



Construction Jobs and Industries in New Hampshire



**a Labor Market Information Report
April 2003**

Acknowledgments

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Introduction

So, you want to wear a hard hat, leather tool belt, and steel-toed boots, huh? You want to build things, measure things, design things, tear things down, dig things up, or bury things. You would like to electrify, sheet rock, mud, roof, plumb, floor, tile, paint, or wall-paper something. You have dreams of swinging a hammer, walking the ‘high steel’, and erecting grand architectural wonders. Your idea of creating a better society is providing a home for a family, erecting a bridge to span a wild river, creating a new stone wall that looks like it has been there for ever, or remodeling a “fixer-upper.” If the smell of fresh milled lumber, the feel of the sun on your face, the bracing of winter wind invigorates your soul and “two stepping” along the ridge beam of a post and beam barn really gets your adrenaline flowing, then the construction industry is for you!

The Jobs

In 2001, New Hampshire boasted 3,995 construction firms, employing 27,200 paid employees with an annual payroll of \$1,145,015,014, representing over four percent of the total Granite State workforce. By the year 2010, 31,782 Granite Staters are projected to be employed as construction and extraction workers, again about four percent of the entire New Hampshire work force.

Job Mix



The majority of the workers in construction are skilled craft workers or laborers, helpers, and apprentices. Skilled craft workers are further classified as structural, finishing, or mechanical workers. The skill level requirements vary from some work experience, to short term, moderate term, and long term on the job training.

Structural workers include:

-  Carpenters
-  Construction Equipment Operators
-  Brick Masons
-  Block Masons
-  Stone Masons
-  Cement Masons
-  Concrete Finishers
-  Structural Iron & Metal Workers

Finishing workers include:

-  Carpenters
-  Dry Wall Installers
-  Ceiling Workers
-  Tapers
-  Plasterers
-  Stucco Masons
-  Segmental Pavers
-  Terrazzo Workers
-  Painters
-  Paper Hangers
-  Glaziers
-  Roofers

-  Carpet, Floor, & Tile Installers
-  Insulation Workers

Mechanical workers include:

-  Pipe Layers
-  Heating, Air Conditioning & Refrigeration Mechanics & Installers
-  Plumbers
-  Pipe Fitters
-  Steam Fitters
-  Electricians
-  Sheet Metal Workers

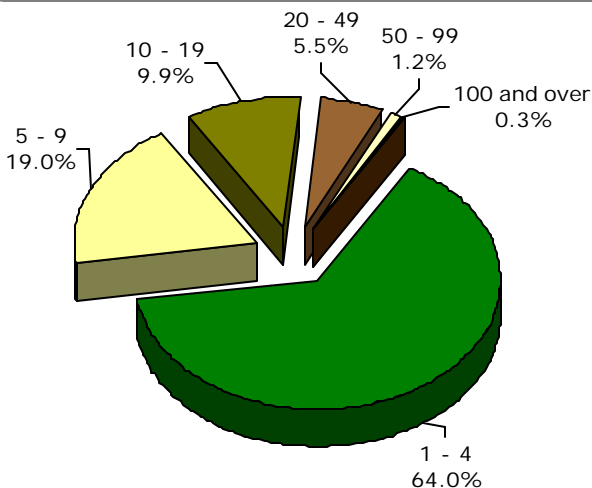
An emerging occupation field in the construction industry is hazardous materials (HAZMAT) removal workers. These specialists remove hazardous materials such as asbestos, lead, as well as radioactive materials from buildings, facilities, and the environment to avoid further contamination of natural resources and to promote public health and safety.

The Potential Employers

Construction projects are usually accomplished and/or coordinated by general contractors who specialize in construction fields such as residential or commercial projects. Most general contractors do a portion of the site work themselves, then sub-contract the remainder of the work to heavy construction or special trades contractors. Hence, potential construction workers are able to explore employment opportunities with a wide variety of possible employers, large or small, union or non-union, private or public.

