor force is the increase in the number and share of Hispanics over time. During the Great Recession, the number of Hispanic construction workers declined sharply by 20%, from 3.3 million in 2007 to 2.6 million in 2010. From 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.



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.

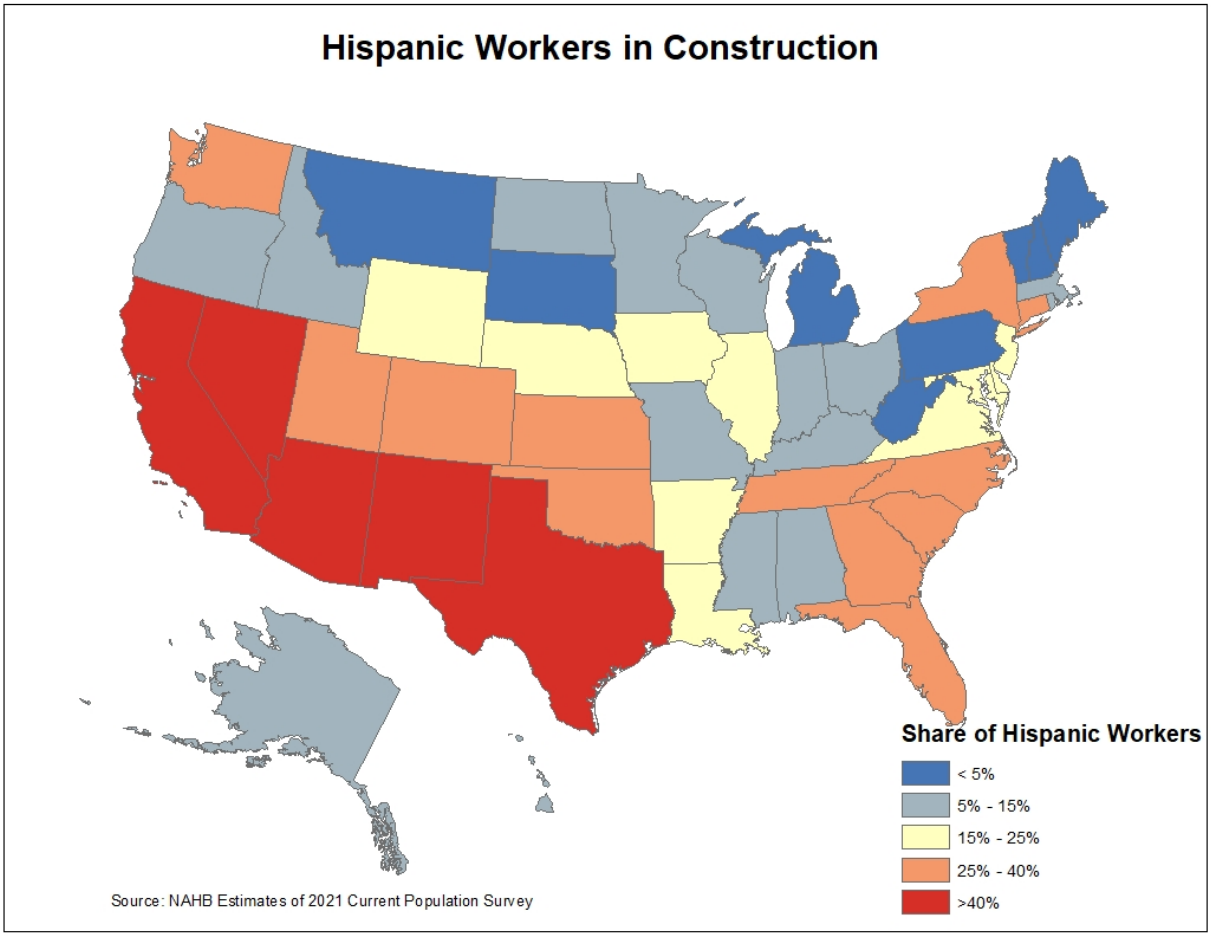
Hispanics are overrepresented in the construction industry, as they make up 31.5% of construction employment compared to 18.8% across all industries. Non-Hispanic Whites account for 59%, about the same as across all industries (59.6%). Blacks and Asians are underrepresented in the construction industry.



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.



