Evolving Workforces

Scoring Tech Talent 2023

NORTH AMERICAN REPORT

Slowdown in Tech Company Hiring Creates Talent Opportunities for Other Industries

CBRE RESEARCH
JULY 2023

Recent tech company layoffs have created opportunities for other industries to hire much-needed tech talent.

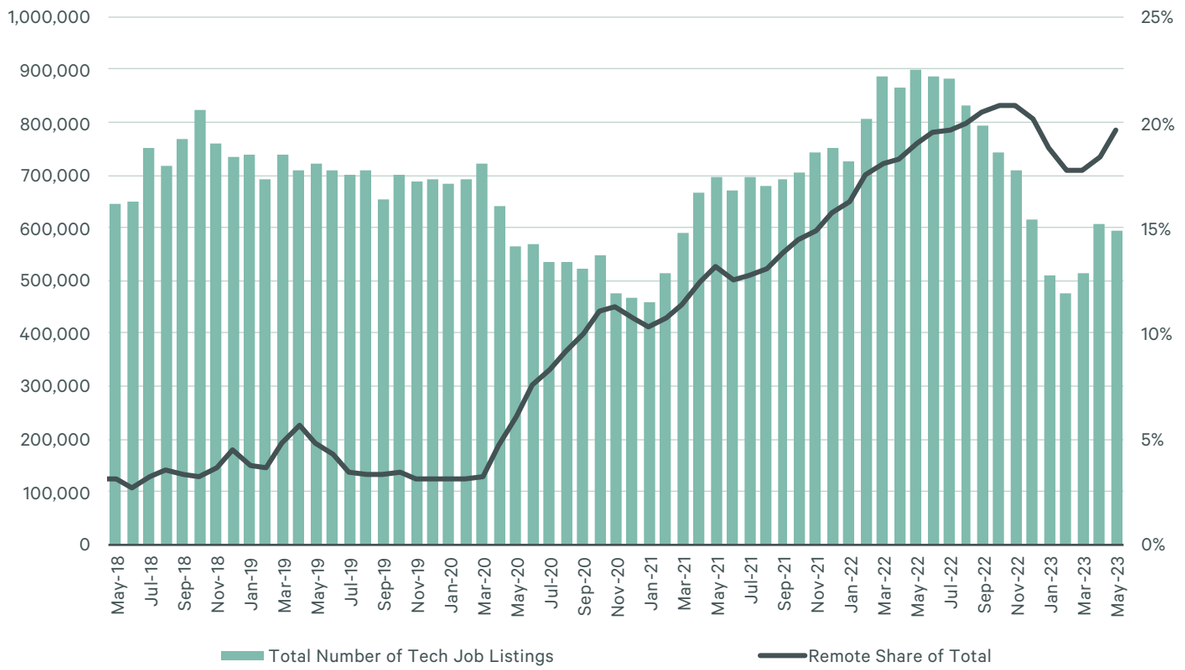
Overall tech talent employment grew by 11% between 2020 and 2022, with tech companies adding nearly 2.5 times more tech workers than the next highest industry sector, professional services. Software developers and programmers across all industries accounted for 60% of the new tech talent employment. But as the economy slowed in the second half of 2022, tech companies began laying off employees, many of whom were in non-tech roles like sales and marketing.

Since 2022, the tech industry, which employs 41% of all U.S. tech talent, has accounted for 30% of the 700,000 workforce layoffs globally by U.S.-based employers, according to Challenger, Gray & Christmas. Of this total, approximately 25% were tech talent; the remaining 75% were in non-tech roles, according to CBRE's analysis of layoffs.fyi data. Tech talent employed by non-tech employers, which represent 59% of U.S. tech talent, did not announce major layoffs.

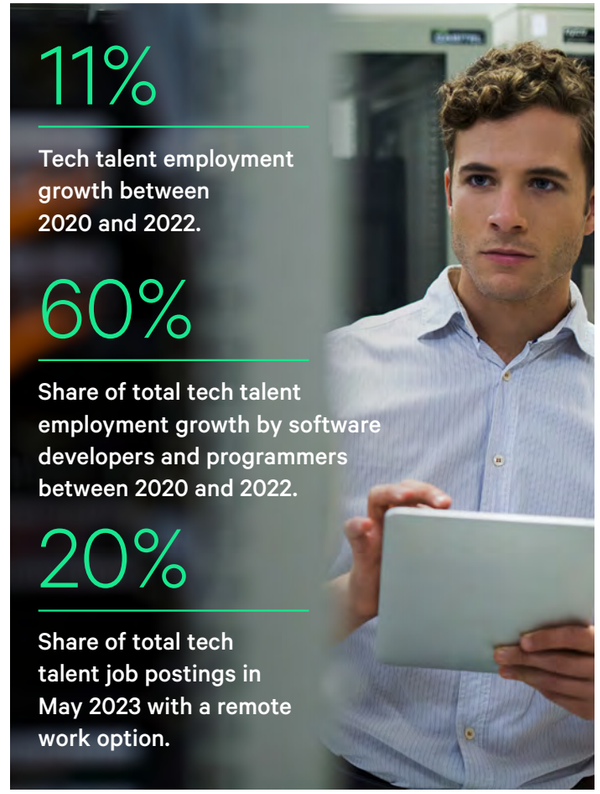
In addition to these layoffs, tech job postings declined from a peak of 900,000 in mid-2022 to 450,000 by early 2023, based on CBRE's analysis of Lightcast data (Figure 1).

Figure 1: U.S. Tech Job Postings & Remote Share

Remote share of computer and mathematical jobs that mention remote work as an option each month



Source: CBRE Research and Lightcast, May 2023.



Remote working trends have allowed tech talent employers to diversify their workforce both geographically and demographically. Job postings for remote tech talent grew to 20% of the 593,000 total tech job postings in May 2023, on par with the share of remote postings in mid-2022.

Working from home more than in the office remains the tech industry standard (Appendix Table 1). In 2021, 46% of tech talent across all industries and 44% of tech industry workers across all occupations worked from home. The number of people of working from home since 2021 has declined and likely will continue to do so as employers require more in-office work. Building security company Kastle Systems' 10-city "back-to-work barometer" of office occupancy levels increased by 12 percentage points between 2021 and 2022.

Tech talent remains in high demand despite economic uncertainty and employment reductions. Remote and hybrid work will benefit tech talent employers and challenge some office markets with reduced demand, which is why our annual cost analysis cut the amount of office space needed per employee.

Contents

Scoring Tech Talent is a comprehensive analysis of labor market conditions, cost and quality in North America for highly skilled tech workers that can help decision-makers fulfill critical business and innovation objectives.

The top 50 markets in the U.S. and Canada were ranked according to their competitive advantages and appeal to both employers and tech talent employees.

Ten Latin America and 25 up-and-coming U.S. and Canada markets were also analyzed and ranked.

The analysis provides insight into the quality of tech workers, their demographics and diversity and how tech talent growth patterns are impacting cities and real estate markets.

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Key Takeaways

Score

This year's top-ranked tech talent markets are the San Francisco Bay Area, Seattle, New York Metro, Washington, D.C. and Toronto.

Markets that improved the most in the rankings are Calgary, the Waterloo Region of Canada and St. Louis.

Jobs vs. Education

Three Canadian markets (Toronto, Vancouver and Montreal) created substantially more jobs than tech degree graduates, while Los Angeles/ Orange County, Atlanta and Pittsburgh produced more graduates than jobs.

Tech talent job creation was compared with the number of tech degree graduates in each market to determine top job and education markets.

Diversity

Tech talent across all industries was predominantly White, Asian and male relative to total employment and non-tech office-using employment. Hispanics, Blacks and females were underrepresented in both tech talent occupations and the tech industry.

These underrepresented groups were also concentrated in the lower-wage brackets. The most and least diverse markets for tech talent were determined by using non-tech office-using employment as a diversity benchmark.

Cost

The total annual labor and real estate cost for the typical 500-person tech company occupying 60,000 sq. ft. of office space ranged from $33 million in Quebec City to $79 million in the San Francisco Bay Area.

Since tech industry wages are 16% higher than the U.S. average, tech companies can expect higher annual costs.

Opportunity Markets

Fostering talent development in lesser-known and underdeveloped markets could offer additional talent pools to employers seeking to expand their geographical reach, uncover opportunities and increase cost efficiency.

These markets are spread across Canada, Latin America and the U.S. Midwest and South.

02

What is tech talent?

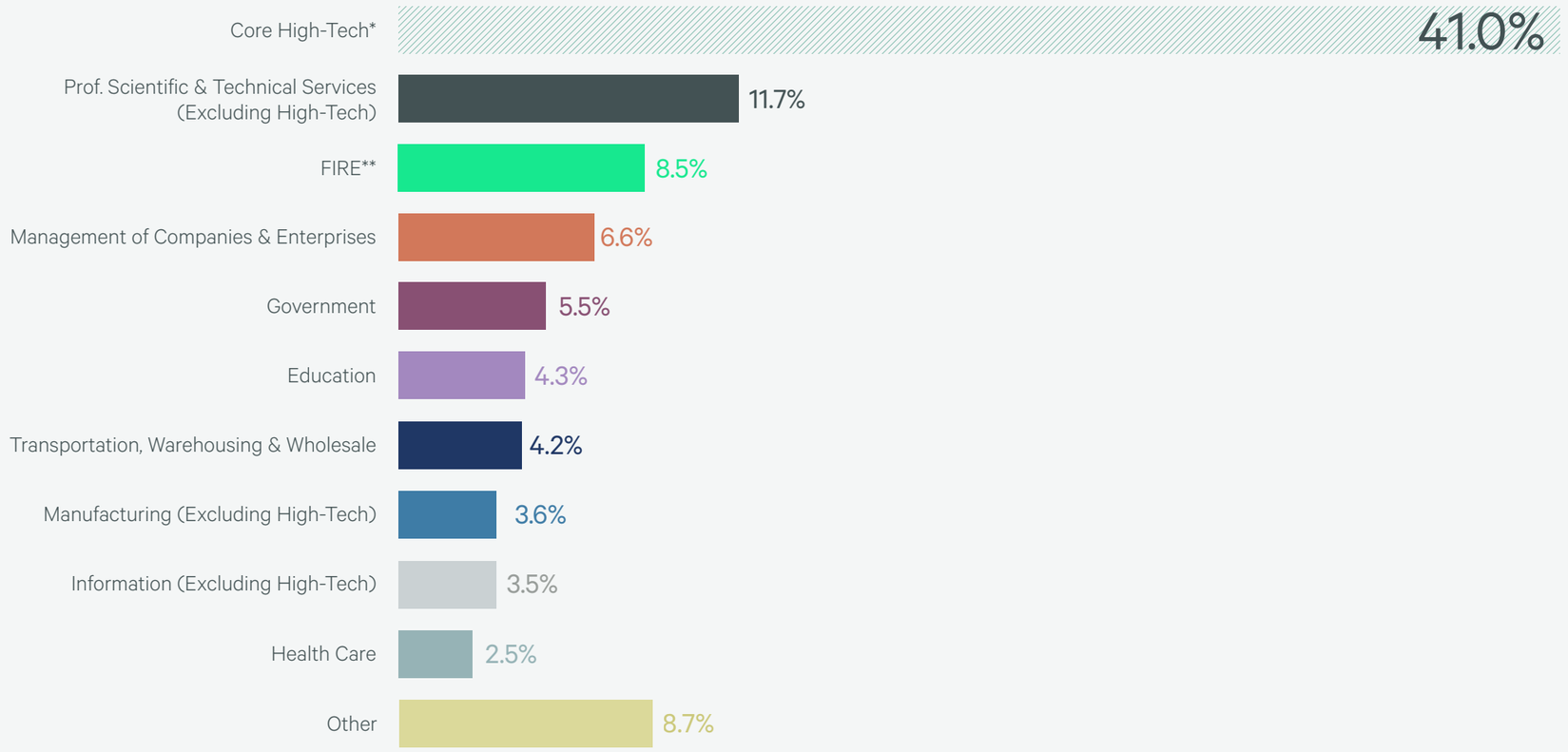
Highly skilled tech talent workers total 7.1 million in the U.S. and Canada and comprise more than 20 occupations, ranging from software developers who enable the devices we depend on to systems and data managers who ensure the functionality of our tech ecosystems.[1]

Although these positions are concentrated within the high-tech industry, they are spread across all industry sectors (Figure 2). Through this occupational lens, a software developer who works for a financial services or health care company is considered tech talent.