A comparison of the relative size of each potential employer in a 2001 New Hampshire Employment Security Labor Market Information Bureau (NHES/ELMIB) survey

Construction Employers by Size of Firm



Current & Projected	2001	2010
Carpenters and helpers	4,480	6,548
Electricians and helpers	2,720	3,306
Plumbers, pipe layers, pipe fitters, steam fitters, and	2,300	2,827
Painters and helpers	1,050	2,189
Drywall, tapers, and ceiling tile installers	410	555
Flooring & carpet layers	110	222
Cement masons and concrete finishers	280	288
Brick, block, & stone masons and helpers	380	530
Roofers and helpers	430	652
Insulation workers	130	147

reveals that 83 percent of all Granite State construction firms employ fewer than ten trades people, and that 98.4 percent employ fewer than 50 trades people.

How do I get one of those jobs? Potential construction workers may enter the industry without any formal education after high school. These persons generally begin as laborers, learning their jobs during the first few days on the work site. Construction laborers then pick up new skills by working with more experienced workers. As learned skills are demonstrated, this novice construction worker then may move to more challenging, independent, and responsible work.

Technical or trade schools provide another avenue into the construction industry.

Still, others may enter through apprenticeship training. Apprentices who have previously learned skills in math, mechanical drawing, and wood or metal working generally advance at a more rapid pace.

Registered Apprenticeship programs, managed by employers and trade unions, provide the most thorough training. Ap-

prentices can expect to invest between three and five years of on-the-job training, as well as extensive classroom instruction in their chosen trade.

What is Registered Apprenticeship?

Apprenticeship is full-time employment combining both on-the-job training and related classroom instructions. Apprenticeship is based on a written agreement between the apprentice and the sponsor that stipulates the terms of the apprenticeship such as:

- 🔑 Length of training
- 🔑 Credit for previous experience or education
- 🔑 Increasing scale of wages
- 🔑 Method of education

Experienced and skilled journeyworkers teach the practical skills learned on the job.

What are Apprenticeable Occupations?

There are over 800 nationally recognized apprenticeable occupations. Any occupation that is a skilled trade and possesses the following characteristics can be learned through apprenticeship training:

- 🔑 It is customarily learned in a practical way through a structured, systematic program of on-the-job supervised training.
- 🔑 It is clearly identified and commonly recognized throughout the industry.
- 🔑 It involves manual, mechanical and technical skills and knowledge that requires at least 2,000 hours of on-the-job work experience.
- 🔑 It requires related instruction to supplement the on-the-job training.
- 🔑 Attend a minimum of 144 hours of classroom instruction.

What are the benefits of apprenticeship?

- 🔑 Full-time employment
- 🔑 Supervised training
- 🔑 Opportunity to learn a skill
- 🔑 Increasing scale of wages
- 🔑 Nationally recognized Certificate of Completion
- 🔑 Improved job security
- 🔑 Quality training opportunity

How does one become an apprentice?

To become an apprentice, an individual must be working full time for a registered employer or sponsor in the trade of their choice. This must be done before the novice may enroll in the program.

What are the qualifications?

Qualifications may vary depending upon the trade or program. Minimum requirements are that the apprentice be at least 16 years old. Some sponsors may require that an apprentice have either a high school diploma, or GED certificate, while others may be more concerned with the physical capabilities of the apprentice.

What about Student Apprenticeship?

Students who wish to get an early start on their careers can participate in the Student Apprenticeship Program once they have reached the age of sixteen.

The student apprentice would attend school full time, preferably taking a course of study relating to his or her apprenticeship occupation. During after-school hours or weekends the apprentice would work for a registered employer/sponsor and be learning the on-the-job skills of his or her chosen career. Such programs require an agreement between the school, the student, the

student's parent or guardian, the employer and the apprenticeship agency.

Students interested in apprenticeship are encouraged to develop a strong foundation in math, science, and communication skills. Upon completion of high school the apprentice would be credited with the hours already spent working towards the completion of the apprenticeship. All Registered Youth Apprenticeship Programs carry an educational component that extends beyond high school graduation. Continuing instruction may take place at a local university, technical school, on-site in the workplace or through a correspondence course.

