



Civil engineers

Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, and water and sewage systems. Includes architectural, structural, traffic, and geotechnical engineers.

Cognitive and mental requirements

The qualifications that workers need to use judgment, make decisions, interact with others, and adapt to changes in jobs.

In 2023, work was controlled by people for 37.7 percent of civil engineers, and work was self-paced for 55.8 percent.

Table 1. Percentage of civil engineers with cognitive and mental requirements, 2023

| Requirement | Yes | No |
|--|------|-------|
| Pace: Pause control | >95 | <5 |
| Interaction with general public | 84.0 | 16.0 |
| Working around crowds | <0.5 | >99.5 |
| Telework | 36.2 | 63.8 |
| Work review: Supervising others | 32.5 | 67.5 |
| Work review: Presence of supervisor | 63.7 | 36.3 |

Source: U.S. Bureau of Labor Statistics, Occupational Requirements Survey

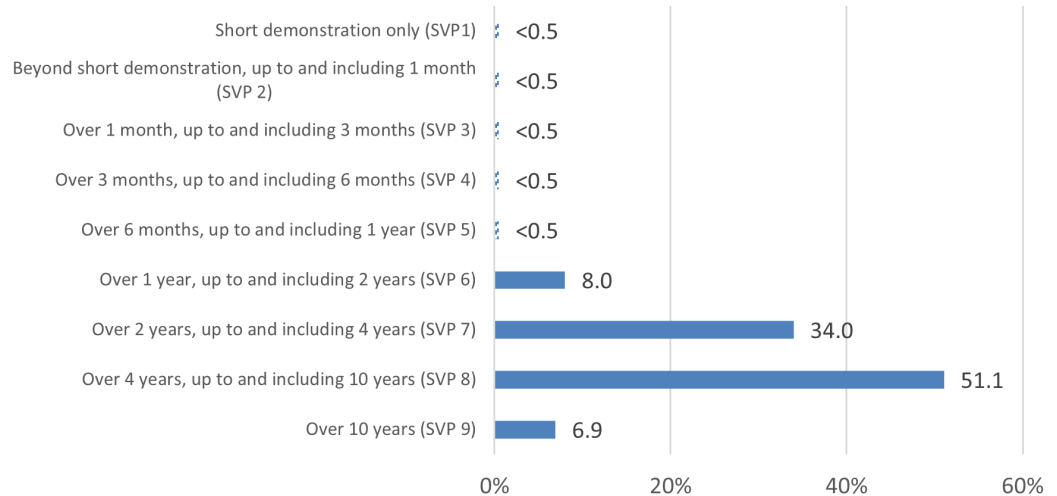
Education, training, and experience requirements

The minimum level of formal education required, credentials necessary, on-the-job training, and prior work experience necessary for average performance in jobs.

In 2023, credentials were required for 78.9 percent of civil engineers. Prior work experience was required for 66.4 percent and on-the-job training was required for 60.8 percent.

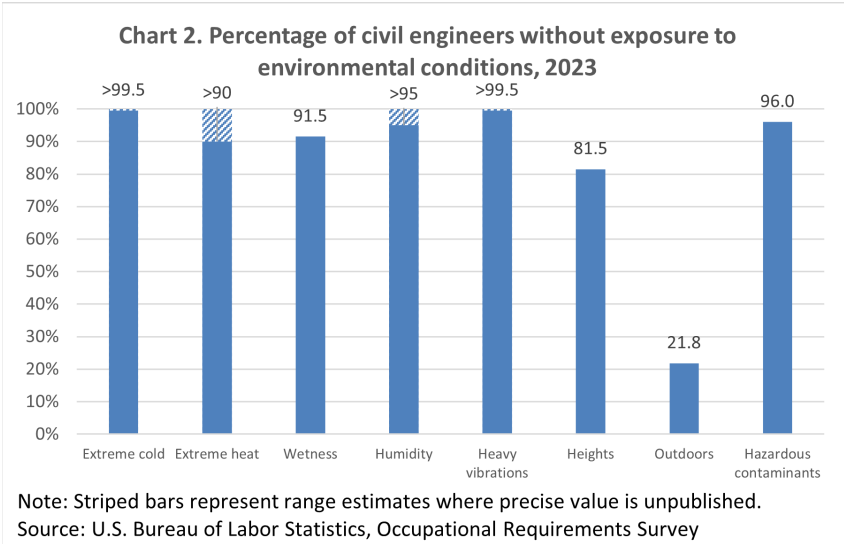
A bachelor's degree was required for greater than 99.5 percent of civil engineers.