The 5.9 million tech talent workers in the U.S. and 1.1 million in Canada accounted for a respective 4.0% and 6.5% of each country's total workforce in 2022. The number of U.S. tech talent workers has increased by 610,000 or 11.4% since 2020, substantially higher than the 6.3% growth in total U.S. employment. Canada's tech talent workforce grew by 150,000 or 15.7% over the same time.

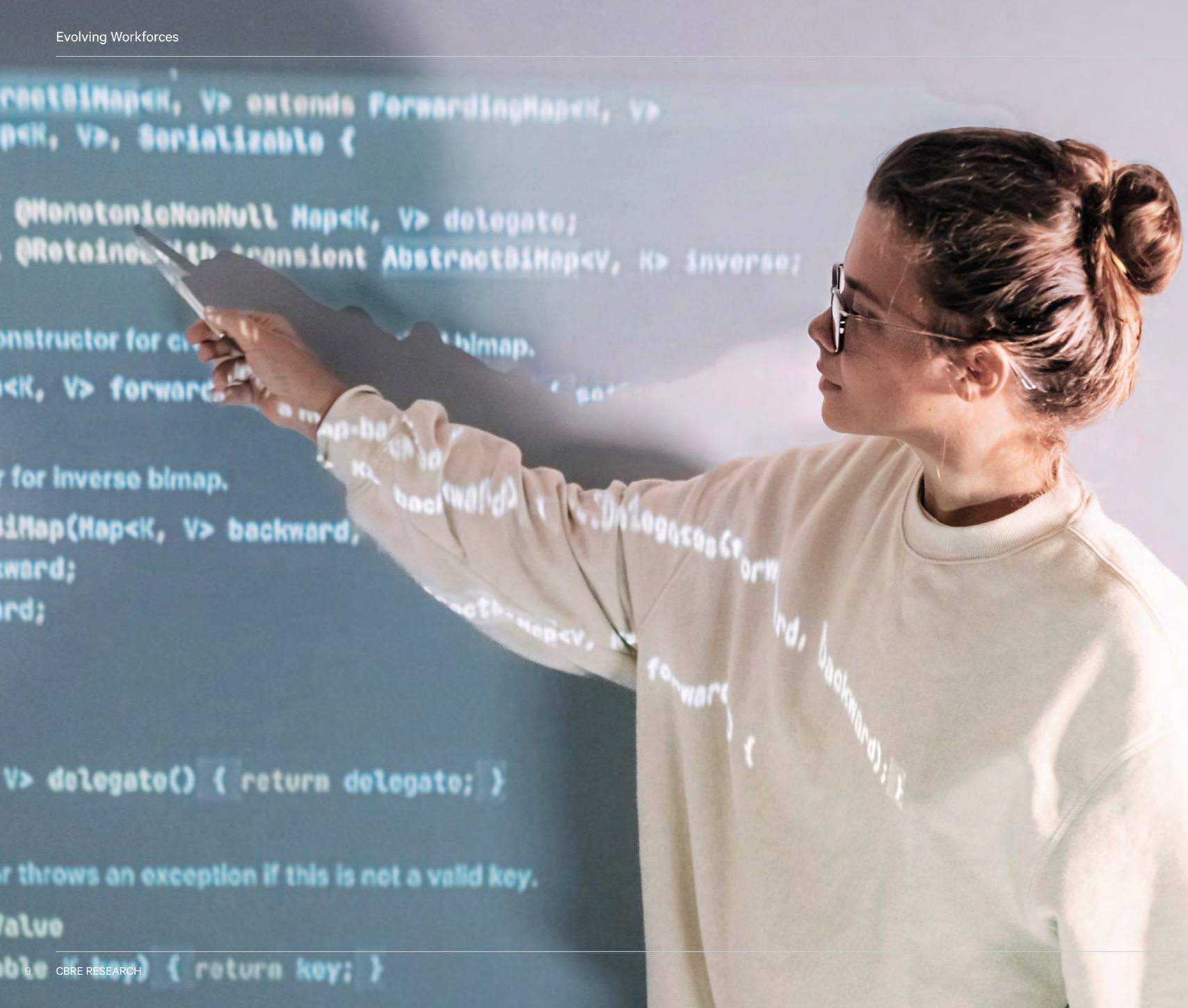
Tech talent has the highest adoption rate of remote work among all occupational categories since the onset of the pandemic. The high-tech industry has advocated remote and hybrid working arrangements, which are largely enabled by their products and services, and had 44.4% of its employees across all occupations working from home in 2021 versus 14.0% in 2019 (See Appendix Table 1).

Figure 2: U.S. Tech Talent Workforce by Industry (2022)



*Includes computer software and services and computer product manufacturing; **Finance, Insurance and Real Estate.
Note: See Table 2b in Appendix section for breakdown of Canadian tech talent by industry.
Source: U.S. Bureau of Labor Statistics, April 2023.

[1] Tech talent includes the following occupation categories: software developers and programmers; computer support, database and systems; technology- and engineering-related; and computer and information system managers.



The number of U.S. tech talent workers has increased by 610,000 or 11.4% since 2020, substantially higher than the 6.3% growth in total U.S. employment. Canada's tech talent workforce grew by 150,000 or 15.7% over the same time.

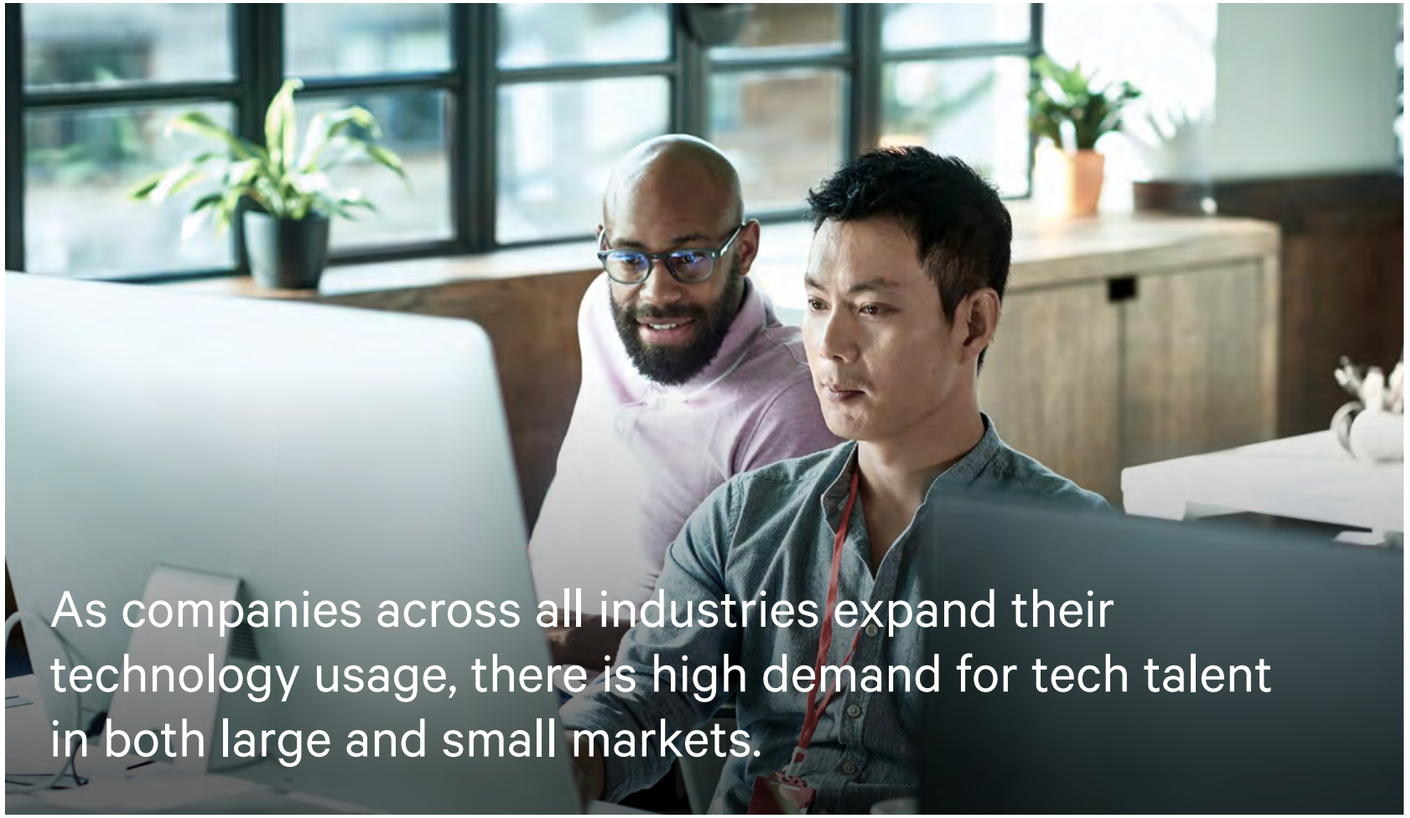
03

Which are the top-ranked tech talent markets?

Fifty of the largest markets by number of tech talent professionals in the U.S. and Canada were analyzed to create a scorecard ranking them comparatively (Figure 3).

The scorecard uses 13 metrics to measure each market's depth, vitality and attractiveness to companies seeking tech talent and to tech workers seeking employment. Each metric is weighted by its relative importance to job creation and innovation. Tech talent concentration metrics have the highest weights because they signify clustering of tech workers. Labor costs for tech talent are weighted more heavily than office rents because companies allocate more capital to labor than to real estate.

