

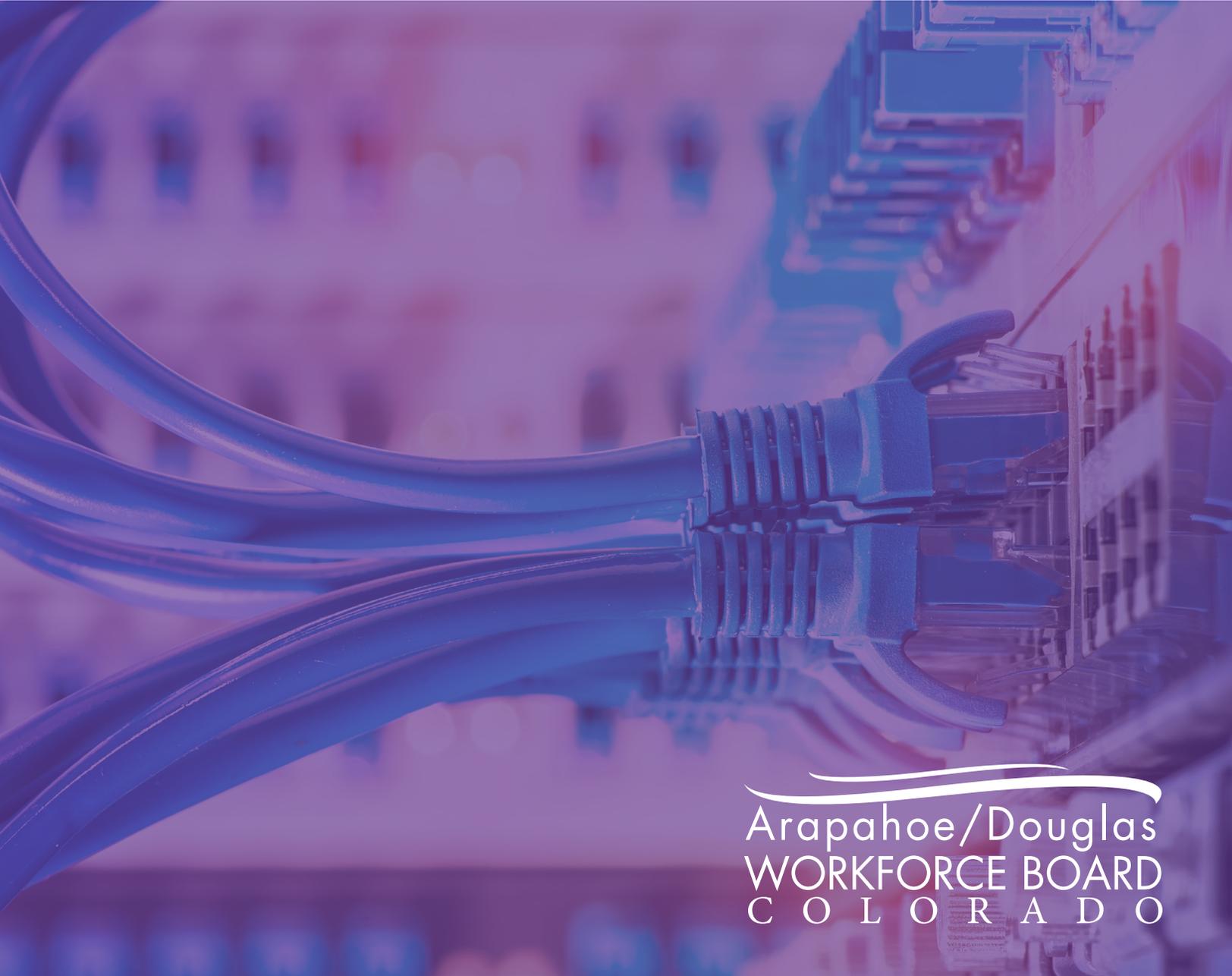


2024

# Information Technology

## INDUSTRY PROFILE

Colorado Urban Front Range



Arapahoe/Douglas  
WORKFORCE BOARD  
C O L O R A D O

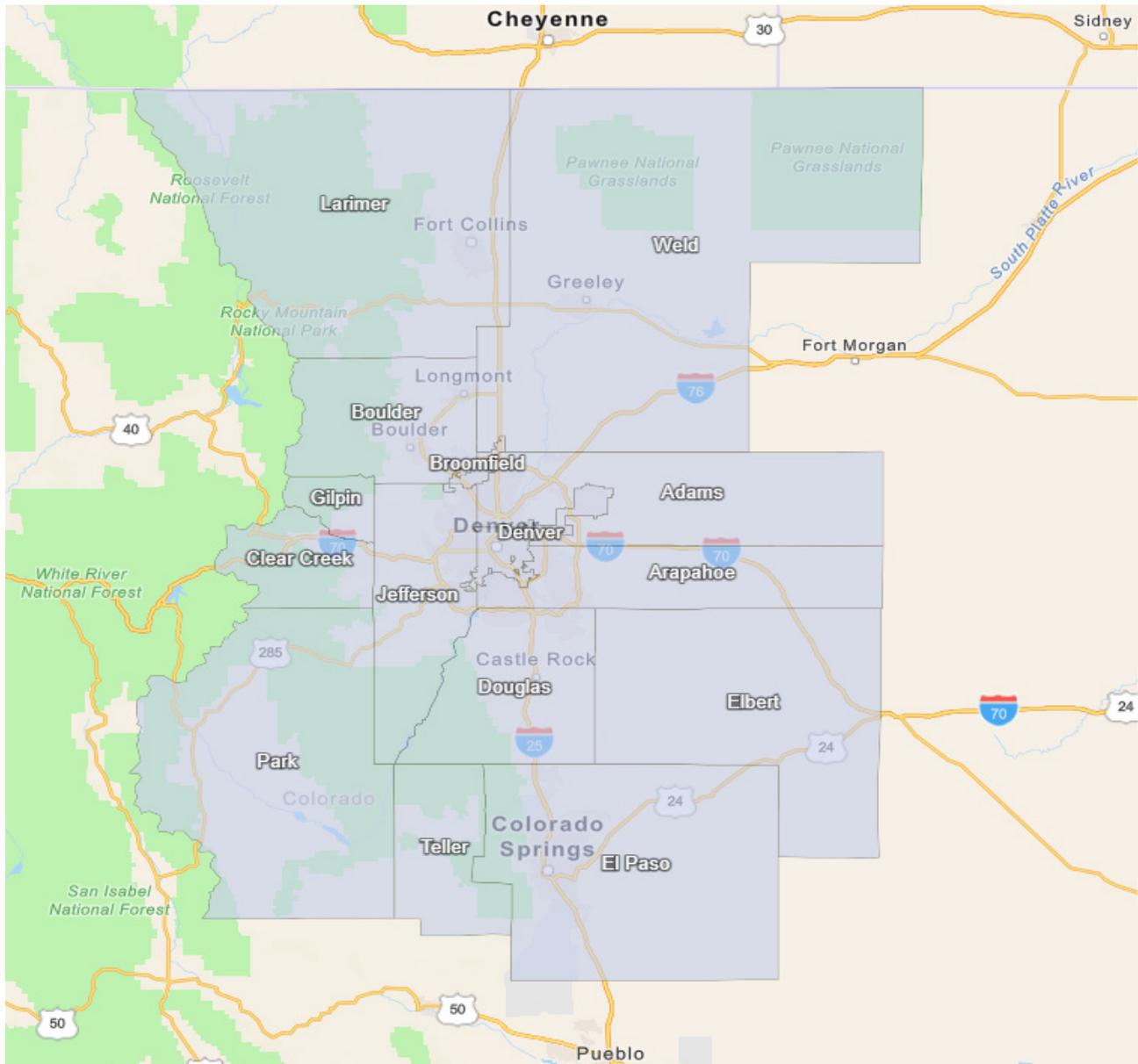
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# Geographical Area



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 2023, this 15 county region employed nearly 2.72 million people across all industries, and made up 84% of Colorado's total employment.

