Building New Hampshire's Future: The Construction Sector in New Hampshire







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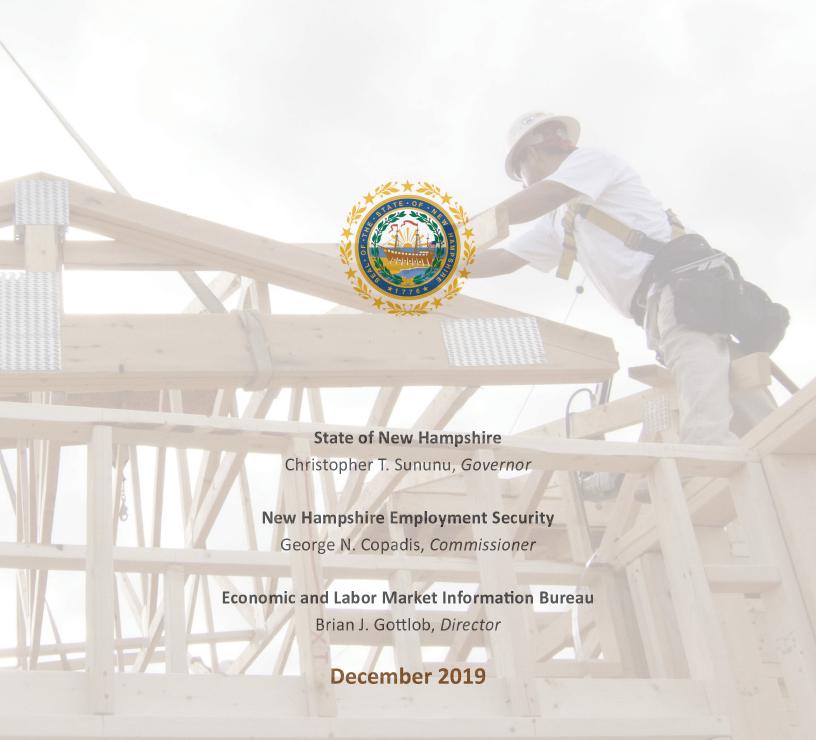


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Introduction

According to the North American Industry Classification System (NAICS), the *Construction* sector "comprises establishments primarily engaged in the construction of buildings or engineering projects." Work includes construction of new buildings or engineering projects, as well as additions, renovations, maintenance and repairs. This can include small projects, such as minor home repairs, or large projects, such as the expansion of I-93 from Manchester to the Massachusetts border, which is estimated to cost \$800 million.

The Construction sector is divided into three subsectors:

- Construction of Buildings: These establishments specialize in constructing or remodeling buildings. This includes general contractors, who typically subcontract work to other, more specialized firms often Specialty Trade Contractors.
- Heavy and Civil Engineering Construction: These establishments specialize in large-scale construction projects, such as bridges, roads, and dams.
- Specialty Trade Contractors. These establishments specialize in a specific activity related to construction, such as plumbing, electrical work, and roofing.

Employment in *Construction* is cyclical. Every year, the sector goes though distinct seasonal employment patterns. Over the longer-term, the industry is strongly impacted by the overall health of the economy.² Trends in *Construction* employment—as well as demand for construction activity—closely followed trends in overall GDP growth, both during periods of positive gross domestic product (GDP) growth and during recessions.

From 2011 through 2018, employment in the *Construction* industry has grown at a faster rate than employment in New Hampshire as a whole. Long term employment projections expect this to continue, projecting *Construction* employment will grow roughly 50 percent faster than total New Hampshire employment from 2016 through 2026. *Construction* employment growth has not been evenly distributed around the state. Job growth has been concentrated in Hillsborough, Merrimack and Rockingham counties, while other areas of the state have seen slower employment growth, or even decline.

Most jobs in the *Construction* industry require on-the-job training, including apprenticeships, rather than formal education. Average wages in *Construction* are slightly higher than the statewide average, making jobs in this industry attractive for individuals who are not interested in attaining a four-year college education.

This analysis examines the current state of employment the *Construction* sector in New Hampshire, and the types of opportunities it provides for New Hampshire's workers. It also looks at recent trends, and projections about *Construction*'s future outlook.

¹ Office of Management and Budget. North American Industry Classification System, United States, 2017. https://www.census.gov/eos/www/naics/2017NAICS/2017 NAICS Manual.pdf

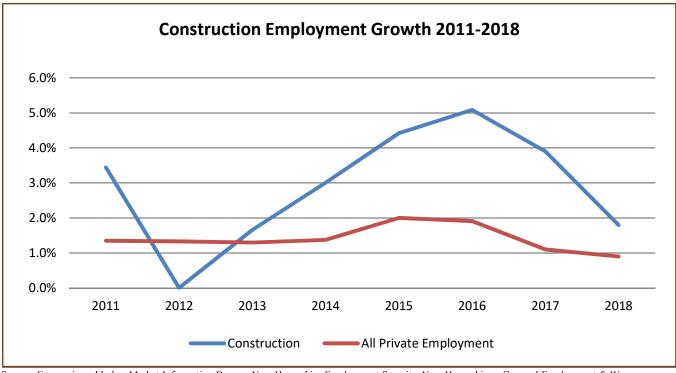
² U.S. Bureau of Labor Statistics. Which industries are sensitive to business cycles? https://www.bls.gov/mlr/1997/02/art2full.pdf

Trends in New Hampshire Construction Employment

In 2018, the *Construction* sector consisted of 4,088 privately-owned businesses employing 26,888 people throughout New Hampshire.³ This sector accounted for 4.7 percent of all private employment in New Hampshire. *Construction* also includes sole proprietorships or partnerships that don't employ any workers other than the owner(s). In 2017, these businesses, known as "nonemployer" establishments, included 16,063 *Construction* businesses. This represented 15.0 percent of all nonemployer establishments in New Hampshire. If an assumption is made that each sole proprietorship and corporation employs one individual, the owner, and each partnership employs two owners, nonemployer establishments would employ an additional 16,548 workers.⁴ Combining employment from nonemployer establishments with covered employment, *Construction* is the sixth largest sector in terms of estimated employment in New Hampshire.

In New Hampshire, employment in the *Construction* sector reached its highest point in 2005, when covered employment in the sector totaled 29,443 workers.⁵ Employment fell through the 2007-2009 recession, reaching its lowest point in 2010, when covered employment was only 21,418 workers.

Employment in the *Construction* sector has grown every year since 2011. Since 2013, that growth has been higher than employment growth of private industries in New Hampshire as a whole.



Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire - Covered Employment & Wages.

³ Economic and Labor Market Information Bureau, New Hampshire Employment Security, Covered Employment & Wages (QCEW) Annual Average. https://www.nhes.nh.gov/elmi/statistics/documents/state2018.pdf

⁴ U.S. Census Bureau, Nonemployer Statistics for the U.S., States, Metropolitan Areas, and counties; and by Legal Form of Organization and Sales, Value of Shipments, or Revenue Size for Selected Geographies: 2017, https://data.census.gov/cedsci/table?q=new%20hampshire%20nonemployer&table=NS1700NONEMP&tid=NONEMP2017.NS1700NONEMP&g=04000 00US33&vintage=2017&layer=state&cid=NESTAB&lastDisplayedRow=35&hidePreview=true

⁵ Economic and Labor Market Information Bureau, New Hampshire Employment Security, Covered Employment & Wages (QCEW). https://www.nhes.nh.gov/elmi/statistics/qcew-ann-data.htm

With an employment growth rate of 5.1 percent,⁶ 2016 saw the largest increase in the *Construction* sector since 2001, when employment grew over nine percent. In spite of this increase, however, employment in *Construction* is still well short of the levels seen prior to the recession.



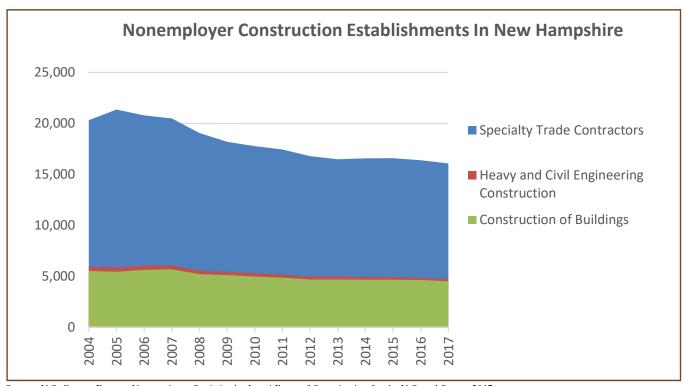
Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire - Covered Employment & Wages.

Each subsector of the *Construction* sector saw a different pattern of decline and growth during and after the recession. *Heavy and Civil Engineering Construction* surpassed its pre-recession employment levels in 2015, when there were 3,140 workers employed in the subsector. After decreasing slightly in 2016, employment increased to 3,447 by 2018, an increase of 14 percent over the last two years. There were 17,701 workers employed in the *Specialty Trade Contractors* subsector in 2018; this is still six percent below pre-recession levels. There were 5,739 workers employed in *Construction of Buildings* in 2018, 22 percent below pre-recession levels. Employment in *Construction of Buildings* declined slightly from 2017 to 2018. *Specialty Trade Contractors* accounted for the majority of the jobs gained since the recession, with over 3,800 jobs gained since 2010, more than two-thirds of all *Construction* sector gains over that time.

The number of nonemployer *Construction* establishments peaked in 2005, just prior to the recession. There were an estimated 21,351 nonemployer establishments that year. The number of nonemployer establishments declined every year from 2006 until 2013, when there were 16,469 nonemployer establishments. After increasing slightly in 2014 and 2015, the number of nonemployer establishments fell again in 2016 and 2017, declining to 16,063 establishments in 2017. All of the gains in 2014 and 2015 were in the *Specialty Trade Contractors* subsector, which increased by 174 nonemployer establishments over that period. Overall, nonemployer *Construction* establishments have declined by 25 percent since 2005. Nonemployer *Heavy and Civil Engineering Construction* establishments have declined by 53 percent over that time period, falling from 450 establishments to 210.

⁶ Economic and Labor Market Information Bureau, New Hampshire Employment Security, Covered Employment & Wages (QCEW) Annual Average. https://www.nhes.nh.gov/elmi/statistics/documents/state2016.pdf

U.S. Census Bureau, Nonemployer Statistics by Legal Form of Organization for the U.S. and States: 2017, https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=NES 2016 00A1&prodType=table

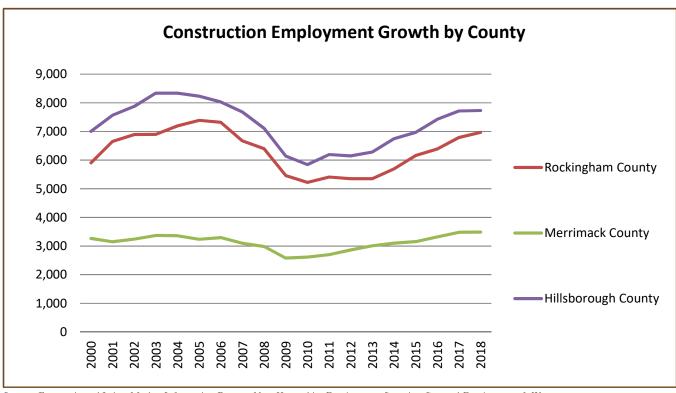


Source: U.S. Census Bureau, Nonemployer Statistics by Legal Form of Organization for the U.S. and States: 2017.

Construction Employment Trends in New Hampshire Counties

Although employment in New Hampshire's *Construction* sector has grown since 2011, the increase has not been distributed evenly throughout the state.

Rockingham, Merrimack and Hillsborough counties have seen employment growth roughly in line with statewide trends. These counties accounted for over 18,000 *Construction* jobs in 2018, about two-thirds of all *Construction* sector jobs in New Hampshire.⁸ These are also the three most heavily populated counties in the state, with almost two-thirds of the state's population living in those three counties.⁹ These three counties gained just over 3,900 *Construction* jobs between 2011 and 2018, 82 percent of all *Construction* sector employment gains throughout the state over that time.