What does an Apprentice earn?

Apprentices earn while they learn. An apprentice starting out in a particular trade with no prior experience must receive at least 50 percent of the wages paid to a fully trained craftsman. An apprentice's wages increase at regular intervals corresponding with his or her increasing knowledge of the occupation.

Where do I get further information about Apprenticeships?

Potential candidates may learn more about the apprenticeship-training program by contacting:

**US Department of Labor
Bureau of Apprenticeship & Training**

Stewart Nelson Plaza
143 North Main Street, Suite 205
Concord, NH 03301
(603) 225-1444

or

Your High School Career Guidance Councilor
or

On the World Wide Web at:
[www.nhes.state.nh.us/elmi/nhcrn/
appbroch.htm](http://www.nhes.state.nh.us/elmi/nhcrn/appbroch.htm)

How Far Can I go in construction?

Many persons advance to construction craft occupations from less skilled jobs such as helpers or laborers. The newly hired acquire skills while they work, performing a variety of unskilled tasks and providing much of the routine physical labor (grunt work) needed in construction. They erect and dismantle scaffolding, clean up debris, help unload and carry materials and machinery, and operate simple equipment. These novice construction workers labor alongside experienced craft workers, learning the basic skills of a particular craft. After acquiring experience and skill in various phases of the craft, individuals may become skilled journey level craft workers.

To further develop their skills after training, construction craft workers may work on different projects. Flexibility and a willingness to adopt new techniques, as well as the ability to get along with a wide variety of people, are essential for advancement. As tradespersons broaden their skills, they are allowed to work more independently, thus responsibilities and earnings increase. Pupils may then qualify for jobs in related, more highly skilled, occupations.




Those who become skilled in all elements of the trade, and demonstrate leadership abilities, may be promoted to foreman, or supervisor. Foremen supervise all the trades people on the job site, or multiple job sites, as well as plan and problem solve as the need arises.

A highly skilled and trusted foreman that demonstrates exemplary leadership skills and abilities may become a superintendent. A superintendent works with the architect, the property owner, the suppliers, and the sub-contractors to get the project completed on time and on budget.

After a time as a superintendent, you would be ready for an executive position within a larger company, or be prepared to strike out on your own as an independent contractor. Just think of it, your name on the side of a truck or fleet of trucks!

The Industry

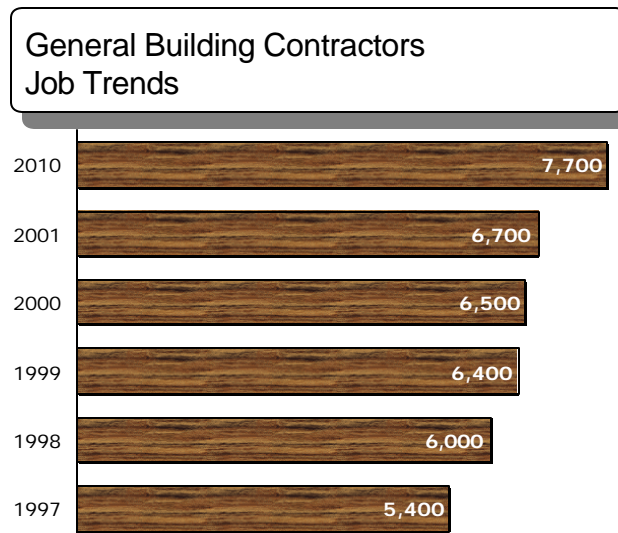
The construction industry is divided into three major activities:

-  *General building contractors* build residential, industrial, and commercial buildings.
-  *Heavy construction contractors* fabricate sewers, roads, highways, bridges, and tunnels.
-  *Special trade contractors* concentrate on carpentry, painting, plumbing, and electrical work together with much of the finish work that may be subcontracted out by general contractors.

