

---

# Construction Managers

---

(O\*NET 11-9021.00)

---

## Significant Points

- Construction managers must be available—often 24 hours a day—to deal with delays, bad weather, or emergencies at the jobsite.
- Employers prefer jobseekers who combine construction industry work experience with a bachelor's degree in construction science, construction management, or civil engineering.
- Although certification is not required, there is a growing movement toward certification of construction managers.
- Excellent job opportunities are expected.

## Nature of the Work

Construction managers plan, direct, and coordinate a wide variety of construction projects, including the building of all types of residential, commercial, and industrial structures, roads, bridges, wastewater treatment plants, and schools and hospitals. Construction managers may oversee an entire project or just part of one. They schedule and coordinate all design and construction processes, including the selection, hiring, and oversight of specialty trade contractors, but they usually do not do any actual construction of the structure.

Construction managers are salaried or self-employed managers who oversee construction supervisors and workers. They are often called project managers, constructors, construction superintendents, project engineers, program managers, construction supervisors, or general contractors. Construction managers may be owners or salaried employees of a construction management or contracting firm, or may work under contract or as a salaried employee of the property owner, developer, or contracting firm overseeing the construction project.

These managers coordinate and supervise the construction process from the conceptual development stage through final construction, making sure that the project gets done on time and within budget. They often work with owners, engineers, architects, and others who are involved in the construction process. Given the designs for buildings, roads, bridges, or other projects, construction managers oversee the planning, scheduling, and implementation of those designs.

Large construction projects, such as an office building or industrial complex, are often too complicated for one person to manage. These projects are divided into many segments: site preparation, including land clearing and earth moving; sewage systems; landscaping and road construction; building construction, including excavation and laying of foundations and erection of the structural framework, floors, walls, and roofs; and building systems, including fire-protection, electrical, plumbing, air-conditioning, and heating. Construction managers may be in charge of one or more of these activities.

Construction managers determine the best way to get materials to the building site and the most cost-effective plan and schedule for completing the project. They divide all required construc-



*Construction managers must be available—often 24 hours a day—to deal with delays, bad weather, or emergencies at the job site.*

tion site activities into logical steps, budgeting the time required to meet established deadlines. This may require sophisticated estimating and scheduling techniques and use of computers with specialized software. (See the section on cost estimators elsewhere in the *Handbook*.)

They also oversee the selection of general contractors and trade contractors to complete specific pieces of the project—which could include everything from structural metalworking and plumbing to painting and carpet installation. Construction managers determine the labor requirements and, in some cases, supervise or monitor the hiring and dismissal of workers. They oversee the performance of all trade contractors and are responsible for ensuring that all work is completed on schedule.

Construction managers direct and monitor the progress of construction activities, sometimes through construction supervisors or other construction managers. They oversee the delivery and use of materials, tools, and equipment; worker productivity and safety; and the quality of construction. They are responsible for obtaining all necessary permits and licenses and, depending upon the contractual arrangements, direct or monitor compliance with building and safety codes, other regulations, and requirements set by the project's insurers.

**Work environment.** Working out of a main office or out of a field office at the construction site, construction managers monitor the overall construction project. Decisions regarding daily construction activities generally are made at the jobsite. Managers may travel extensively when the construction site is not close to their main office or when they are responsible for activities at two or more sites. Management of overseas construction projects usually entails temporary residence in another country.

Often “on call” 24 hours a day, construction managers deal with delays, the effects of bad weather, or emergencies at the site. Most work more than a standard 40-hour week because construction may proceed around-the-clock. They may need to work this type of schedule for days or weeks to meet special project deadlines, especially if there are delays.

Although the work usually is not considered inherently dangerous, construction managers must be careful while performing onsite services.

## Training, Other Qualifications, and Advancement

Employers increasingly prefer to hire construction managers with a bachelor's degree in construction science, construction

management, building science, or civil engineering, although it is also possible for experienced construction workers to move up to become construction managers. In addition to having education and experience, construction managers must understand contracts, plans, specifications, and regulations.

