

2023

Engineering Services INDUSTRY PROFILE

Colorado Urban Front Range



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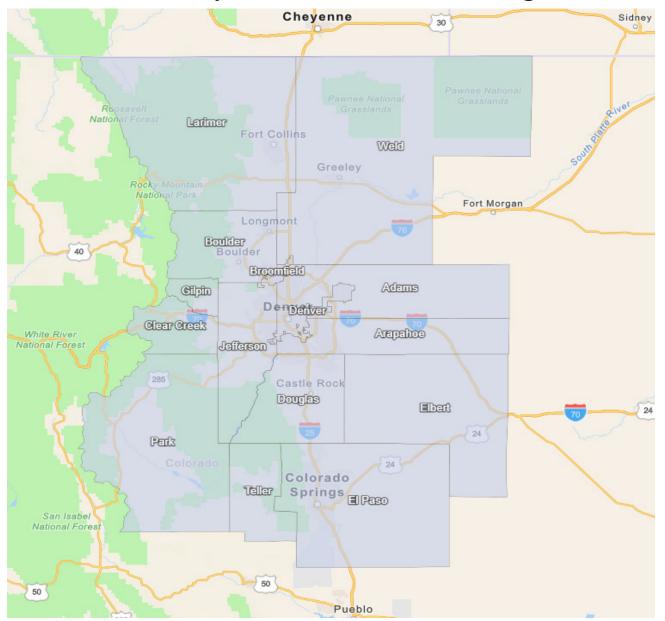
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Geographical Area



The geographical area for this industry profile includes the 15 counties that make up Colorado's Urban Front Range.



The geographic region includes the following metropolitan areas:

- Boulder
- Colorado Springs
- · Denver-Aurora-Lakewood
- Fort Collins
- Greeley

In 2022, this 15 county region employed nearly 2.7 million people across all industries, and made up 84% of Colorado's total employment.

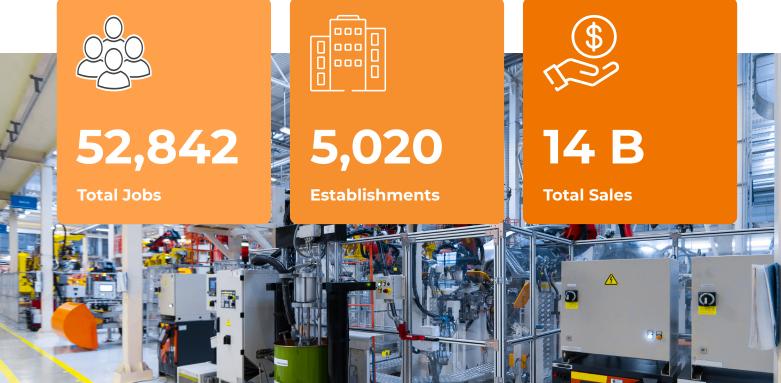
In 2022, the Gross Regional Product (GRP) for the Front Range region was \$416.3 billion, which made up just under 1.7% of the national Gross Domestic Product (GDP). GDP is the total market value of all goods and services in the nation, and GRP is the total market value of all goods and services in the region.

Industries Making up the Sector

Engineering Services

▲ 2.9% From prior year

1.9%
Total Jobs in CO
Urban Front Range



Engineering services employs 52,842 people in 5,020 establishments. An 'establishment' is one facility in which people work. For example, a business in the sector may have several locations, and each one of those locations counts as an 'establishment.'

In 2022, the sector had \$14.3 billion in sales, and contributed \$8.1 billion to the region's GRP. The engineering services industry has been thriving, with a diverse range of companies spanning fields like aerospace, technology, heavy civil construction, and renewable energy. The region's emphasis on sustainability and renewable energy initiatives aligns with the industry's focus on creating solutions for a more environmentally conscious future.

Engineering Services Sector

Employment concentration measures the concentration of employment in an industry in the local region against the average employment concentration in that industry nationwide. For example, we would read, "Employment in geophysical surveying and mapping services is 6.70 times more concentrated than the national average for this industry." The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.