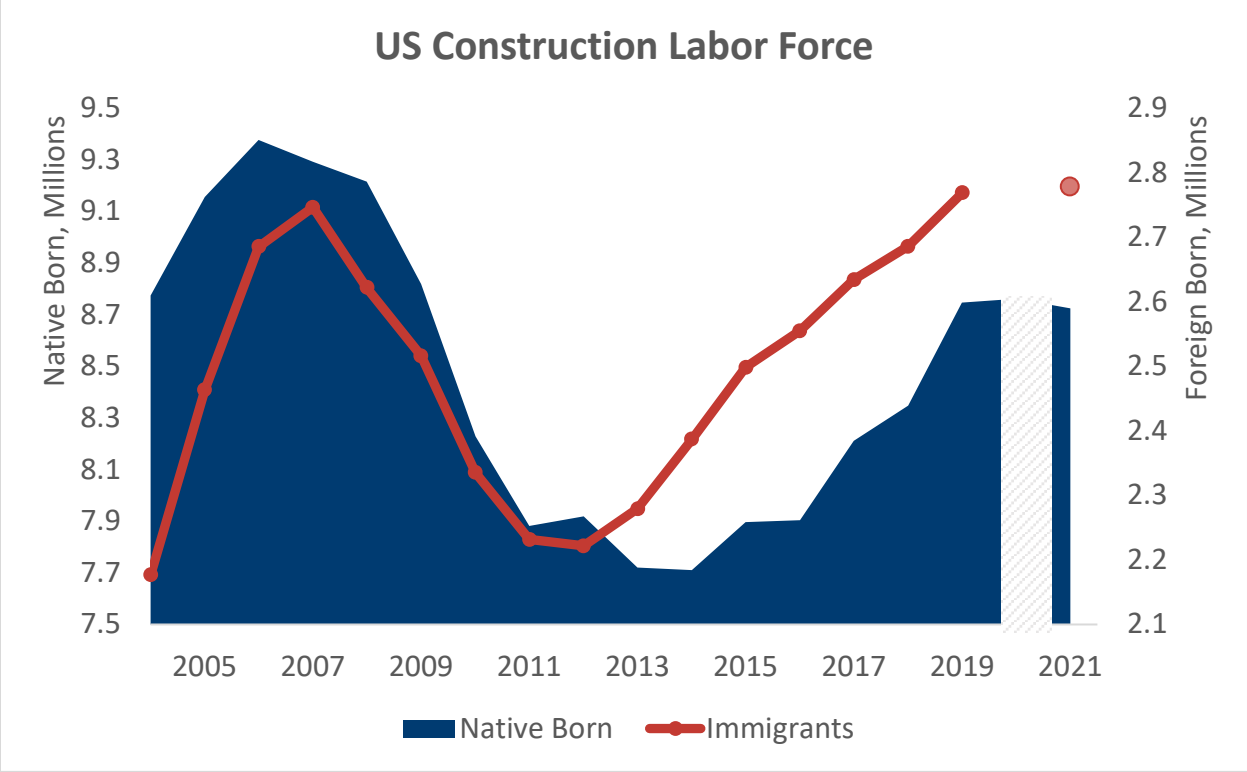
In contrast, the construction industry in the Northeast region relies heavily on non-Hispanic White Americans. Non-Hispanic Whites make up more than 95% of the construction workforce in New Hampshire, West Virginia, Vermont, Maine.

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

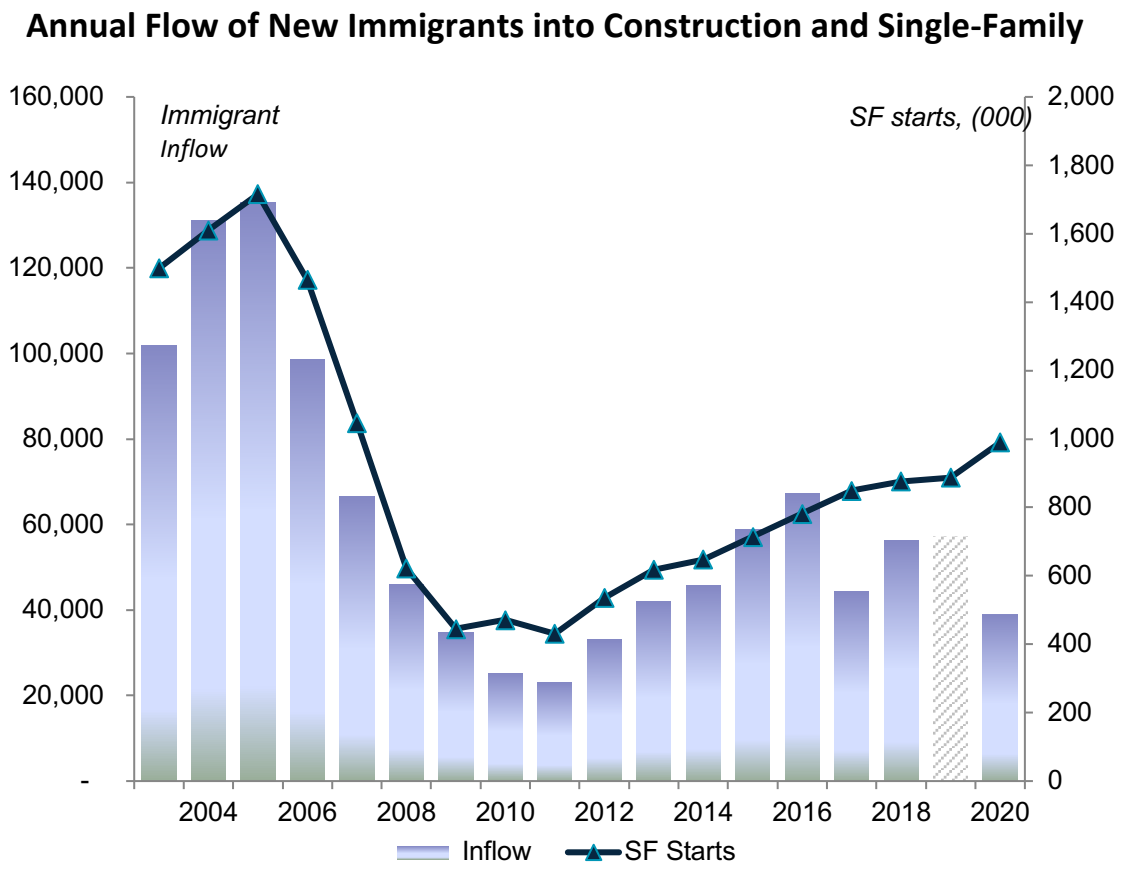
Immigrants remain a significant source of construction labor. According to the most recent 2021 American Community Survey (ACS), the number of immigrant workers in construction, including self-employed, remained close to 2.8 million, on a par with the levels recorded by the ACS before the Covid-19 pandemic 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.

