

CTE: DEVELOPING THE CONSTRUCTION AND ARCHITECTURE WORKFORCE

Career and technical education (CTE) supports America's construction and architecture needs by

preparing learners to enter this critical workforce, which contributes roughly **4%** to U.S. GDP¹ and employs about **7.9 million** people, with more than 700,000 additional workers needed each year to meet demand.²

CTE programs in construction and architecture develop students' technical, academic and employability skills through work-based and hands-on learning, ensuring that they are prepared to enter **high-wage, in-demand** careers in areas such as residential, commercial, institutional, heavy civil and industrial construction.

This infographic describes a small sample of the career opportunities available in the construction and architecture sector.

RESIDENTIAL AND COMMERCIAL CONSTRUCTION

- Residential construction employs **3.2 million** construction workers nationwide.³
- Median wages in the construction trades range from about **\$48,500** to more than **\$98,000** annually.⁴
- **Occupations** include masons; carpenters; heating, ventilation and air conditioning installers; and weatherization technicians, among many others.
- Apprenticeship credentials, industry certifications, postsecondary certificates and degrees can help individuals build **fulfilling careers** and move into construction management positions.



INFRASTRUCTURE CONSTRUCTION

- Electricians, plumbers, pipefitters and steamfitters are among the construction occupations that **create and maintain** the physical structures that society relies on.
- There were about **2.4 million** employees in infrastructure construction in 2021, with many more needed due to increased state and federal investments.⁵
- Jobs in infrastructure construction pay more than the national median wage, up to **\$91,000** per year.⁶
- Individuals can **start and grow** their infrastructure construction careers through industry certifications, apprenticeship credentials, postsecondary certificates and degrees.



ARCHITECTURE AND ENGINEERING

- **Occupations** that use design and engineering skills for the built environment include architects, landscape architects, civil and construction engineers, and drafters.
- The median salary for the architecture workforce is about **\$80,000**.⁷
- Jobs for civil engineers are projected to grow by **7%** through 2031.⁸
- **Postsecondary and advanced degrees** are needed for many, although not all, occupations in architecture and engineering.





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AND **CONSTRUCTION**
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MORE JOBS IN CONSTRUCTION AND ARCHITECTURE

In addition to the previously mentioned careers in construction and architecture, CTE prepares youth and adults for these further occupations:

- Civil engineering technician
- Building inspector
- Cost estimator
- Property appraiser
- Solar installer
- Construction manager
- Surveying technician
- Ironworker
- Architectural photographer
- Environmental engineering technician

At the Kansas City Construction Career Academy, students can concurrently earn a high school diploma and an Associate of Applied Sciences degree in Building Maintenance and Construction through Metropolitan Community College at no additional cost. Program completers are eligible for a paid apprenticeship with one of the program's partner contractors.

HOW CTE PREPARES THE CONSTRUCTION AND ARCHITECTURE WORKFORCE

CTE programs of study and career pathways prepare secondary, postsecondary and adult learners for the construction and architecture workforce in many ways:

- **Courses** in construction estimating, framing carpentry, masonry, building repair and maintenance, residential wiring, plumbing and more that span secondary and postsecondary education.
- Opportunities to earn **postsecondary certificates and degrees** in construction management; heating, ventilation, air conditioning and refrigeration maintenance; drafting and design engineering technology; surveying technology; civil engineering; and more.
- Opportunities to earn **industry credentials** from the Home Builders Institute (HBI), the National Center for Construction Education and Research and the United Brotherhood of Carpenters, among others.
- **Work-based learning** experiences like job shadowing, internships and apprenticeships.
- Competitive events, service learning and leadership development through **career and technical student organizations** such as SkillsUSA and the Technology Student Association.
- **Activities** that build technical, academic and employability skills such as teamwork, communication and problem solving.

Learn More

This Sector Sheet highlights just a few occupations within the construction and architecture workforce. To learn more, please visit the U.S. Department of Labor at www.CareerOneStop.org/ExploreCareers and MyNextMove.org.

Citations

- ¹ Federal Reserve Bank of St. Louis. (October 2022). *Value added by industry: Construction as a percentage of GDP*. Retrieved from <https://fred.stlouisfed.org/series/VAPGDPC>
- ² Home Builders Institute. (Spring 2023). *The Home Builders Institute (HBI) construction labor market report*. Retrieved from https://hbi.org/wp-content/uploads/2023/06/Spring-2023-construction-labor-market-report_final-PDF.pdf
- ³ Ibid.
- ⁴ Ibid.
- ⁵ Kane, J. W. (December 2022). *Seizing the U.S. infrastructure opportunity: Investing in current and future workers*. Brookings Institution. Retrieved from https://www.brookings.edu/wp-content/uploads/2022/12/InfraJobsUpdate_final.pdf
- ⁶ Tate, P. (2022). *The employment outlook for occupations tasked with building America's infrastructure*. U.S. Bureau of Labor Statistics. Retrieved from <https://www.bls.gov/opub/btn/volume-7/the-employment-outlook-for-occupations-tasked-with-building-americas-infrastructure.htm>
- ⁷ U.S. Bureau of Labor Statistics. (2022). *Occupational outlook handbook: Architects*. Retrieved from <https://www.bls.gov/ooh/architecture-and-engineering/architects.htm>
- ⁸ U.S. Bureau of Labor Statistics. (2022). *Occupational outlook handbook: Civil engineers*. Retrieved from <https://www.bls.gov/ooh/architecture-and-engineering/civil-engineers.htm>



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