Architectural Services

NAICS **541310**

Numbers to Know

- 4,846 jobs
- 755 establishments
- 1.50 employment concentration
- \$1.2 billion in sales
- 6.4% change to 2027
- \$97,208 average wage
- \$12,830 average employer paid benefits

Landscape Architectural Services

NAICS **541320**

Numbers to Know

- 1,290 jobs
- 231 establishments
- 2.26 employment concentration
- \$294.5 million in sales
- 11.0% change to 2027
- \$83,854 average wage
- \$11,065 average employer paid benefits



Engineering Services

NAICS **541330**

Numbers to Know

- 40,793 jobs
- 3,217 establishments
- 2.32 employment concentration
- \$11.3 billion in sales
- 6.0% change to 2027
- \$119,537 average wage
- \$15,783 average employer paid benefits

Building Inspection Services

NAICS **541350**

Numbers to Know

- 691 jobs
- 217 establishments
- 1.52 employment concentration
- \$147.2 million in sales
- 10.0% change to 2027
- \$75,248 average wage
- \$9,922 average employer paid benefits

Surveying and Mapping (except Geophysical) Services

NAICS **541370**

Numbers to Know

- 1,256 jobs
- 180 establishments
- 1.41 employment concentration
- \$259.4 million in sales
- (0.0%) change to 2027
- \$86,539 average wage
- \$11,413 average employer paid benefits

Drafting Services

NAICS **541340**

Numbers to Know

- 359 jobs
- 100 establishments
- 2.29 employment concentration
- \$98.7 million in sales
- 10.0% change to 2027
- \$92,797 average wage
- \$12,229 average employer paid benefits

Geophysical Surveying & Mapping Services

NAICS **541360**

Numbers to Know

- 1,518 jobs
- 98 establishments
- 6.70 employment concentration
- \$566.1 million in sales
- 6.0% change to 2027
- \$161,508 average wage
- \$21,319 average employer paid benefits

Testing Laboratories

NAICS **541380**

Numbers to Know

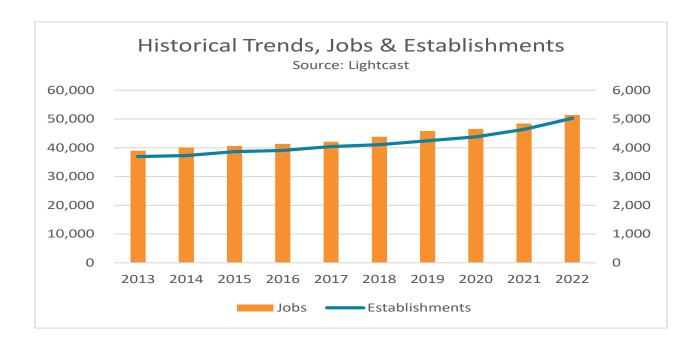
- 2,088 jobs
- 225 establishments
- 0.73 employment concentration
- \$370.4 million in sales
- 1.0% change to 2027
- \$75,868 average wage
- \$9,667 average employer paid benefits