In 2023, the Gross Regional Product (GRP) for the Front Range region was \$422.9 billion, which made up 1.94% of the national GRP.

Lightcast defines GRP as the final market value of all goods and services in the region.



# Industries Making up the Sector

# Information Technology

▲ **5.1%** From prior year

# 4.8%

**Total Jobs in CO  
Urban Front Range**

The information technology (IT) sector employs 129,635 people in 19,080 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 2023, the sector had \$51.2 billion in sales, and contributed \$33.6 billion to the region's GRP. The information technology sector in the region is vibrant and rapidly growing. It is home to numerous tech companies and startups. The region's thriving IT ecosystem is supported by a skilled workforce and a collaborative tech community, making it an attractive hub for tech professionals and businesses alike.



## 129,635

Total Jobs



## 19,080

Establishments



## 51.6 B

Total Sales

## Top Specialized Skills

- Project Management
- Computer Science
- Agile Methodology

## Top Software Skills

- Python (Programming Language)
- Amazon Web Services
- SQL (Programming Language)

## Top Credentials

- Top Secret-Sensitive Compartmented Information (TS/SCI Clearance)
- Security Clearance
- Secret Clearance

# Information Technology 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 custom computer programming services is 2.33 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.

## Software Publishers

NAICS **513210**

### Numbers to Know

- 20,258 jobs
- 1,556 establishments
- 1.85 employment concentration
- \$14.1 billion in sales
- 6.5% change to 2028
- \$186,316 average wage
- \$25,726 average employer paid benefits

## Media Streaming Distribution Services, Social Networks, & Other Media Networks & Content Providers

NAICS **516210**

### Numbers to Know

- 4,351 jobs
- 396 establishments
- 1.15 employment concentration
- \$3.1 billion in sales
- (10.9%) change to 2028
- \$109,569 average wage
- \$21,245 average employer paid benefits

## Data Processing, Hosting, & Related Services

NAICS **518210**

### Numbers to Know

- 16,202 jobs
- 1,584 establishments
- 1.98 employment concentration
- \$10.4 billion in sales
- 6.5% change to 2028
- \$159,416 average wage
- \$32,998 average employer paid benefits

## Web Search Portals & All Other Information Services

NAICS **519290**

### Numbers to Know

- 824 jobs
- 112 establishments
- 0.31 employment concentration
- \$401.7 million in sales
- 14.5% change to 2028
- \$161,918 average wage
- \$14,731 average employer paid benefits

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## Custom Computer Programming Services

NAICS  
**541511**

### Numbers to Know

- 44,022 jobs
  - 9,289 establishments
  - 2.33 employment concentration
  - \$10.1 billion in sales
  - 18.9% change to 2028
  - \$160,173 average wage
  - \$21,876 average employer paid benefits
- 

---

## Computer Systems Design Services

NAICS  
**541512**

### Numbers to Know

- 41,070 jobs
  - 5,721 establishments
  - 2.13 employment concentration
  - \$12.7 billion in sales
  - 13.3% change to 2028
  - \$151,723 average wage
  - \$20,703 average employer paid benefits
- 

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## Computer Facilities Management Services

NAICS  
**541513**

### Numbers to Know

- 689 jobs
  - 99 establishments
  - 0.52 employment concentration
  - \$200 million in sales
  - (1.2%) change to 2028
  - \$116,567 average wage
  - \$15,841 average employer paid benefits
- 

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## Other Computer Related Services

NAICS  
**541519**

### Numbers to Know

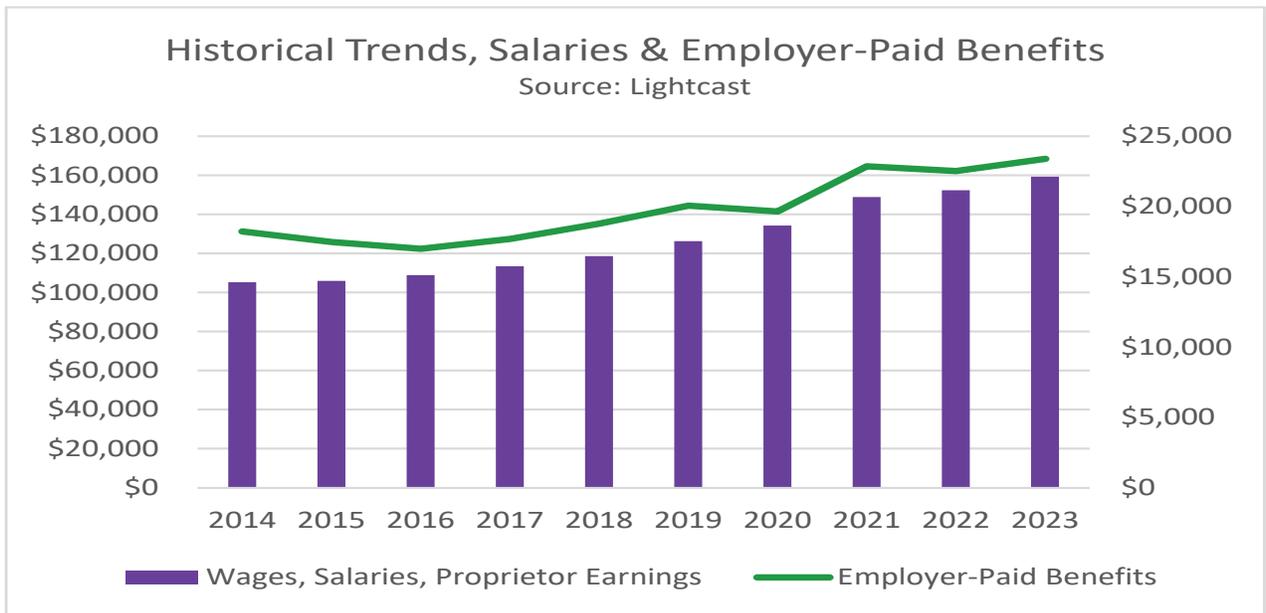
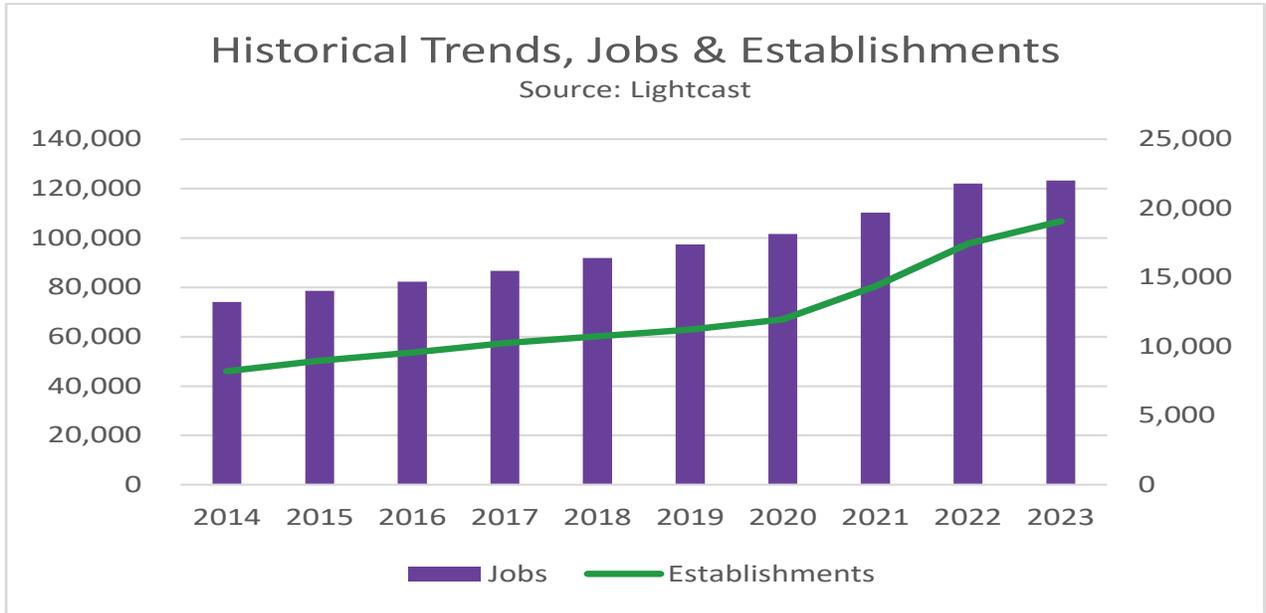
- 2,219 jobs
  - 323 establishments
  - 1.00 employment concentration
  - \$699.9 million in sales
  - 1.2% change to 2028
  - \$148,316 average wage
  - \$20,217 average employer paid benefits
-