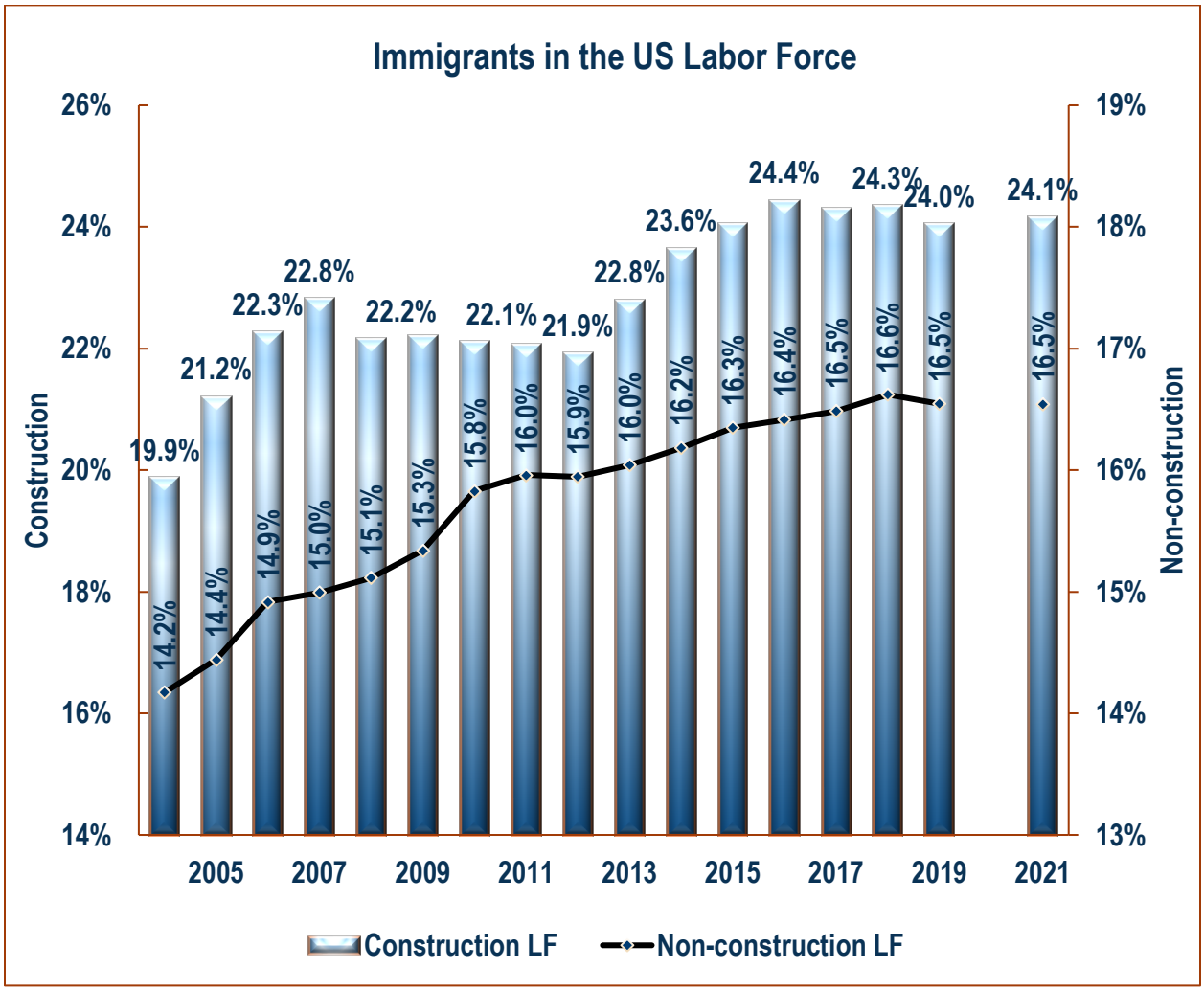


Source: 2004-2021 ACS PUMS, NAHB estimates

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.