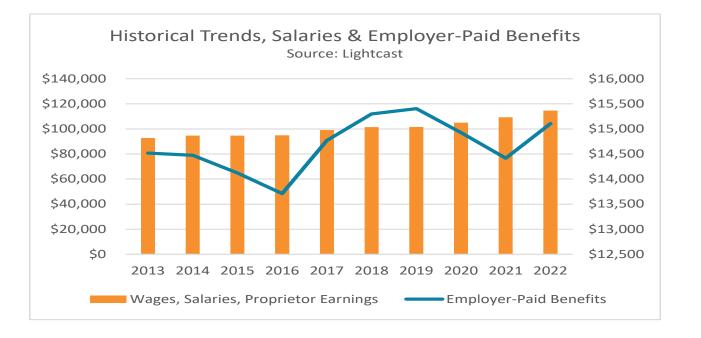


Historical Trends

Colorado Urban Front Range

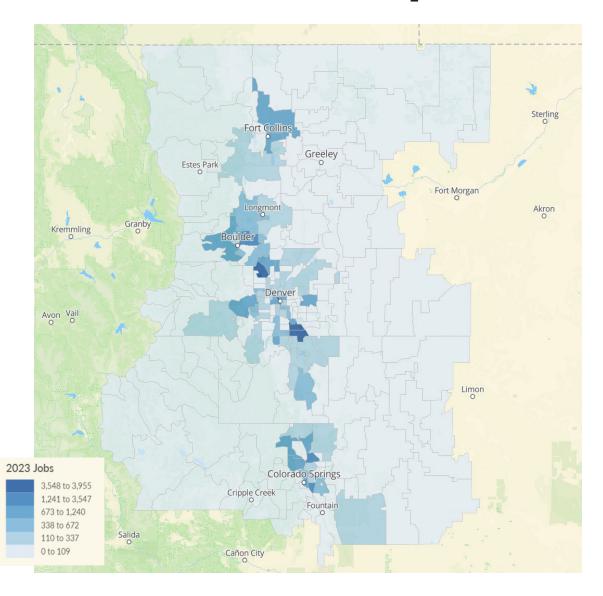
The first graph shows the growth in jobs (orange bars), and the growth in the number of establishments (blue line) in the sector between 2013 and 2022. The second graph shows the growth in wages, salaries and proprietor earnings (orange bars) and in employer-paid benefits, including the employer portions of both Social Security and Medicare payroll deductions (blue line) for the same period.





Employment Concentration

Employment Concentration Map



Colorado Urban Front Range

The overall employment concentration in this sector is 2.27 times the national average, which suggests that businesses in the sector who locate or expand in the region will have an easier time finding critical talent. Concentration within the region varies, with Arapahoe, Jefferson and Boulder counties having the highest concentrations.

Sector Employment Concentration



Employment concentration in the sector is shown here within each of the 15 counties making up the region. Note that the current wages, salaries, and proprietor earnings, as well as the current employer-paid benefits are different within each county. This is because each county has a different mix of businesses operating within various industries in the sector.

ADAMS

- Jobs 2.323
- Employment Concentration - 0.90
- Current Wages, Salaries, & Proprietor Earnings -\$139.635
- Benefits \$18.384
- Top Businesses Stresscon Corporation, Apogee Engineering Headquarters, **Econolite**

BROOMFIELD

- Jobs 1,001
- Employment Concentration - 2.17
- Current Wages, Salaries, & Proprietor Earnings -\$150,193
- Benefits \$19,813
- Top Businesses Summit Facilities Construction & Maintenance, MTCO Inc., Luchetti Surveying

ARAPAHOE

- Jobs 10.532
- Employment Concentration - 2.92
- Current Wages, Salaries, & Proprietor Earnings -\$122.744
- Benefits \$16.201
- Top Businesses Jacobs, Samuel Engineering, Inc., SEAKR Engineering, Inc.

CLEAR CREEK

- Jobs <10
- Employment Concentration - 0.07
- Current Wages, Salaries, & Proprietor Earnings - Insf. Data
- Benefits Insf. Data
- Top Businesses Sturman Industries, Wood, 3D Landscaping & Design

BOULDER

- Jobs 5.162
- Employment Concentration - 2.46
- Current Wages, Salaries, & Proprietor Earnings -\$107.085
- Benefits \$14.118
- Top Businesses SGS Transportation, CDOT Engineers, 1004 4th St. LLC

DENVER

- Jobs 11.364
- Employment Concentration - 1.89
- Current Wages, Salaries, & Proprietor Earnings -\$107,764
- Benefits \$14,215
- Top Businesses US Engineering Co., Preferred Pump & Equipment, Roeslein & Associates, Inc.

DOUGLAS

- Jobs 2.884
- Employment Concentration - 1.86
- Current Wages, Salaries, & Proprietor Earnings -\$120.197
- Benefits \$15.857
- Top Businesses Olsson Associates, Zachry Engineering Corp., Stantec

GILPIN

• Employment Concentration

• Current Wages, Salaries, &

Proprietor Earnings - Insf.

• Top Businesses - Western

States Reclamation. Inc..

• Benefits - Insf. Data

Hybon Engineering,

Frachetti Engineering

PARK

• Employment Concentration

• Current Wages, Salaries, &

• Top Businesses - Green

Mountain Landscaping,

Littlehorn Engineering, 5

• Benefits - \$4,946

Design, Inc.