# Historical Trends

# Colorado Urban Front Range

The first graph shows the growth in jobs (purple bars) and the growth in the number of establishments (green line) in the sector between 2014 and 2023. The second graph shows the growth in wages, salaries and proprietor earnings (purple bars), and in employer-paid benefits, including the employer portions of both Social Security and Medicare payroll deductions (green line) for the same period.

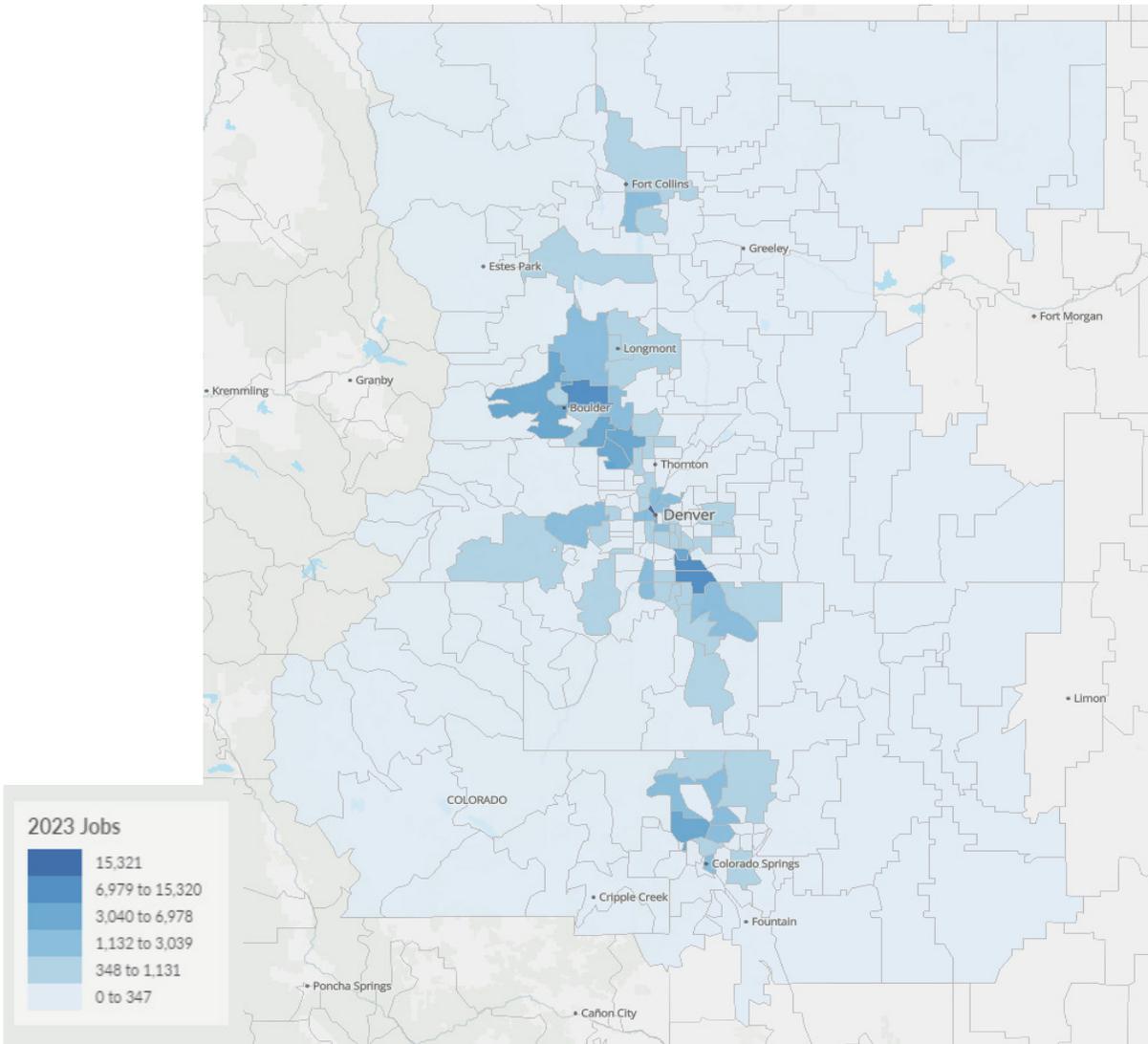


Source: Lightcast



# Employment Concentration

# Employment Concentration Map



## Colorado Urban Front Range

The overall employment concentration in this sector is 2.46 times the national average, which suggests the region is a national hub for this sector. Concentration also varies by county, with the heaviest sector employment concentrations in Broomfield and Boulder counties.

# 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 sector industries. For example, the average wage in software publishing is \$186,316, as opposed to the average wage of \$151,723 in computer systems design. As a result, depending on the sector industry mix in each county, wages and employer-paid benefits will be different.