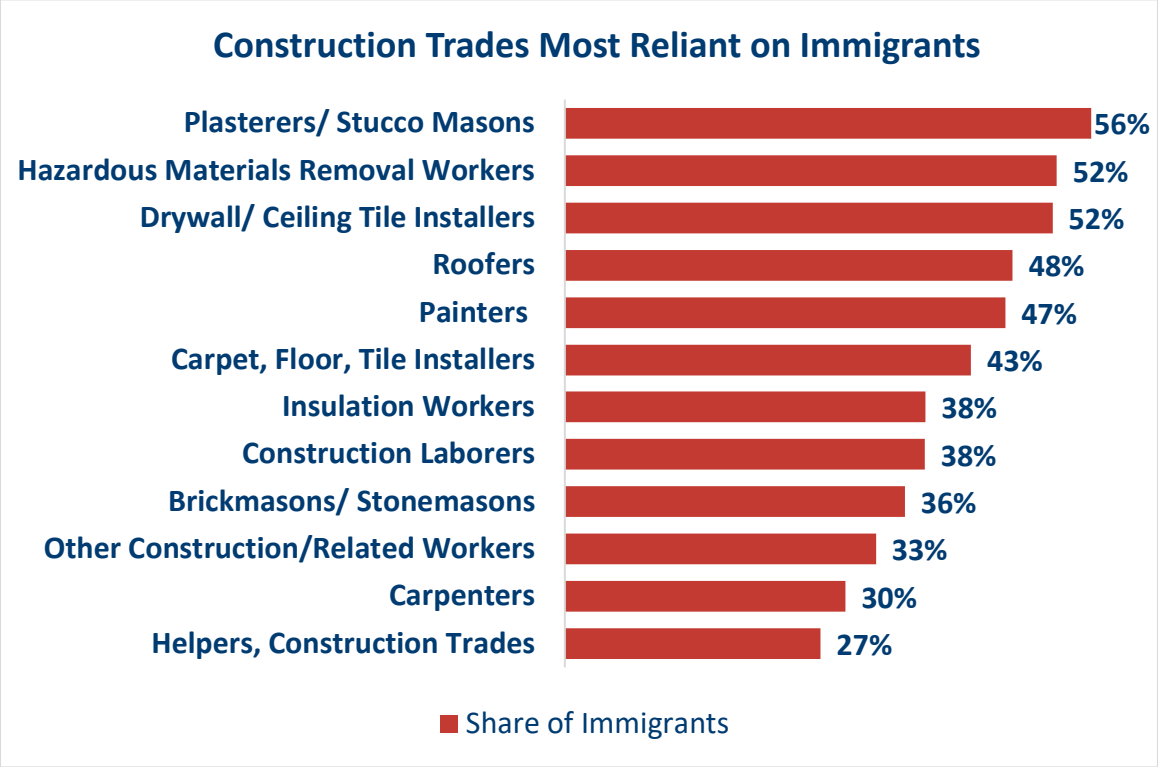
Similar trends are observed in the rest of the US economy, with the share of immigrants in the labor force stabilizing at record high levels but showing no further gains in recent years despite very tight labor market conditions. Excluding construction, where the reliance on foreign-born workers is greater,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

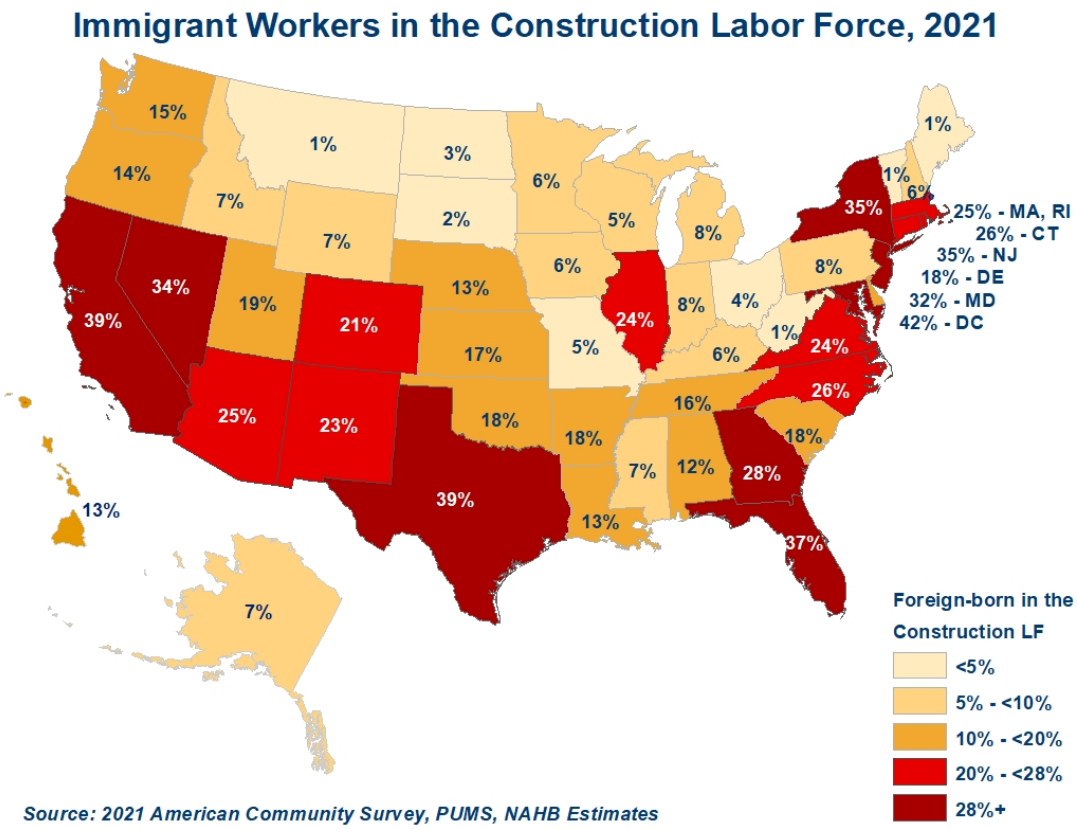
Concentration of immigrants Is even higher in some of the trades needed to build a home, like plasterers and stucco masons (56%), drywall/ceiling tile installers (52%), roofers (48%), painters (47%), carpet/floor/tile installers (43%), and construction laborers (38%) – trades that require less formal 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).



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.