Proprietor Earnings - \$37,439

• Jobs - <10

- 0.03

Data

• Jobs - 11

- 0.35

EL PASO

- Jobs 8.651
- Employment Concentration - 2.31
- Current Wages, Salaries, & Proprietor Earnings -\$114.980
- Benefits \$15.176
- Top Businesses Earth Systems Research Laboratory, JVA Inc., Hyde **Engineering & Consulting**

- Jobs 64
 - Employment Concentration - 1.30

ELBERT

- Current Wages, Salaries, & Proprietor Earnings - \$81,077
- Benefits \$10.712
- Top Businesses Terumo BCT Inc., Martin/Martin, Inc., O'Toole's Garden Center. Inc.

JEFFERSON

- Jobs 7.434
- Employment Concentration - 2.87
- Current Wages, Salaries, & Proprietor Earnings -\$107.786
- Benefits \$14.211
- Top Businesses MWH Constructors. Renewable Energy Systems, City of **Broomfield Public Works** Dept.

TELLER

- Jobs 62
- Employment Concentration - 0.72
- Current Wages, Salaries, & Proprietor Earnings -\$52,540
- Benefits \$6,941
- Top Businesses Woodward, Inc., Tanco Engineering, Inc., Miner & Miner Consulting Engineers

LARIMER

- Jobs 2.739
- Employment Concentration - 1.43
- Current Wages, Salaries, & Proprietor Earnings - \$111,396
- Benefits \$14.691
- Top Businesses -Mollenhauer Group, Frank's Finish Grading, Integrity Locums

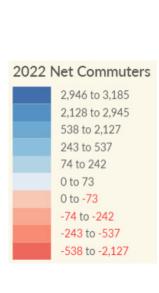
WELD

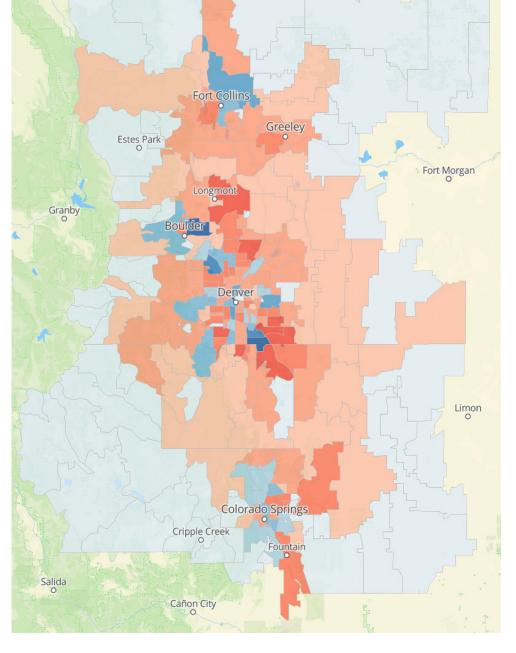
- Jobs 610
- Employment Concentration - 0.50
- Current Wages, Salaries, & Proprietor Earnings -\$82,852
- Benefits \$10,815
- Top Business Carabou Engineering



Where Core Workforce Lives

Commute Map





Every sector has a group of occupations it needs to fulfil its mission. This is called a staffing pattern, and generally includes managers, business and finance people, sales and administrative support, computer and mathematical occupations. There is also a core set of occupations that are primarily responsible for producing the good or services that industry provides. In engineering services, this core set of occupations is made up engineers, technicians and drafters. Examples of these occupations include aerospace and civil engineers, and engineering technicians. This map shows where persons employed in these occupations live (orange areas) and where they work (blue areas).

Where Core Workforce Lives

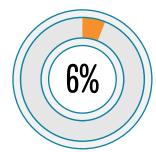
Commute Patterns

This table shows the number of 'net commuters' in each of the 15 counties making up the region. For example 9,943 engineering workers live in Jefferson County. There are 9,478 engineering jobs in the county. This means that there 466 fewer engineering services jobs in Jefferson County than there are residents in those occupations.

