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## Civil Engineers

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### Nature of the Work

Civil engineers design and supervise the construction of roads, buildings, airports, tunnels, dams, bridges, and water supply and sewage systems. Civil engineering, considered one of the oldest engineering disciplines, encompasses many specialties. The major specialties within civil engineering are structural, water resources, environmental, construction, transportation, and geotechnical engineering.

Many civil engineers hold supervisory or administrative positions, from supervisor of a construction site to city engineer. Others may work in design, construction, research, and teaching.

### Employment

Civil engineers held about 228,000 jobs in 2002. More than 4 in 10 were employed by firms providing architectural, engineering, and related services, primarily developing designs for new construction projects. Almost one-third of the jobs were in Federal, State, and local government agencies. The construction industry accounted for most of the remaining employment. About 15,000 civil engineers were self-employed, many as consultants.

Civil engineers usually work near major industrial and commercial centers, often at construction sites. Some projects are situated in remote areas or in foreign countries. In some jobs, civil engineers move from place to place to work on different projects.

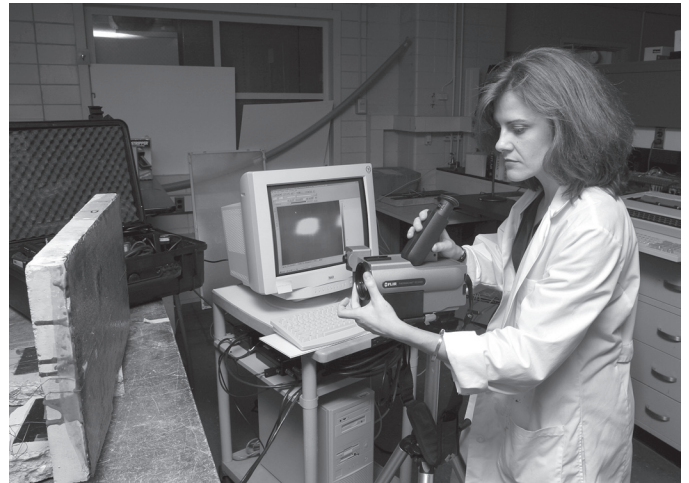
### Job Outlook

Employment of civil engineers is expected to increase more slowly than the average for all occupations through 2012. Spurred by general population growth and an increased emphasis on infrastructure and security, more civil engineers will be needed to design and construct safe and higher capacity transportation, water supply, and pollution control systems, and large buildings and building complexes. They also will be needed to repair or replace existing roads, bridges, and other public structures. In addition to those arising from job growth, openings will result from the need to replace civil engineers who transfer to other occupations or leave the labor force.

Because construction and related industries—including those providing design services—employ many civil engineers, employment opportunities will vary by geographic area and may decrease during economic slowdowns, when construction often is curtailed.

### Earnings

Median annual earnings of civil engineers were \$60,070 in 2002. The middle 50 percent earned between \$48,360 and \$74,700. The lowest 10 percent earned less than \$39,960, and the highest 10 percent earned more than \$91,010. Median annual earnings in the industries employing the largest numbers of civil engineers in 2002 were:



*Some civil engineers do research on building materials.*

Federal government .....	\$67,410
Local government .....	62,210
Architectural, engineering, and related services .....	59,060
State government .....	58,350
Nonresidential building construction .....	54,190

According to a 2003 salary survey by the National Association of Colleges and Employers, bachelor's degree candidates in civil engineering received starting offers averaging \$41,669 a year; master's degree candidates received an average offer of \$47,245, and Ph.D. candidates were offered \$69,079, on average, as an initial salary.

### Sources of Additional Information

General information about civil engineers, as well as career, education, and related information, can be obtained from:

► American Society of Civil Engineers, 1801 Alexander Bell Dr., Reston, VA 20191-4400. Internet: <http://www.asce.org>

See the introduction to the section on engineers for information on working conditions, training requirements, and other sources of additional information.