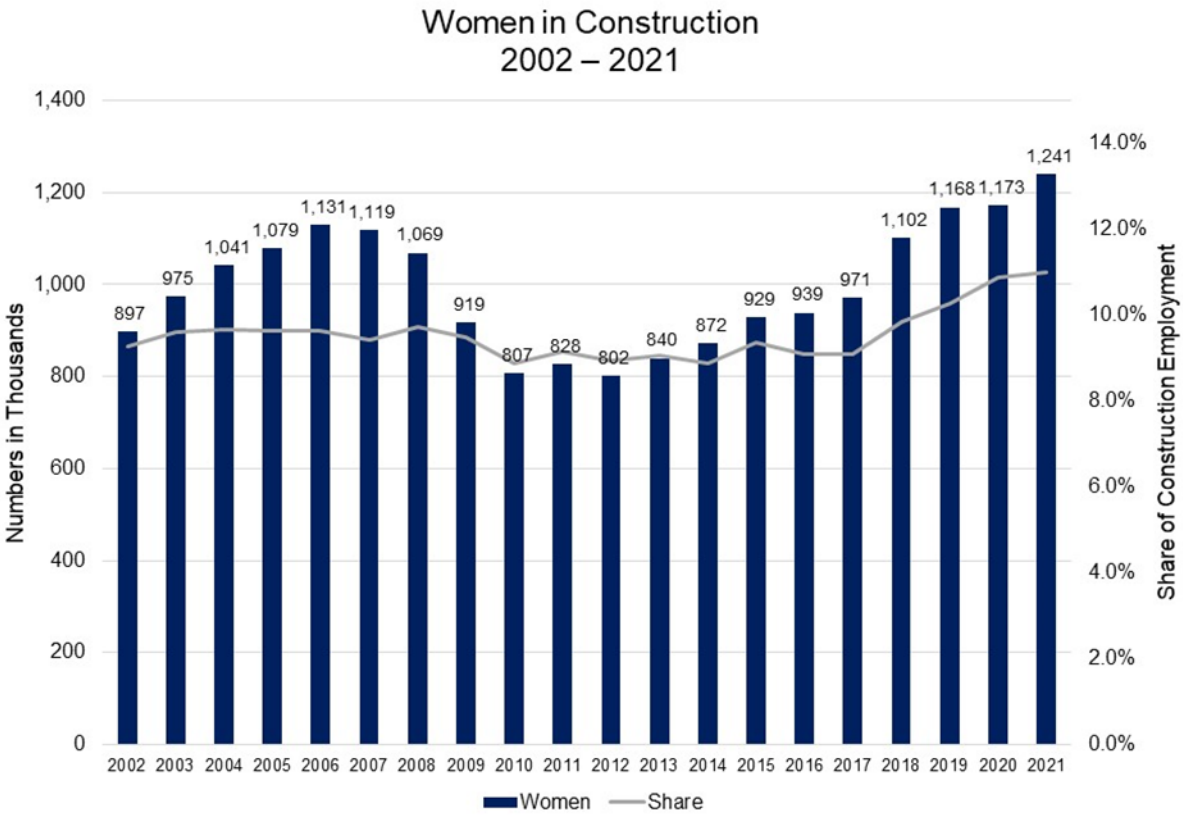
However, the reliance on foreign-born labor continues to spread outside of these traditional immigrant magnets. This is evident in states like Nevada, New Jersey, Maryland, and Georgia, where immigrants, as of 2021, account for between 28% and 35% of the construction labor force. In Connecticut, North 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 1.24 million in 2021, as the construction industry was quickly recovering jobs lost earlier during the pandemic induced recession. According to the 2021 Current Population Survey (CPS), women currently make up 11% of the construction workforce, the highest share on record and a noticeable Increase from 9.1% in 2017. 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 1.24 million in 2021.