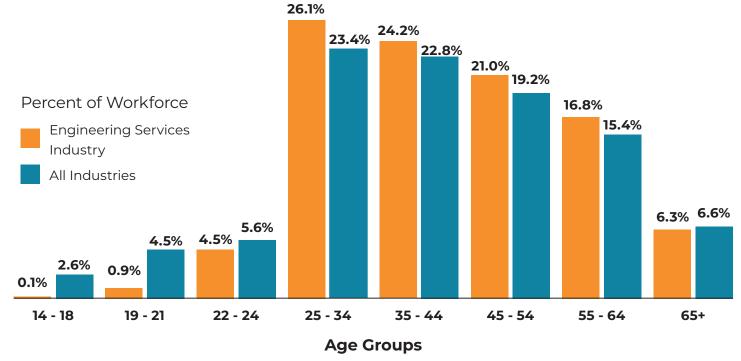
County	Net Commuters	Resident Workers	Jobs		
Denver	3,878	9,528	13,405		
Boulder	2,327	6,986	9,313		
Arapahoe	2,155	8,125	10,280		
Larimer	182	5,072	5,253		
Clear Creek	32	35	67		
Gilpin	(36)	51	15		
Broomfield	(44)	1,742	1,698		
Park	(78)	113	35		
Teller	(114)	219	105		
Elbert	(190)	274	84		
El Paso	(406)	8,166	7,761		
Jefferson	(466)	9,943	9,478		
Adams	(2,294)	6,355	4,060		
Douglas	(2,824)	5,914	3,091		
Weld	(2,847)	4,568	1,721		



Comparative Retirement Risk



Retirement risk for engineering services is slightly lower than that across all industries in the region. While 6.3% of workers in this sector are over 65 years of age, which is three-tenths of a percent lower than across all industries, the 55-64 age group is overrepresented in the sector by 1.5% which suggests heightened retirement risk in the latter part of this decade.

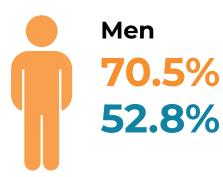


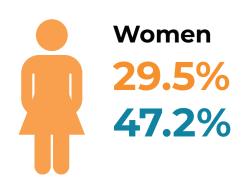
I Comparative Gender

Percent of Workforce

Engineering Services Industry

All Industries

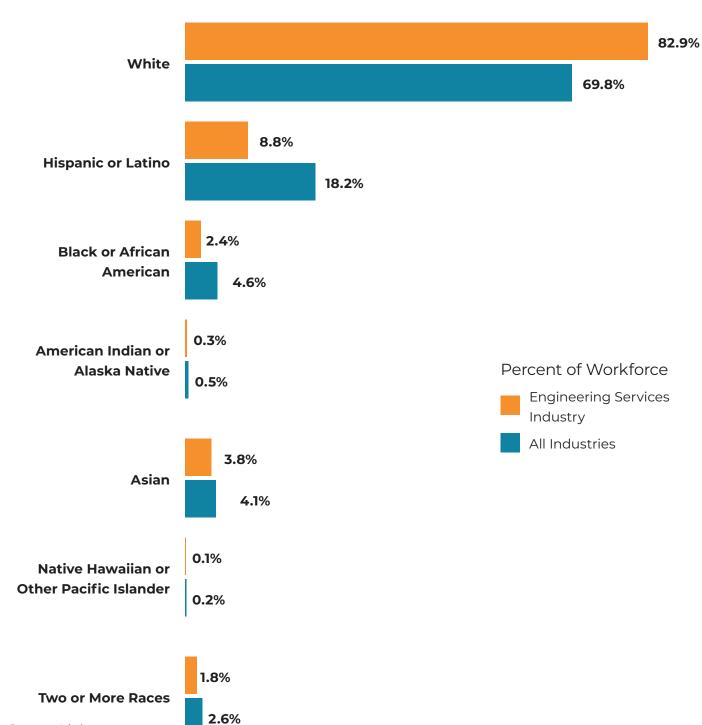




I Comparative Racial Diversity



This bar chart shows the racial and ethnic diversity in the industry versus across all industries in the 15 county region. This is measured by a concept called 'total diversity,' which is the percent of racial or ethnic minorities employed in the sector versus the percent of racial and ethnic minorities employed across all industries. Engineering services is much less diverse than the overall average within the region, with overall diversity at only 17.1% of the sector's workforce versus nearly twice that (30.2%) across all industries.