The top five markets were the same as last year: San Francisco Bay Area, Seattle, New York Metro, Washington, D.C. and Toronto. New York moved up to No. 3 and Toronto moved down to No. 5. Markets that moved up the most were Calgary (+7 spots), Canada's Waterloo Region and St. Louis (+6), Madison (+5) and Quebec City (+4). Markets that moved down the most were Columbus (-6 spots), Minneapolis/St. Paul (-5) and Pittsburgh, Edmonton and Cleveland (-4).



As companies across all industries expand their technology usage, there is high demand for tech talent in both large and small markets.

As companies across all industries expand their technology usage, there is high demand for tech talent in both large and small markets. Major gateway markets dominate overall tech talent growth because of their size. These and other markets with tech talent labor pools of more than 50,000 workers are categorized as "large," while those below this threshold are categorized as "small" (Figure 4). Both large and small markets have their advantages: While large markets generally have a deeper pool of talent, small markets typically offer business and cost-of-living savings. Between 2017 and 2022, the San Francisco Bay Area added the most tech talent jobs (75,020), followed by Toronto (63,800) and Montreal (51,500). Markets with the highest tech job growth rates were Vancouver (69%), Calgary (61%) the Waterloo Region (52%) and Edmonton and Madison (45%).

69%

Leading tech talent growth rate in Vancouver between 2017 and 2022.

61%

Tech talent growth rate in Calgary between 2017 and 2022.

Figure 3: Tech Talent Scorecard Ranking

Click below to view the respective market page

1	2	3	4	5	6	7	8	9	10
82.6	71.4	67.4	66.7	66.5	66.4	63.3	60.6	60.5	58.5
San Francisco Bay Area	Seattle	NY Metro	Washington, D.C.	Toronto	Austin	Boston	Vancouver	Dallas/Ft. Worth	Denver
11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
57.8	57.7	56.5	54.1	53.5	52.8	52.7	52.5	50.0	49.8
Ottawa	Montreal	Atlanta	L.A./Orange County	Phoenix	Salt Lake City	Baltimore	Waterloo Region, Canada	Raleigh-Durham	San Diego
21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
49.1	48.2	47.9	45.6	44.7	44.0	43.6	41.9	40.6	40.1
Calgary	Philadelphia	Chicago	Portland	Madison	Minneapolis/ St. Paul	Detroit	Orlando	Charlotte	Pittsburgh
31	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
39.9	39.2	38.7	38.4	38.0	37.9	37.9	36.0	35.4	33.7
South Florida	St. Louis	Tampa	Kansas City	Quebec City	Houston	Columbus	Nashville	Edmonton	Indianapolis
41	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**
31.1	29.8	29.5	28.8	26.7	26.5	26.1	25.8	24.6	18.4
Sacramento	Cincinnati	Hartford	Jacksonville	San Antonio	Cleveland	Virginia Beach	Milwaukee	Richmond	Inland Empire

Source: CBRE Research, CBRE Econometric Advisors, U.S. Bureau of Labor Statistics, Statistics Canada, Oxford Economics, The National Center of Education Statistics, National Science Foundation, Axiometrics, 2023.

Tech talent concentration—the percentage of total employment—is an influential factor in how “tech” the market is and in its growth potential. Tech talent comprises 13.3% of total employment in Ottawa and 11.6% in the San Francisco Bay Area—the highest concentrations and more than double the 50-market average of 5.6%. Canada's Waterloo Region at 10.1% of total employment and Toronto and Seattle at 9.5% round out the top five most concentrated tech markets.

13.3%

Tech talent share of total employment in Ottawa.

11.6%

Tech talent share of total employment in the San Francisco Bay Area.

5.6%

Average tech talent share of total employment for all 50 markets.

Figure 4a: Tech Talent Workforce by Market (2022)

Large Tech Talent Markets (>50,000 Workforce)

Market	Tech Talent Total	Percent Change*	by Volume*	Concentration**
San Francisco Bay Area	407,810	23%	75,020	11.6%
New York Metro	371,030	11%	36,010	4.0%
Toronto	285,700	29%	63,800	9.5%
Washington, D.C.	265,240	7%	17,100	8.8%
Los Angeles/Orange County	249,620	17%	36,650	3.9%
Dallas/Ft. Worth	205,920	28%	45,170	5.4%
Seattle	194,040	29%	44,020	9.5%
Montreal	172,400	43%	51,500	8.3%
Chicago	166,140	2%	2,500	3.8%
Boston	161,470	22%	29,650	6.0%
Atlanta	143,150	6%	8,380	5.2%
Denver	125,800	26%	26,040	6.8%
Vancouver	111,100	69%	45,200	8.5%
Phoenix	109,160	30%	25,230	4.9%
Philadelphia	108,630	7%	6,710	3.9%
Houston	105,840	12%	11,030	3.5%
Detroit	97,520	10%	8,890	4.7%
Austin	96,610	39%	27,000	8.2%
Minneapolis/St. Paul	94,650	4%	3,440	5.0%
Ottawa	94,100	40%	26,700	13.3%
San Diego	78,860	12%	8,760	5.3%
South Florida	77,700	24%	15,090	2.8%
Baltimore	76,460	5%	3,860	5.9%
Raleigh-Durham	73,790	24%	14,430	7.4%
Portland	69,470	34%	17,750	5.9%
Charlotte	65,520	21%	11,320	5.2%
Salt Lake City	61,400	39%	17,370	5.8%
St. Louis	57,070	7%	3,760	4.4%
Tampa	55,970	23%	10,610	4.1%
Calgary	52,200	61%	19,700	6.9%
Columbus	51,650	5%	2,350	4.4%
Kansas City	50,470	-4%	-2,350	4.8%

Figure 4b: Tech Talent Workforce by Market (2022)

Small Tech Talent Markets (<50,000 Workforce)

Market	Tech Talent Total	Percent Change*	by Volume*	Concentration**
Orlando	47,840	26%	9,760	3.7%
Sacramento	42,360	7%	2,890	4.1%
Pittsburgh	41,680	-6%	-2,640	3.9%
Cincinnati	40,450	10%	3,550	3.8%
Nashville	39,180	36%	10,340	3.8%
Cleveland	38,130	6%	2,310	3.9%
Quebec City	36,400	34%	9,300	9.1%
Indianapolis	35,980	1%	280	3.4%
Milwaukee	35,260	14%	4,410	4.4%
San Antonio	33,470	7%	2,290	3.2%
Virginia Beach	31,210	17%	4,590	4.3%
Edmonton	31,100	45%	9,600	4.4%
Waterloo Region, Canada	29,700	52%	10,100	10.1%
Richmond	28,480	14%	3,590	4.5%
Hartford	27,500	6%	1,450	4.9%
Inland Empire	26,850	44%	8,210	1.6%
Jacksonville	23,620	17%	3,440	3.3%
Madison	23,530	45%	7,330	6.1%

*2017-2022; **2022

Source: U.S. Bureau of Labor Statistics (Metro) April 2023, Statistics Canada (Metro), 2022.

Note: Canadian markets have been recalculated based on revisions to Statistics Canada definitions.

Tech talent concentration by industry is another influential factor for tech employers and tech cluster formation. While many technical skills are transferable across industries, specific industry experience can help to enhance innovation. Approximately 40% of tech talent in both the U.S. and Canada works within the tech industry. By market, this concentration varies considerably even though the tech industry was the largest tech talent employer in all but three of the top 50 markets. The San Francisco Bay Area, Seattle and Austin had the highest concentrations of tech talent within the tech industry (Figure 5), while Charlotte, Cleveland and Jacksonville had the lowest.

Certain markets had high concentrations of tech talent in non-tech industries, including Ottawa (42%) and Sacramento (30%) in government, and Jacksonville (30%), Charlotte (28%) and Hartford (28%) in finance, insurance and real estate.

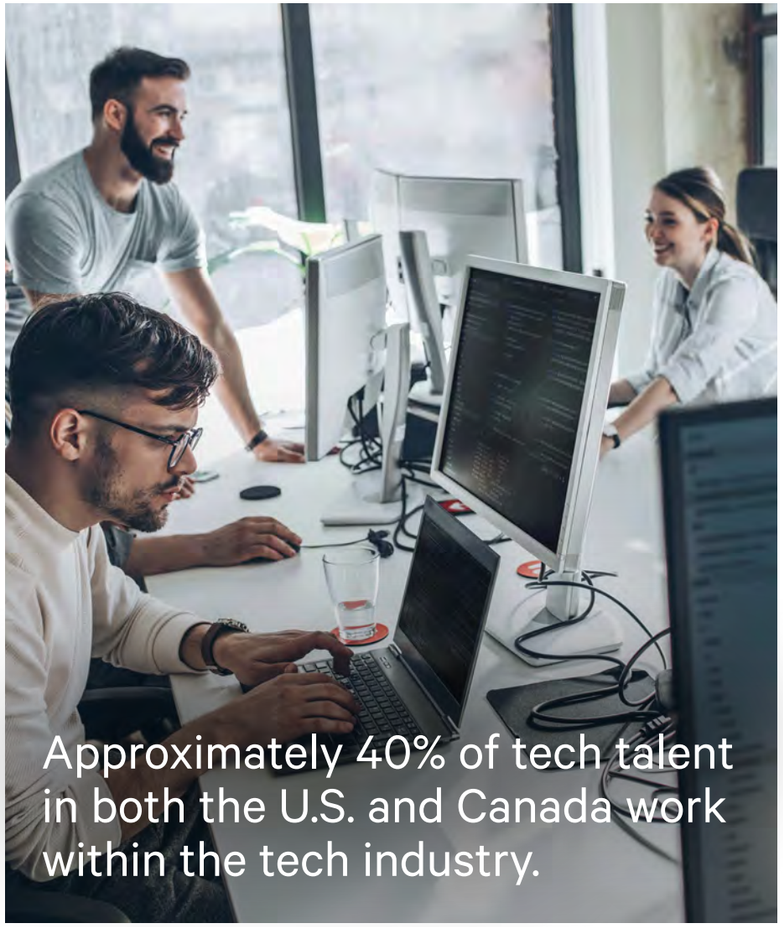


Figure 5a: Tech Talent Workforce by Industry (2022)

Large Tech Talent Markets (>50,000 Workforce)