**Education and training.** For construction manager jobs, employers increasingly prefer to hire individuals who have a bachelor's degree in construction science, construction management, building science, or civil engineering, plus work experience. Practical construction experience is very important, whether gained through an internship, a cooperative education program, a job in the construction trades, or another job in the industry. Traditionally, people advanced to construction management positions after having substantial experience as construction craftworkers—carpenters, masons, plumbers, or electricians, for example—or after having worked as construction supervisors or as owners of independent specialty contracting firms. However, as construction processes become increasingly complex, employers are placing more importance on specialized education after high school.

About 105 colleges and universities offer bachelor's degree programs in construction science, building science, and construction engineering. These programs include courses in project control and development, site planning, design, construction methods, construction materials, value analysis, cost estimating, scheduling, contract administration, accounting, business and financial management, safety, building codes and standards, inspection procedures, engineering and architectural sciences, mathematics, statistics, and information technology. Graduates from 4-year degree programs usually are hired as assistants to project managers, field engineers, schedulers, or cost estimators. An increasing number of graduates in related fields—engineering or architecture, for example—also enter construction management, often after acquiring substantial experience on construction projects.

About 60 colleges and universities offer a master's degree program in construction management or construction science. Master's degree recipients, especially those with work experience in construction, typically become construction managers in very large construction or construction management companies. Often, individuals who hold a bachelor's degree in an unrelated field seek a master's degree in construction management or construction science to work in the construction industry. Some construction managers obtain a master's degree in business administration or finance to further their career prospects. Doctoral degree recipients usually become college professors or conduct research.

A number of 2-year colleges throughout the country offer construction management or construction technology programs. Many individuals also attend training and educational programs sponsored by industry associations, often in collaboration with postsecondary institutions.

**Other qualifications.** Construction managers should be flexible and work effectively in a fast-paced environment. They should be decisive and work well under pressure, particularly when faced with unexpected occurrences or delays. The ability to coordinate several major activities at once, while analyzing and resolving specific problems, is essential, as is an understanding of engineering, architectural, and other construction drawings. Familiarity with computers and software programs for job

costing, online collaboration, scheduling, and estimating also is important.

Good oral and written communication skills also are important, as are leadership skills. Managers must be able to establish a good working relationship with many different people, including owners, other managers, designers, supervisors, and craftworkers. The ability to converse fluently in Spanish is increasingly an asset because Spanish is the first language of many workers in the construction industry.

**Certification and advancement.** There is a growing movement toward certification of construction managers. Although certification is not required to work in the construction industry, it can be valuable because it provides evidence of competence and experience. Both the American Institute of Constructors and the Construction Management Association of America have established voluntary certification programs for construction managers. Requirements combine written examinations with verification of education and professional experience. The American Institute of Constructors awards the Associate Constructor (AC) and Certified Professional Constructor (CPC) designations to candidates who meet its requirements and pass the appropriate construction examinations. The Construction Management Association of America awards the Certified Construction Manager (CCM) designation to workers who have the required experience and who pass a technical examination. Applicants for this designation also must complete a self-study course that covers the professional role of a construction manager, legal issues, allocation of risk, and other topics related to construction management.

Advancement opportunities for construction managers vary depending upon an individual's performance and the size and type of company for which they work. Within large firms, managers may eventually become top-level managers or executives. Highly experienced individuals may become independent consultants; some serve as expert witnesses in court or as arbitrators in disputes. Those with the required capital may establish their own construction management services, specialty contracting, or general contracting firm.

## Employment

Construction managers held 487,000 jobs in 2006. About 57 percent were self-employed, many as owners of general or specialty trade construction firms. Most salaried construction managers were employed in the construction industry, 13 percent by specialty trade contractor businesses—for example, plumbing, heating, air-conditioning, and electrical contractors—9 percent in residential building construction; and 9 percent in nonresidential building construction. Others were employed by architectural, engineering, and related services firms and by local governments.

## Job Outlook

Faster than average employment growth is expected. Additionally, excellent job opportunities will exist as the number of job openings exceeds the number of qualified applicants.