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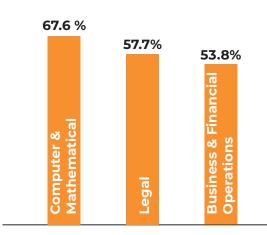


Telework and Automation Strategies

Remote Work Potential

42.0% Remote Work Capability for Sector

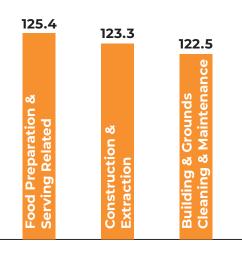
In a scarce labor market, a valid strategy for employers may be to review their staffing mix and determine which positions, if any, can be employed remotely or using a hybrid schedule. Approximately 42% of the workforce in engineering services has at least partial teleworking capacity.



Automation Index

89.8

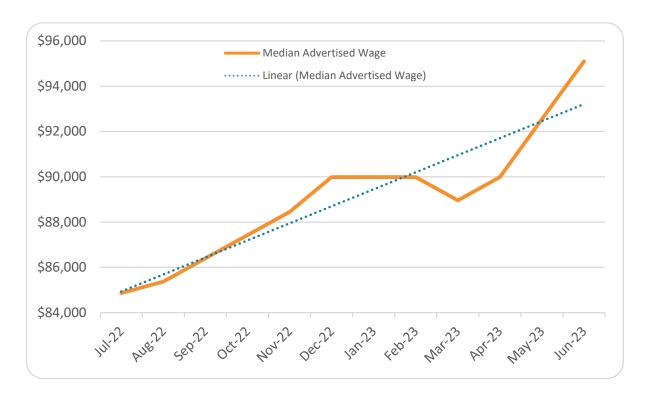
Another valid strategy employers can use in today's scarce labor market is automation. Automation seldom replaces workers 1:1. Rather, automation leverages the productive capacity of fewer workers to allow for higher output. An example of automation in engineering services are the various Computer Aided Design and ArcGIS programs.



Wages

Advertised Wage Trends

The scarce labor market has driven wages up over time. This line graph shows movement in advertised wages in jobs posted in the sector over the last year.



Competitive Wage Analysis

The following table shows the top 20 occupations by percentage of total employment in the sector, as well as total employment across industries. For example, the engineering services sector employs 667 accountants and auditors, but there are over 33,871 accountants and auditors employed across all industry sectors. This is important because engineering services must compete with other sectors for critical talent, such as accountants, software developers and business and financial people. Average annual openings for each occupation is estimated according to known attrition (people leaving the occupation or retiring) as well as expected national and local growth in that occupation.

Median posted wage levels can be compared to estimated entry and experienced level wages, and the typical entry level education, as well as the typical on-the-job training (OJT) are shown to illustrate the potential for apprenticeships and OJT to supplement shortfalls in the traditional training pipeline.

The Standard Occupational Classification (SOC) system is used by Federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data.