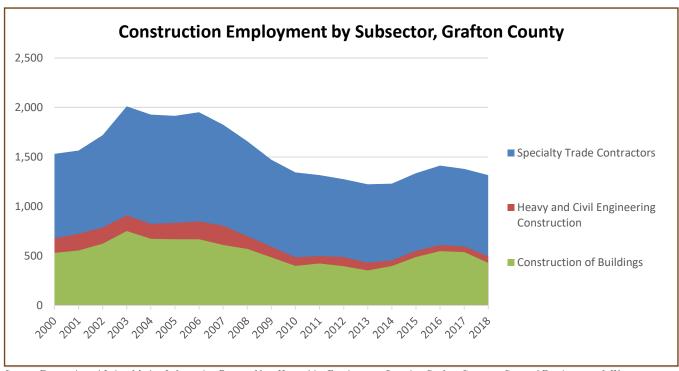


Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, Covered Employment & Wages.

⁸ Economic and Labor Market Information Bureau, New Hampshire Employment Security, Covered Employment & Wages Annual Average. http://nhetwork.nhes.state.nh.us/nhetwork/CEW.aspx?sid=6

⁹ U.S. Census Bureau, 2018 Population Estimates. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2017_PEPAGESEX&prodType=table

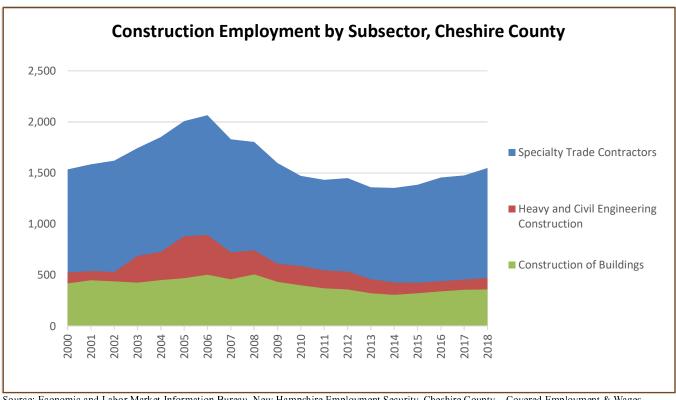
Construction employment in Grafton County declined throughout the recession, and continued to decline until 2013, when 1,225 workers were employed in *Construction*. Grafton County experienced strong employment growth from 2014 to 2016, averaging 4.9 percent annual growth over that time, before declining again in 2017 and 2018. Unlike most counties in New Hampshire, almost all of these gains have been in *Construction of Buildings*. However, employment in *Construction of Buildings* declined by over 100 jobs in 2017 and 2018. Employment in *Heavy and Civil Engineering Construction* fell from 2007 until 2017, from 195 workers in 2007 to 56 in 2017. *Heavy and Civil Engineering Construction* employment saw a small increase in 2018, but is still roughly one-third of its pre-recession peak.



Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, Grafton County - Covered Employment & Wages.

¹⁰ Economic and Labor Market Information Bureau, New Hampshire Employment Security, Covered Employment & Wages. http://nhetwork.nhes.state.nh.us/nhetwork/CEW.aspx?sid=6

Other counties have not seen a strong recovery from the recession. Cheshire County lost Heavy and Civil Engineering Construction jobs every year from 2005 through 2017, except for 2010. Employment in this subsector fell from 410 workers in 2005 to 98 in 2017, before increasing to 114 in 2018. Employment in the Construction sector as a whole fell until 2014, falling from 2,066 workers in 2006 to 1,354 in 2014.¹¹

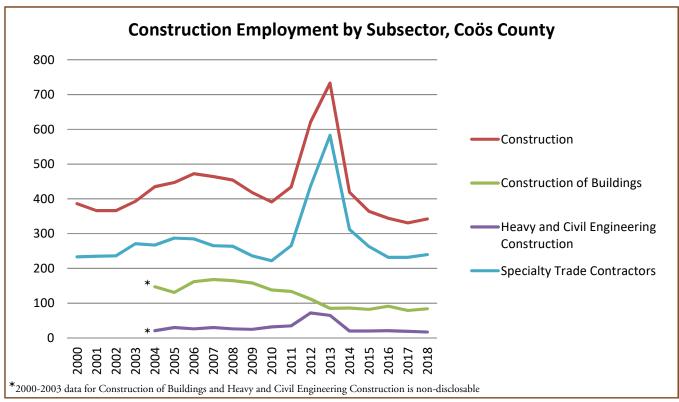


Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, Cheshire County - Covered Employment & Wages.

¹¹ Economic and Labor Market Information Bureau, New Hampshire Employment Security, Cheshire County - Covered Employment & Wages. http://nhetwork.nhes.state.nh.us/nhetwork/CEW.aspx?sid=6

Compared to the rest of New Hampshire, Coös County lost a relatively small amount of *Construction* jobs during the recession. Statewide, New Hampshire saw a 27 percent decline in *Construction* jobs from 2006 to 2010. Coös County lost only 17 percent of its *Construction* jobs during that time, dropping from 472 workers to 391.¹² Coös County saw a huge spike in employment in 2012 and 2013. The number of *Specialty Trade Contractors* more than doubled from 2011 to 2013, increasing from 265 workers to 583. However, from 2014 to 2017, those gains, and more, disappeared. With 342 workers employed in *Construction*, Coös County had less *Construction* jobs in 2018 than it did in any year during the recession.

A couple significant construction projects in Coös County likely contributed to the temporary increase in *Construction* employment in 2012 and 2013. The Granite Reliable Power wind farm was constructed in the unincorporated areas of Millsfield and Dixville in late 2011 and early 2012. The U.S. Department of Energy reported that this project supported 198 construction jobs. ¹³ The Burgess BioPower plant was built in Berlin during 2012 and 2013. At its peak, this project employed around 400 *Construction* workers. ¹⁴



Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, Coös County - Covered Employment & Wages.

¹² Economic and Labor Market Information Bureau, New Hampshire Employment Security, Coös County – Covered Employment & Wages. http://nhetwork.nhes.state.nh.us/nhetwork/CEW.aspx?sid=6

¹³ U.S. Department of Energy, Loan Program Office, Granite Reliable, https://www.energy.gov/lpo/granite-reliable

¹⁴ BioMass Magazine. From Paper to Power. http://biomassmagazine.com/articles/8014/from-paper-to-power

Location Quotient

Location quotient is a measure that compares the concentration of employment in an area to the concentration in another area. ¹⁵ In this case, the concentration in New Hampshire is compared to the nationwide concentration for employment in the *Construction* sector. A location quotient greater than one means New Hampshire has a higher share of employment in that sector than the national average. A location quotient less than one means employment in the sector is less concentrated than the national average.

| Construction Sector in New England States, 2018 | | | | | |
|--|------|--|--|--|--|
| State Location Quotient | | | | | |
| U.S. | 1.00 | | | | |
| NH | 0.83 | | | | |
| СТ | 0.71 | | | | |
| MA | 0.89 | | | | |
| ME | 0.96 | | | | |
| RI | 0.81 | | | | |
| VT | 1.00 | | | | |

Source: U.S. Bureau of Labor Statistics, 2018 Annual Averages, Quarterly Census of Employment and Wages.

A location quotient greater than one typically means either that an area either produces more of a good or service than the local economy uses, and exports excess production, or that the local economy has a larger than average demand for that good or service.

With a location quotient of 0.83, New Hampshire's *Construction* sector is less concentrated than the U.S. as a whole, with about 17 percent fewer *Construction* sector workers, given the size of its workforce, than the national average. The concentration of construction employment in New Hampshire is below most of its New England neighbors as well, with the exception of Rhode Island and Connecticut. This means either *Construction* establishments based outside New Hampshire are performing construction activities in New Hampshire more often than New Hampshire *Construction* establishments perform work outside of the state, or demand for construction activities in New Hampshire is lower than in other areas of the U.S. Given the

geographic proximity of the New England states, it is not unusual for *Construction* firms from other states in the region to perform construction work in New Hampshire. In addition, firms performing specialized construction work can easily take on contracts throughout the New England region. There is no need for a business establishment with these skills to be located in every state.

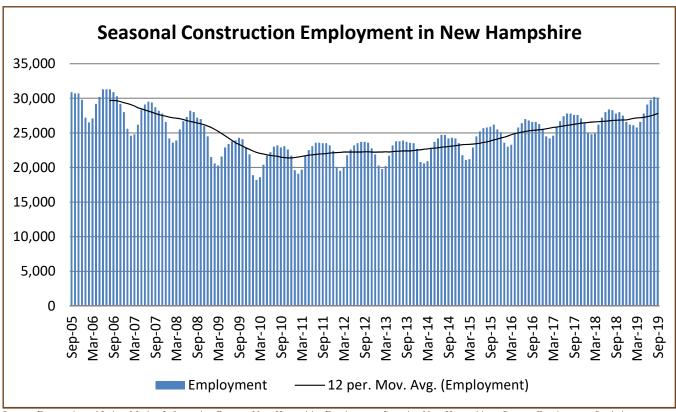
¹⁵ U.S. Bureau of Labor Statistics. QCEW Location Quotient Details. https://data.bls.gov/cew/doc/info/location_quotients.htm

¹⁶ U.S. Bureau of Labor Statistics, 2018 Annual Averages, Quarterly Census of Employment and Wages. https://data.bls.gov/cew/apps/table_maker/v4/table_maker.htm#type=0&year=2018&qtr=A&own=5&ind=23&supp=0

Seasonal Effects on Employment in Construction

Construction sector employment follows a consistent seasonal pattern. Employment usually reaches its lowest levels from January through March. It then increases throughout the spring and summer before reaching its highest yearly levels, typically in July and August. Employment then declines through the fall and winter, and repeats the cycle the following year.¹⁷

This seasonal effect can be largely attributed to poor weather conditions and frozen ground during the winter. These environmental conditions cause many construction projects to be postponed until better weather arrives in the spring.



Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire - Current Employment Statistics.

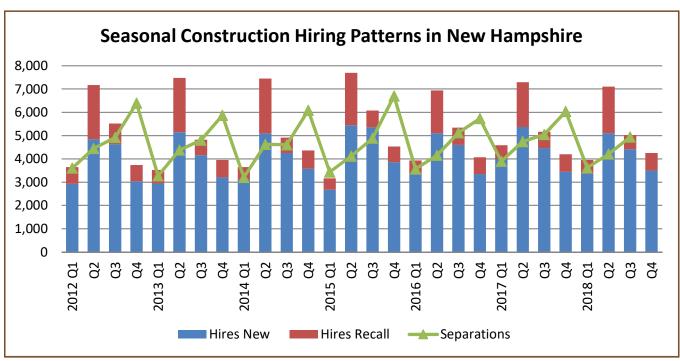
As a result, many workers in the *Construction* sector are temporarily laid off during the winter months, and rehired in spring, when construction activity increases. The U.S. Census Bureau's Quarterly Workforce Indicators data on hiring patterns shows that hiring is highest during the second quarter of each year, and separations (layoffs or quits) are highest in the fourth quarter.

These data also indicate whether a worker has been recalled, or rehired by a previous employer. A hire is considered a recall if that worker is hired by an employer for whom they worked for within the previous year, but not the previous quarter. A worker is considered a new hire if they were not employed by the hiring employer at any time during the previous four quarters.¹⁸

¹⁷ Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire - Current Employment Statistics. http://nhetwork.nhes.state.nh.us/nhetwork/CES.aspx?sid=27

¹⁸ U.S. Census Bureau, Longitudinal Employer-Household Dynamics, https://ledextract.ces.census.gov/static/data.html

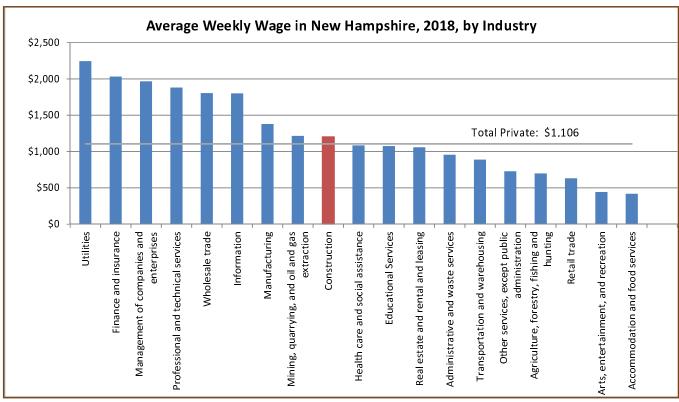
The second quarter of each year includes a significant number of recall hires, suggesting many *Construction* firms look to rehire their previously employed workers after a seasonal layoff.



Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics.