## ADAMS

- Jobs - 2,458
- Employment Concentration - 0.38
- Current Wages, Salaries, & Proprietor Earnings - \$153,974
- Benefits - \$21,935
- Top Businesses - Maxar Technologies Inc, Response Team, Engineered Data Products Holdings Llc

## BROOMFIELD

- Jobs - 5,459
- Employment Concentration - 4.87
- Current Wages, Salaries, & Proprietor Earnings - \$202,302
- Benefits - \$32,046
- Top Businesses - Vmware, Spatial, Innovyze

## ARAPAHOE

- Jobs - 21,097
- Employment Concentration - 2.38
- Current Wages, Salaries, & Proprietor Earnings - \$140,506
- Benefits - \$21,716
- Top Businesses - Centura Health, IHS Inc, First Data Technologies Inc

## CLEAR CREEK

- Jobs - 29
- Employment Concentration - 0.33
- Current Wages, Salaries, & Proprietor Earnings - \$143,365
- Benefits - \$19,449
- Top Businesses - Advanced Systems Designs Inc, Prettig Ltd

## BOULDER

- Jobs - 20,161
- Employment Concentration - 3.92
- Current Wages, Salaries, & Proprietor Earnings - \$193,819
- Benefits - \$27,568
- Top Businesses - Zayo, Cablelabs, Par Tech Inc

## DENVER

- Jobs - 35,591
- Employment Concentration - 2.40
- Current Wages, Salaries, & Proprietor Earnings - \$166,750
- Benefits - \$24,645
- Top Businesses - Optiv Security Inc, Quark Inc, Angi Inc

## DOUGLAS

- Jobs - 8,597
- Employment Concentration - 2.27
- Current Wages, Salaries, & Proprietor Earnings - \$156,220
- Benefits - \$22,722
- Top Businesses - Evolving Systems Inc, Zykrionix Inc, Solutions LI Inc

## GILPIN

- Jobs - 22
- Employment Concentration - 0.19
- Current Wages, Salaries, & Proprietor Earnings - \$131,134
- Benefits- \$17,883
- Top Businesses - Dolphin Mosaic LLC

## PARK

- Jobs - 50
- Employment Concentration - 0.65
- Current Wages, Salaries, & Proprietor Earnings - \$123,359
- Benefits - \$17,144
- Top Businesses - SC Inc

## EL PASO

- Jobs - 14,352
- Employment Concentration - 1.56
- Current Wages, Salaries, & Proprietor Earnings - \$134,338
- Benefits - \$18,706
- Top Businesses - Vectrus, Pti, Intelligent Software Solutions Inc

## JEFFERSON

- Jobs - 9,702
- Employment Concentration - 1.51
- Current Wages, Salaries, & Proprietor Earnings - \$128,840
- Benefits - \$18,968
- Top Businesses - Gorilla Logic, Iflexion, Maptek

## TELLER

- Jobs - 95
- Employment Concentration - 0.45
- Current Wages, Salaries, & Proprietor Earnings - \$97,914
- Benefits- \$13,565
- Top Businesses - MNM Webworks LLC, Volcom Lps Inc, Digital Kontrol LLC

## ELBERT

- Jobs - 120
- Employment Concentration - 0.98
- Current Wages, Salaries, & Proprietor Earnings - \$145,627
- Benefits - \$21,149
- Top Businesses - Mooi Enterprises Inc, Information Partners Inc, Mks Systems LLC

## LARIMER

- Jobs - 4,549
- Employment Concentration - 0.99
- Current Wages, Salaries, & Proprietor Earnings - \$133,229
- Benefits - \$18,895
- Top Businesses - US Career Institute, Integware Inc, Wolf Robotics LLC

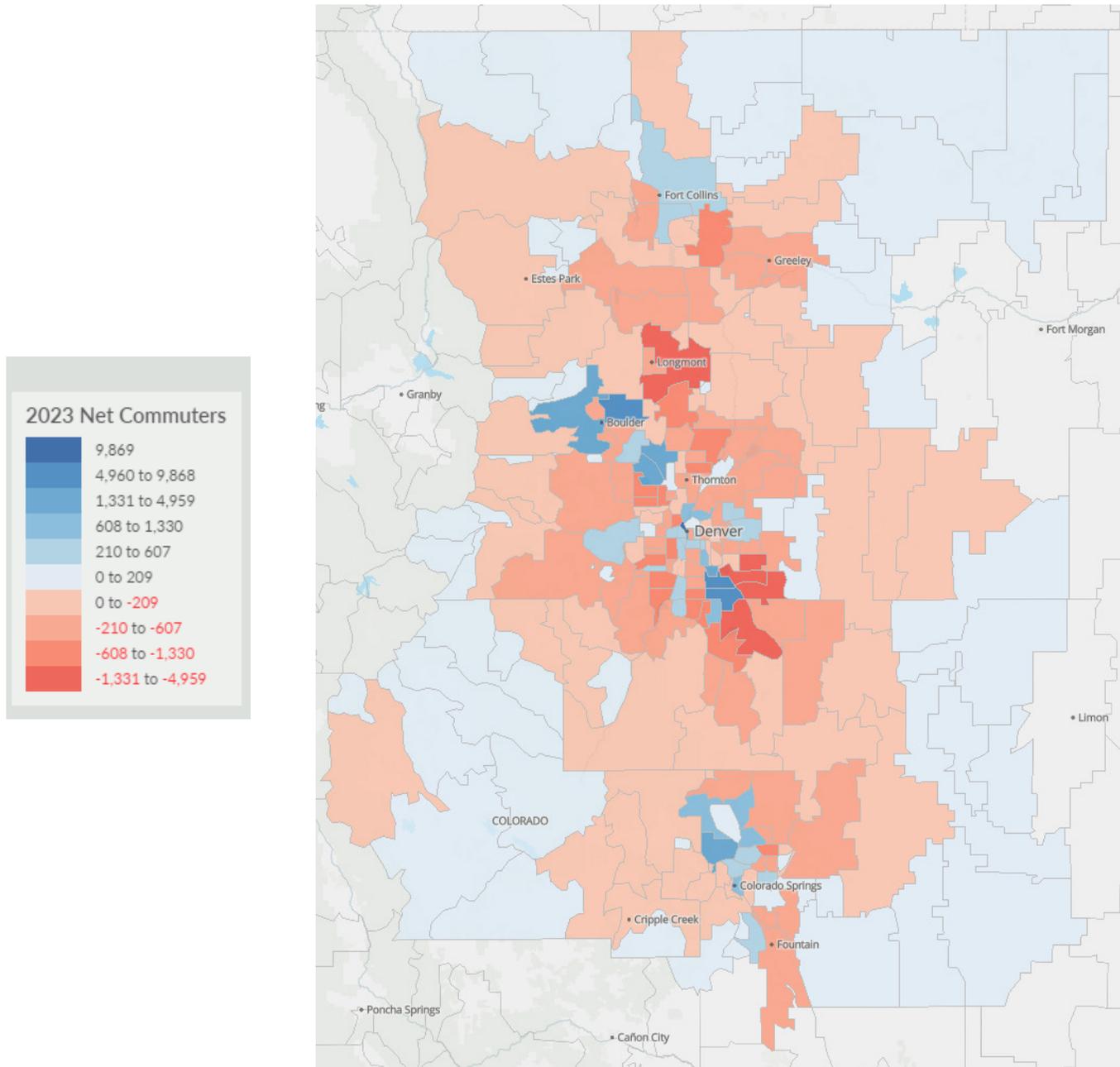
## WELD

- Jobs - 1,038
- Employment Concentration - 0.34
- Current Wages, Salaries, & Proprietor Earnings - \$175,408
- Benefits- \$24,836
- Top Businesses - Computer Information Concepts, Mesa Networks, Thin Air Networks



**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 information technology, this core set of occupations is made up of computer occupations. Examples of these occupations include software developers, user support specialists, and information security analysts. 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, 14,043 workers in these core occupations live in Douglas County. There are 9,040 jobs in the county. This means an additional 5,003 core workers commute into Douglas County to work in these core information technology occupations. Note: the latest commuter data available is from 2023.