Competitive Wage Analysis

SOC	Description	Jobs in Sector	% of Total Employment in Sector	Jobs Across all Industries	Average Annual Openings	Median Posted Wage	Entry Level Wage	Median Wage	Highly Experienced Level Wage	Typical On-the-Job Training	Typical Entry Level Education
11-1021	General & Operations Managers	863	1.7%	43,376	4,738	\$39.82	\$41.82	\$60.92	\$88.42	None	Bachelor's degree
11-9041	Architectural & Engineering Managers	1,373	2.7%	3,531	301	\$74.58	\$69.92	\$82.73	\$100.44	None	Bachelor's degree
13-1082	Project Management Specialists	3,006	5.9%	26,398	2,541	\$46.89	\$35.86	\$47.13	\$61.85	None	Bachelor's degree
13-1199	Business Operations Specialists, All Other	930	1.8%	41,848	4,354	\$34.83	\$29.62	\$39.03	\$51.78	None	Bachelor's degree
13-2011	Accountants & Auditors	667	1.3%	33,871	3,424	\$34.34	\$29.78	\$38.29	\$50.34	None	Bachelor's degree
15-1252	Software Developers	1,170	2.3%	42,214	4,449	\$58.95	\$48.81	\$62.25	\$76.79	None	Bachelor's degree
17-1011	Architects, Except Landscape & Naval	2,963	5.8%	3,415	314	\$43.26	\$29.52	\$39.00	\$49.13	Internship	Bachelor's degree
17-1022	Surveyors	1,084	2.1%	1,399	128	\$32.37	\$26.59	\$30.99	\$38.36	Internship	Bachelor's degree
17-2011	Aerospace Engineers	831	1.6%	3,494	256	\$57.72	\$47.58	\$61.20	\$79.15	None	Bachelor's degree
17-2051	Civil Engineers	6,894	13.4%	10,933	954	\$44.43	\$36.89	\$45.58	\$60.06	None	Bachelor's degree
17-2071	Electrical Engineers	1,080	2.1%	3,457	268	\$52.55	\$41.00	\$50.05	\$63.05	None	Bachelor's degree
17-2072	Electronics Engineers, Except Computer	778	1.5%	7,318	506	\$58.22	\$45.08	\$57.58	\$74.89	None	Bachelor's degree
17-2081	Environmental Engineers	786	1.5%	1,908	166	\$40.98	\$35.87	\$45.81	\$60.20	None	Bachelor's degree
17-2141	Mechanical Engineers	1,582	3.1%	5,047	370	\$48.37	\$38.83	\$47.85	\$61.49	None	Bachelor's degree
17-3011	Architectural & Civil Drafters	1,885	3.7%	2,444	318	\$34.09	\$27.94	\$33.81	\$38.87	None	Associate's degree
17-3022	Civil Engineering Technologists & Technicians	711	1.4%	1,272	150	\$28.98	\$22.70	\$26.42	\$33.39	None	Associate's degree
17-3031	Surveying & Mapping Technicians	1,894	3.7%	2,771	382	\$27.51	\$21.02	\$23.32	\$29.48	Moderate-term OJT	High school diploma or GED
19-2042	Geoscientists, Except Hydrologists & Geographers	746	1.5%	2,176	211	\$37.29	\$35.72	\$50.20	\$78.17	None	Bachelor's degree
43-6014	Secretaries & Administrative Assistants, Except Legal, Medical, & Executive	826	1.6%	31,254	3,835	\$20.98	\$17.71	\$20.92	\$24.44	Short-term OJT	High school iploma or GED
47-4011	Construction & Building Inspectors	1,497	2.9%	3,659	486	\$31.69	\$25.63	\$31.81	\$38.72	Moderate-term OJT	High school diploma or GED



Top Occupations

Top 20 Occupations Currently Listed in the Colorado Urban Front Range

Top Occupations

These figures use information from unique job postings across the sector to show the number of jobs posted in the 15 county region during the last year and median posted salary. It is also important when planning staffing strategy to look at hires, separations and turnover rate for each of the occupations, whether the occupation is apprenticeable or not, and the top skills demanded over the prior 12-month period.

Discover more about each occupation by simply clicking on the respective icon.



Civil Engineers

 Unique Postings 6,040 · Median Salary \$44.43 Hires 3,948 3,482 Separations •Turnover Rate 32.8% No Apprenticeable

Top Skills: Project Management, Civil Engineering, Construction



Project Management Specialists

 Unique Postings 8,043 · Median Salary \$46.89 Hires 13,693 13,132 Separations •Turnover Rate 51.0% Apprenticeable Yes

Top Skills: Project Management, Construction, Project Schedules



Architects, Except Landscape & Naval

 Unique Postings 1,352 · Median Salary \$43.26 ·Hires 1.219 Separations 1,020 •Turnover Rate 30.9% Apprenticeable No Top Skills: Autodesk Revit,

Project Management, AutoCAD



Surveying & Mapping Technicians

· Unique Postings 424 · Median Salary \$27.51 ·Hires 1.755 Separations 1,680 ·Turnover Rate 61.9% Apprenticeable Yes Top Skills: Geographic Information Systems, Surveying, ArcGIS (GIS Software)