Market	Tech Talent Total	%TT in Tech Industry	2nd Highest TT Industry
San Francisco Bay Area	407,810	66.0%	FIRE (6.1%; 24,870)
Seattle	194,040	63.4%	Manuf (7.1%; 13,703)
Austin	96,610	56.8%	FIRE (8.5%; 8,183)
Vancouver	111,100	53.9%	Other (11.3%; 12,599)
Portland	69,470	47.5%	Prof Service (9.7%; 6,746)
Raleigh-Durham	73,790	46.3%	FIRE (13.8%; 10,153)
Toronto	285,700	43.2%	FIRE (20.1%; 57,511)
Boston	161,470	43.2%	Prof Service (13.3%; 21,479)
Atlanta	143,150	42.3%	FIRE (9.0%; 12,842)
Montreal	172,400	41.2%	FIRE (11.5%; 19,895)
Salt Lake City	61,400	41.2%	FIRE (12.5%; 7,666)
Denver	125,800	40.7%	FIRE (9.7%; 12,151)
Washington, D.C.	265,240	40.0%	Govt (21.9%; 58,085)
San Diego	78,860	39.8%	Manuf (11.7%; 9,234)
Calgary	52,200	38.9%	Prof Service (15.3%; 8,002)
Dallas/Ft. Worth	205,920	38.7%	FIRE (17.9%; 36,870)
Kansas City	50,470	38.6%	FIRE (14.0%; 7,086)
Tampa	55,970	37.3%	FIRE (16.6%; 9,295)
New York Metro	371,030	37.0%	FIRE (19.9%; 73,866)
Phoenix	109,160	36.5%	FIRE (16.0%; 17,478)
Chicago	166,140	36.4%	FIRE (15.4%; 25,584)
Los Angeles/Orange Co.	249,620	35.9%	Manuf (10.6%; 26,352)
South Florida	77,700	35.0%	FIRE (12.7%; 9,872)
Houston	105,840	34.9%	FIRE (12.4%; 13,154)
St. Louis	57,070	33.5%	FIRE (17.1%; 9,769)
Minneapolis/St. Paul	94,650	33.0%	FIRE (14.4%; 13,591)
Ottawa*	94,100	32.4%	Govt (42.2%; 39,738)
Baltimore	76,460	31.4%	Govt (23.9%; 18,297)
Columbus	51,650	31.1%	FIRE (21.8%; 11,254)
Detroit	97,520	30.4%	Manuf (18.4%; 17,932)
Philadelphia	108,630	30.3%	FIRE (16.2%; 17,602)
Charlotte*	65,520	24.2%	FIRE (28.3%; 18,548)

Note: FIRE stands for Finance, Insurance, Real Estate.
Source: U.S. Bureau of Labor Statistics (Metro), Statistics Canada (Metro), CBRE Research and IPUMS, May 2023.
* Tech industry does not have the highest percentage of tech talent employment in Ottawa and Charlotte.

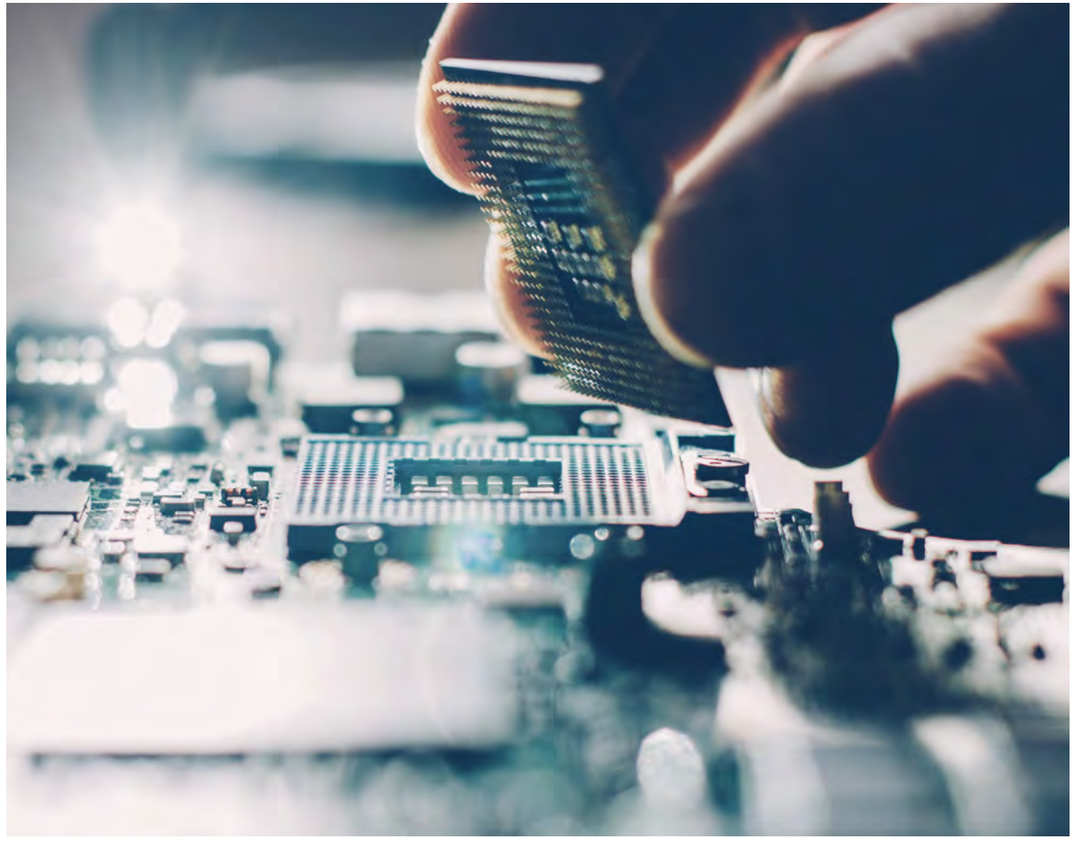


Figure 5b: Tech Talent Workforce by Industry (2022)

Small Tech Talent Markets (<50,000 Workforce)

Market	Tech Talent Total	%TT in Tech Industry	2nd Highest TT Industry
Madison	23,530	56.6%	FIRE (11.0%; 2,585)
Waterloo Region, Canada	29,700	50.0%	FIRE (14.8%; 4,387)
Orlando	47,840	38.0%	Prof Service (10.6%; 5,056)
Hartford	27,500	36.5%	FIRE (27.9%; 7,675)
Cincinnati	40,450	34.7%	FIRE (11.6%; 4,698)
San Antonio	33,470	34.3%	FIRE (18.0%; 6,012)
Edmonton	31,100	33.8%	Prof Service (10.6%; 3,300)
Richmond	28,480	33.7%	FIRE (20.4%; 5,808)
Pittsburgh	41,680	33.7%	FIRE (18.4%; 7,685)
Inland Empire	26,850	33.5%	Govt (10.0%; 2,688)
Nashville	39,180	32.5%	Health (13.6%; 5,313)
Virginia Beach	31,210	30.7%	Govt (13.0%; 4,068)
Sacramento	42,360	30.7%	Govt (29.7%; 12,582)
Milwaukee	35,260	29.9%	FIRE (14.7%; 5,166)
Quebec City	36,400	29.4%	Govt (22.8%; 8,299)
Indianapolis	35,980	29.0%	FIRE (12.0%; 4,327)
Jacksonville*	23,620	28.8%	FIRE (29.8%; 7,035)
Cleveland	38,130	27.9%	FIRE (22.8%; 8,676)

Source: U.S. Bureau of Labor Statistics (Metro), CBRE Research and IPUMS, May 2023.
*Tech industry does not have the highest percentage of tech talent employment in Jacksonville.
Note: FIRE stands for Finance, Insurance, Real Estate.

Traditionally, tech companies often based location decisions on which markets had the most available tech workers. Today, tech employers are more interested in attracting people with specific tech skills, which often command higher wages. This poses a challenge for non-tech employers when recruiting tech workers. Tech companies pay wages about 16% above the U.S. average, which equates to a 30% premium over non-tech employers, and have more workers earning over $150,000 per year than other industries.

Average tech talent wages are highest in the San Francisco Bay Area and Seattle, and lowest in Indianapolis, South Florida and Cincinnati.

Figure 6: Average Annual Wage for U.S. Tech Talent by Industry (2021)

Market	Avg Annual Wage	Share with $150,000+ Annual Wage
Technology	$102,854	18.0%
FIRE	$96,917	12.3%
Professional Services	$85,218	12.0%
Manufacturing	$87,502	10.5%
Government	$77,760	5.1%
Health	$72,531	5.0%
All Industries	$88,961	12.9%

Source: U.S. Census, IPUMS and CBRE Research, March 2023.
Note: FIRE stands for Finance, Insurance, Real Estate.

Today, tech employers are more interested in attracting people with specific tech skills, which often command higher wages.

Figure 7: Average Annual Wage for U.S. Tech Talent Employed by the Tech Industry (2021)

Large Tech Talent Markets (>50,000 Workforce)

Market	Average Annual Wage
San Francisco Bay Area	$185,425
Seattle	$172,009
Boston	$121,794
Baltimore	$113,544
Washington, D.C.	$105,808
Austin	$105,495
San Diego	$105,316
New York Metro	$104,220
Portland	$104,156
Los Angeles/Orange County	$102,172
Raleigh-Durham	$99,825
Denver	$98,109
Charlotte	$95,344
Atlanta	$92,438

Market	Average Annual Wage
Dallas/Ft. Worth	$91,051
Chicago	$88,589
Philadelphia	$86,617
Salt Lake City	$85,552
Phoenix	$84,314
Houston	$83,946
Detroit	$82,286
Kansas City	$80,901
Columbus	$78,019
Minneapolis/St. Paul	$77,380
St. Louis	$75,527
Tampa	$73,962
South Florida	$72,162

Small Tech Talent Markets (<50,000 Workforce)

Market	Average Annual Wage
Sacramento	$107,580
Jacksonville	$105,353
Madison	$97,196
Richmond	$95,763
Inland Empire	$94,525
Milwaukee	$92,396
Pittsburgh	$91,542
Virginia Beach	$90,941
Nashville	$87,543
Hartford	$82,598
San Antonio	$79,048
Orlando	$73,978
Cleveland	$73,881
Cincinnati	$73,689
Indianapolis	$70,177

Source: U.S. Census, IPUMS and CBRE Research, March 2023.

Software engineers are also highly concentrated in the tech industry and in certain markets. In the U.S., 50% of all software engineers work within the tech industry. The San Francisco Bay Area (77%) surpassed last year's top market Seattle (76%) with the highest concentration of software engineers working in the tech industry. Austin, Portland and Madison also saw high concentrations, each above 64%.