**Employment change.** Employment of construction managers is projected to increase by 16 percent during the 2006-16 decade, faster than the average for all occupations. More construction managers will be needed as the level of construction activity continues to grow. Population and business growth will result in

## Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-16	
				Number	Percent
Construction managers.....	11-9021	487,000	564,000	77,000	16

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

more construction of residential homes, office buildings, shopping malls, hospitals, schools, restaurants, and other structures that require construction managers.

The increasing complexity of construction projects will also boost demand for specialized management-level personnel within the construction industry. Sophisticated technology and the proliferation of laws setting standards for buildings and construction materials, worker safety, energy efficiency, environmental protection, and the potential for adverse litigation have further complicated the construction process. Advances in building materials and construction methods; the need to replace portions of the Nation's infrastructure; and the growing number of multipurpose buildings and energy-efficient structures will further add to the demand for more construction managers.

**Job prospects.** Excellent employment opportunities for construction managers are expected through 2016 because the number of job openings will exceed the number of qualified individuals seeking to enter the occupation. This situation is expected to continue even as college construction management programs expand to meet the current high demand for graduates. The construction industry often does not attract sufficient numbers of qualified job seekers because working conditions are considered poor.

In addition to job openings arising from employment growth, many additional openings should result annually from the need to replace workers who transfer to other occupations or leave the labor force for other reasons. A substantial number of seasoned managers are also expected to retire over the next decade, likely resulting in a large number of openings.

Prospects for individuals seeking construction manager jobs in construction management, architectural and engineering services, and construction contracting firms should be best for people who have a bachelor's or higher degree in construction science, construction management, or civil engineering plus practical experience working in construction. Employers will increasingly prefer applicants with college degrees, internships, and a strong background in building technology. Construction managers will also have many opportunities to start their own firms.

Employment of construction managers, like that of many other construction workers, is sensitive to the fluctuations of the economy. Workers in these trades may experience periods of unemployment when the overall level of construction falls. On the other hand, shortages of these workers may occur in some areas during peak periods of building activity.

### Earnings

Earnings of salaried construction managers and self-employed independent construction contractors vary depending upon the size and nature of the construction project, its geographic location, and economic conditions. In addition to typical benefits,

many salaried construction managers receive bonuses and use of company motor vehicles.

Median annual earnings of wage and salary construction managers in May 2006 were \$73,700. The middle 50 percent earned between \$56,090 and \$98,350. The lowest paid 10 percent earned less than \$43,210, and the highest paid 10 percent earned more than \$135,780. Median annual earnings in the industries employing the largest numbers of construction managers were as follows:

Building equipment contractors.....	\$75,200
Electrical contractors .....	74,380
Nonresidential building construction .....	74,080
Foundation, structure, and building exterior contractors .....	71,640
Residential building construction.....	69,400

The earnings of self-employed workers are not included in these numbers.

According to a July 2007 salary survey by the National Association of Colleges and Employers, people with a bachelor's degree in construction science/management received job offers averaging \$46,930 a year.

### Related Occupations

Construction managers participate in the conceptual development of a construction project and oversee its organization, scheduling, and implementation. Other workers who perform similar functions include architects, except landscape and naval; civil engineers; cost estimators; landscape architects; and engineering and natural sciences managers.

### Sources of Additional Information

For information about constructor certification, contact:

➤ American Institute of Constructors, 717 Princess St., Alexandria, VA 22314. Internet: <http://www.aicnet.org>

For information about construction management and construction manager certification, contact:

➤ Construction Management Association of America, 7918 Jones Branch Dr., Suite 540, McLean, VA 22102.

Internet: <http://www.cmaanet.org>

Information on accredited construction science and management educational programs and accreditation requirements is available from:

➤ American Council for Construction Education, 1717 North Loop 1604 E, Suite 320, San Antonio, TX 78232.

Internet: <http://www.acce-hq.org>

➤ National Center for Construction Education and Research, P.O. Box 141104, Gainesville, FL 32614.

Internet: <http://www.nccer.org>