Architectural & Civil Drafters



\$34.09

• Hires 1,472

· Median Salary

Separations 1,322Turnover Rate 55.6%

·Apprenticeable Yes

Top Skills: AutoCAD, Computer Aided Design, AutoCAD Civil 3D



Mechanical Engineers

Unique Postings 4,593
Median Salary \$48.37
Hires 1,589
Separations 1,408
Turnover Rate 28.6%
Apprenticeable Yes

Top Skills: Mechanical Engineering, Mechanical Design, Project Management



Electrical Engineers

Unique Postings 5,848
Median Salary \$52.55
Hires 1,029
Separations 947
Turnover Rate 28.2%
Apprenticeable No
Top Skills: Electrical
Engineering, Electrical Systems,
Project Management



Business Operations Specialists, All Other

Unique Postings 2,400
Median Salary \$34.83
Hires 24,611
Separations 24,781
Turnover Rate 60.2%
Apprenticeable No

Top Skills: Project Management, Auditing, Marketing



Construction & Building Inspectors

Unique Postings 1,070
Median Salary \$31.69
Hires 2,282
Separations 2,268
Turnover Rate 80.0%
Apprenticeable Yes

Top Skills: Construction, Project Management, Plumbing



Architectural & Engineering Managers

Unique Postings 4,848
Median Salary \$74.58
Hires 1,205
Separations 1,060
Turnover Rate 30.8%
Apprenticeable No

Top Skills: Project Management, Engineering Management, Project Engineering



General & Operations Managers

Unique Postings 13,091
Posted Salary \$39.82
Hires 27,382
Separations 23,014
Turnover Rate 54.9%
Apprenticeable Yes
Top Skills: Operations
Management, Marketing,

Project Management



Aerospace Engineers

Unique Postings 1,492
Median Salary \$57.72
Hires 880
Separations 890
Turnover Rate 26.1%
Apprenticeable No
Top Skills: Systems Engineerin

Top Skills: Systems Engineering, Spacecraft, Aerospace Engineering



Software Developers

Unique Postings 35,423
Median Salary \$58.95
Hires 19,234
Separations 13,486
Turnover Rate 33.7%
Apprenticeable Yes
Top Skills: Software
Engineering, Computer Science,

Agile Methodology



Surveyors

Unique Postings 828
Median Salary \$32.37
Hires 546
Separations 484
Turnover Rate 35.6%
Apprenticeable No
Top Skills: Surveying,
Topographic Surveying,
Topography



Secretaries & Administrative Assistants, Except Legal, Medical, & Executive

Unique Postings 13,368
Median Salary \$20.98
Hires 23,670
Separations 24,792
Turnover Rate 80.0%
Apprenticeable Yes
Top Skills: Administrative
Support, Data Entry, Invoicing



Environmental Engineers

 Unique Postings 609 · Median Salary \$40.98 Hires 748 Separations 760 40.9% •Turnover Rate Apprenticeable No Top Skills: Environmental Engineering, Project Management Environmental Science

28 **29**



Electronics Engineers, Except Computer

·Unique Postings 1,637·Median Salary \$58.22·Hires 2,292

Separations 2,404Turnover Rate 33.0%

·Apprenticeable No

Top Skills: Electrical

Engineering, Radio Frequency,

Electronics



Geoscientists, Except Hydrologists & Geographers

Unique Postings 284Median Salary \$37.29Hires 1,050

Separations 1,093Turnover Rate 50.9%

·Apprenticeable No

Top Skills: Geology, Soil Science, Geophysics



Civil Engineering Technologists & Technicians

·Unique Postings 620

• Median Salary \$28.98

·Hires 603·Separations 548·Turnover Rate 44.4%

·Apprenticeable N

Top Skills: Project Management, Civil Engineering, Construction



Accountants & Auditors

Unique Postings 11,394Median Salary \$34.34

·Hires 19,535·Separations 18,097·Turnover Rate 54.7%

·Apprenticeable Yes

Top Skills: Accounting, Auditing,

Finance

Source: Lightcast



Let's Talk!

There are a number of strategies you can employ to enhance employee recruitment and retention. The Arapahoe/Douglas Works! Business Services Team can help you strategize and implement these tactics. Get started by calling (303) 636-1359 or visiting https://bit.ly/ADWBusinessServices.





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