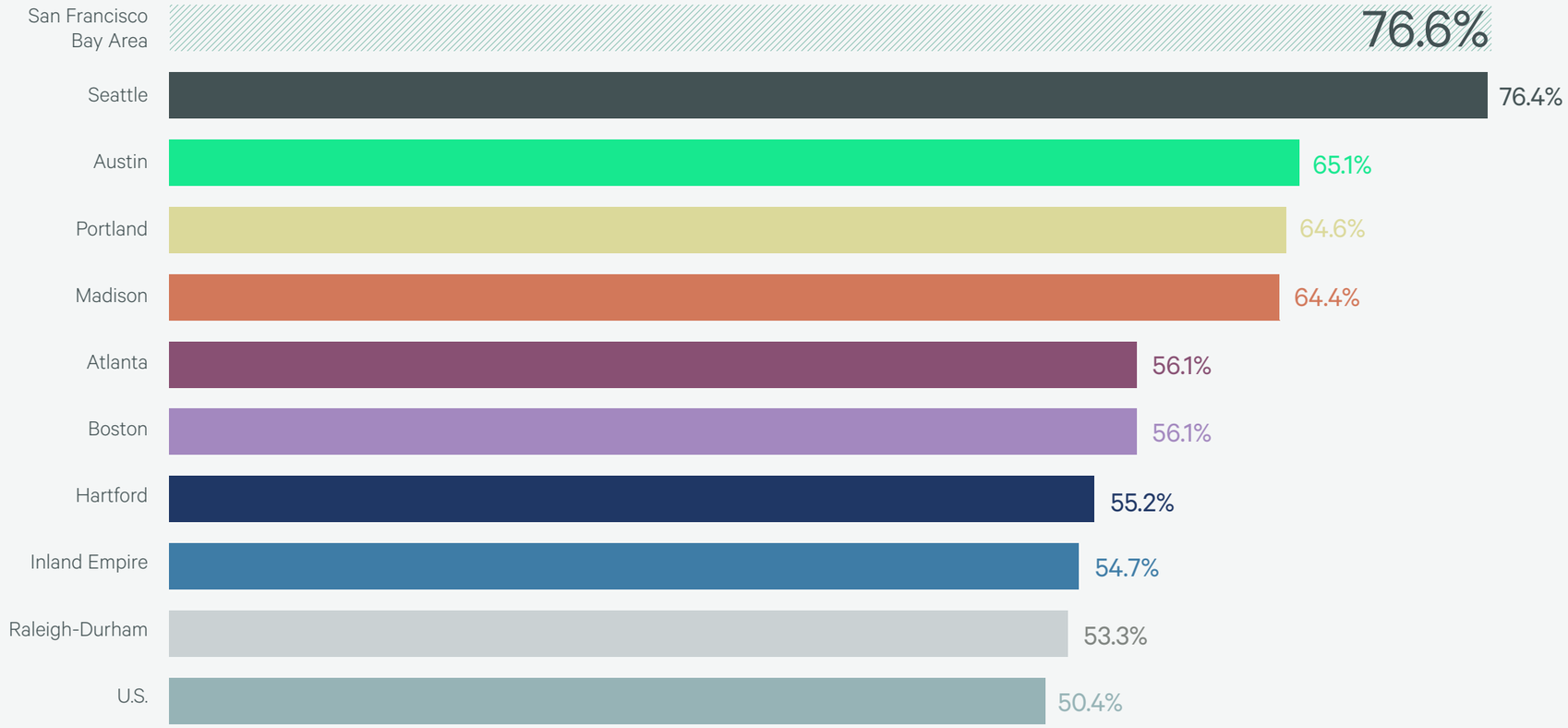
50%

of all software engineers work within the tech industry in the U.S.

64%+

Concentrations of software engineers in the San Francisco Bay Area, Seattle, Austin, Portland and Madison.

Figure 8: Top 10 Markets for Software Engineers Employed in the Tech Industry (2021)



Source: U.S. Census, IPUMS and CBRE Research, April 2023.

04

What defines a tech talent market?

Two key characteristics of top tech talent markets are high educational attainment and high concentrations of young people.

Forty-five of the top 50 tech talent markets have a metro-level educational attainment rate above their national averages of 35.0% in the U.S. and 32.2% in Canada. The top 10 markets have more than 44% of residents over 25 years old with a bachelor's degree or higher (Figure 9). Washington, D.C., the San Francisco Bay Area and Boston have rates of more than 51%.

Education, particularly with a focus on technology,[2] is best analyzed through degrees issued by higher educational institutions. Metro areas that produced the most tech graduates last year with bachelor's or higher degrees were New York Metro, Los Angeles/Orange County, Boston, Washington, D.C. and the San Francisco Bay Area (Figure 10). Large tech talent markets dominate the top 10 degree-granting regions. Demand is high for tech-related education. Between 2017 and 2021, tech-related degrees grew by 60,000. This analysis provides insight into which markets produce the most tech talent entering the labor pool each year.

Figure 9: Top 10 Markets for Educational Attainment* (2021)

Market	Educational Attainment Rate
Washington, D.C.	53.4%
San Francisco Bay Area	52.4%
Boston	51.1%
Raleigh-Durham	50.7%
Stamford	50.5%
Austin	50.0%
Denver	49.2%
Madison	48.8%
Seattle	46.8%
Minneapolis/St. Paul	44.7%
U.S.	**35.0%**
Canada	**32.2%**

Source: U.S. Census Bureau (Metro) and Environs Analytics, May 2023.
*Population age 25+ with a bachelor's degree or higher.

Figure 10: Top 10 Markets for Tech Degree Completions

Market	Tech Degree Completions (2021)	Growth (2017-2021)
New York Metro	22,719	28.4%
Los Angeles/Orange County	15,030	19.2%
Boston	13,802	43.2%
Washington, D.C.	13,688	21.7%
San Francisco Bay Area	9,967	4.6%
Atlanta	9,098	28.7%
Chicago	8,834	0.0%
Salt Lake City	8,607	98.8%
Toronto	7,859	41.7%
Dallas/Ft. Worth	7,299	10.5%

Source: The National Center for Education Statistics (Region), various Canadian ministries of education, May 2023.
Note: Bachelor's degree or higher

45

of the top 50 tech talent markets have an educational attainment level above their national averages.

44%

or more of residents over 25 years old in the top 10 tech markets have a bachelor's degree or higher.

60K

Tech-related degrees completed between 2017 and 2021.

Many graduates do not stay in the market where they earn their degree; they often migrate to markets that offer the most job opportunities or have the best pay. Analyzing tech-related graduation data and tech-related employment growth identifies tech talent flow through the difference between where workers are employed and where they were educated (Figure 11). Tech degrees cover the most recent five-year period available (2017-2021) and tech talent jobs added cover the period when most graduates would be counted in employment Figures (2018-2022). Toronto was the top market with creation of 31,405 more tech talent jobs than graduates, followed by Vancouver with 29,932 and Montreal with 25,248 more jobs than graduates. Other top tech talent job creators were Dallas/Ft. Worth, Seattle, Ottawa and Calgary. The top education markets—those with more tech degree graduates than tech talent jobs—were Los Angeles/Orange County, Atlanta, Pittsburgh, Washington, D.C. and Detroit.

[2] Tech degree fields include computer engineering and information sciences; mathematics and statistics; electrical and electronics engineering; mechanical and industrial engineering; other engineering.

Many graduates do not stay in the market where they earn their degree; they often migrate to markets that offer the most job opportunities or have the best pay.

Thirty-seven markets had more tech degree graduates than new tech talent jobs. This implies a dispersion of tech talent hiring, as the national tech talent workforce has grown year-over-year. This may be attributable to increased remote work opportunities.

The most coveted skill by tech employers is software engineering. From 2021 to 2022, more than 247,000 new software engineer jobs were created in the U.S. versus 189,010 university graduates specializing in software engineering. This created a shortfall of software engineering degree graduates relative to jobs and encouraged upskilling of the existing workforce and some international immigration to supplement tech talent needs. In Canada, international immigration has played a much larger role to fulfill tech talent needs.

Another notable characteristic of tech talent markets is the number and concentration of people in their 20s and 30s, which drives workforce growth and innovation. Those in their 30s are the largest demographic cohort in the workforce, while those in their 20s will fuel future growth (Figures 12 and 13).

Over half of the top 50 tech markets have seen the number of residents in their 30s increase by more than 10% since 2016. Austin and Vancouver grew the fastest of the large markets, at 20% and 16%, respectively. Waterloo, Canada was the fastest growing small market at 17%. Waterloo also was the top overall growth market for residents in their 20s at 21.3%, trailed distantly by Salt Lake City (12%) and Toronto (11%). Several large and highly concentrated university markets had fewer residents in their 20s than last year, including the San Francisco Bay Area, Los Angeles/Orange County, San Diego, New York Metro and South Florida.

Figure 11: Tech Degrees vs. Tech Jobs Added by Market

Market	Tech Degrees*	Tech Jobs Added*	Jobs Minus Degrees
Toronto	32,395	63,800	31,405
Vancouver	15,268	45,200	29,932
Montreal	26,252	51,500	25,248
Dallas/Ft. Worth	34,530	59,440	24,910
Seattle	23,094	43,190	20,096
Ottawa	10,401	26,700	16,299
Calgary	4,219	19,700	15,481
San Francisco Bay Area	50,739	61,110	10,371
Austin	14,124	22,160	8,036
Quebec City	2,328	9,300	6,972
Nashville	5,270	9,950	4,680
Edmonton	6,280	9,600	3,320
Portland	10,259	12,700	2,441
Charlotte	8,512	7,810	-702
Jacksonville	2,211	1,410	-801
Tampa	8,983	7,430	-1,553
Inland Empire	7,714	6,160	-1,554
Richmond	3,790	1,950	-1,840
Denver	23,083	18,680	-4,403
Madison	10,762	6,280	-4,482
Milwaukee	7,581	2,930	-4,651
Philadelphia	31,108	25,740	-5,368
South Florida	14,273	7,640	-6,633
Virginia Beach	8,356	1,660	-6,696
Waterloo Region, Canada	17,075	10,100	-6,975
Orlando	13,913	6,500	-7,413
San Antonio	6,593	-1,220	-7,813
Indianapolis	6,068	-1,760	-7,828
Hartford	8,714	-110	-8,824
Raleigh-Durham	20,631	11,460	-9,171
Cincinnati	10,788	970	-9,818
St. Louis	10,847	790	-10,057
Cleveland	9,927	-370	-10,297
Phoenix	28,053	17,580	-10,473
Sacramento	10,833	220	-10,613
Houston	14,572	1,160	-13,412
Columbus	12,029	-1,470	-13,499
Kansas City	9,029	-5,290	-14,319
Salt Lake City	30,763	14,600	-16,163
Boston	59,748	40,560	-19,188
San Diego	23,568	3,790	-19,778
Baltimore	20,090	-550	-20,640
Minneapolis/St. Paul	18,973	-2,520	-21,493
Chicago	42,799	17,630	-25,169
New York Metro	101,687	70,850	-30,837
Detroit	33,664	2,540	-31,124
Washington, D.C.	62,770	30,840	-31,930
Pittsburgh	26,234	-6,030	-32,264
Atlanta	40,972	2,060	-38,912
Los Angeles/Orange County	69,293	27,030	-42,263

Top Job Markets

Top Education Markets

*Tech degrees cover the most recent five-year period available (2017-2021) and tech jobs added cover the time period reflecting when most graduates would be counted in employment Figures (2018-2022).

Source: CBRE Research, U.S. Bureau of Labor Statistics, National Center for Education Statistics (Metro), various Canadian ministries of education 2023.