Construction Wages in New Hampshire

The average weekly wage in 2018 for the *Construction* sector was slightly above the average wage for all industries in New Hampshire. ¹⁹ In 2018, the average weekly wage in *Construction* was \$1,205. ²⁰ The average weekly wage for all industries in New Hampshire was \$1,106. Sector averages ranged from \$2,245 per week for *Utilities* to \$418 per week for *Accommodation and Food Services*.



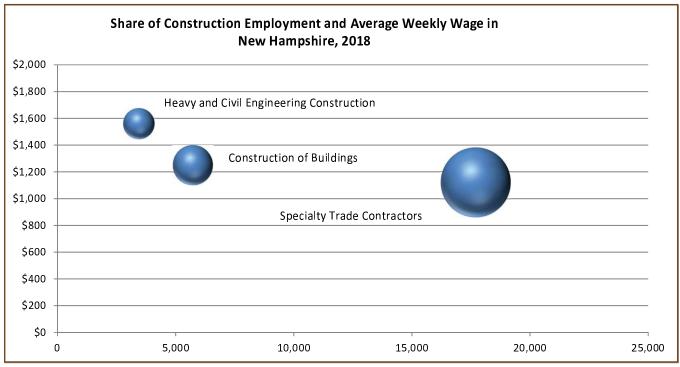
Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2018 Annual Averages.

Among the subsectors of *Construction*, the average weekly wage varied by over \$400 per week. Heavy and Civil Engineering Construction had the highest average weekly wage, with \$1,561 per week. This subsector also had the smallest share of employment of the three subsectors. Specialty Trade Contractors had the largest share of employment, 66 percent of all workers, and the lowest average weekly wage, \$1,121 per week. Construction of Buildings was in the middle for both average weekly wage, \$1,250, and share of employment, 21.3 percent.

¹⁹ The average weekly wage values, as measured by the Quarterly Census of Employment and Wages program, are calculated by dividing total wages by the average of the three monthly employment levels of those covered by Unemployment Insurance programs. The result is then divided by 13, the number of weeks in a quarter. Total wages include bonuses, stock options, severance pay, profit distributions, cash value of meals and lodging, and tips and other gratuities.

²⁰ U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2018 Annual Averages. https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables

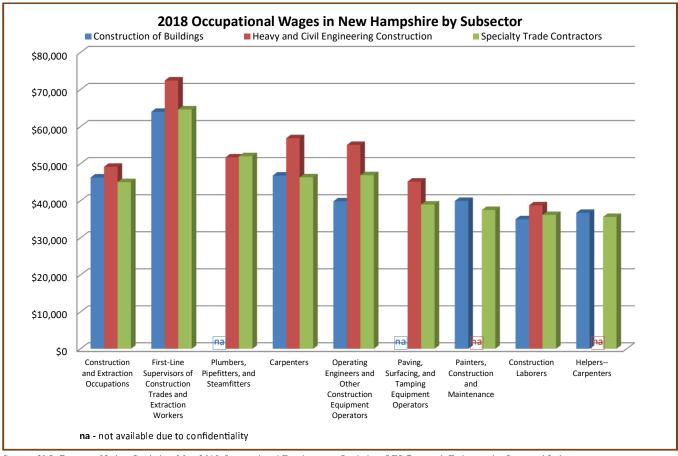
²¹ Ibid.



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2018 Annual Averages.

Among workers in the same occupation, wages for those employed in the Heavy and Civil Engineering Construction subsector were higher on average than wages for workers employed in the other two Construction subsectors. For example, Carpenters working in Heavy and Civil Engineering Construction earned a median annual wage of \$56,880 in 2018. Carpenters working in Construction of Buildings earned \$46,810, and Carpenters working in the Specialty Trade Contractors subsector earned \$46,320 per year. On average, workers in Construction and Extraction Occupations employed in Heavy and Civil Engineering Construction earned a median annual wage \$2,900 higher than Construction and Extraction workers employed in Construction of Buildings, and \$4,140 higher than Construction and Extraction workers employed in Specialty Trade Contractors.

²² U.S. Bureau of Labor Statistics, May 2018 Occupational Employment Statistics, OES Research Estimates by State and Industry. https://www.bls.gov/oes/current/oes_research_estimates.htm



Source: U.S. Bureau of Labor Statistics, May 2018 Occupational Employment Statistics, OES Research Estimates by State and Industry.

New Hampshire Construction Sector Staffing Patterns: Employment by Occupation

By far, the largest occupational group in the *Construction* sector is *Construction and Extraction Occupations*, accounting for 58 percent of all employment in the sector.²³

Only one other occupational group accounts for more than ten percent of employment in the *Construction* sector: *Office and Administrative Support Occupations*, with 11.5 percent of jobs in *Construction*. *Installation*, *Maintenance*, *and Repair Occupations*, accounting for 9.8 percent of *Construction* jobs, fell just shy of the ten percent share.

²³ U.S. Bureau of Labor Statistics, May 2018 Occupational Employment Statistics, OES Research Estimates by State and Industry. https://www.bls.gov/oes/current/oes_research_estimates.htm

| Share of Construction Sector Employment by Occupation Group | | | | | | |
|---|---|------------------|-------------------|--|--|--|
| | Occupation Group | Total Employment | Share of Industry | | | |
| 00-0000 | All Occupations | 27,280 | 100.0% | | | |
| 47-0000 | Construction and Extraction Occupations | 15,680 | 57.5% | | | |
| 43-0000 | Office and Administrative Support Occupations | 3,150 | 11.5% | | | |
| 49-0000 | Installation, Maintenance, and Repair Occupations | 2,660 | 9.8% | | | |
| 11-0000 | Management Occupations | 2,030 | 7.4% | | | |
| 53-0000 | Transportation and Material Moving Occupations | 1,460 | 5.4% | | | |
| 13-0000 | Business and Financial Operations Occupations | 880 | 3.2% | | | |
| 41-0000 | Sales and Related Occupations | 590 | 2.2% | | | |
| | All Other Occupations | 830 | 3.0% | | | |

Source: U.S. Bureau of Labor Statistics, May 2018 Occupational Employment Statistics, OES Research Estimates by State and Industry.

| Share of Construction Subsector Employment by Occupation Group | | | | | | | |
|--|---------------------------------|----------------------|------------------------------------|--------|--------------------------------------|-------------------|--|
| Occupation Group | Construction of Buildings (236) | | Fngineering | | Specialty Trade Contractors (238) | | |
| | Total Employment | Share of Industry | Total Share of Employment Industry | | Total Employment | Share of Industry | |
| All Occupations | 5,760 | 100.0% | 3,630 | 100.0% | 17,890 | 100.0% | |
| Construction and Extraction Occupations | 3,510 | 60.9% | 1,940 | 53.4% | 10,230 | 57.2% | |
| Office and Administrative Support Occupations | 740 | 12.8% | 250 | 6.9% | 2,150 | 12.0% | |
| Installation, Maintenance, and Repair Occupations | 90 | 1.6% | 510 | 14.0% | 2,050 | 11.5% | |
| Management Occupations | 800 | 13.9% | 250 | 6.9% | 980 | 5.5% | |
| Transportation and Material Moving Occupations | n | n | 490 | 13.5% | 950 | 5.3% | |
| Business and Financial Operations Occupations | 260 | 4.5% | 60 | 1.7% | 560 | 3.1% | |
| Sales and Related Occupations | 80 | 1.4% | 50 | 1.4% | 460 | 2.6% | |
| All Other Occupations | 280 | 4.9% | 80 | 2.2% | 510 | 2.9% | |

n = data are non-disclosable

Source: U.S. Bureau of Labor Statistics, May 2018 Occupational Employment Statistics, OES Research Estimates by State and Industry.

Each subsector of *Construction* has staffing patterns that differ from the other subsectors, and from the sector as a whole. *Construction of Buildings* has a higher share of *Management Occupations*, *Business and Financial Operations Occupations*, and *Construction and Extraction Occupations* than the sector.²⁴ It had a smaller share of *Installation*, *Maintenance*, and *Repair Occupations*, and *Transportation and Material Moving Occupations* than the sector as a whole.

There was a larger share of *Transportation and Material Moving Occupations*, and a relatively small share of *Office and Administrative Support Occupations* in *Heavy and Civil Engineering Construction*, when compared to the rest of the *Construction* sector

Reflecting the fact that *Specialty Trade Contractors* make up nearly two-thirds of all employment in the *Construction* sector, the differences in employment by occupational group between the *Construction* sector as a whole and the *Specialty Trade Contractors* subsector are fairly small. There was a higher share of *Installation, Maintenance, and Repair Occupations,* and a smaller share of *Management Occupations* in this subsector than the *Construction* sector overall.

Share of Occupational Employment by Sector

Not every worker in the *Construction and Extraction Occupations* group works in the *Construction* sector. For example, 40.3 percent of *Sheet Metal Workers* worked in the *Construction* sector in 2016, and 49.7 percent worked in the *Manufacturing sector*.²⁵

In addition, many workers in the *Construction and Extraction Occupations* group are self-employed, and are classified as *Self-Employed and Unpaid Family Workers*, rather than in the *Construction* sector, even if the work performed is considered construction.

But for many occupations in this group, the majority of workers are employed in the *Construction* sector. For example, 78 percent of all electricians in New Hampshire work in the *Construction* sector. Of those, 97 percent are employed in the *Specialty Trade Contractors* subsector. Just a handful of *Electricians* work in the *Construction of Buildings and Heavy and Civil Engineering Construction* subsectors.

Sixty percent of all *Carpenters* work in *Construction*. Of those, 68 percent are employed in the *Construction of Buildings* subsector, while 29 percent are *Specialty Trade Contractors*, and only three percent work in *Heavy and Civil Engineering Construction*.

²⁴ U.S. Bureau of Labor Statistics, May 2018 Occupational Employment Statistics, OES Research Estimates by State and Industry. https://www.bls.gov/oes/current/oes_research_estimates.htm

²⁵ Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Job Outlook and Locator by Industry and Occupation, Base Year 2016 to Projected Year 2026. https://www.nhes.nh.gov/elmi/products/documents/job-locator.pdf

| Occupational Employment by Subsector – Staffing Patterns | | | | | | | | |
|---|--------------------|--|--------------------|--|----------------------------|--|--------------------------------------|--|
| Occupation | Construc | tion (23) | | ction of gs (236) | Heavy a Engineering (23 | Construction | Specialty Trade Contractors (238) | |
| | 2016 Employment | Share of Occupation in Construction | 2016 Employment | Share of Occupation's Construction Employment | 2016 Employment | Share of Occupation's Construction Employment | 2016 Employment | Share of Occupation's Construction Employment |
| Construction Laborers | 3,007 | 71.6% | 823 | 27.4% | 575 | 19.1% | 1,609 | 53.5% |
| Carpenters | 2,650 | 59.8% | 1,799 | 67.9% | 89 | 3.4% | 762 | 28.8% |
| Electricians | 1,743 | 78.4% | n | n | n | n | 1,693 | 97.1% |
| First-Line Supervisors of Construction Trades and Extraction Workers | 1,584 | 59.0% | 714 | 45.1% | 231 | 14.6% | 639 | 40.3% |
| Plumbers, Pipefitters, and Steamfitters | 1,283 | 76.7% | n | n | n | n | 1,155 | 90.0% |
| Painters, Construction and Maintenance | 697 | 53.8% | n | n | n | n | 594 | 85.2% |
| Operating Engineers and Other Construction Equipment Operators | 643 | 74.2% | 89 | 13.8% | 203 | 31.6% | 351 | 54.6% |
| Drywall and Ceiling Tile Installers | 570 | 79.4% | 35 | 6.1% | - | 0.0% | 535 | 93.9% |
| Brickmasons and Blockmasons | 223 | 50.5% | - | 0.0% | _ | 0.0% | 223 | 100.0% |
| Paving, Surfacing, and Tamping Equipment Operators | 208 | 88.5% | - | 0.0% | 77 | 37.0% | 131 | 63.0% |
| Sheet Metal Workers | 205 | 40.3% | n | n | n | n | 201 | 98.0% |
| Roofers | 192 | 80.0% | - | 0.0% | - | 0.0% | 192 | 100.0% |

Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Job Outlook and Locator by Industry and Occupation, Base Year 2016 to Projected Year 2026.

