

Occupational Outlook Handbook, 2006-07 Edition

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Construction Managers

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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 individuals who combine construction industry work experience with a bachelor's degree in construction science, construction management, or civil engineering.
- Excellent employment opportunities are expected as the increasing complexity of many construction projects requires more managers to oversee them.

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 a project and, although they usually play no direct role in the actual construction of a structure, they typically schedule and coordinate all design and construction processes, including the selection, hiring, and oversight of specialty trade contractors.

Construction managers are salaried or self-employed managers who oversee construction supervisors and workers. They often go by the job titles program manager, constructor, construction superintendent, project engineer, project manager, construction supervisor, general contractor, or similar designations. 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.

Construction 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 the project to execute those designs.

Large construction projects, such as an office building or industrial complex, are often too complicated

for one person to manage. Therefore, 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 evaluate and help determine appropriate construction delivery systems and the most cost-effective plan and schedule for completing the project. They divide all required construction 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*.)

Construction managers 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; and the quality of construction, worker productivity, and safety. 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 and other regulations. And they continually track and control construction costs to avoid cost overruns. They may direct the work of several subordinates, such as assistant managers or superintendents, field engineers, or crew supervisors.

Working Conditions

Construction managers work out of a main office from which the overall construction project is monitored, or out of a field office at the construction site. Advances in telecommunications and Internet access allow construction managers to be onsite without being out of contact of the main office. Management 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.

Construction managers may be “on call”—often 24 hours a day—to 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 have to work this type of schedule for days, even 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

Persons interested in becoming a construction manager need a solid background in building science, business and management, as well as related work experience within the construction industry. They need to understand contracts, plans, and specifications, and to be knowledgeable about construction methods, materials, and regulations. Familiarity with computers and software programs for job costing, online collaboration, scheduling, and estimating also is important. The ability to converse fluently in Spanish is also an asset because Spanish is the first language of many workers in the construction industry.

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. 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.

For construction manager jobs, employers increasingly prefer to hire individuals with a bachelor's degree in construction science, construction management, or civil engineering, as well as industry work experience. Practical industry experience is very important, whether it is acquired through an internship, a cooperative education program, or work experience in a trade or another job in the industry. Traditionally, persons 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, overseeing workers in one or more construction trades. However, as construction processes become increasingly complex, employers are placing a growing importance on postsecondary education.

Many colleges and universities offer 4-year degree programs in construction management, construction 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 or after completing graduate studies in construction management or building science.

Several 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 in order 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.

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

There is a growing movement towards certification of construction managers to ensure that a construction manager has a certain body of knowledge, abilities, and experience. Although certification is not required to work in the construction industry, voluntary certification can be valuable because it provides evidence of competence and experience. Both the American Institute of Constructors (AIC) and the Construction Management Association of America (CMAA) have established voluntary certification programs for construction managers. Requirements combine written examinations with verification of education and professional experience. AIC awards the Associate Constructor (AC) and Certified Professional Constructor (CPC) designations to candidates who meet its requirements and pass the appropriate construction examinations. CMAA awards the Certified Construction Manager (CCM) designation to practitioners who meet its requirements through work performed in a construction management organization and by passing a technical examination. Applicants for the CMAA certification also must complete a self-study course that covers a broad range of topics central to construction management, including the professional role of a construction manager, legal issues, and allocation of risk.

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 431,000 jobs in 2004. Over half were self-employed, many as owners of general or specialty trade construction firms. Most of the rest were employed in the construction industry, 13 percent by specialty trade contractors—for example, plumbing, heating and air-conditioning and electrical contractors—and 18 percent by general building contractors. Others were employed by architectural, engineering, and related services firms and by local governments.

Job Outlook

Excellent employment opportunities for construction managers are expected through 2014 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 it is often seen as having poor working conditions.

Employment of construction managers is projected to [increase about as fast as average](#) for all occupations through 2014. 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 who retire or leave the labor force for other reasons. More construction managers will be needed as the level of construction activity continues to grow. In addition, opportunities will increase for construction managers to start their own firms. However, employment of construction managers can be sensitive to the short-term nature of many projects and to cyclical fluctuations in construction activity.

The increasing complexity of construction projects is boosting the demand for 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, and environmental protection have further complicated the construction process. Advances in building materials and construction methods; the need to replace portions 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. More opportunities for construction managers also will result from the need for greater cost control and financial management of projects and to oversee the numerous subcontractors being employed.

Prospects for individuals seeking construction manager jobs in construction management, architectural and engineering services, and construction contracting firms should be best for persons who have a bachelor's or higher degree in construction science, construction management, or civil engineering—but also practical experience working in construction. Employers will increasingly prefer applicants with college degrees, previous construction work experience, including internships, and a strong background in building technology.

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 benefits such as bonuses and use of company motor vehicles.

Median annual earnings of construction managers in May 2004 were \$69,870. The middle 50 percent earned between \$53,430 and \$92,350. The lowest paid 10 percent earned less than \$42,120, and the highest paid 10 percent earned more than \$126,330. Median annual earnings in the industries employing the largest numbers of construction managers in 2004 were as follows:

Building equipment contractors	\$72,560
Nonresidential building construction	71,700
Other specialty trade contractors	68,110
Residential building construction	67,190
Foundation, structure, and building exterior contractors	64,250

According to a July 2005 salary survey by the National Association of Colleges and Employers, candidates with a bachelor's degree in construction science/management received job offers averaging \$42,923 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

Disclaimer:

Links to non-BLS Internet sites are provided for your convenience and do not constitute an endorsement.

For information about constructor certification, contact:

- American Institute of Constructors, 717 Princess St., Alexandria, VA 22314. Internet: <http://www.constructorcertification.org> or <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 22102-3307. 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, Ste 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>

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