Figure 12: Population Change of Those in Their 20s by Market, 2016-2021

Large Tech Talent Markets (>50,000 Workforce)

Market	% Change
Salt Lake City	11.5%
Toronto	11.1%
Ottawa	10.0%
Raleigh-Durham	8.0%
Vancouver	7.7%
Austin	5.8%
Dallas/Ft. Worth	5.7%
Charlotte	5.4%
Phoenix	4.6%
Atlanta	4.4%
Kansas City	3.8%
Montreal	1.6%
Denver	1.2%
Houston	0.8%
Tampa	0.2%
Minneapolis/St. Paul	-1.2%
Seattle	-1.3%
Portland	-1.7%
Washington, D.C.	-2.3%
Boston	-2.4%
Detroit	-2.7%
Columbus	-2.9%
Calgary	-4.2%
Chicago	-5.7%
Philadelphia	-5.8%
St. Louis	-6.3%
Baltimore	-7.0%
South Florida	-9.8%
New York Metro	-10.6%
San Diego	-11.1%
Los Angeles/Orange County	-11.4%
San Francisco Bay Area	-11.6%

Small Tech Talent Markets (< 50,000 Workforce)

Market	% Change
Waterloo Region, Canada	21.3%
Nashville	4.5%
Madison	3.3%
San Antonio	2.3%
Indianapolis	2.3%
Cincinnati	1.9%
Jacksonville	0.8%
Hartford	-0.7%
Orlando	-0.9%
Cleveland	-1.3%
Sacramento	-3.8%
Inland Empire	-3.8%
Richmond	-4.0%
Milwaukee	-4.2%
Edmonton	-4.3%
Virginia Beach	-4.7%
Quebec City	-4.8%
Pittsburgh	-7.5%

Source: U.S. Census Bureau (Metro), Oxford Economics Canada (Metro), 2023.

Figure 13: Population Change of Those in Their 30s by Market, 2016-2021

Large Tech Talent Markets (>50,000 Workforce)

Market	% Change
Austin	19.5%
Vancouver	16.4%
Toronto	14.7%
Ottawa	14.4%
Charlotte	14.2%
Seattle	14.0%
Tampa	13.5%
Denver	12.6%
Raleigh-Durham	11.7%
Philadelphia	10.5%
Columbus	10.4%
Phoenix	10.0%
Boston	9.7%
Detroit	9.2%
Dallas/Ft. Worth	8.6%
Houston	8.5%
Atlanta	8.2%
Kansas City	8.0%
Baltimore	7.2%
Calgary	6.7%
San Diego	6.1%
Salt Lake City	5.2%
Portland	4.9%
Minneapolis/St. Paul	4.8%
San Francisco Bay Area	2.8%
St. Louis	2.8%
Montreal	2.7%
Los Angeles/Orange County	2.3%
South Florida	1.8%
Washington, D.C.	1.6%
Chicago	0.9%
New York Metro	-1.2%

Small Tech Talent Markets (< 50,000 Workforce)

Market	% Change
Waterloo Region, Canada	17.2%
Jacksonville	13.9%
Hartford	13.8%
Richmond	13.8%
San Antonio	13.1%
Virginia Beach	12.9%
Sacramento	12.4%
Indianapolis	12.0%
Nashville	11.2%
Orlando	11.1%
Inland Empire	10.9%
Edmonton	10.8%
Cincinnati	10.7%
Pittsburgh	10.3%
Cleveland	9.0%
Milwaukee	3.3%
Madison	2.1%
Quebec City	0.4%

Source: U.S. Census Bureau (Metro), Oxford Economics Canada (Metro), 2023.

Growth rates were much higher for degree-holders in their 20s and 30s. All but four U.S. markets saw degree-holders in their 20s grow from 2016 to 2021, with 7% aggregate growth for the 42 U.S. markets among the North American top 50. Degree-holders in their 30s grew in every market during the same period, with 21% growth for the 42-market aggregate. For both age cohorts, tech talent markets outperformed the overall U.S. market, which saw a 4% decline in degree-holders in their 20s and an 11% increase for those in their 30s (Figures 14 and 15).

35%

Increase in Tampa residents in their 20s with a college degree between 2016 and 2021.

52%

Increase in Austin residents in their 30s with a college degree between 2016 and 2021.

Figure 14: Change in Residents in Their 20s with College Degrees by Market, 2016-2021

Large Tech Talent Markets (>50,000 Workforce)

Market	% Change
Tampa	34.7%
Denver	31.4%
Charlotte	29.9%
Austin	28.5%
Phoenix	27.8%
Dallas/Ft. Worth	24.1%
Salt Lake City	22.9%
Atlanta	22.3%
Raleigh-Durham	20.4%
St. Louis	17.5%
Kansas City	15.2%
Minneapolis/St. Paul	14.0%
Houston	12.9%
San Diego	12.3%
Seattle	11.8%
Detroit	11.3%
South Florida	10.8%
Columbus	8.7%
Boston	8.2%
Philadelphia	6.8%
Los Angeles/Orange County	6.0%
Washington, D.C.	5.6%
New York Metro	5.3%
Baltimore	4.8%
Chicago	3.8%
Portland	-6.0%
San Francisco Bay Area	-8.5%

Small Tech Talent Markets (< 50,000 Workforce)

Market	% Change
Nashville	28.1%
Inland Empire	27.6%
Cincinnati	26.2%
Cleveland	22.0%
Indianapolis	21.4%
Milwaukee	18.6%
San Antonio	17.6%
Jacksonville	15.8%
Hartford	10.4%
Sacramento	9.8%
Virginia Beach	5.8%
Orlando	5.7%
Richmond	1.4%
Madison	-0.1%
Pittsburgh	-5.9%

Source: U.S. Census Bureau (County), 2023.

Figure 15: Change in Residents in Their 30s with College Degrees by Market, 2016-2021

Large Tech Talent Markets (>50,000 Workforce)

Market	% Change
Austin	52.4%
Tampa	36.2%
Phoenix	32.4%
Denver	32.0%
Charlotte	30.9%
Philadelphia	30.1%
Seattle	30.0%
Houston	28.7%
Detroit	27.0%
Atlanta	26.9%
South Florida	26.8%
Boston	24.8%
Dallas/Ft. Worth	24.2%
Columbus	24.0%
Salt Lake City	22.3%
Portland	21.9%
Los Angeles/Orange County	19.6%
Raleigh-Durham	18.9%
Kansas City	18.2%
New York Metro	16.3%
Minneapolis/St. Paul	16.0%
San Diego	15.6%
Chicago	12.5%
San Francisco Bay Area	11.4%
St. Louis	10.8%
Washington, D.C.	9.4%
Baltimore	5.6%

Small Tech Talent Markets (< 50,000 Workforce)

Market	% Change
Virginia Beach	38.5%
Richmond	36.0%
Nashville	31.1%
Hartford	27.5%
Inland Empire	26.7%
Orlando	24.7%
Sacramento	23.2%
Pittsburgh	21.9%
Cleveland	21.7%
San Antonio	21.1%
Milwaukee	17.6%
Cincinnati	16.6%
Madison	16.2%
Indianapolis	14.5%
Jacksonville	10.0%

Source: U.S. Census Bureau (County), 2023.

Salt Lake City, Madison and Canada's Waterloo Region had the highest concentration of residents in their 20s, comprising about 17% of each market's total population (Figure 16). Austin and Calgary had the highest concentration of residents in their 30s (Figure 17).

Figure 16: Top 10 Most Concentrated Markets for Residents in Their 20s (2021)

Market	Population Concentration
Salt Lake City	17.1%
Madison	16.6%
Waterloo Region, Canada	16.6%
Toronto	15.3%
Vancouver	15.0%
Virginia Beach	14.9%
San Diego	14.9%
Austin	14.6%
Ottawa	14.3%
Columbus	14.2%

Source: U.S. Census Bureau (Metro) and Oxford Economics (Metro), 2023.

Figure 17: Top 10 Most Concentrated Markets for Residents in Their 30s (2021)

Market	Population Concentration
Austin	17.5%
Calgary	17.0%
Edmonton	16.9%
Seattle	16.8%
Denver	16.6%
San Francisco Bay Area	16.0%
Vancouver	16.0%
Portland	15.7%
San Diego	15.6%
Toronto	15.5%

Source: U.S. Census Bureau (Metro) and Oxford Economics (Metro), 2023.

People in their 20s and 30s account for 47.7% of the tech talent workforce across all industries in the U.S., compared with 40.2% for general office-using industries (Figure 18). Tech talent working within the tech industry has an even higher concentration at 52.7%. Older workers (age 55 and up) represented 29.1% of the labor force for all office-using industries compared with 20.4% of tech talent working in all industries and 16.6% of tech talent working within the tech industry.

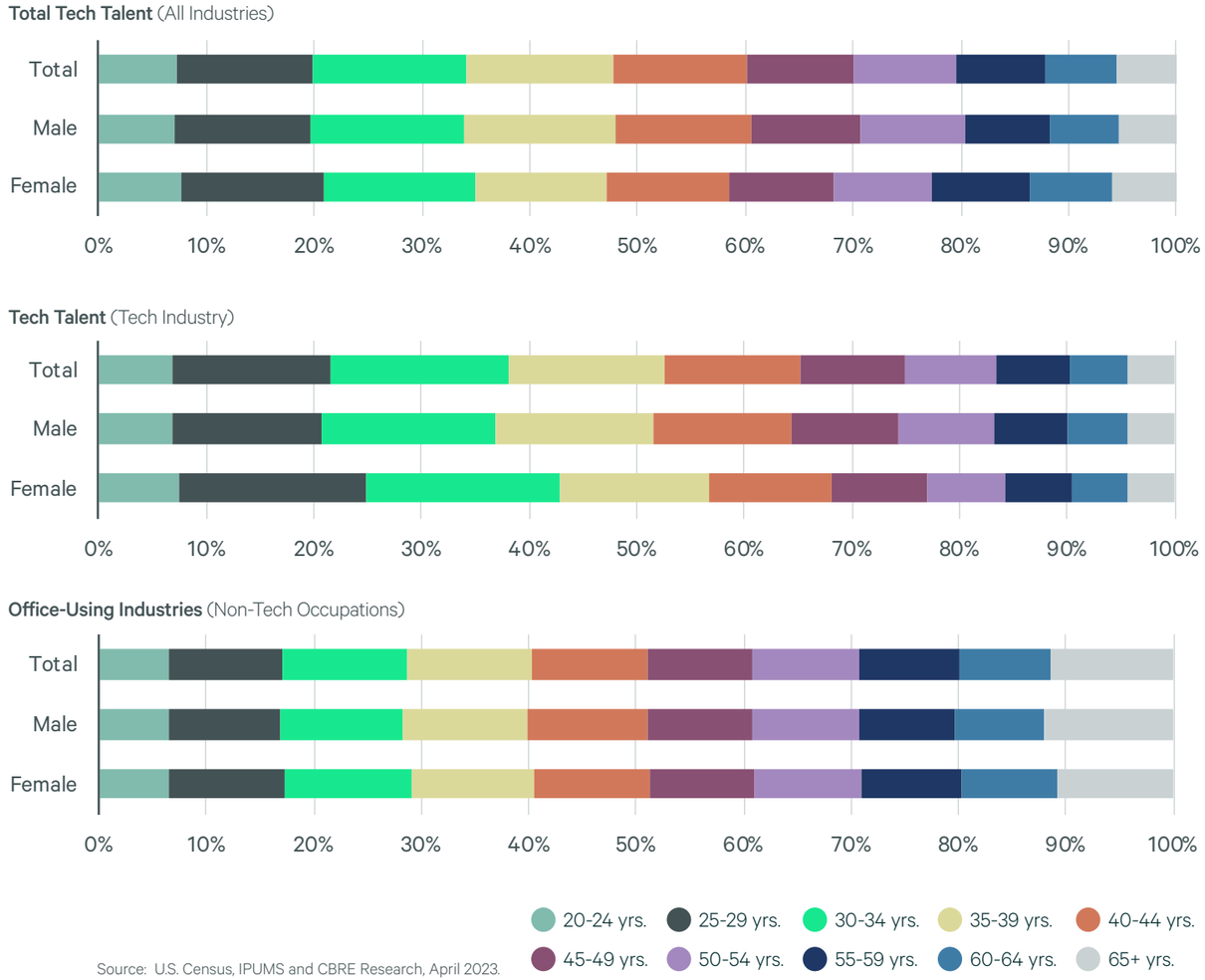
47.7%

Percentage of U.S. tech talent in their 20s and 30s.