Education and Experience

Among jobs in the *Construction and Extraction* occupational group, typical preparation for entry-level employment is either a high school diploma or no formal education. For almost all of these occupations, entry-level workers are not expected to have work experience in a related occupation; experience is commonly expected for workers entering supervisory occupations. All of the jobs without an expectation of work experience, however, do typically require on-the job training (OJT), which is usually acquired in the workplace after hire.²⁶ The amount of usual on-the-job training varies greatly from occupation to occupation.

Occupational projections identify how much on-the-job training is typically required for entry-level workers in each job; they are categorized as short-term, moderate-term, or long-term OJT. Short-term OJT is one month or less of training, moderate-term OJT involves between one month and one year of training, and long-term OJT is at least one year of job-related training.

For many *Construction and Extraction* occupations, an apprenticeship is a common method of worker education and training. Apprenticeship combines on-the-job training with related classroom instruction.²⁷ Apprenticeships range in duration from one to six years, depending on the occupation.

U.S. Census Bureau data on educational attainment show that, while none of these jobs require formal education beyond high school, approximately one-third of *Construction and Extraction* workers have attained more than the minimum level of education. One-quarter of workers have either some college, or an associate's degree and 8.4 percent have a bachelor's degree or higher.²⁸

| Education and Experience Required for Entry-Level Construction and Extraction Occupations | | | | | | |
|---|--|---------------------|----------------------------|------------------------|--|--|
| NAICS | Occupation Title Education | | Related Work Experience | On-the-Job Training | | |
| 47-2031 | Carpenters | High school diploma | none | Apprenticeship | | |
| 47-2061 | Construction Laborers | none | none | Short OJT | | |
| 47-1011 | First-Line Supervisors of Construction Trades and Extrac- tion Workers | High school diploma | 5+ years | none | | |
| 47-2111 | Electricians | High school diploma | none | Apprenticeship | | |
| 47-4051 | Highway Maintenance Workers | High school diploma | none | Moderate OJT | | |
| 47-2152 | Plumbers, Pipefitters, and Steamfitters | High school diploma | none | Apprenticeship | | |
| 47-2141 | Painters, Construction and Maintenance | none | none | Moderate OJT | | |
| 47-2131 | Insulation Workers, Floor, Ceiling, and Wall | none | none | Short OJT | | |
| 47-3013 | HelpersElectricians | High school diploma | none | Short OJT | | |
| 47-2044 | Tile and Marble Setters | none | none | Long OJT | | |

Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Long-term Occupational Projections, 2016 to 2026.

²⁶ Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Long-term Occupational Projections, 2016 to 2026. https://www.nhes.nh.gov/elmi/products/documents/proj-pub-2016-26.pdf

²⁷ New Hampshire Department of Education, Registered Apprenticeship, Frequently Asked Questions. https://www.education.nh.gov/career/career/appren_faq.htm

²⁸ U.S. Census Bureau, EEO 8w. Detailed Census Occupation by Educational Attainment (5), Sex, and Race/Ethnicity for Worksite Geography, Total Population Universe: Civilians employed at work 16 years and over, EEO Tabulation 2006-2010. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=EEO 10 5YR EEOALL8W&prodType=table

Eighty percent of all *Construction and Building Inspectors* had at least some college education, including 29.5 percent who had attained a bachelor's degree or higher.

More than half of all *Electricians* had at least some college education. Other occupations with a high percentage of workers with at least some college education include *Sheet Metal Workers, Boilermakers,* and *Structural Iron and Steel Workers*.

| | Educational Attainment of Individuals Working in Construction and Extraction Occupations | | | | | | | |
|-------------------------|--|----------------------------------|-------------------------|---|----------------------|---------------------------------------|--|--|
| SOC Code | Occupation | Not a High School Graduate | High School Graduate | Some College or Associate's Degree | Bachelor's Degree | Graduate or Professional Degree | Total with Some College or Higher | |
| 47-0000 | All Construction Occupations | 14.0% | 50.1% | 27.5% | 7.1% | 1.3% | 35.9% | |
| 47-1011 | First-Line Supervisors of Construction Trades and Extraction Workers | 9.6% | 51.1% | 29.5% | 8.8% | 0.9% | 39.2% | |
| 47-2011 | Boilermakers | 0.0% | 42.9% | 57.1% | 0.0% | 0.0% | 57.1% | |
| 47-2031 | Carpenters | 13.4% | 49.1% | 27.6% | 8.5% | 1.5% | 37.6% | |
| 47-2051 | Cement Masons and Concrete Finishers | 0.0% | 47.8% | 21.7% | 30.4% | 0.0% | 52.1% | |
| 47-2061 | Construction Laborers | 17.9% | 51.6% | 23.4% | 6.9% | 0.2% | 30.5% | |
| 47-2073 | Operating Engineers and Other Construction Equipment Operators | 19.2% | 65.1% | 14.4% | 1.4% | 0.0% | 15.8% | |
| 47-2081 | Drywall and Ceiling Tile Installers | 32.2% | 53.7% | 10.1% | 3.4% | 0.0% | 13.5% | |
| 47-2111 | Electricians | 2.3% | 41.6% | 49.3% | 4.4% | 2.6% | 56.3% | |
| 47-2121 | Glaziers | 15.6% | 46.9% | 34.4% | 0.0% | 6.3% | 40.7% | |
| 47-2141 | Painters, Construction and Maintenance | 18.9% | 50.0% | 19.5% | 10.3% | 1.5% | 31.3% | |
| 47-2151 & 47-2152 | Pipelayers & Plumbers, Pipefitters, and Steamfitters | 11.1% | 53.1% | 26.8% | 5.4% | 3.6% | 35.8% | |
| 47-2181 | Roofers | 29.0% | 62.6% | 6.9% | 2.3% | 0.0% | 9.2% | |
| 47-2211 | Sheet Metal Workers | 8.2% | 45.2% | 24.7% | 20.5% | 1.1% | 46.3% | |
| 47-2221 | Structural Iron and Steel Workers | 0.0% | 45.1% | 45.1% | 5.9% | 3.9% | 54.9% | |
| 47-4011 | Construction and Building Inspectors | 2.6% | 16.7% | 51.3% | 23.1% | 6.4% | 80.8% | |
| 47-4051 | Highway Maintenance Workers | 11.0% | 61.3% | 25.2% | 2.6% | 0.0% | 27.8% | |
| 47-5021 | Earth Drillers, Except Oil and Gas | 20.7% | 31.0% | 44.8% | 2.8% | 0.0% | 47.6% | |

Source: U.S. Census Bureau, EEO 8w. Detailed Census Occupation by Educational Attainment (5), Sex, and Race/Ethnicity for Worksite Geography, Total Population Universe: Civilians employed at work 16 years and over, EEO Tabulation 2006-2010.

Apprenticeships

Since none of the Construction and Extraction occupations usually need formal education beyond a high school diploma for entry-level employment, work-based learning is one tool used to provide workers with the specialized skills needed for these occupations.

For many occupations, this means an apprenticeship. Registered apprenticeships combine iob-related classroom instruction with on-the-job learning experience. 29 Apprentices start working—and earning money—on the first day of the program. They also receive incremental wage increases as they gain proficiency throughout the program. Upon completion of the training, a registered apprentice receives an industry-issued, nationally recognized credential that certifies occupational proficiency. Apprenticeships range in length from one to six years.³⁰

There are three apprenticeship models: Time-Based, Competency/Performance Program, and Hybrid Program³¹

- Time-based programs require a minimum number of hours, and include an outline of the specific work processes and the approximate time requirement for each work process under that occupation.
- Competency/Performance Programs rely on demonstrated, observable and measurable competencies instead of a required number of hours. While the number of hours is not a requirement, these programs also use an outline of the specific work processes and the approximate time required to learn each process. These programs allow apprentices to work at their own pace, devoting more or less time to each competency, as needed by each individual. A competency is defined as "The capability to apply or use a set of related knowledge, skills, and abilities required to successfully perform "critical work functions" or tasks in a defined work setting."32
- Hybrid programs use a combination of both time-based requirements, and demonstrating competencies. In these programs, each competency is given a range hours for each competency, allowing apprentices to devote more or less time to each competency.

Throughout the U.S., apprenticeships are available in over 1,000 occupations, in a wide variety of occupational groups. Data from the U.S. Department of Labor's Office of Apprenticeship listed apprenticeship programs in 19 different industry sectors, as well as the U.S. military.³³ Of those sectors, Construction had the highest number of apprenticeships in 2018 (Federal Government Fiscal Year, which runs 10/1/2017 - 9/30/2018), with just over half of all active apprenticeships.

²⁹ U.S. Department of Labor, A Quick-Start Toolkit: Building Registered Apprenticeship Programs. https://www.doleta.gov/oa/employers/apprenticeship toolkit.pdf

³⁰ U.S. Department of Labor, Apprenticeship Toolkit, https://www.dol.gov/apprenticeship/toolkit/toolkitfaq.htm

³¹ U.S. Department of Labor, A Quick-Start Toolkit: Building Registered Apprenticeship Programs. https://www.doleta.gov/oa/employers/apprenticeship toolkit.pdf.

³² Ibid.

³³ U.S. Department of Labor, Registered Apprenticeship National Results, Fiscal Year 2018, https://doleta.gov/oa/data_statistics.cfm

| Number of Apprenticeships in U.S. by Industry, 2018 | | | | |
|--|-----------------------|--|--|--|
| Industry Title | Active Apprentices | | | |
| Construction | 166,629 | | | |
| Military (USMAP) | 98,435 | | | |
| Public Administration | 19,447 | | | |
| Manufacturing | 15,630 | | | |
| Transportation and Warehousing | 12,335 | | | |
| Utilities | 7,281 | | | |
| Health Care and Social Assistance | 4,507 | | | |
| Educational Services | 3,690 | | | |
| Retail Trade | 3,545 | | | |
| (not listed) | 3,262 | | | |
| Wholesale Trade | 2,193 | | | |
| Other Services (except Public Administration) | 1,195 | | | |
| Information | 1,152 | | | |
| Administrative and Support and Waste Management and Remediation Services | 1,067 | | | |
| Accommodation and Food Services | 761 | | | |
| Agriculture, Forestry, Fishing and Hunting | 761 | | | |
| Professional, Scientific, and Technical Services | 493 | | | |
| Mining, Quarrying, and Oil and Gas Extraction | 425 | | | |
| Finance and Insurance | 145 | | | |
| Arts, Entertainment, and Recreation | 47 | | | |
| Real Estate and Rental and Leasing | 44 | | | |

Source: U.S. Department of Labor, Registered Apprenticeship National Results, Fiscal Year 2018.

Similarly, of the occupations with the most active apprenticeships in 2018, *Construction and Extraction* accounted for 18 of the top 30 occupations.³⁴ These 18 programs accounted for 46 percent of all active apprenticeships.

In New Hampshire, there were 347 active apprenticeship programs registered with the Office of Apprenticeship in 2018, training a total of 2,776 apprentices.³⁵ In 2017, 84 percent of programs that were registered with the Office of Apprenticeship were for *Construction and Extraction occupations*.³⁶

³⁴ U.S. Department of Labor, Registered Apprenticeship National Results, Fiscal Year 2018. https://doleta.gov/oa/data_statistics.cfm

³⁵ Ibid.