Chart 1. Percentage of civil engineers by specific preparation time (SVP) level, 2023



Note: Striped bars represent range estimates where precise value is unpublished.

Source: U.S. Bureau of Labor Statistics, Occupational Requirements Survey



Environmental conditions

The various tangible or concrete hazards or difficulties that are in the vicinity of where jobs' critical tasks are performed.

In 2023, greater than 99.5 percent of civil engineers were not exposed to extreme cold, and greater than 90 percent were not exposed to extreme heat. Wetness was not present for 91.5 percent, greater than 99.5 percent were not exposed to heavy vibrations, and 21.8 percent were not exposed to the outdoors.

Physical demands

Refer to the physical activities required to perform tasks in jobs. The presence and, in some cases, duration of these activities are published.

In 2023, keyboarding was required for greater than 99.5 percent of civil engineers and was not required for less than 0.5 percent. For less than 0.5 percent of workers, keyboarding was seldom performed, for 39.3 percent keyboarding occurred occasionally, 58.4 percent frequently, and for less than 10 percent keyboarding occurred constantly.

Performing work in low postures was required for 34.1 percent of civil engineers and was not required for 65.9 percent.

The choice to sit or stand when performing critical tasks was available to 82.5 percent of civil engineers. On average, workers spent 78.9 percent of the workday sitting and 21.1 percent of the workday standing.

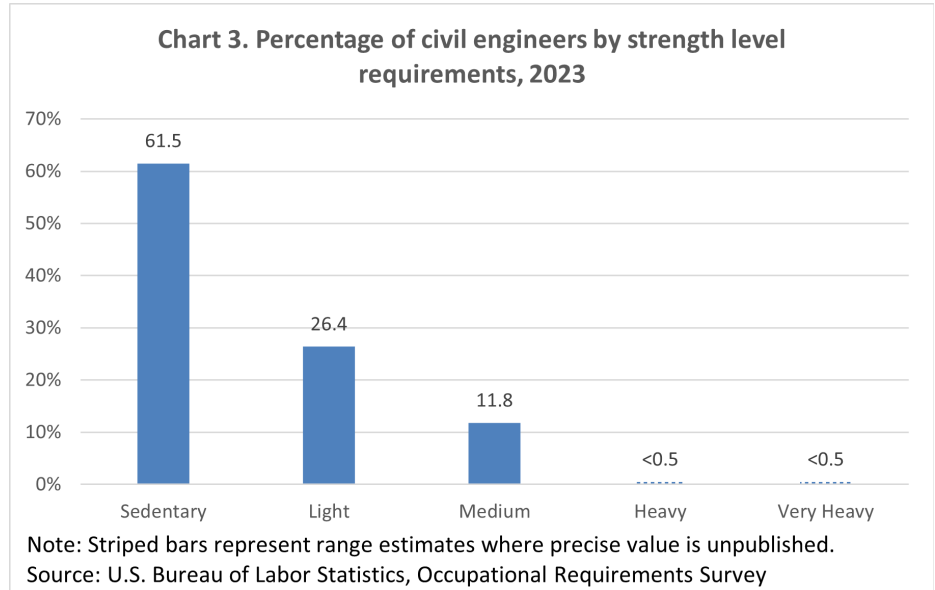


Table 2. Percentage of civil engineers with physical demands, 2023

| Requirement | Yes | No |
|--|------|------|
| Choice of sitting or standing | 82.5 | 17.5 |
| Driving | 64.2 | 35.8 |
| Climbing structure-related ramps or stairs | 31.3 | 68.7 |

Source: U.S. Bureau of Labor Statistics, Occupational Requirements Survey