20.4%

Percentage of U.S. tech talent aged 55 and up.

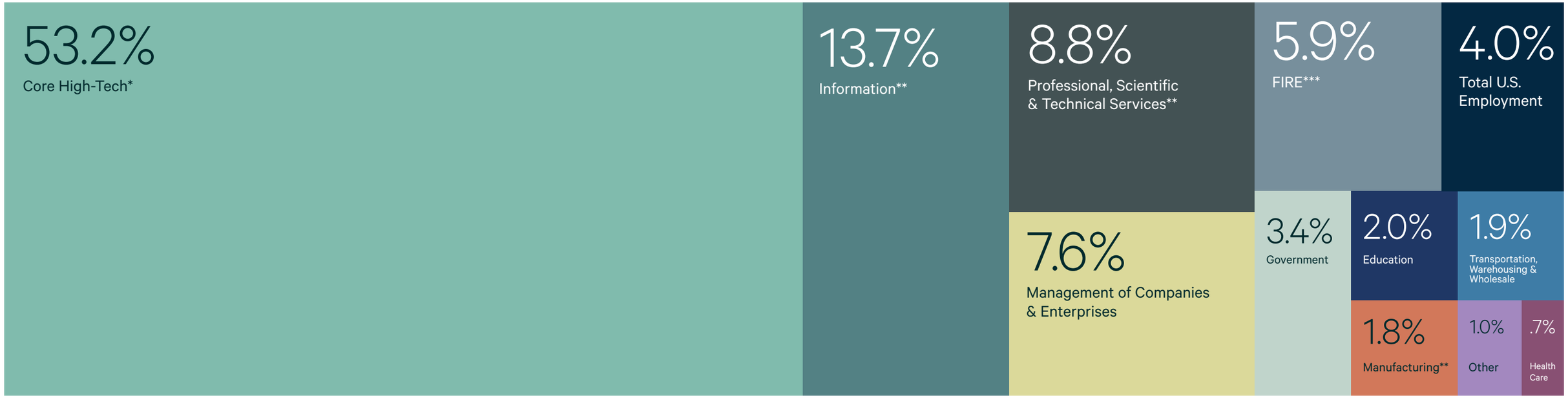
Figure 18: U.S. Workforce by Age for Certain Industries (2021)



Source: U.S. Census, IPUMS and CBRE Research, April 2023.

Top markets are distinguished by tech clusters and higher concentrations of tech talent. These clusters typically form around preeminent universities that tend to invest the most in innovation and provide a steady flow of new talent for local companies. Tech clusters also form around leading companies that draw other companies to a region and support an innovative ecosystem that spawns new entrepreneurs and companies. Tech companies use these clusters for synergy and competition, thereby accelerating the innovation process. These companies in the core high-tech industry are heavily concentrated, with about half of their workers doing tech-related jobs (Figure 19). Consequently, tech talent clusters tend to form in markets with a strong concentration of high-tech companies.

Figure 19: U.S. Tech Talent Workforce Concentration by Industry (2022)



*Includes computer software and services and computer product manufacturing; **Excluding High-Tech; ***FIRE stands for Finance, Insurance, Real Estate.
Note: See Table 21b in the Appendix section for Canadian tech talent workforce concentration by industry.
Source: U.S. Bureau of Labor Statistics, April 2023.

05

How diverse are tech talent markets?

Tech talent diversity by race/ethnicity and sex has improved slowly. Remote work and workforce analytics have created opportunities to accelerate the process.

Strategic approaches to diverse team building can be enhanced by greater use of data and benchmarking analytics that identify where diverse talent is located and being developed. Our analysis details workforce race/ethnicity and sex by geography, industry, job classification and income bracket, as well as college tech degree graduates' race/ethnicity and sex by geography.

Industry Diversity

Tech talent diversity across all industries was little changed over the past five years and remains predominantly White, Asian and male relative to total employment and office-using employment.[3] According to 2021 data from the U.S. Census Bureau, Hispanics, Blacks and other non-White and non-Asian groups and females were underrepresented (Figures 20 and 21). The tech industry, which accounts for 41% of tech talent in the U.S., had more underrepresentation than tech talent across all industries.

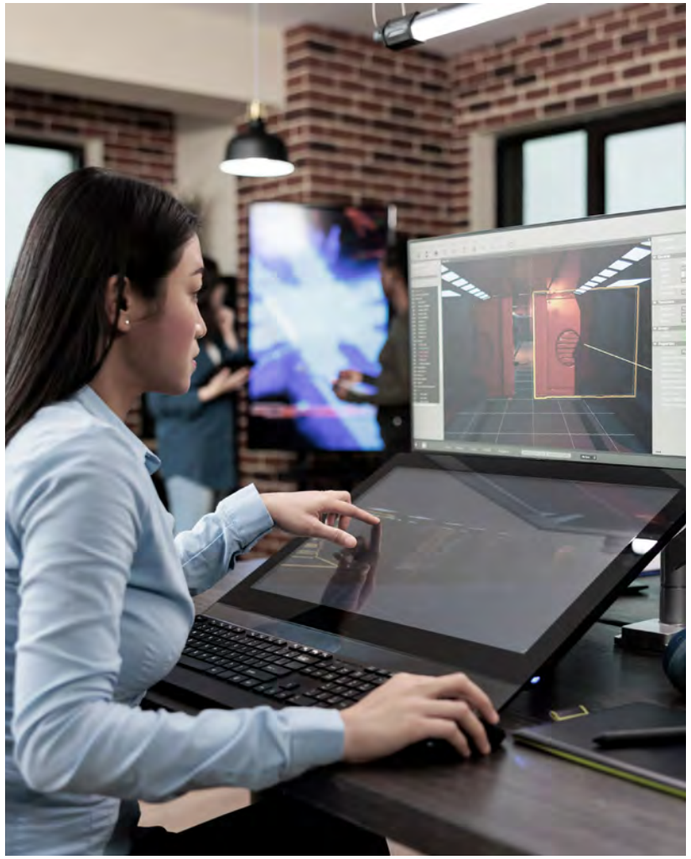
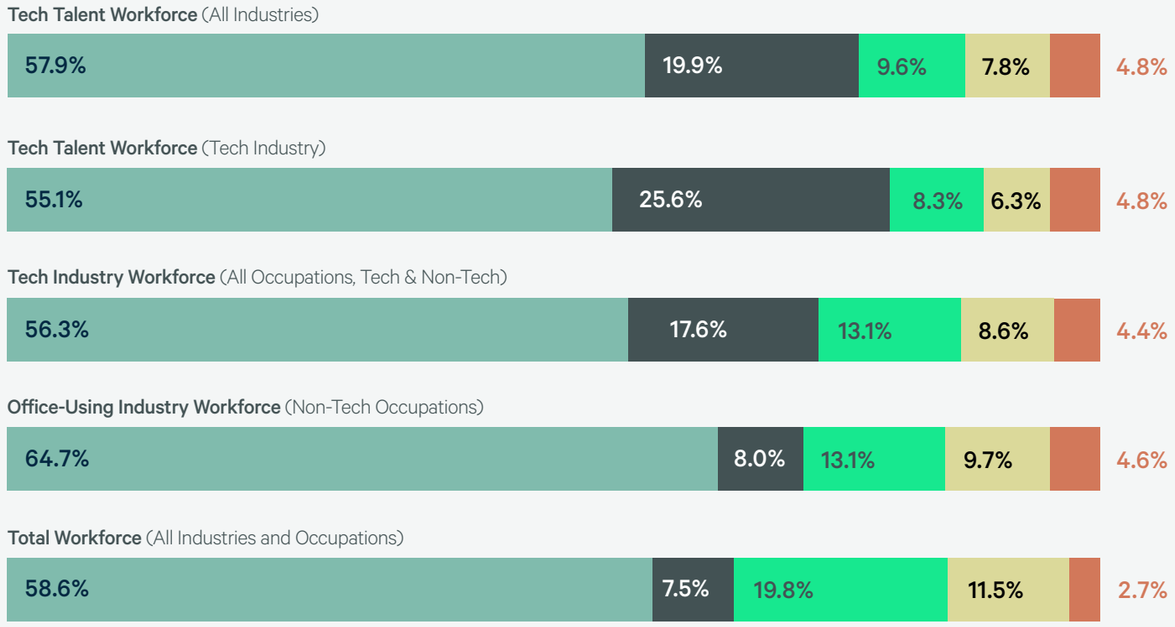
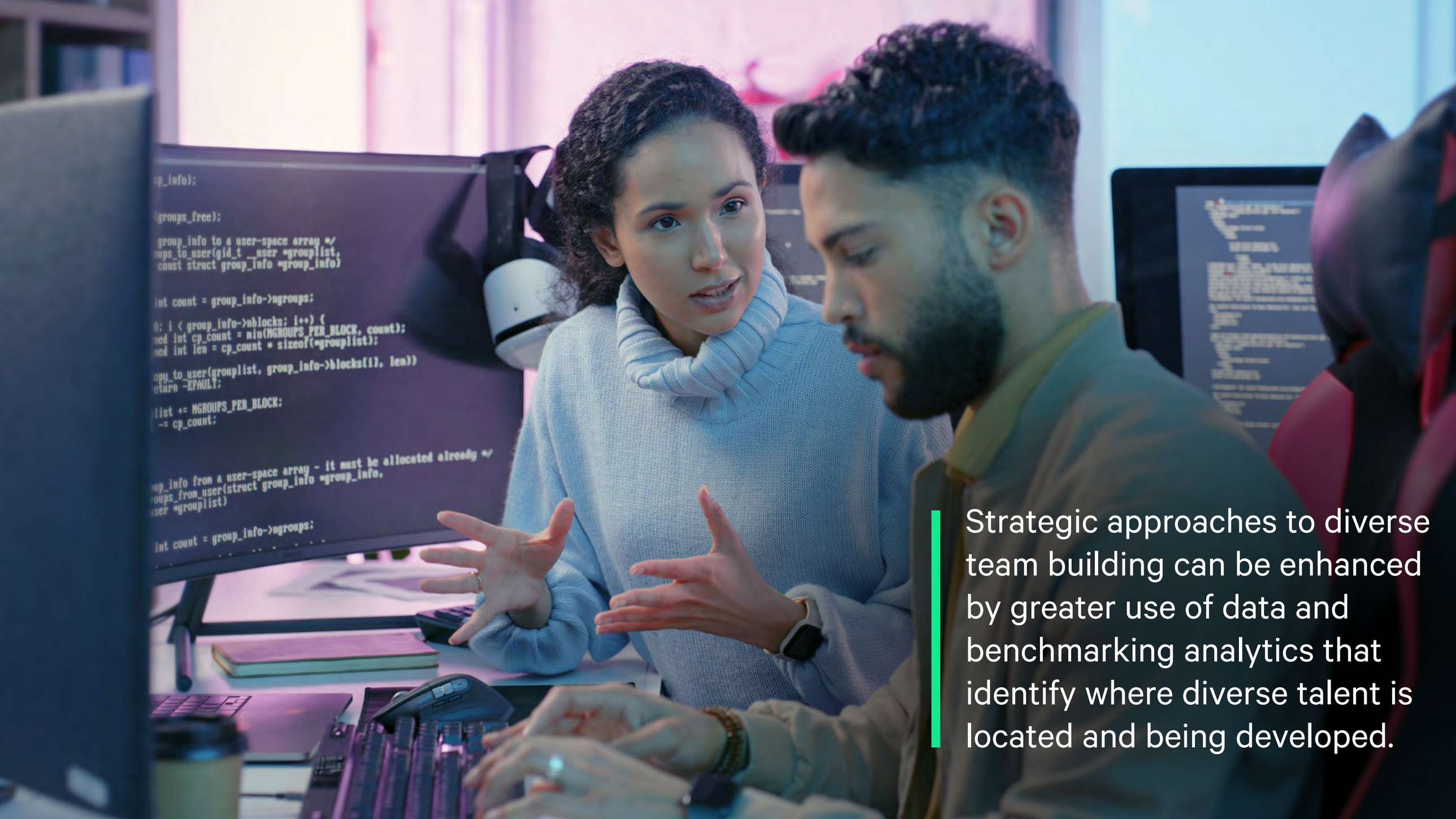