³⁶ U.S. Department of Labor, ApprenticeshipUSA, Sponsor Database, https://oa.doleta.gov/bat.cfm

| Number of Apprenticeships in U.S. by Occupation 2018 | | | | | |
|--|------------|-----------------------|--|--|--|
| Occupation Title | O*NET Code | Active Apprentices | | | |
| Electrician* | 47-2111.00 | 43,814 | | | |
| Carpenter* | 47-2031.00 | 25,921 | | | |
| Construction Craft Laborer* | 47-2061.00 | 15,612 | | | |
| Plumber* | 47-2152.02 | 14,471 | | | |
| Truck Driver, Heavy | 53-3032.00 | 11,410 | | | |
| Pipe Fitter* | 47-2152.01 | 8,449 | | | |
| Line Maintainer | 49-9051.00 | 7,374 | | | |
| Sheet Metal Worker* | 47-2211.00 | 7,364 | | | |
| Dry-Wall Applicator* | 47-2081.00 | 5,991 | | | |
| Structural Steel Worker* | 47-2221.00 | 5,852 | | | |
| Roofer* | 47-2181.00 | 4,411 | | | |
| Millwright | 49-9044.00 | 4,244 | | | |
| Sprinkler Fitter* | 47-2152.01 | 4,110 | | | |
| Operating Engineer* | 47-2073.00 | 3,923 | | | |
| Elevator Constructor* | 47-4021.00 | 3,711 | | | |
| Painter* | 47-2141.00 | 3,337 | | | |
| Protective Service Specialist (Active Duty Military) | 33-3051.01 | 2,952 | | | |
| Heating & Air-Conditioner Install/Servicer | 49-9021.01 | 2,564 | | | |
| Reinforcing Metal Worker* | 47-2171.00 | 2,503 | | | |
| Pharmacy Support Staff | 29-2052.00 | 2,192 | | | |
| Telecommunications Technician | 49-2022.00 | 2,172 | | | |
| Cement Mason* | 47-2051.00 | 2,151 | | | |
| Boilermaker* | 47-2011.00 | 2,051 | | | |
| Nurse Assistant | 31-1014.00 | 1,914 | | | |
| Cook | 35-2012.00 | 1,908 | | | |
| Line Installer-Repairer | 49-9052.00 | 1,907 | | | |
| Fitter | 51-2041.00 | 1,713 | | | |
| Fire Fighter | 33-2011.00 | 1,692 | | | |
| Glazier* | 47-2121.00 | 1,682 | | | |
| Floor Layer* | 47-2042.00 | 1,652 | | | |

^{*} Indicates a Construction and Extraction Occupation

Source: U.S. Department of Labor, Registered Apprenticeship National Results, Fiscal Year 2018

Occupational Licensing and Certification

For workers in a number of occupations in the *Construction and Extraction* occupational group, a license, certification, or registration is required to perform the occupation in New Hampshire.³⁷

Requirements for licensure or certification vary for every occupation, but typically require some combination of experience, education, and passing an examination. *Electricians* and *Plumbers* must complete apprenticeship training to qualify for the journeyman examination. Workers in these occupations may also be required to complete continuing education to qualify for license renewal.

| New Hampshire Licensed, Certified and Registered Occupations in the Construction and Extraction Occupational Group | | | | |
|--|--|---|--|--|
| SOC Code | Occupation Title | Certification/License | | |
| | | Asbestos Abatement Site Supervisor | | |
| 47-1011 | First-Line Supervisors of Construction Trades and Extraction | Lead Abatement Contractor | | |
| | Trades and Extraolion | Lead Abatement Supervisor | | |
| | | Electrician, Apprentice | | |
| 47-2111 | Electricians | Electrician, Journeyman | | |
| | | Electrician, Master | | |
| | | Fuel Gas Fitter | | |
| | Plumbers, Pipefitters, and Steamfitters | Plumber, Apprentice | | |
| 47-2152 | | Plumber, Journeyman | | |
| | | Plumber, Master | | |
| | | Water Treatment Technician | | |
| 47 4011 | Construction and Duilding Inconstruc | Boiler and Pressure Vessel Inspector | | |
| 47-4011 | Construction and Building Inspectors | Home Inspector | | |
| 47-4021 | Elevator Installers and Repairers | Elevator or Accessibility Lift Mechanic and Inspector | | |
| | | Asbestos Abatement Worker | | |
| 47-4041 | | Asbestos Disposal Site Worker | | |
| 47-4041 | Hazardous Waste Removal Workers | Hazardous Waste Coordinator | | |
| | | Lead Abatement Worker | | |
| 47-4071 | Septic Tank Servicers and Sewer Pipe Cleaners | Septic System Evaluators, Professional | | |
| 47-5021 | Earth Drillers, Except Oil and Gas | Water Well Contractor | | |
| 47-5031 | Explosives Workers, Ordnance Handling Experts, and Blasters | Explosives Workers/Blasters | | |

Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Licensed, Certified, and Registered Occupations 2017.

³⁷ Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Licensed, Certified, and Registered Occupations 2017. https://www.nhes.nh.gov/elmi/products/licertocc/documents/lic-occs.pdf

Industry and Occupational Employment Projections

Employment in the *Construction* sector is projected to grow 9.4 percent from 2016 to 2026. *Construction* employment is expected to grow from 25,450 jobs to 27,840 over the decade, an increase of 2,390 jobs.³⁸ Among the industry subsectors, *Specialty Trade Contractors* is projected to add the most jobs, 1,277, while *Heavy and Civil Engineering Construction* is projected to grow at the fastest rate, 16.9 percent.

| New Hampshire Long-term Industry Projections, 2016 to 2026 | | | | | | | |
|--|--|-------------------|-------------------|-------------------|-------------------|--|--|
| NAICS Code | Sector Name | 2016 Estimated | 2026 Projected | Numeric Change | Percent Change | | |
| 23 | Contruction | 25,450 | 27,840 | 2,390 | 9.4% | | |
| 236 | Contruction of Buildings | 5,748 | 6,348 | 600 | 10.4% | | |
| 237 | Heavy and Civil Engineering Contruction | 3,033 | 3,548 | 513 | 16.9% | | |
| 238 | Specialty Trade Contractors | 16,669 | 17,946 | 1,277 | 7.7% | | |

Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Long-term Industry Projections, 2016 to 2026.

This rate for both the sector and the subsectors is above the projected rate of growth for all private employment in New Hampshire over that time. Total employment across all sectors is expected to grow by 6.1 percent.³⁹ Construction has a much better outlook than other Goods-Producing sectors. These sectors include Agriculture, Forestry, Fishing and Hunting, Mining, Construction and Manufacturing. Manufacturing, the largest Goods-Producing sector in terms of employment, is projected to decline by 5.9 percent in New Hampshire by 2026.

| | New Hampshire Long-term Industry Projections, 2016 to 2026 | | | | | | |
|------------|--|-------------------|-------------------|-------------------|-------------------|--|--|
| NAICS Code | Sector Name | 2016 Estimated | 2026 Projected | Numeric Change | Percent Change | | |
| | Total Employment | 694,699 | 736,803 | 42,104 | 6.1% | | |
| | Goods-Producing Industries | 96,101 | 94,575 | -1,526 | -1.6% | | |
| 23 | Construction | 25,450 | 27,840 | 2,390 | 9.4% | | |
| 11 | Agriculture, Forestry, Fishing and Hunting | 2,021 | 2,129 | 108 | 5.3% | | |
| 21 | Mining | 557 | 556 | -1 | -0.2% | | |
| 31-33 | Manufacturing | 68,073 | 64,050 | -4,023 | -5.9% | | |

Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Long-term Industry Projections, 2016 to 2026.

39 Ibid.

³⁸ Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Long-term Industry Projections, 2016 to 2026. https://www.nhes.nh.gov/elmi/products/documents/proj-pub-2016-26.pdf

In short-term, two-year employment projections, employment in the *Construction* sector is projected to grow 2.4 percent from fourth quarter of 2018 to fourth quarter of 2020.⁴⁰ The average annual growth rate of 1.2 percent is slightly faster than the average annual growth rate for the ten-year projections, 0.9 percent. Employment in *Specialty Trade Contractors* is projected to not only add the most jobs over that time, but also grow at the fastest rate.

| New Hampshire Short-term Industry Projections, 2018 Q4 - 2020 Q4 | | | | | | |
|--|---|----------------------|----------------------|-------------------|-------------------|----------------------------------|
| NAICS Code | Industry Title | 2018 Q4 Estimated | 2020 Q4 Projected | Numeric Change | Percent Change | Average Annual Growth Rate |
| 23 | Construction | 27,529 | 28,200 | 671 | 2.4% | 1.2% |
| 236 | Construction of Buildings | 5,837 | 5,918 | 81 | 1.4% | 0.7% |
| 237 | Heavy and Civil Engineering Construction | 3,601 | 3,634 | 33 | 0.9% | 0.5% |
| 238 | Specialty Trade Contractors | 18,091 | 18,648 | 557 | 3.1% | 1.6% |

Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Short-term Industry Projections, 2018 Q4 to 2020 Q4.

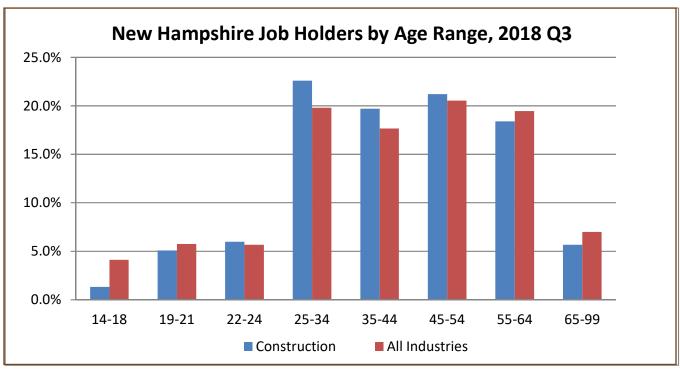
⁴⁰ Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Short-term Industry Projections, 2018 Q4 to 2020 Q4. https://www.nhes.nh.gov/elmi/products/documents/ind-projections-st.pdf

| New Hampshire Long-term Occupational Projections, 2016 to 2026 | | | | | | |
|--|---|-------------------|-------------------|-------------------|-------------------|--|
| SOC Code | Occupation Title | 2016 Estimated | 2026 Projected | Numeric Change | Percent Change | |
| 47-0000 | Construction and Extraction Occupations | 24,618 | 26,549 | 1,931 | 7.8% | |
| 47-2061 | Construction Laborers | 4,200 | 4,625 | 425 | 10.1% | |
| 47-2031 | Carpenters | 4,431 | 4,731 | 300 | 6.8% | |
| 47-1011 | First-Line Supervisors of Construction Trades and Extraction Workers | 2,686 | 2,929 | 243 | 9.0% | |
| 47-2152 | Plumbers, Pipefitters, and Steamfitters | 1,673 | 1,906 | 233 | 13.9% | |
| 47-5081 | HelpersExtraction Workers | 45 | 54 | 9 | 20.0% | |
| 47-3015 | HelpersPipelayers, Plumbers, Pipefitters, and Steamfitters | 113 | 133 | 20 | 17.7% | |
| 47-4071 | Septic Tank Servicers and Sewer Pipe Cleaners | 124 | 145 | 21 | 16.9% | |
| 47-5021 | Earth Drillers, Except Oil and Gas | 140 | 162 | 22 | 15.7% | |
| 47-2221 | Structural Iron and Steel Workers | 113 | 130 | 17 | 15.0% | |
| 47-2081 | Drywall and Ceiling Tile Installers | 718 | 704 | -14 | -1.9% | |
| 47-2082 | Tapers | 228 | 222 | -6 | -2.6% | |
| 47-2131 | Insulation Workers, Floor, Ceiling, and Wall | 139 | 135 | -4 | -2.9% | |

Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Long-term Occupational Projections, 2016 to 2026.

Employment in *Construction and Extraction* occupations is expected to grow by 7.8 percent from 2016 to 2026. ⁴¹ Jobs seeing the highest increase in employment are *Construction Laborers, Carpenters* and *First-Line Supervisors of Construction Trades and Extraction Workers*. Only three jobs are expected to decline over that period, *Drywall and Ceiling Tile Installers, Tapers* and *Insulation Workers, Floor, Ceiling, and Wall*. Employment in those jobs is expected to decline from a combined 1,085 workers to 1,061. Jobs with the highest expected growth rate are *Helpers--Extraction Workers and Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters*.

⁴¹ Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Long-term Occupational Projections, 2016 to 2026. https://www.nhes.nh.gov/elmi/products/documents/proj-pub-2016-26.pdf



Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics.

Age and Gender

In New Hampshire, 63.5 percent of workers in *Construction* were age 25 to 54 years. ⁴² The industry has a higher share of workers in that age range than the average for all industries statewide, where 58.0 percent of workers are age 25 to 54 years. The largest age groups to work in the *Construction* sector are workers between age 25 to 34 years, closely followed by workers between age 45 to 54 years. These cohorts make up 22.6 percent and 21.2 percent of all workers in the *Construction* sector, respectively.

Compared to the statewide average, a smaller share of workers age 55 years and older are employed in the *Construction* sector. Many of these jobs are physically demanding, and it may be difficult for workers to continue working into their late 50s and 60s.