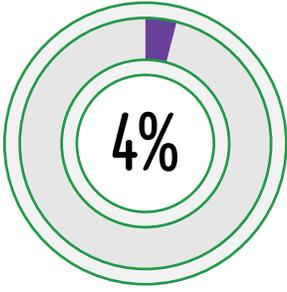
County	Net Commuters	Resident Workers	Jobs
Denver	12,888	21,760	34,648
Boulder	4,458	12,780	17,238
Arapahoe	3,571	17,938	21,509
Broomfield	1,467	3,306	4,774
El Paso	641	16,961	17,602
Gilpin	(32)	111	80
Clear Creek	(32)	96	64
Park	(164)	243	79
Teller	(241)	464	223
Elbert	(404)	544	140
Larimer	(998)	6,497	5,499
Adams	(4,192)	10,831	6,638
Weld	(4,648)	6,633	1,984
Douglas	(5,003)	14,043	9,040
Jefferson	(6,083)	17,983	11,901

Source: Lightcast

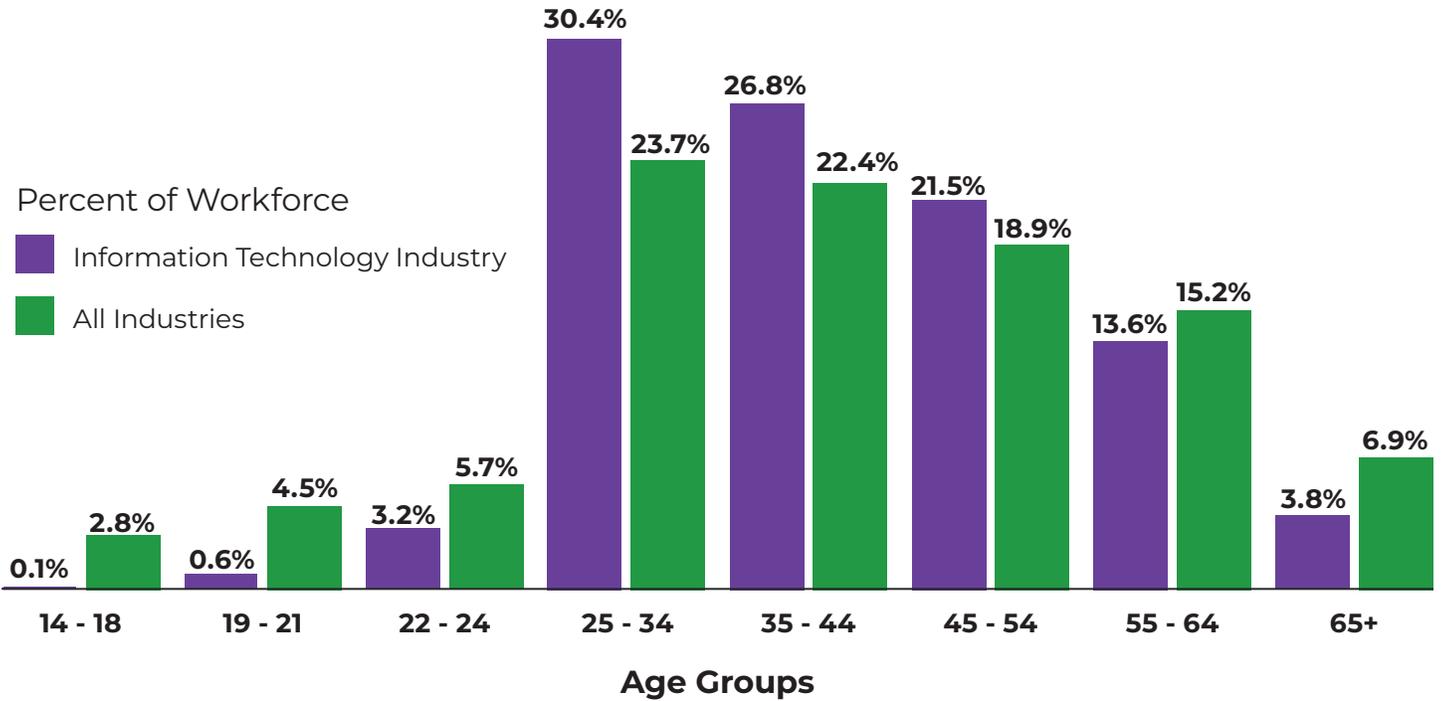


# Demographics

## Comparative Retirement Risk



Retirement risk in information technology is much lower than that across all industries in the region. This reflects a younger labor force with significantly higher numbers in the 25 to 54 age bands than the regional average across all industries.