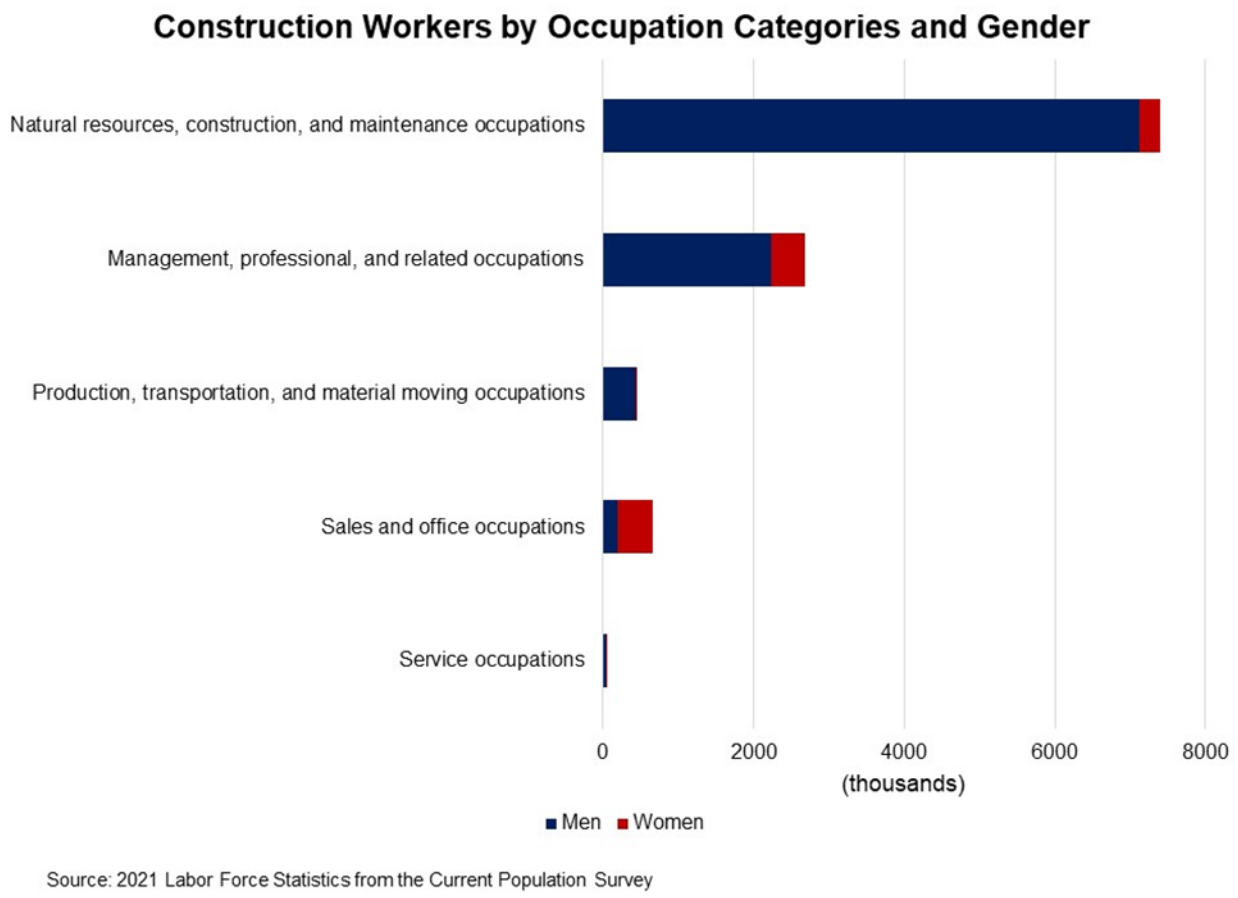


Source: Labor Force Statistics from the Current Population Survey

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 71% of workers in sales and office occupations, including 440,000 women in office and administrative support, and 40,000 in sales and related occupations in 2021. 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 3.7% 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 15,000 female workers.



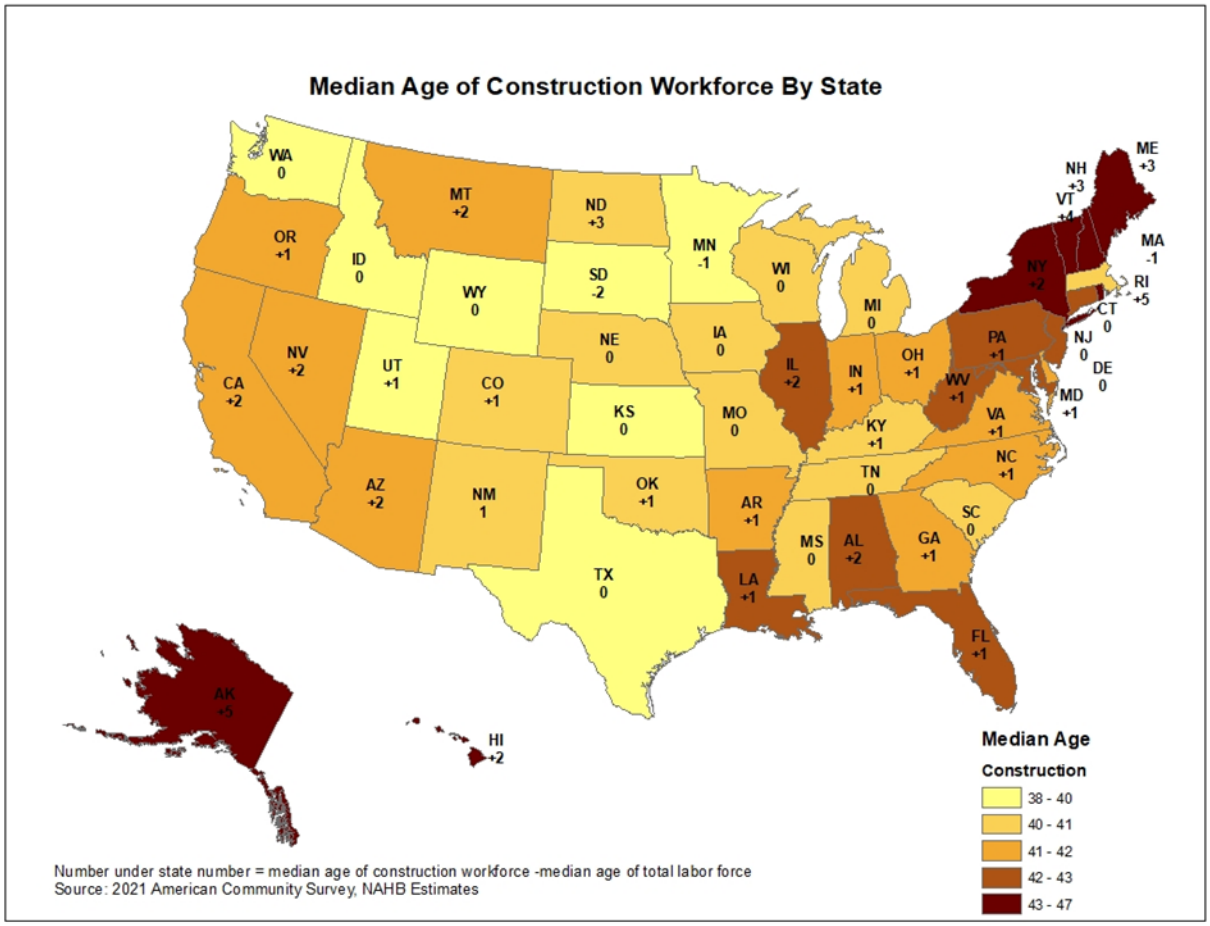
Source: 2021 Labor Force Statistics from the Current Population Survey

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.