The share of workers in *Construction* who are 14 to 21 years of age is also lower than the share of workers 14 to 21 years of age throughout all industry sectors as a whole. In fact, the Occupational Health and Safety Administration (OSHA) put restrictions on workers under 18 years of age in the *Construction* sector. Workers under 16 years old are not allowed to work construction jobs, and workers under 18 years of age may only work in limited capacities.⁴³

Construction differs significantly from statewide averages in gender hiring patterns. Across all industries, the proportion of male and female workers in the state was close to even. In the Construction sector, 85.1 percent of all workers are male, and just 14.9 percent are female.⁴⁴

Construction is not the only sector with a large disparity between male and female workers. Mining, Quarrying, and Oil and Gas Extraction also had a higher percentage of male workers, with 88.7 percent. In the Utilities sector, 84.2 percent of workers were male. In other sectors, such as Health Care and Education, a much larger share of female than male workers are employed.

⁴² U.S. Census Bureau, Longitudinal Employer-Household Dynamics. https://ledextract.ces.census.gov/static/data.html

⁴³ Occupational Safety and Health Administration, Young Workers - Construction: Build a Safe Work Foundation. https://www.osha.gov/SLTC/youth/residentialconstruction/appropriatejobs.html

⁴⁴ U.S. Census Bureau, Longitudinal Employer-Household Dynamics. https://ledextract.ces.census.gov/static/data.html

Summary

Construction employment has been growing faster than overall employment in New Hampshire since 2013, and has been one of the fastest growing sectors of the New Hampshire workforce over that time. In addition to the number of new jobs, many jobs in this sector provide wages that are slightly higher than the statewide median hourly wage, but are still accessible to workers with relatively low levels of formal education. In June 2019, the median hourly wage in New Hampshire was \$19.75. The median hourly wage for a *Construction and Extraction* occupation was \$22.55.45

However, this sector still faces many challenges. One of the challenges facing the *Construction* sector is volatility – it is impacted by seasonal demand and economic/business cycles, and is typically hit hard by recessions. The recent high employment growth has yet to bring the number of *Construction* jobs in New Hampshire back to the levels they were at in 2006. Although employment in the *Construction* sector is projected to grow faster than employment in New Hampshire overall, if economic conditions were to decline, *Construction* employment would be hit harder than other, less volatile industries.

In addition, new employment growth has not been distributed evenly around the state, with most growth concentrated in Hillsborough, Merrimack and Rockingham counties. This demonstrates the challenges facing the less-populated areas in New Hampshire, where both employment and population growth are either slow or declining.

Like many industries in New Hampshire, a large proportion of workers in *Construction* are older. Those 45 years of age or older represent 45 percent of *Construction* workers, and many will be retiring in the next 10 to 20 years. As those workers retire, replacing such a large portion of the workforce is likely to be a challenge. But with relatively high-paying wages and fairly low education and experience requirements for new workers, *Construction* seems well positioned to be able to attract younger workers to fill these vacancies.

⁴⁵ Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Occupational Employment & Wages – June 2019. https://www.nhes.nh.gov/elmi/products/2019-june/Statewide%20and%20Substate%20Areas/page0031.htm

Appendix A: Construction Employment by Subsector and County

| Co | Construction Employment by Subsector, Belknap County | | | | | |
|------|--|---------------------------|--|--------------------------------|--|--|
| Year | Construction | Construction of Buildings | Heavy and Civil Engineering Construction | Specialty Trade Contractors | | |
| 2000 | 1,319 | 362 | 242 | 715 | | |
| 2001 | 1,442 | 403 | 253 | 786 | | |
| 2002 | 1,638 | 454 | 383 | 801 | | |
| 2003 | 1,817 | 490 | 464 | 863 | | |
| 2004 | 1,791 | 465 | 386 | 941 | | |
| 2005 | 1,719 | 475 | 381 | 862 | | |
| 2006 | 1,692 | 451 | 386 | 855 | | |
| 2007 | 1,623 | 425 | 383 | 815 | | |
| 2008 | 1,511 | 384 | 360 | 766 | | |
| 2009 | 1,312 | 297 | 328 | 688 | | |
| 2010 | 1,179 | 257 | 312 | 610 | | |
| 2011 | 1,136 | 249 | 293 | 594 | | |
| 2012 | 1,072 | 250 | 305 | 517 | | |
| 2013 | 1,088 | 247 | 297 | 544 | | |
| 2014 | 1,138 | 303 | 275 | 559 | | |
| 2015 | 1,181 | 311 | 268 | 601 | | |
| 2016 | 1,235 | 325 | 279 | 631 | | |
| 2017 | 1,287 | 334 | 260 | 692 | | |
| 2018 | 1,331 | 332 | 268 | 730 | | |

| C | Construction Employment by Subsector, Carroll County | | | | | |
|------|--|---------------------------|--|--------------------------------|--|--|
| Year | Construction | Construction of Buildings | Heavy and Civil Engineering Construction | Specialty Trade Contractors | | |
| 2000 | 1,046 | 472 | 51 | 524 | | |
| 2001 | 1,078 | 475 | 70 | 533 | | |
| 2002 | 1,114 | 510 | 55 | 549 | | |
| 2003 | 1,197 | 543 | 44 | 610 | | |
| 2004 | 1,242 | 551 | 57 | 634 | | |
| 2005 | 1,315 | 607 | 73 | 635 | | |
| 2006 | 1,392 | 638 | 87 | 666 | | |
| 2007 | 1,281 | 597 | 68 | 617 | | |
| 2008 | 1,279 | 633 | 40 | 606 | | |
| 2009 | 1,129 | 582 | 35 | 512 | | |
| 2010 | 1,015 | 495 | 84 | 436 | | |
| 2011 | 1,065 | 506 | 91 | 468 | | |
| 2012 | 1,013 | 459 | 94 | 460 | | |
| 2013 | 970 | 415 | 95 | 460 | | |
| 2014 | 1,025 | 451 | 105 | 468 | | |
| 2015 | 1,034 | 453 | 101 | 481 | | |
| 2016 | 1,052 | 452 | 102 | 499 | | |
| 2017 | 1,078 | 304 | 251 | 523 | | |
| 2018 | 1,091 | 304 | 260 | 527 | | |

| Co | Construction Employment by Subsector, Cheshire County | | | | |
|------|---|---------------------------|--|--------------------------------|--|
| Year | Construction | Construction of Buildings | Heavy and Civil Engineering Construction | Specialty Trade Contractors | |
| 2000 | 1,535 | 418 | 109 | 1,009 | |
| 2001 | 1,585 | 450 | 89 | 1,045 | |
| 2002 | 1,621 | 439 | 92 | 1,090 | |
| 2003 | 1,745 | 426 | 263 | 1,056 | |
| 2004 | 1,852 | 453 | 276 | 1,123 | |
| 2005 | 2,008 | 470 | 410 | 1,127 | |
| 2006 | 2,066 | 504 | 390 | 1,173 | |
| 2007 | 1,831 | 459 | 264 | 1,108 | |
| 2008 | 1,804 | 508 | 235 | 1,061 | |
| 2009 | 1,598 | 434 | 179 | 986 | |
| 2010 | 1,472 | 401 | 189 | 882 | |
| 2011 | 1,433 | 371 | 176 | 887 | |
| 2012 | 1,450 | 361 | 173 | 916 | |
| 2013 | 1,361 | 323 | 138 | 901 | |
| 2014 | 1,354 | 307 | 121 | 926 | |
| 2015 | 1,386 | 323 | 102 | 961 | |
| 2016 | 1,456 | 341 | 99 | 1,015 | |
| 2017 | 1,477 | 357 | 98 | 1,022 | |
| 2018 | 1,550 | 360 | 114 | 1,076 | |

| Construction Employment by Subsector, Coös County | | | | |
|---|--------------|---------------------------|--|--------------------------------|
| Year | Construction | Construction of Buildings | Heavy and Civil Engineering Construction | Specialty Trade Contractors |
| 2000 | 386 | n | n | 233 |
| 2001 | 366 | n | n | 235 |
| 2002 | 366 | n | n | 236 |
| 2003 | 393 | n | n | 271 |
| 2004 | 435 | 147 | 21 | 267 |
| 2005 | 447 | 131 | 30 | 287 |
| 2006 | 472 | 162 | 26 | 285 |
| 2007 | 464 | 168 | 30 | 265 |
| 2008 | 454 | 165 | 26 | 264 |
| 2009 | 418 | 158 | 25 | 236 |
| 2010 | 391 | 138 | 32 | 222 |
| 2011 | 434 | 134 | 35 | 265 |
| 2012 | 621 | 112 | 72 | 437 |
| 2013 | 733 | 85 | 65 | 583 |
| 2014 | 419 | 86 | 20 | 312 |
| 2015 | 364 | 82 | 20 | 263 |
| 2016 | 344 | 91 | 21 | 232 |
| 2017 | 331 | 79 | 19 | 233 |
| 2018 | 342 | 84 | 17 | 240 |

n= data is non-disclosable

| Co | Construction Employment by Subsector, Grafton County | | | | |
|------|--|---------------------------|--|--------------------------------|--|
| Year | Construction | Construction of Buildings | Heavy and Civil Engineering Construction | Specialty Trade Contractors | |
| 2000 | 1,531 | 531 | 148 | 852 | |
| 2001 | 1,565 | 555 | 169 | 841 | |
| 2002 | 1,720 | 623 | 164 | 933 | |
| 2003 | 2,011 | 752 | 158 | 1,101 | |
| 2004 | 1,928 | 674 | 151 | 1,104 | |
| 2005 | 1,916 | 668 | 165 | 1,083 | |
| 2006 | 1,952 | 669 | 180 | 1,103 | |
| 2007 | 1,826 | 611 | 195 | 1,020 | |
| 2008 | 1,659 | 572 | 126 | 961 | |
| 2009 | 1,473 | 486 | 106 | 880 | |
| 2010 | 1,344 | 399 | 87 | 857 | |
| 2011 | 1,316 | 423 | 76 | 817 | |
| 2012 | 1,275 | 397 | 94 | 784 | |
| 2013 | 1,225 | 353 | 79 | 793 | |
| 2014 | 1,229 | 400 | 57 | 773 | |
| 2015 | 1,336 | 491 | 61 | 784 | |
| 2016 | 1,413 | 547 | 62 | 803 | |
| 2017 | 1,378 | 539 | 56 | 784 | |
| 2018 | 1,317 | 432 | 66 | 820 | |

| Cons | Construction Employment by Subsector, Hillsborough County | | | | |
|------|---|---------------------------|--|--------------------------------|--|
| Year | Construction | Construction of Buildings | Heavy and Civil Engineering Construction | Specialty Trade Contractors | |
| 2000 | 7,003 | 1,856 | 329 | 4,818 | |
| 2001 | 7,570 | 1,979 | 445 | 5,146 | |
| 2002 | 7,880 | 2,118 | 454 | 5,308 | |
| 2003 | 8,338 | 2,305 | 499 | 5,534 | |
| 2004 | 8,336 | 2,217 | 560 | 5,559 | |
| 2005 | 8,232 | 2,132 | 488 | 5,611 | |
| 2006 | 8,031 | 2,065 | 415 | 5,551 | |
| 2007 | 7,680 | 1,900 | 376 | 5,405 | |
| 2008 | 7,107 | 1,670 | 329 | 5,108 | |
| 2009 | 6,141 | 1,358 | 303 | 4,479 | |
| 2010 | 5,843 | 1,305 | 290 | 4,248 | |
| 2011 | 6,194 | 1,363 | 312 | 4,519 | |
| 2012 | 6,150 | 1,340 | 275 | 4,535 | |
| 2013 | 6,284 | 1,307 | 349 | 4,628 | |
| 2014 | 6,747 | 1,361 | 388 | 4,998 | |
| 2015 | 6,972 | 1,480 | 338 | 5,154 | |
| 2016 | 7,424 | 1,581 | 313 | 5,530 | |
| 2017 | 7,726 | 1,674 | 370 | 5,682 | |
| 2018 | 7,731 | 1,679 | 395 | 5,657 | |