How does future employment look for these industries?

General Building Contractors

There were 1,132 general building contractor employers in New Hampshire in the year 2000. Those firms employed about 6,500 people. General building contractors



Heavy Construction Contractors Job Trends



were projected to expand their ranks by 19.4 percent between 2000 and 2010. This expansion is slightly ahead of the projected overall 17.6 percent growth rate for all occupations in the Granite State. Analysts expect to see 1,255 additional jobs by 2010.

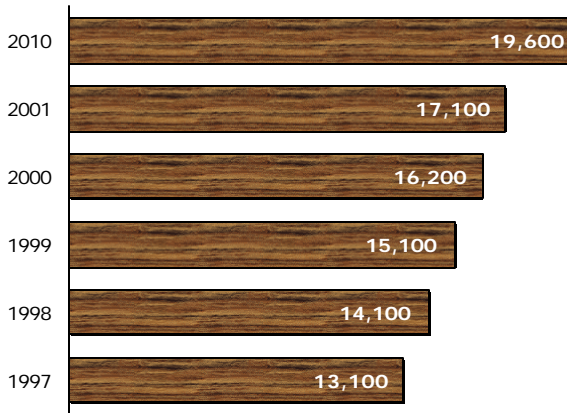
Heavy Construction

In the year 2000, the 176 heavy construction companies in New Hampshire had a work force of 2,501 persons. Heavy construction was projected to grow by 12.9 percent between 2000 and 2010. The 12.9 percent rate represents a slightly lower level of activity than the 17.6 percent growth rate for all occupations in the state. Projections for this industry call for 322 additional jobs over the period.

Special Trades

The 2,562 special trades firms in New Hampshire employed about 16,200 workers in the year 2000. The industry was projected to grow by 21.0 percent between 2000 and 2010, somewhat faster than the 17.6 percent growth rate for all occupations in New Hampshire. Expectations are that this industry will create about 3,400 additional jobs over the period.

Special Trades Contractors
Job Trends



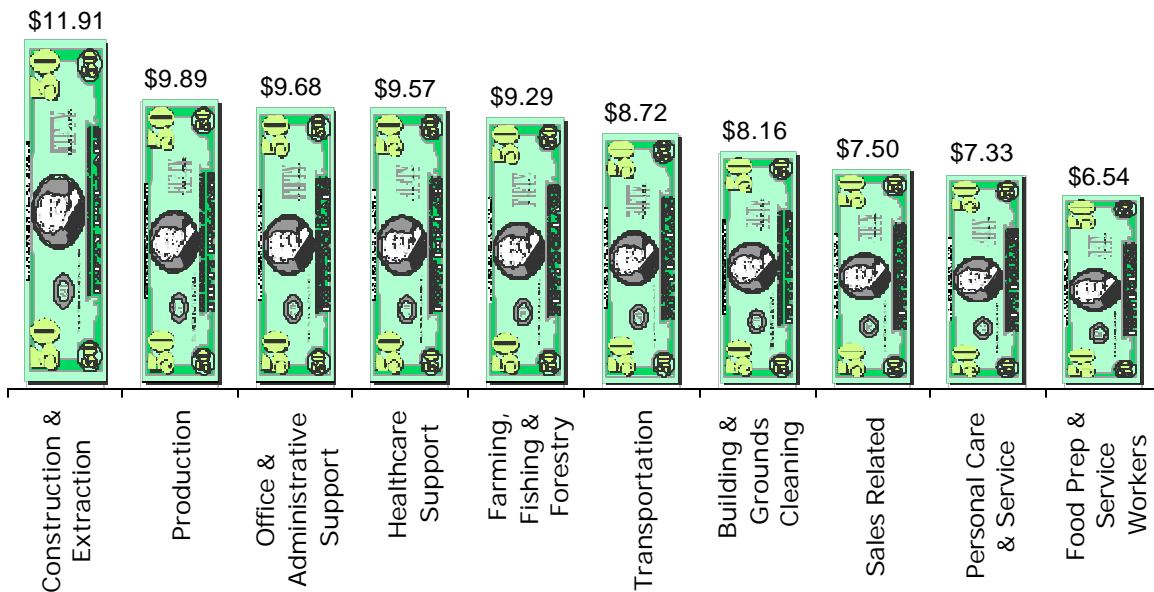
Show Me the Money!