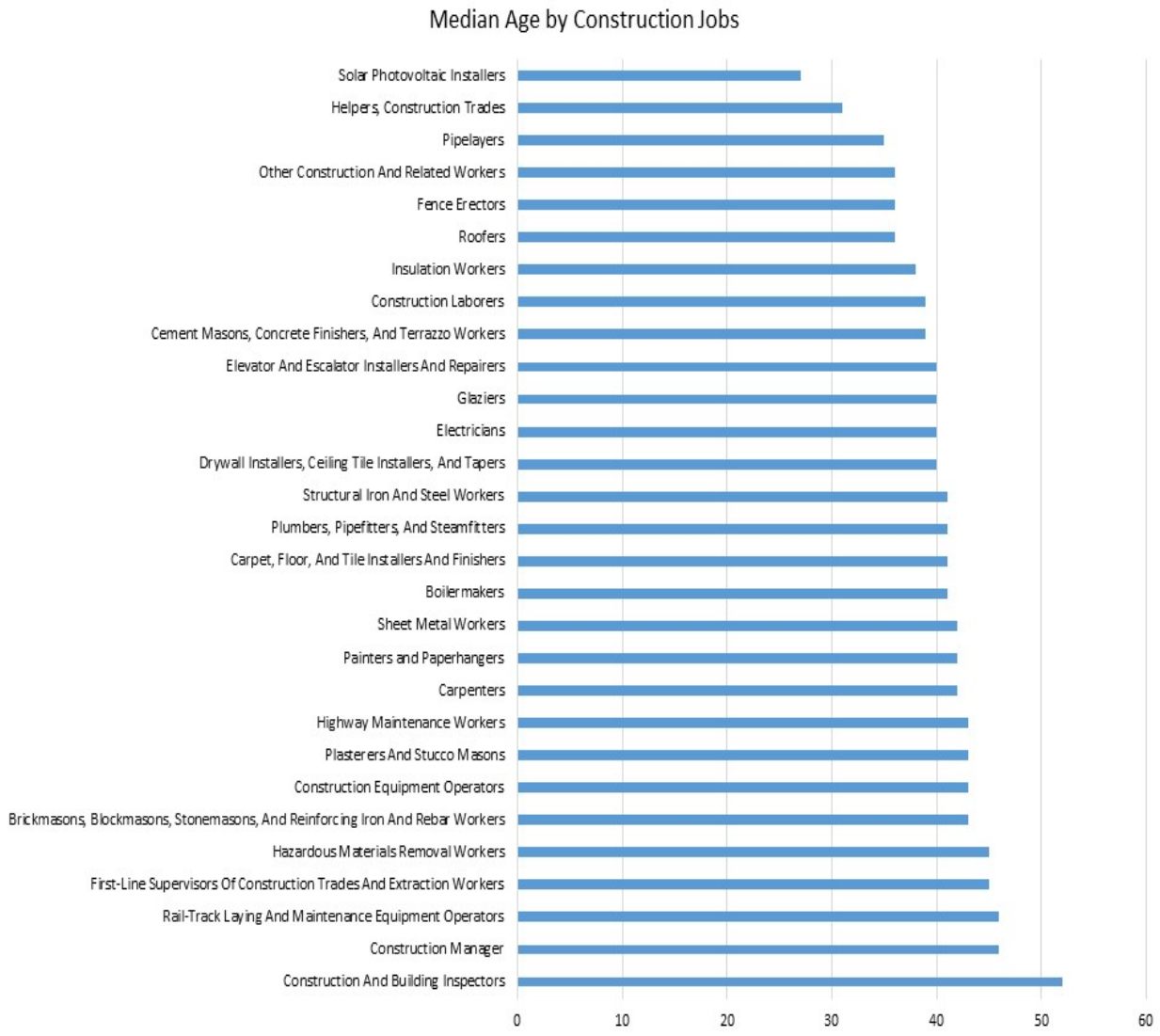
The median age of construction workforce varies across states. The color coding in the map above tracks the median age of people working in the construction industry. States with the oldest median age of construction workers (47 years old) are Maine and Vermont, followed by New Hampshire and Rhode Island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