| Construction Employment by Subsector, Merrimack County | | | | |
|--|--------------|---------------------------|--|--------------------------------|
| Year | Construction | Construction of Buildings | Heavy and Civil Engineering Construction | Specialty Trade Contractors |
| 2000 | 3,263 | 583 | 577 | 2,102 |
| 2001 | 3,148 | 615 | 610 | 1,923 |
| 2002 | 3,241 | 719 | 661 | 1,861 |
| 2003 | 3,368 | 753 | 639 | 1,976 |
| 2004 | 3,358 | 741 | 558 | 2,059 |
| 2005 | 3,234 | 758 | 465 | 2,011 |
| 2006 | 3,293 | 752 | 471 | 2,070 |
| 2007 | 3,098 | 700 | 411 | 1,987 |
| 2008 | 2,986 | 651 | 455 | 1,880 |
| 2009 | 2,579 | 530 | 466 | 1,583 |
| 2010 | 2,612 | 540 | 503 | 1,569 |
| 2011 | 2,703 | 524 | 568 | 1,611 |
| 2012 | 2,861 | 534 | 605 | 1,722 |
| 2013 | 3,008 | 560 | 605 | 1,843 |
| 2014 | 3,101 | 560 | 632 | 1,909 |
| 2015 | 3,152 | 603 | 609 | 1,940 |
| 2016 | 3,318 | 599 | 640 | 2,080 |
| 2017 | 3,479 | 610 | 688 | 2,181 |
| 2018 | 3,488 | 624 | 652 | 2,212 |

| Construction Employment by Subsector, Rockingnam County | | | | | |
|---|--------------|---------------------------|--|--------------------------------|--|
| Year | Construction | Construction of Buildings | Heavy and Civil Engineering Construction | Specialty Trade Contractors | |
| 2000 | 5,902 | 1,277 | 711 | 3,914 | |
| 2001 | 6,653 | 1,376 | 811 | 4,466 | |
| 2002 | 6,896 | 1,492 | 800 | 4,603 | |
| 2003 | 6,899 | 1,394 | 837 | 4,668 | |
| 2004 | 7,197 | 1,443 | 850 | 4,904 | |
| 2005 | 7,389 | 1,443 | 810 | 5,137 | |
| 2006 | 7,317 | 1,367 | 850 | 5,100 | |
| 2007 | 6,673 | 1,237 | 913 | 4,523 | |
| 2008 | 6,401 | 1,086 | 885 | 4,431 | |
| 2009 | 5,461 | 904 | 766 | 3,792 | |
| 2010 | 5,220 | 896 | 805 | 3,520 | |
| 2011 | 5,407 | 891 | 809 | 3,708 | |
| 2012 | 5,353 | 891 | 970 | 3,493 | |
| 2013 | 5,350 | 956 | 999 | 3,395 | |
| 2014 | 5,691 | 1,034 | 1,050 | 3,607 | |
| 2015 | 6,161 | 1,112 | 1,250 | 3,799 | |
| 2016 | 6,385 | 1,216 | 1,143 | 4,026 | |
| 2017 | 6,793 | 1,249 | 1,275 | 4,269 | |
| 2018 | 6,967 | 1,258 | 1,273 | 4,437 | |

| Construction Employment by Subsector, Strafford County | | | | |
|--|--------------|---------------------------|--|--------------------------------|
| Year | Construction | Construction of Buildings | Heavy and Civil Engineering Construction | Specialty Trade Contractors |
| 2000 | 1,427 | 357 | 119 | 952 |
| 2001 | 1,484 | 384 | 121 | 979 |
| 2002 | 1,568 | 379 | 108 | 1,082 |
| 2003 | 1,657 | 395 | 135 | 1,127 |
| 2004 | 1,689 | 432 | 129 | 1,129 |
| 2005 | 1,673 | 422 | 113 | 1,138 |
| 2006 | 1,610 | 378 | 112 | 1,119 |
| 2007 | 1,515 | 355 | 111 | 1,049 |
| 2008 | 1,380 | 293 | 123 | 964 |
| 2009 | 1,179 | 209 | 126 | 844 |
| 2010 | 1,107 | 191 | 107 | 809 |
| 2011 | 1,055 | 191 | 106 | 759 |
| 2012 | 1,133 | 251 | 161 | 721 |
| 2013 | 1,231 | 257 | 174 | 800 |
| 2014 | 1,219 | 226 | 178 | 815 |
| 2015 | 1,238 | 232 | 160 | 847 |
| 2016 | 1,334 | 255 | 179 | 899 |
| 2017 | 1,352 | 274 | 124 | 954 |
| 2018 | 1,399 | 260 | 119 | 1,020 |

| Construction Employment by Subsector, Sullivan County | | | | | |
|---|--------------|---------------------------|--|--------------------------------|--|
| Year | Construction | Construction of Buildings | Heavy and Civil Engineering Construction | Specialty Trade Contractors | |
| 2000 | 596 | n | n | 372 | |
| 2001 | 539 | n | n | 340 | |
| 2002 | 584 | n | n | 379 | |
| 2003 | 613 | n | n | 396 | |
| 2004 | 664 | n | n | 432 | |
| 2005 | 722 | 195 | 62 | 466 | |
| 2006 | 724 | n | n | 474 | |
| 2007 | 618 | n | n | 428 | |
| 2008 | 583 | 154 | 23 | 406 | |
| 2009 | 494 | 117 | 18 | 358 | |
| 2010 | 479 | n | n | 348 | |
| 2011 | 465 | n | n | 340 | |
| 2012 | 508 | 112 | 13 | 383 | |
| 2013 | 493 | n | n | 364 | |
| 2014 | 525 | n | n | 392 | |
| 2015 | 553 | n | n | 423 | |
| 2016 | 587 | n | n | 454 | |
| 2017 | 571 | 134 | 9 | 429 | |
| 2018 | 583 | 152 | 11 | 420 | |

n= data is non-disclosable

 $Source: Economic \ and \ Labor \ Market \ Information \ Bureau, \ New \ Hampshire \ Employment \ Security, \ Covered \ Employment \ \& \ Wages.$

Appendix B: Usual Entry-Level Education, Experience and Training Requirements for Construction and Extraction Occupations

| SOC Code | Occupation Title | Education | Related Work Experience | On-the-job Training |
|-------------|--|-----------------------------------|-------------------------------|-----------------------------------|
| 47-0000 | Construction and Extraction Occupations | | | |
| 47-1011 | First-Line Supervisors of Construction Trades and Extraction Workers | High school diploma or equivalent | 5 years or more | None |
| 47-2011 | Boilermakers | High school diploma or equivalent | None | Apprenticeship |
| 47-2021 | Brickmasons and Blockmasons | High school diploma or equivalent | None | Apprenticeship |
| 47-2022 | Stonemasons | High school diploma or equivalent | None | Apprenticeship |
| 47-2031 | Carpenters | High school diploma or equivalent | None | Apprenticeship |
| 47-2041 | Carpet Installers | No formal educational credential | None | Short-term on-the-job training |
| 47-2042 | Floor Layers, Except Carpet, Wood, and Hard Tiles | No formal educational credential | None | Moderate-term on-the-job training |
| 47-2043 | Floor Sanders and Finishers | No formal educational credential | None | Moderate-term on-the-job training |
| 47-2044 | Tile and Marble Setters | No formal educational credential | None | Long-term on-the-job training |
| 47-2051 | Cement Masons and Concrete Finishers | No formal educational credential | None | Moderate-term on-the-job training |
| 47-2061 | Construction Laborers | No formal educational credential | None | Short-term on-the-job training |
| 47-2071 | Paving, Surfacing, and Tamping Equipment Operators | High school diploma or equivalent | None | Moderate-term on-the-job training |
| 47-2072 | Pile-Driver Operators | High school diploma or equivalent | None | Moderate-term on-the-job training |
| 47-2073 | Operating Engineers and Other Construction Equipment Operators | High school diploma or equivalent | None | Moderate-term on-the-job training |
| 47-2081 | Drywall and Ceiling Tile Installers | No formal educational credential | None | Moderate-term on-the-job training |
| 47-2082 | Tapers | No formal educational credential | None | Moderate-term on-the-job training |
| 47-2111 | Electricians | High school diploma or equivalent | None | Apprenticeship |
| 47-2121 | Glaziers | High school diploma or equivalent | None | Apprenticeship |
| 47-2131 | Insulation Workers, Floor, Ceiling, and Wall | No formal educational credential | None | Short-term on-the-job training |
| 47-2132 | Insulation Workers, Mechanical | High school diploma or equivalent | None | Apprenticeship |
| 47-2141 | Painters, Construction and Maintenance | No formal educational credential | None | Moderate-term on-the-job training |
| 47-2142 | Paperhangers | No formal educational credential | None | Long-term on-the-job training |
| 47-2151 | Pipelayers | No formal educational credential | None | Short-term on-the-job training |
| 47-2152 | Plumbers, Pipefitters, and Steamfitters | High school diploma or equivalent | None | Apprenticeship |
| 47-2161 | Plasterers and Stucco Masons | No formal educational credential | None | Long-term on-the-job training |
| 47-2181 | Roofers | No formal educational credential | None | Moderate-term on-the-job training |
| 47-2211 | Sheet Metal Workers | High school diploma or equivalent | None | Apprenticeship |
| 47-2221 | Structural Iron and Steel Workers | High school diploma or equivalent | None | Apprenticeship |
| 47-2231 | Solar Photovoltaic Installers | High school diploma or equivalent | None | Moderate-term on-the-job training |

| SOC Code | Occupation Title | Education | Related work Experience | On-the-job Training |
|-------------|--|-----------------------------------|-------------------------------|-----------------------------------|
| 47-3011 | HelpersBrickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters | No formal educational credential | None | Short-term on-the-job training |
| 47-3012 | HelpersCarpenters | No formal educational credential | None | Short-term on-the-job training |
| 47-3013 | HelpersElectricians | High school diploma or equivalent | None | Short-term on-the-job training |
| 47-3014 | HelpersPainters, Paperhangers, Plasterers, and Stucco Masons | No formal educational credential | None | Short-term on-the-job training |
| 47-3015 | HelpersPipelayers, Plumbers, Pipefitters, and Steamfitters | High school diploma or equivalent | None | Short-term on-the-job training |
| 47-3016 | HelpersRoofers | No formal educational credential | None | Short-term on-the-job training |
| 47-3019 | Helpers, Construction Trades, All Other | No formal educational credential | None | Short-term on-the-job training |
| 47-4011 | Construction and Building Inspectors | High school diploma or equivalent | 5 years or more | Moderate-term on-the-job training |
| 47-4031 | Fence Erectors | No formal educational credential | None | Moderate-term on-the-job training |
| 47-4041 | Hazardous Materials Removal Workers | High school diploma or equivalent | None | Moderate-term on-the-job training |
| 47-4051 | Highway Maintenance Workers | High school diploma or equivalent | None | Moderate-term on-the-job training |
| 47-4061 | Rail-Track Laying and Maintenance Equipment Operators | High school diploma or equivalent | None | Moderate-term on-the-job training |
| 47-4071 | Septic Tank Servicers and Sewer Pipe Cleaners | High school diploma or equivalent | None | Moderate-term on-the-job training |
| 47-4099 | Construction and Related Workers, All Other | High school diploma or equivalent | None | Moderate-term on-the-job training |
| 47-5021 | Earth Drillers, Except Oil and Gas | High school diploma or equivalent | None | Moderate-term on-the-job training |
| 47-5031 | Explosives Workers, Ordnance Handling Experts, and Blasters | High school diploma or equivalent | Less than 5 years | Long-term on-the-job training |
| 47-5042 | Mine Cutting and Channeling Machine Operators | High school diploma or equivalent | None | Moderate-term on-the-job training |
| 47-5051 | Rock Splitters, Quarry | No formal educational credential | None | Short-term on-the-job training |
| 47-5081 | HelpersExtraction Workers | High school diploma or equivalent | None | Moderate-term on-the-job training |

Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Long-term Occupational Projections, 2016 to 2026.