## Comparative Gender

Percent of Workforce



**Men**

**65.2%**

**52.4%**

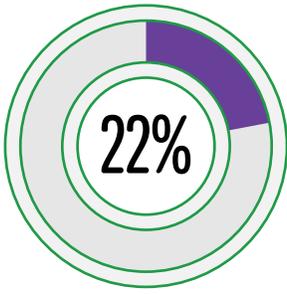


**Women**

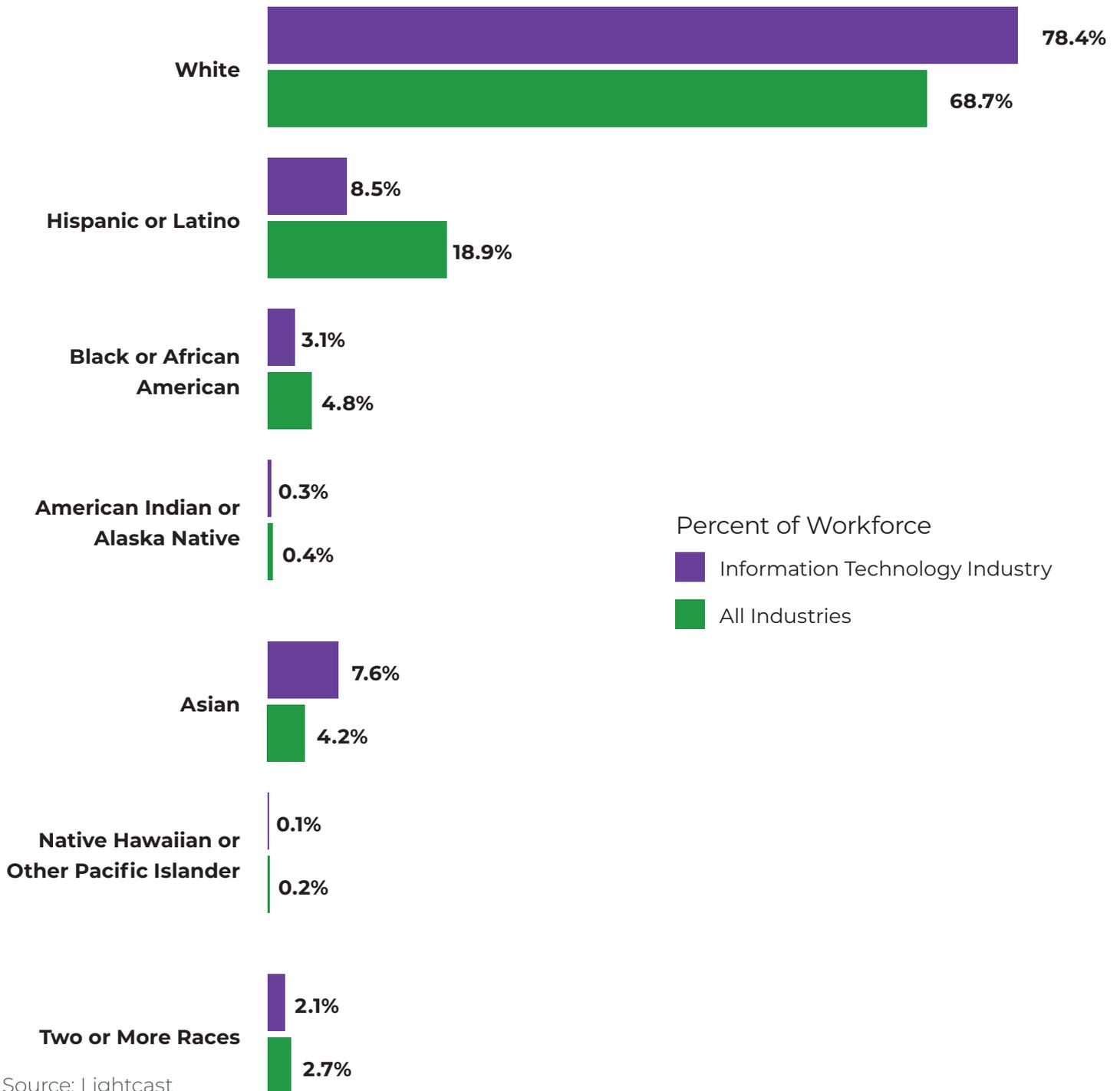
**34.8%**

**47.6%**

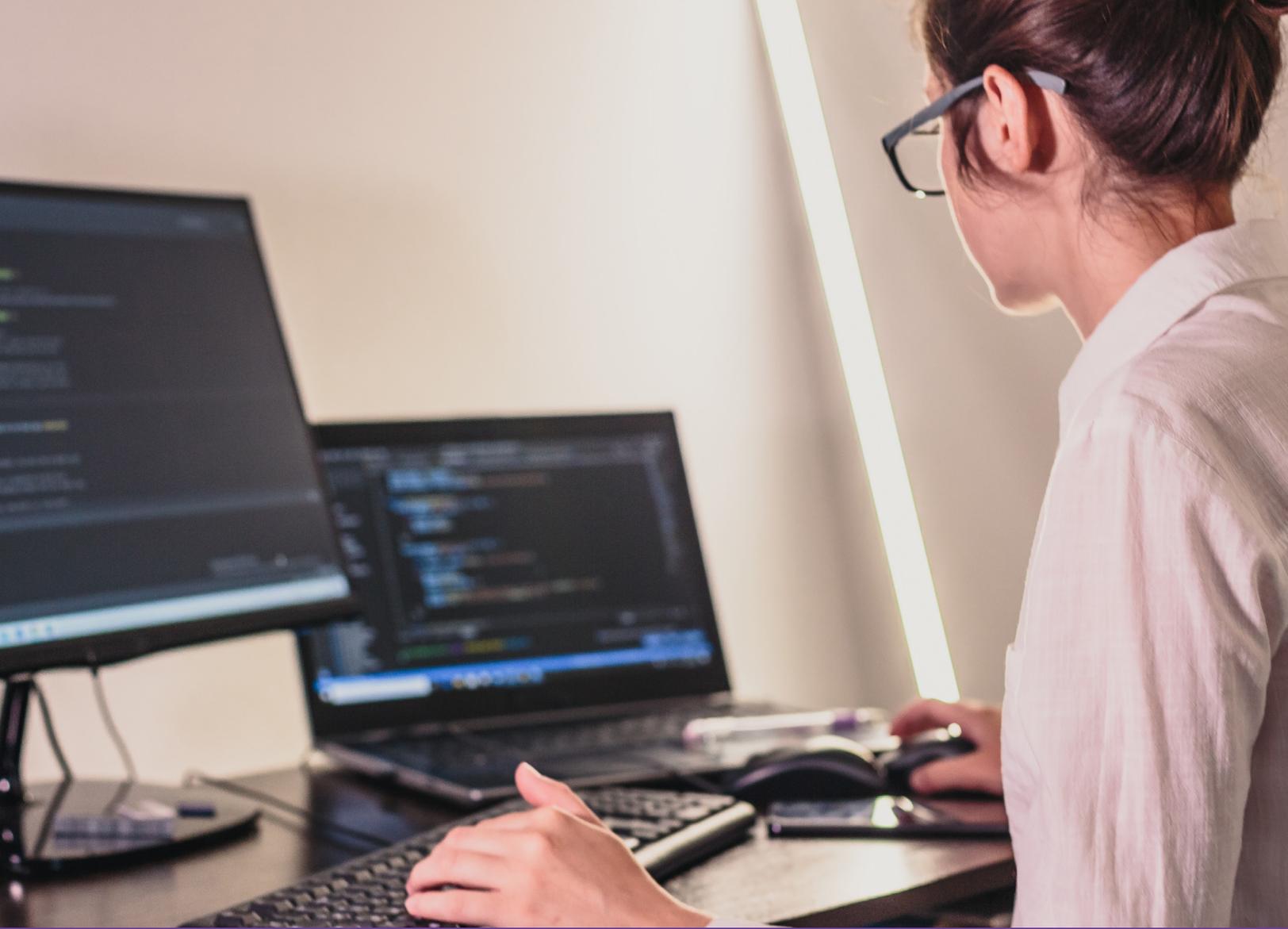
## Comparative Racial Diversity



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. Information technology is much less diverse than the overall average within the region, with overall diversity at only 21.6% of the sector's workforce, versus 30.6% across all industries.



