



COLORADO

ADVANCED INDUSTRY

# INFRASTRUCTURE ENGINEERING



## INDUSTRY FACTS

2013 TOTAL EXPORTS

**\$700**  
MILLION

### TOP 3 EXPORT MARKETS

1. Canada
2. Mexico
3. China

## NUMBER OF COMPANIES

**9.8K**

## AVERAGE ANNUAL EMPLOYMENT

**137.2K**

*The infrastructure engineering industry includes companies that provide a full spectrum of planning, design, development, operations and maintenance of critical structures, machinery, equipment and other systems.*

These companies provide engineering services for all types of industries ranging from construction and transportation to manufacturing and energy. Specifically, the industry includes companies that construct nonresidential buildings and civil engineering projects ranging from utility, water and solid waste systems to highways, streets and bridges. Contractors specializing in steel and concrete, site preparation, installing and servicing building equipment, and other specialized trades are also included. Companies in the infrastructure engineering industry manufacture asphalt, coating materials, brick, cement, concrete, and machinery and wholesale, rent, and lease construction and mining machinery and equipment. Infrastructure engineering companies implement complex projects from initial concept to delivery and operation, which includes consultancy services and building services ranging from architectural, drafting, mapping and surveying to inspection, evaluation, testing, remediation and related services during the construction or installation phase of engineering projects.

### Infrastructure Engineering Assets

Colorado's talented workforce and innovative capacity create a world-class hub for engineering, design, commercial and civil construction firms. According to the Bureau of Labor Statistics, the state is home to more than 41,000 highly-trained engineers who work on major civil, commercial and environmental projects serving the needs for energy and ecosystems, bridges and infrastructure, and major hospitals and stadiums. Both developed and developing countries present major market opportunities for Colorado's engineering, design and construction services firms, as their services are unparalleled. The state is home to multinational infrastructure engineering companies including CH2M Hill, URS Corporation, Johns Manville and Jacobs Engineering. CH2M Hill, a Fortune 500 firm headquartered in Colorado, is engineering and expanding the Panama Canal, managed the design and construction of the infrastructure for the 2012 London Olympic Games, and is beginning work on the stadiums for the 2022 World Cup in Qatar. Colorado-based Fentress Architects designed the Incheon International Airport in Seoul, Korea, and Denver-based RNL Design is the architect for some of the tallest buildings in the world and some of the most ambitious international hospitality destinations.

### Major Employers

- CH2M Hill
- Jacobs Engineering Group Inc.
- Johns Manville
- Kiewit Corporation
- M.A. Mortenson Company
- MWH Global
- SAIC
- Tetra Tech
- URS Corporation
- Wagner Equipment

# TOP OCCUPATIONS

BY EMPLOYMENT

1. Plumbers, Pipefitters, and Steamfitters

2. First-Line Supervisors of Construction Trades and Extraction Workers

3. Managers, All Other

4. General and Operations Managers

5. Construction Laborers

ANNUAL  
PAYROLL  
**\$9.9**  
BILLION

DID YOU  
KNOW?

Metro Denver is among the nation's top 10 engineering hubs with a concentration of 17 engineers per 1,000 employees. (Forbes, 2013)

There are more female civil engineers in Colorado (1,400 in this discipline) than any other field of engineering. (EMSI, 2014)

In 2012, Colorado awarded 12.5% of degrees in STEM fields. (Colorado Innovation Network, 2013)

## Workforce

Colorado's infrastructure engineering industry includes a large pool of talented, well-educated, and highly skilled workers. Compared with the age distribution across all industries, the infrastructure engineering industry has a larger share of employees between the ages of 25 and 64 years old.

More than 41 percent of infrastructure engineering-related occupations in Colorado require a high school diploma or equivalent, while 32 percent require a bachelor's degree or higher. Of the infrastructure engineering-related occupations, about 46 percent require some sort of on-the-job training.

## Education and Training

The higher education system in Colorado provides an excellent support system for the infrastructure engineering industry in the state and offers a broad range of technical, scientific and specialized degrees. There are 28 public institutions of higher education in Colorado, consisting of 13 four-year and 15 two-year public institutions offering infrastructure engineering-related programs. In addition, there are more than 30 private and religious accredited institutions and about 15 private occupational and technical schools offering more than 260 infrastructure engineering-related programs throughout the state.

## Key Locational Factors

### 1. Access to a large, technical and scientific workforce

- Colorado ranked ninth in the number of science and engineering graduate students per 1,000 individuals ages 25-34 years old in 2011. (National Science Foundation, 2014)

### 2. A central location and easy global access

- Colorado's central U.S. location allows convenient access as air travelers can easily reach two-thirds of the nation within two hours and is within four hours flying time of every North American city with a population of 1 million or more. Colorado's position on the 105th meridian—the exact midpoint between Tokyo and Frankfurt—favorably serves growing world markets.
- DIA was the fifth-busiest airport in the nation and 15th-busiest worldwide in terms of passenger traffic in 2013. DIA is home to 16 commercial carriers that offer scheduled nonstop service to nearly 180 destinations worldwide. (U.S. Bureau of Transportation Statistics, 2014; Airports Council International 2014; and Denver International Airport, 2014)

### 3. Proximity to colleges/universities

- *U.S. News & World Report* recognized five Colorado universities among the nation's "Best Undergraduate Engineering Programs" that offer doctoral degrees. The College of Engineering and Applied Science at the University of Colorado Boulder ranked 32nd, the Colorado School of Mines ranked 49th, the College of Engineering at Colorado State University ranked 65th, the College of Engineering and Applied Science at the University of Colorado Denver ranked 139th, and the Daniel Felix Ritchie School of Engineering and Computer Science at the University of Denver ranked 152nd. (U.S. News & World Report, 2014)

### 4. Low to moderate costs of doing business

- *Forbes* ranked Colorado fifth on its 2013 "Best States for Business and Careers" list. Colorado's cost of doing business is 2.4 percent below the national average and the state received its highest rankings for labor supply (first overall), growth prospects (fourth overall), and quality of life (ninth overall).

Colorado's advanced industries include aerospace, advanced manufacturing, bioscience, electronics, energy and natural resources (including Cleantech), technology and information and infrastructure engineering. For more information about available grants, visit [www.advancecolorado.com/aiprograms](http://www.advancecolorado.com/aiprograms).

Learn more about Colorado's infrastructure industry at [www.advancecolorado.com/infrastructure](http://www.advancecolorado.com/infrastructure).



COLORADO

Office of Economic Development  
& International Trade

1625 Broadway, Suite 2700 | Denver, Colorado 80202 USA

Phone: 303.892.3840 | FAX: 303.892.3848

[www.advancecolorado.com](http://www.advancecolorado.com)



Scan this QR Code  
to learn more

**Note:** An establishment is defined as a single physical location that produces some form of economic activity. One company can have multiple establishments.

**Sources:** QCEW Employees, Non-QCEW Employees, Self-Employed, & Extended Proprietors – EMSI 2014.2 Class of Worker; WISERTrade.