Appendix C: New Hampshire Long-term Occupational Projections, 2016 to 2026

| SOC Code | Occupation Title | 2016 Estimated | 2026 Projected | Numeric Change | Percent Change | Annual Labor Force Exits ¹ | Annual Occupational Transfers ² | Annual Openings³ | Outlook |
|-------------|--|-------------------|-------------------|-------------------|-------------------|--|--|---------------------|----------|
| 47-0000 | Construction and Extraction Occupations | 24,618 | 26,549 | 1,931 | 7.8% | 901 | 1,626 | 2,717 | |
| 47-1011 | First-Line Supervisors of Construction Trades and Extraction Workers | 2,686 | 2,929 | 243 | 9.0% | 90 | 177 | 291 | 1 |
| 47-2011 | Boilermakers | 83 | 87 | 4 | 4.8% | 3 | 6 | 9 | * |
| 47-2021 | Brickmasons and Blockmasons | 442 | 473 | 31 | 7.0% | 13 | 25 | 41 | 7 |
| 47-2022 | Stonemasons | 201 | 216 | 15 | 7.5% | 6 | 12 | 20 | ¥ |
| 47-2031 | Carpenters | 4,431 | 4,731 | 300 | 6.8% | 158 | 255 | 443 | 1 |
| 47-2041 | Carpet Installers | 159 | 172 | 13 | 8.2% | 5 | 9 | 15 | * |
| 47-2042 | Floor Layers, Except Carpet, Wood, and Hard Tiles | 55 | 60 | 5 | 9.1% | 2 | 3 | 5 | * |
| 47-2043 | Floor Sanders and Finishers | n | n | n | n | n | n | n | * |
| 47-2044 | Tile and Marble Setters | 124 | 135 | 11 | 8.9% | 4 | 7 | 12 | * |
| 47-2051 | Cement Masons and Concrete Finishers | 162 | 177 | 15 | 9.3% | 6 | 12 | 20 | * |
| 47-2061 | Construction Laborers | 4,200 | 4,625 | 425 | 10.1% | 154 | 291 | 487 | 1 |
| 47-2071 | Paving, Surfacing, and Tamping Equipment Operators | 235 | 258 | 23 | 9.8% | 8 | 17 | 27 | 7 |
| 47-2072 | Pile-Driver Operators | n | n | n | n | n | n | n | 4 |
| 47-2073 | Operating Engineers and Other Construction Equipment Operators | 867 | 960 | 93 | 10.7% | 35 | 64 | 108 | 1 |
| 47-2081 | Drywall and Ceiling Tile Installers | 718 | 704 | -14 | -1.9% | 22 | 40 | 61 | 7 |
| 47-2082 | Tapers | 228 | 222 | -6 | -2.6% | 7 | 12 | 18 | + |
| 47-2111 | Electricians | 2,224 | 2,376 | 152 | 6.8% | 80 | 171 | 266 | ↑ |
| 47-2121 | Glaziers | 189 | 205 | 16 | 8.5% | 7 | 15 | 24 | 7 |
| 47-2131 | Insulation Workers, Floor, Ceiling, and Wall | 139 | 135 | -4 | -2.9% | 4 | 10 | 14 | + |

n - Employment data do not meet disclosure standards

| SOC Code | Occupation Title | 2016 Estimated | 2026 Projected | Numeric Change | Percent Change | Annual Labor Force Exits ¹ | Annual Occupational Transfers ² | Annual Openings ³ | Outlook |
|-------------|---|-------------------|-------------------|-------------------|-------------------|--|--|---------------------------------|---------|
| 47-2132 | Insulation Workers, Mechanical | n | n | n | n | n | n | n | * |
| 47-2141 | Painters, Construction and Maintenance | 1,296 | 1,348 | 52 | 4.0% | 45 | 66 | 116 | A |
| 47-2142 | Paperhangers | n | n | n | n | n | n | n | + |
| 47-2151 | Pipelayers | 102 | 117 | 15 | 14.7% | 4 | 7 | 13 | 7 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitters | 1,673 | 1,906 | 233 | 13.9% | 65 | 120 | 208 | 1 |
| 47-2161 | Plasterers and Stucco Masons | n | n | n | n | n | n | n | * |
| 47-2181 | Roofers | 240 | 260 | 20 | 8.3% | 7 | 17 | 26 | 7 |
| 47-2211 | Sheet Metal Workers | 509 | 538 | 29 | 5.7% | 18 | 36 | 57 | 7 |
| 47-2221 | Structural Iron and Steel Workers | 113 | 130 | 17 | 15.0% | 4 | 9 | 15 | 7 |
| 47-2231 | Solar Photovoltaic Installers | n | n | n | n | n | n | n | * |
| 47-3011 | HelpersBrickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters | 106 | 116 | 10 | 9.4% | 5 | 11 | 17 | * |
| 47-3012 | HelpersCarpenters | 72 | 80 | 8 | 11.1% | 3 | 7 | 11 | 7 |
| 47-3013 | HelpersElectricians | 125 | 133 | 8 | 6.4% | 6 | 12 | 19 | * |
| 47-3014 | HelpersPainters, Paperhangers, Plasterers, and Stucco Masons | n | n | n | n | n | n | n | + |
| 47-3015 | HelpersPipelayers, Plumbers, Pipefitters, and Steamfitters | 113 | 133 | 20 | 17.7% | 5 | 12 | 19 | 7 |
| 47-3016 | HelpersRoofers | n | n | n | n | n | n | n | * |
| 47-3019 | Helpers, Construction Trades, All Other | 63 | 67 | 4 | 6.3% | 3 | 6 | 9 | * |
| 47-4011 | Construction and Building Inspectors | 335 | 360 | 25 | 7.5% | 17 | 20 | 39 | 7 |
| 47-4031 | Fence Erectors | n | n | n | n | n | n | n | * |

n - Employment data do not meet disclosure standards

| SOC Code | Occupation Title | 2016 Estimated | 2026 Projected | Numeric Change | Percent Change | Annual Labor Force Exits ¹ | Annual Occupational Transfers² | Annual Openings³ | Outlook |
|-------------|--|-------------------|-------------------|-------------------|-------------------|--|--------------------------------------|---------------------|----------|
| 47-4041 | Hazardous Materials Removal Workers | n | n | n | n | n | n | n | 1 |
| 47-4051 | Highway Maintenance Workers | 1,766 | 1,829 | 63 | 3.6% | 76 | 103 | 185 | 7 |
| 47-4061 | Rail-Track Laying and Maintenance Equipment Operators | n | n | n | n | n | n | n | • |
| 47-4071 | Septic Tank Servicers and Sewer Pipe Cleaners | 124 | 145 | 21 | 16.9% | 7 | 10 | 19 | 7 |
| 47-4099 | Construction and Related Workers, All Other | 304 | 321 | 17 | 5.6% | 12 | 20 | 34 | 7 |
| 47-5021 | Earth Drillers, Except Oil and Gas | 140 | 162 | 22 | 15.7% | 4 | 12 | 18 | 7 |
| 47-5031 | Explosives Workers, Ordnance Handling Experts, and Blasters | n | n | n | n | n | n | n | * |
| 47-5042 | Mine Cutting and Channeling Machine Operators | n | n | n | n | n | n | n | + |
| 47-5051 | Rock Splitters, Quarry | n | n | n | n | n | n | n | 4 |
| 47-5081 | HelpersExtraction Workers | 45 | 54 | 9 | 20.0% | 2 | 5 | 8 | 7 |

n - Employment data do not meet disclosure standards

Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Long-term Occupational Projections, 2016 to 2026.

- 1. Annual Labor Force Exits is the number of workers leaving an occupation (to go to school, start a family, or retire, for example).
- 2. Annual Occupational Transfers is the number of workers leaving one occupation to go to another occupational group (such as through job change or promotion).
- 3. Total Annual Openings is the sum of Exits plus Transfers plus annual change in an occupation.

Descriptors indicate the expected prospects for an occupation:

| ^ | Very Favorable |
|----------|----------------|
| A | Favorable |
| * | Less Favorable |
| + | Not Favorable |

Appendix D: Hourly Wages of Construction and Extraction Occupations in New Hampshire, June 2019

| SOC | | Entry | Mean | Median | Exp. |
|---------|---|---------|---------|---------|---------|
| Code | Occupation | Wage | Wage | Wage | Wage |
| 47-0000 | Construction and Extraction Occupations | \$16.01 | \$23.92 | \$22.55 | \$27.87 |
| 47-1011 | First-Line Supervisors of Construction Trades and Extraction Work | \$23.82 | \$32.85 | \$30.93 | \$37.37 |
| 47-2021 | Brickmasons and Blockmasons | \$17.15 | \$22.72 | \$21.84 | \$25.50 |
| 47-2022 | Stonemasons | \$18.79 | \$23.11 | \$22.74 | \$25.26 |
| 47-2031 | Carpenters | \$17.23 | \$23.30 | \$22.98 | \$26.35 |
| 47-2041 | Carpet Installers | \$14.16 | \$18.57 | \$17.65 | \$20.76 |
| 47-2042 | Floor Layers, Except Carpet, Wood, and Hard Tiles | \$15.26 | \$22.15 | \$22.12 | \$25.60 |
| 47-2043 | Floor Sanders and Finishers | \$14.80 | \$19.35 | \$18.33 | \$21.62 |
| 47-2044 | Tile and Marble Setters | \$17.91 | \$25.99 | \$24.31 | \$30.04 |
| 47-2061 | Construction Laborers | \$14.35 | \$19.02 | \$18.11 | \$21.36 |
| 47-2071 | Paving, Surfacing, and Tamping Equipment Operators | \$17.26 | \$21.18 | \$19.91 | \$23.14 |
| 47-2073 | Operating Engineers and Other Construction Equipment Operators | \$19.17 | \$24.83 | \$24.34 | \$27.65 |
| 47-2081 | Drywall and Ceiling Tile Installers | \$16.49 | \$23.42 | \$22.86 | \$26.88 |
| 47-2082 | Tapers | \$14.53 | \$17.73 | \$15.36 | \$19.34 |
| 47-2111 | Electricians | \$18.13 | \$26.99 | \$26.91 | \$31.41 |
| 47-2121 | Glaziers | \$14.37 | \$19.69 | \$19.02 | \$22.34 |
| 47-2131 | Insulation Workers, Floor, Ceiling, and Wall | \$14.09 | \$19.38 | \$18.50 | \$22.02 |
| 47-2141 | Painters, Construction and Maintenance | \$15.26 | \$20.18 | \$18.96 | \$22.65 |
| 47-2151 | Pipelayers | \$17.32 | \$23.37 | \$22.44 | \$26.39 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitters | \$19.28 | \$27.27 | \$26.40 | \$31.26 |
| 47-2161 | Plasterers and Stucco Masons | \$24.21 | \$27.23 | \$28.53 | \$28.74 |
| 47-2181 | Roofers | \$14.77 | \$19.09 | \$18.86 | \$21.25 |
| 47-2211 | Sheet Metal Workers | \$17.06 | \$24.56 | \$25.52 | \$28.30 |
| 47-2221 | Structural Iron and Steel Workers | \$17.12 | \$22.68 | \$21.85 | \$25.45 |
| 47-2231 | Solar Photovoltaic Installers | \$17.73 | \$22.98 | \$21.83 | \$25.60 |
| 47-3011 | HelpersBrickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters | \$16.43 | \$19.97 | \$19.15 | \$21.75 |
| 47-3012 | HelpersCarpenters | \$14.82 | \$17.31 | \$17.80 | \$18.55 |
| 47-3013 | HelpersElectricians | \$11.50 | \$14.34 | \$14.72 | \$15.76 |
| 47-3015 | HelpersPipelayers, Plumbers, Pipefitters, and Steamfitters | \$12.56 | \$15.73 | \$16.15 | \$17.32 |
| 47-3019 | Helpers, Construction Trades, All Other | \$8.85 | \$13.54 | \$11.97 | \$15.89 |
| 47-4011 | Construction and Building Inspectors | \$19.91 | \$27.74 | \$27.76 | \$31.65 |
| 47-4031 | Fence Erectors | \$13.97 | \$17.43 | \$17.11 | \$19.17 |
| 47-4041 | Hazardous Materials Removal Workers | \$16.23 | \$22.26 | \$22.69 | \$25.27 |

| SOC Code | Occupation | Entry Wage | Mean Wage | Median Wage | Exp. Wage |
|-------------|---|---------------|--------------|----------------|--------------|
| 47-4051 | Highway Maintenance Workers | \$14.13 | \$18.74 | \$18.33 | \$21.04 |
| 47-4061 | Rail-Track Laying and Maintenance Equipment Operators | \$13.72 | \$17.88 | \$17.39 | \$19.95 |
| 47-4071 | Septic Tank Servicers and Sewer Pipe Cleaners | \$17.36 | \$19.85 | \$19.43 | \$21.09 |
| 47-4090 | Miscellaneous Construction and Related Workers | \$17.62 | \$25.62 | \$24.14 | \$29.63 |
| 47-5021 | Earth Drillers, Except Oil and Gas | \$20.82 | \$26.32 | \$26.40 | \$29.07 |
| 47-5081 | HelpersExtraction Workers | \$15.74 | \$18.37 | \$18.28 | \$19.69 |

Source: Economic and Labor Market Information Bureau, New Hampshire Employment Security, New Hampshire Occupational Employment & Wages - June 2019.



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