Source: Lightcast

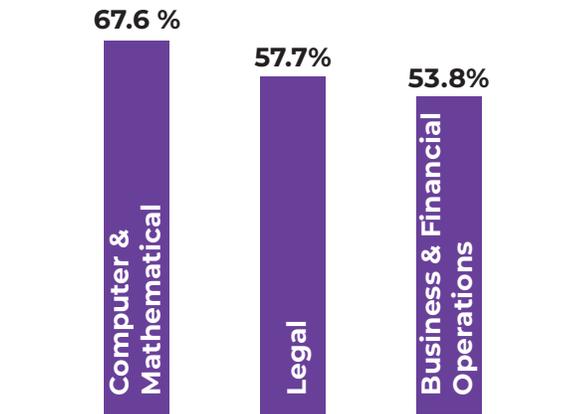


# Telework and Automation Strategies

# Remote Work Potential

## 52.0% Remote Work Capability for Sector

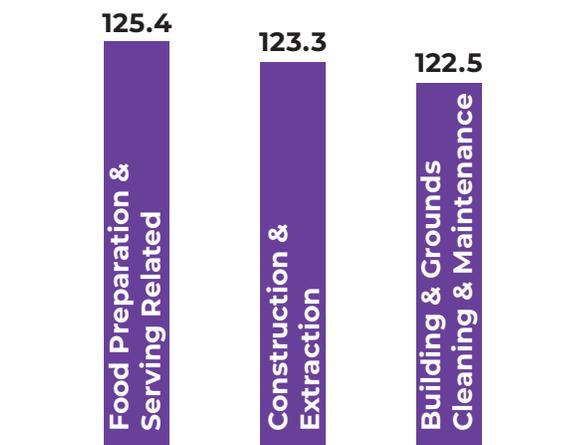
In a scarce labor market, a valid strategy for employers might be to review their staffing pattern and determine which positions, if any, can be employed remotely or on a hybrid work schedule. Approximately 52.0% of the workforce in information technology has at least partial teleworking capacity.



# Automation Index

## 87.2

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. Examples of automation in information technology include cloud software, and the ability of user and network support people to 'remote in' to fix issues for an end user.

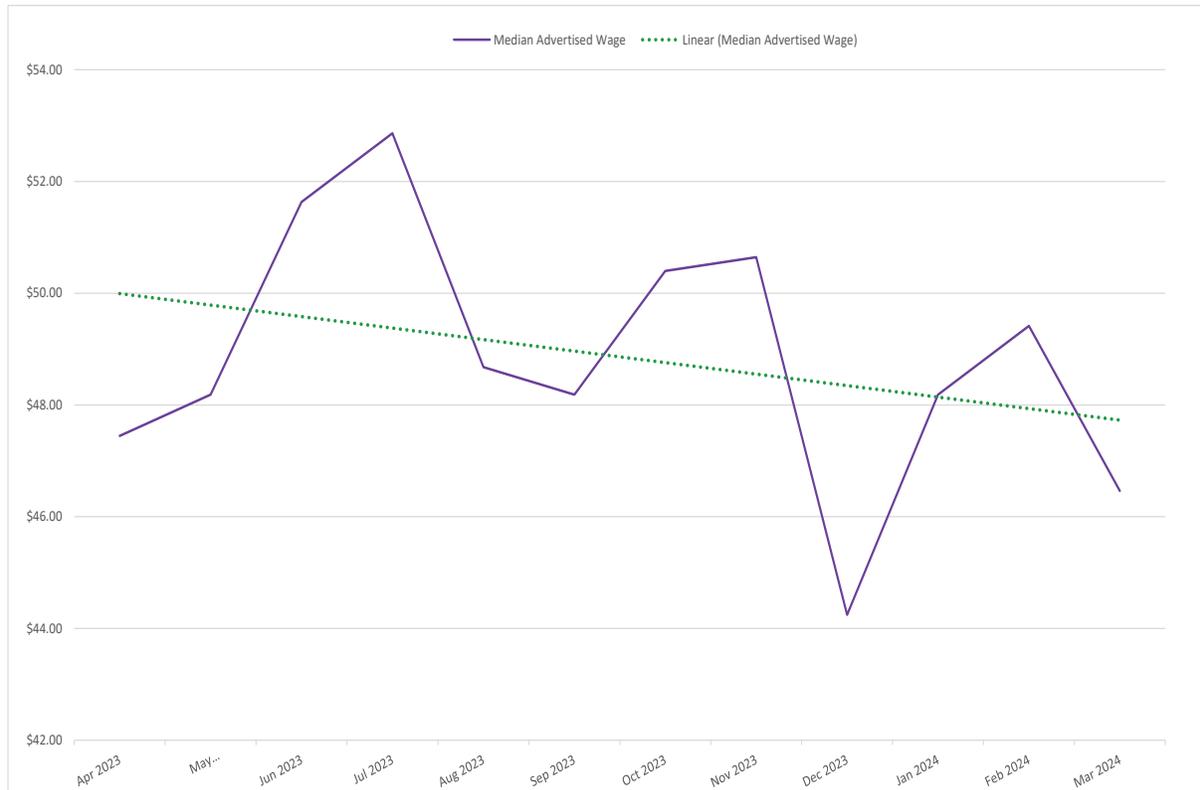




# Wages

# Advertised Wage Trends

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 information technology sector employs 28,018 software developers, but there are 45,841 employed across all industry sectors. This is important because the information technology sector must compete with other sectors for critical talent, such as sales representatives, computer and information systems managers, and computer user support specialists. 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 the 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
11-1021	General & Operations Managers	2,806	2.1%	41,054	4,123
11-2022	Sales Managers	1,582	1.2%	9,288	823
11-3021	Computer & Information Systems Managers	5,252	4.0%	12,175	1,158
13-1071	Human Resources Specialists	1,957	1.5%	19,395	1,911
13-1082	Project Management Specialists	4,279	3.3%	28,766	2,450
13-1111	Management Analysts	1,798	1.4%	13,074	1,463
13-1161	Market Research Analysts & Marketing Specialists	4,343	3.4%	25,316	2,863
13-1199	Business Operations Specialists, All Other	3,586	2.8%	43,736	4,188
13-2011	Accountants & Auditors	1,882	1.5%	31,969	2,923
15-1211	Computer Systems Analysts	3,814	2.9%	9,265	803
15-1212	Information Security Analysts	2,206	1.7%	5,829	576
15-1232	Computer User Support Specialists	6,851	5.3%	16,421	1,428
15-1241	Computer Network Architects	4,212	3.3%	10,445	609
15-1244	Network & Computer Systems Administrators	3,231	2.5%	10,428	701
15-1252	Software Developers	28,018	21.3%	45,841	4,172
15-1253	Software Quality Assurance Analysts & Testers	3,679	2.8%	6,275	574
15-1299	Computer Occupations, All Other	2,708	2.1%	8,359	715
15-2051	Data Scientists	1,738	1.3%	5,816	582
41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, & Travel	8,787	6.9%	38,405	3,997
43-4051	Customer Service Representatives	2,871	2.2%	42,745	5,960