The numbers, just in from the 2001 New Hampshire Occupational Employment and Wage Survey, reveal that recently combined construction and extraction trades people hold the best earning potential of the ten career paths that begin just out of high school and require no previous experience.

This stuff sounds great, but is there any thing else I need to know? Between 1991 and 2002, New Hampshire's construction industry has experienced steady growth in the number of privately owned homes approved by building permits issued by local authorities. Building permits issued in New Hampshire are on a decade long growth trend reflecting steady increases each year, with an eleven year total increase of over 100 percent. Permits issued in 2001 withdrew, to be followed by a first quarter 2002 push of 1,777. These trends reflect the nature of the post 2001 mini-recession in that while growth across all business sectors is occurring, it is at a cautiously deliberate rate.

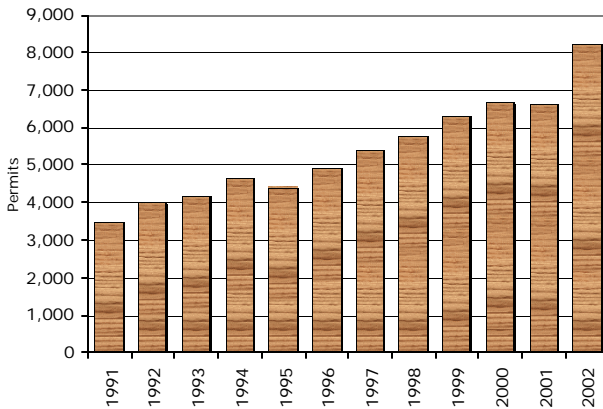
The construction industry has always been sensitive to the fluctuations of the economy. When economic times are good, construction is prosperous. However, when the economy gets tough, construction activity falls off. Periodically, New England's

Entry Level* Wage Comparison



* 25th percentile

New Hampshire Private Housing Starts



weather conditions are capable of influencing scheduling and completion of construction projects. One should be prepared for seasonal shifts in the length of the work-week.

Also, if you are considering a construction career, you should evaluate the risk to personal safety. Overall, in the past decade, the industry has remarkably lessened the risk of reportable injury or death on a national level. From 13.5 injuries per 1,000 full time workers in 1990, the industry moved to 7.8 injuries per 1,000 full time workers in 2000. Also, in 2000, the most hazardous occupational group was in the roofing, siding, and sheet metal area, with 11 injuries per 1,000 workers. The least hazardous occupational groups were operative builders (heavy equipment), with 4.3 injuries per 1,000 workers, and painters and paperhangers with 5.2 injuries per 1,000 full time workers.

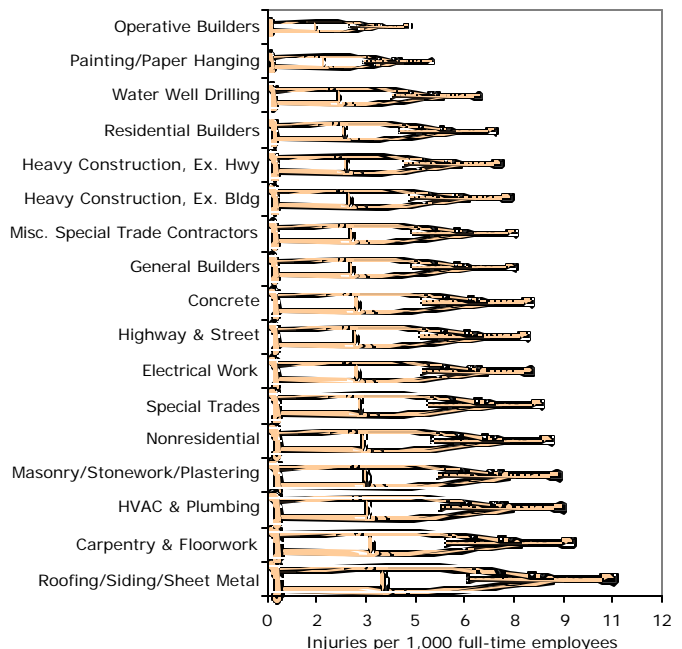
Technology creep is occurring within the construction industry. The framing hammer giving way to the electric or air compression-nailing gun demonstrates this. Additional power tools increase the productivity of the trades persons. New methods of