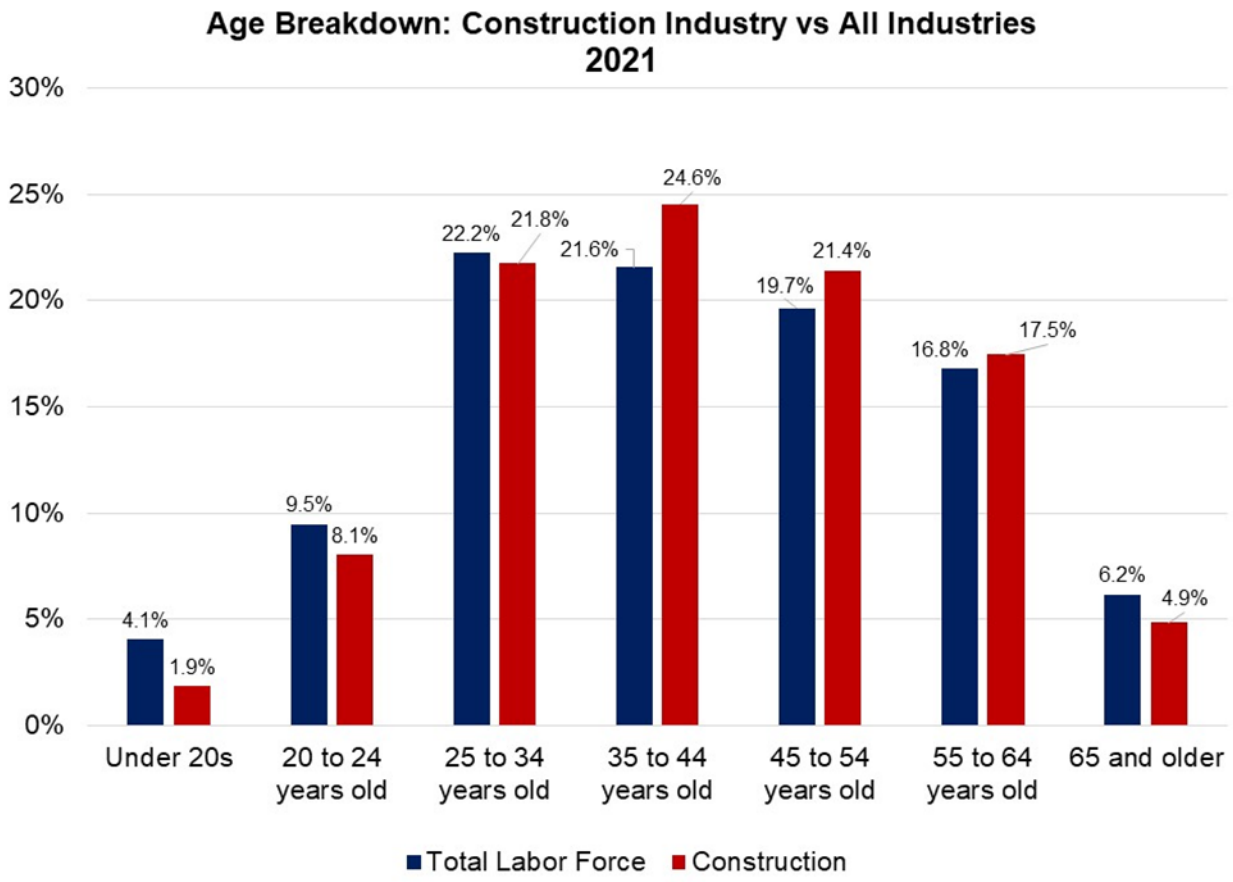


The second data series mapped above is the difference between the median age of construction workforce in each state and the median age of the overall workforce. These estimates are reported as the numbers printed on each state. A positive number indicates that on average, construction workers are older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

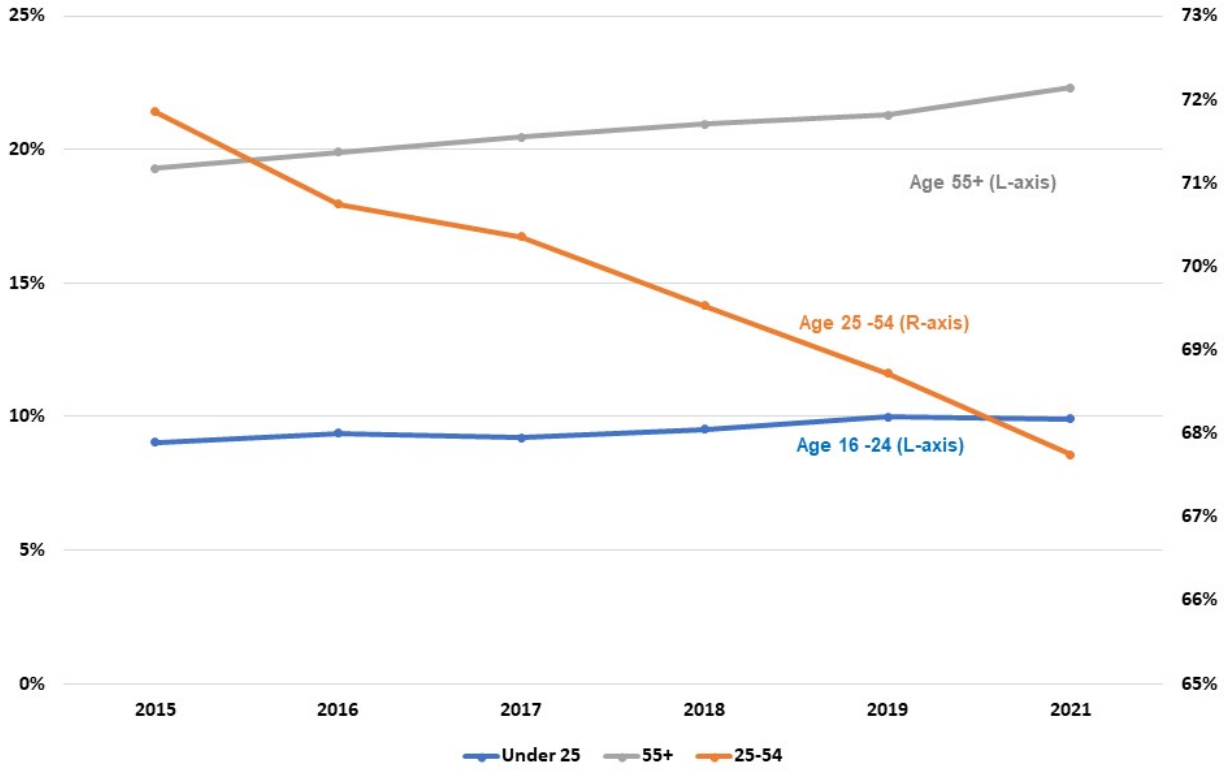


Source: 2021 American Community Survey, PUMS data

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 that 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

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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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