	Median Posted Wage	Entry Level Wage	Median Wage	Highly Experienced Level Wage	Typical On-the-Job Training	Typical Entry Level Education
	\$33.66	\$44.42	\$62.52	\$92.13	None	Bachelor's degree
	\$52.86	\$66.21	\$85.04	\$107.31	None	Bachelor's degree
	\$79.63	\$67.80	\$83.73	\$103.88	None	Bachelor's degree
	\$30.09	\$28.27	\$37.18	\$49.38	None	Bachelor's degree
	\$49.35	\$37.91	\$48.77	\$63.41	None	Bachelor's degree
	\$44.74	\$35.02	\$45.75	\$60.47	None	Bachelor's degree
	\$32.43	\$28.26	\$37.40	\$50.67	None	Bachelor's degree
	\$40.06	\$30.72	\$40.53	\$56.47	None	Bachelor's degree
	\$34.89	\$32.52	\$41.52	\$54.86	None	Bachelor's degree
	\$46.46	\$46.43	\$52.71	\$65.21	None	Bachelor's degree
	\$52.06	\$47.12	\$58.99	\$73.50	None	Bachelor's degree
	\$30.34	\$26.56	\$32.58	\$40.80	None	Some college, no degree
	\$56.98	\$50.05	\$64.21	\$79.99	None	Bachelor's degree
	\$48.62	\$40.05	\$49.49	\$59.14	None	Bachelor's degree
	\$61.72	\$51.18	\$65.19	\$81.27	None	Bachelor's degree
	\$49.85	\$44.08	\$55.33	\$63.67	None	Bachelor's degree
	\$58.52	\$42.68	\$55.74	\$71.55	None	Bachelor's degree
	\$54.09	\$40.43	\$53.78	\$67.29	None	Bachelor's degree
	\$25.42	\$28.11	\$39.24	\$69.34	Moderate-term OJT	High school diploma or GED
	\$20.49	\$17.92	\$21.04	\$24.88	Short-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, what the percent of employment in the sector is, and the top skills demanded over the prior 12-month period.



## Software Developers

• % Employment	21.3%
• Unique Postings	15,402
• Posted Salary	\$61.72
• Hires	16,564
• Separations	12,889
• Turnover Rate	29.6%
Top Skills: Software Engineering, Agile Methodology, Computer Science	



## Sales Representatives of Services, Except Advertising, Insurance, Financial Services, & Travel

• % Employment	6.9%
• Unique Postings	6,075
• Posted Salary	\$25.42
• Hires	24,971
• Separations	25,970
• Turnover Rate	68.8%
Top Skills: Selling Techniques, Marketing, Sales Prospecting	



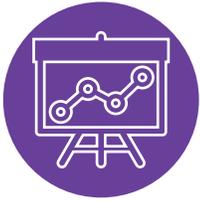
## Computer User Support Specialists

• % Employment	5.3%
• Unique Postings	5,027
• Posted Salary	\$30.34
• Hires	6,858
• Separations	6,909
• Turnover Rate	43.4%
Top Skills: Technical Support, Help Desk Support, Operating Systems	



## Computer & Information Systems Managers

• % Employment	4.0%
• Unique Postings	439
• Posted Salary	\$79.63
• Hires	4,956
• Separations	4,201
• Turnover Rate	36.0%
Top Skills: Computer Science, Project Management, Software Development	



### Market Research Analysts & Marketing Specialists

- % Employment 3.4%
- Unique Postings 3,886
- Posted Salary \$32.43
- Hires 14,656
- Separations 13,900
- Turnover Rate 56.6%

Top Skills: Marketing, Social Media, Business Development



### Computer Network Architects

- % Employment 3.3%
- Unique Postings 3,478
- Posted Salary \$56.98
- Hires 3,138
- Separations 4,097
- Turnover Rate 39.7%

Top Skills: Network Engineering, Automation, Computer Science



### Project Management Specialists

- % Employment 3.3%
- Unique Postings 8,636
- Posted Salary \$49.35
- Hires 13,435
- Separations 13,644
- Turnover Rate 48.6%

Top Skills: Project Management, Project Schedules, Procurement



### Computer Systems Analysts

- % Employment 2.9%
- Unique Postings 2,121
- Posted Salary \$46.46
- Hires 3,480
- Separations 3,034
- Turnover Rate 34.1%

Top Skills: Systems Analysis, Project Management, Computer Science



### Software Quality Assurance Analysts & Testers

- % Employment 2.8%
- Unique Postings 968
- Posted Salary \$49.85
- Hires 2,382
- Separations 2,161
- Turnover Rate 35.9%

Top Skills: Automation, Test Automation, Test Planning



### Business Operations Specialists, All Other

- % Employment 2.8%
- Unique Postings 805
- Posted Salary \$40.06
- Hires 24,248
- Separations 25,613
- Turnover Rate 59.5%

Top Skills: Marketing, Project Management, Auditing



## Network & Computer Systems Administrators

· % Employment	2.5%
· Unique Postings	2,587
· Posted Salary	\$48.62
· Hires	3,492
· Separations	4,033
· Turnover Rate	39.4%

Top Skills: Operating Systems, Linux, System Administration



## Customer Service Representatives

· % Employment	2.2%
· Unique Postings	14,332
· Posted Salary	\$20.49
· Hires	36,309
· Separations	38,222
· Turnover Rate	90.2%

Top Skills: Call Center Experience, Inbound Calls, Customer Relationship Management



## General & Operations Managers

· % Employment	2.1%
· Unique Postings	10,475
· Posted Salary	\$33.33
· Hires	24,323
· Separations	21,273
· Turnover Rate	53.5%

Top Skills: Operations Management, Product Knowledge, Project Management



## Computer Occupations, All Other

· % Employment	2.1%
· Unique Postings	14,583
· Posted Salary	\$58.52
· Hires	3,531
· Separations	3,176
· Turnover Rate	39.3%

Top Skills: Systems Engineering, Computer Science, Agile Methodology



## Information Security Analysts

· % Employment	1.7%
· Unique Postings	1,178
· Posted Salary	\$52.06
· Hires	2,526
· Separations	1,884
· Turnover Rate	34.0%

Top Skills: Cyber Security, Vulnerability, Auditing



## Human Resources Specialists

· % Employment	1.5%
· Unique Postings	4,276
· Posted Salary	\$30.09
· Hires	12,975
· Separations	12,939
· Turnover Rate	68.3%

Top Skills: Human Resources Information System (HRIS), Applicant Tracking Systems, Employee Relations



## Accountants & Auditors

- % Employment 1.5%
- Unique Postings 5,994
- Posted Salary \$34.89
- Hires 16,605
- Separations 16,506
- Turnover Rate 52.9%

Top Skills: Accounting, Auditing, Financial Statements



## Management Analysts

- % Employment 1.4%
- Unique Postings 3,094
- Posted Salary \$44.74
- Hires 7,429
- Separations 6,277
- Turnover Rate 50.3%

Top Skills: Project Management, Data Analysis, Business Process



## Data Scientists

- % Employment 1.3%
- Unique Postings 4,524
- Posted Salary \$55.09
- Hires 2,741
- Separations 2,033
- Turnover Rate 36.8%

Top Skills: Data Analysis, SQL (Programming Language), Computer Science



## Sales Managers

- % Employment 1.2%
- Unique Postings 6,725
- Posted Salary \$52.86
- Hires 4,082
- Separations 3,846
- Turnover Rate 42.5%

Top Skills: Marketing, Sales Management, Selling Techniques

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>.



**COLORADO**  
APPRENTICESHIP  
HUB

The Colorado Apprenticeship Hub serves as a resource for companies seeking to engage in registered apprenticeship programs in Colorado. The Hub provides apprenticeship-related services at no cost to employers.

If you want to connect to a consultant, please email the team at [apprenticeship@arapahoegov.com](mailto:apprenticeship@arapahoegov.com)

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