measuring digital dimensions, laser on site dimensions has improved accuracy. On-site laptop computers track and schedule materials, labor, as well as time and cost data. Robotics in construction has been studied for the past sixteen years in Japan, where their modular construction process is recognized as the most efficient, cost effective, and environmentally friendly new technological construction process advance in recent history.

Speaking of the environment, the renewed awareness of the impact on the environment by construction techniques and the elimination of excessive waste lead to the need for a technologically and environmentally adept tradesperson.

If you combine the extensive variety of occupations, employers, work sites, and skill sets the construction industry represents, with a stable and hardy economy,

Reportable Injuries, Construction, Per 1,000 Full Time Employees for Year 2000

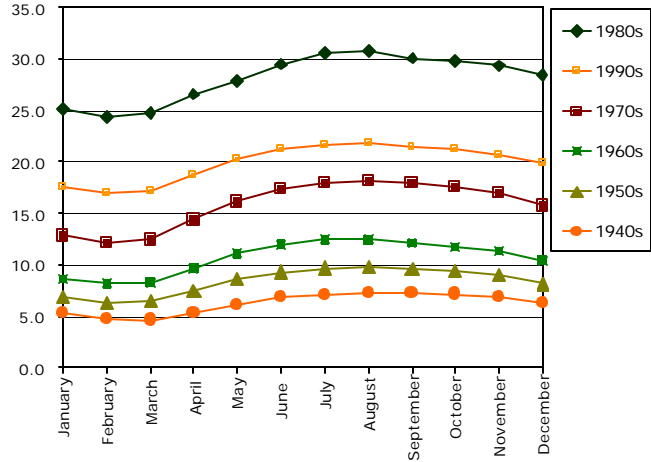


greater than average earnings potential, as well as virtually unlimited professional growth opportunities, you come up with a personally satisfying and professionally rewarding career choice.

Good Luck, and we hope to see you on the job site!

Martin F. Flynn, IV
Labor Market Analyst

Monthly Average Employment by Decade



The following are available in hard copy from the Economic and Labor Market Information Bureau of New Hampshire Employment Security. Many of these publications are also available at our Web site: <www.nhes.state.nh.us/elmi/>

New Hampshire Employment Projections by Industry and Occupation
Licensed, Certified, and Registered Occupations in New Hampshire
New Hampshire Job Outlook and Locator Occupations by Industry
Vital Signs: Economic and Social Indicators for New Hampshire
New Hampshire Occupational Employment and Wages

New Hampshire Career and Industry profiles

Summary of the New Hampshire Economy
User's Guide to Labor Market Information
Economic Conditions in New Hampshire
STAT: New Hampshire Resource Papers
New Hampshire Commuting Patterns
Local Area Unemployment Statistics
New Hampshire Affirmative Action
In Brief: Employment Projections
New Hampshire County Profile
New Hampshire Job Notes
New Hampshire Snapshot
New Hampshire Benefits
Retirement 2002
Childcare 2000
NHCRN News

The following are only available at our Web site: <www.nhes.state.nh.us/elmi/>.

Employment and Wage Data for the Eighteen Labor Market Areas
New Hampshire Unemployment Insurance Historical Data
High Tech Employment in New Hampshire
New Hampshire Community Profiles
Firms by Size in New Hampshire



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