Figure 20: U.S. Workforce by Race/Ethnicity for Certain Industries (2021)



Note: See Table 22b in the Appendix section for Canadian workforce by race/ethnicity for certain industries.
Source: U.S. Census, IPUMS and CBRE Research, April 2023.

[3] Non-tech occupations in industries that heavily use office space for their operations including information, professional & business services and financial activities.



Strategic approaches to diverse team building can be enhanced by greater use of data and benchmarking analytics that identify where diverse talent is located and being developed.

Female Diversity

Females were significantly underrepresented within tech talent occupations across all industries (Figure 21). Within the tech industry, females were more underrepresented in tech occupations at 21% compared with 24% across all industries. Females accounted for 33% of all occupations within the tech industry, below the 47% share for total employment and 52% share for office-using industries. Females within underrepresented race/ethnicity groups (Hispanic, Black and Other) had a higher share of jobs than White females in all five workforce categories. They had a lower share than Asian females for tech talent within the tech industry but had higher or similar shares in the four other categories. Black females had the highest share of jobs for all race/ethnicity groups and workforce categories.

21%

of female tech talent represented in the tech industry, compared with 24% across all industries.

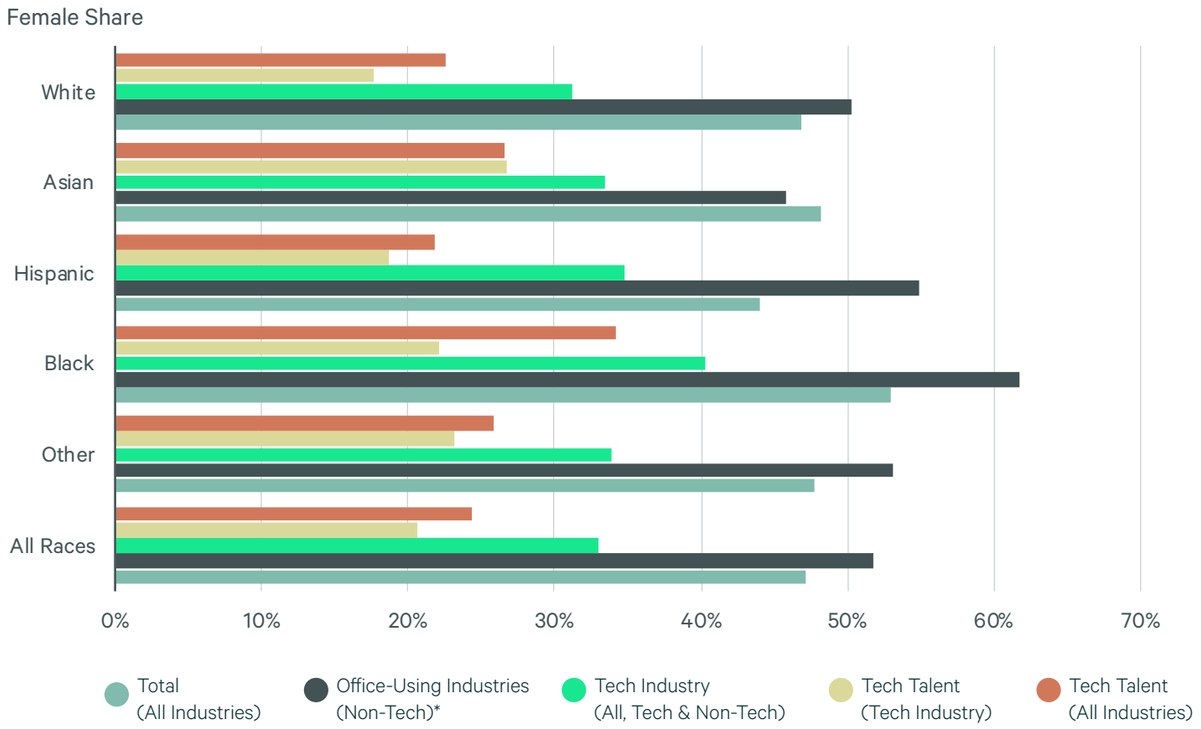
33%

Female representation within all occupations in the tech industry.

52%

Female representation in office-using industries.

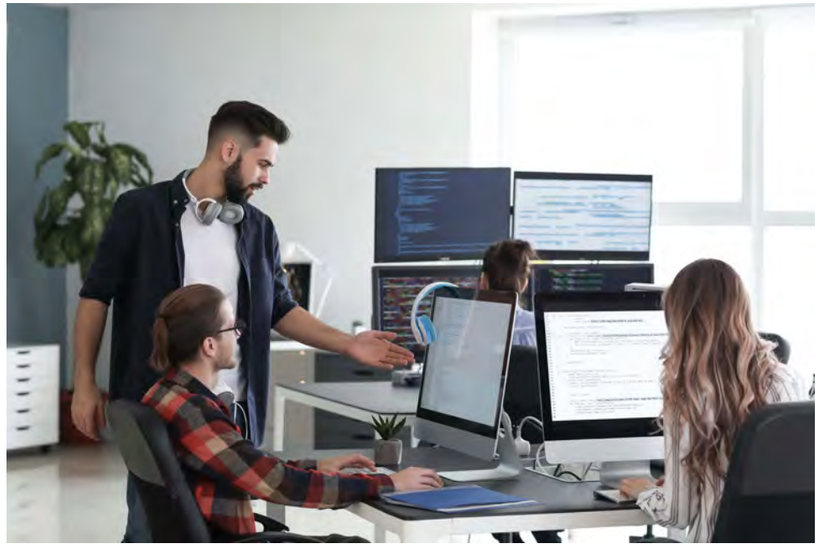
Figure 21: Female Share of Total U.S. Workforce by Race for Certain Industries (2021)



*Office-using industries include information, financial activities and professional & business services (excluding tech industry within these categories).
Note: See Table 23b in the Appendix section for female share of total Canadian workforce for certain industries.
Source: U.S. Census, IPUMS and CBRE Research, April 2023.

Occupation Diversity

Segmenting tech talent occupations across all industries in two broad categories showed that there was a higher concentration of female workers within Computer Support, Database & Systems occupations at 28.6% than within Software Developers, Programmers & Engineers at 18.4% (Figure 22). By race/ethnicity within these same occupations, Black and other females were less underrepresented than Black and other males.



28.6%

Concentration of female workers within Computer Support, Database & Systems occupations.

18.4%

Concentration of female workers within Software Developers, Programmers & Engineers.

Figure 22: U.S. Tech Talent Occupation Category by Race/Ethnicity & Sex (2021)

Tech Talent Occupation Category	Share of Occupations	White	Asian	Hispanic	Black	Other
Software Developers, Programmers & Engineers (46% of Jobs)						
Female	18.4%	45.4%	38.4%	6.5%	5.2%	4.5%
Male	81.6%	56.9%	27.3%	7.9%	3.7%	4.2%
Total (Female and Male)	100.0%	54.8%	29.4%	7.6%	4.0%	4.3%
Computer Support, Database & Systems (54% of Jobs)						
Female	28.6%	57.3%	14.1%	9.7%	13.6%	5.3%
Male	71.4%	61.2%	12.8%	11.7%	9.4%	5.0%
Total (Female and Male)	100.0%	60.1%	13.1%	11.1%	10.6%	5.1%
Total Tech Talent (100% of Jobs)						
Female	24.3%	53.5%	21.8%	8.6%	11.0%	5.1%
Male	75.7%	59.2%	19.3%	9.9%	6.8%	4.7%
Total (Female and Male)	100.0%	57.9%	19.9%	9.6%	7.8%	4.8%

Note: See Table 24b in the Appendix section for Canadian tech talent occupation category by sex.
Source: U.S. Census, IPUMS and CBRE Research, April 2023.

Income Diversity

Tech talent across all industries segmented by annual wage bracket for race/ethnicity and sex showed a higher concentration of underrepresented groups and females in the lower wage ranges. However, we cannot conclude that there are unequal wages within each of these groups since they are classified by a wide salary range. A more detailed job-by-job and person-by-person analysis is required to make such a determination.

Black and Hispanic tech talent in 2021 was concentrated in the under $100,000 wage bracket at 76.7% and 75.4%, respectively, compared with 46.6% for Asians and 64.9% for Whites (Figure 23). Female tech talent making less than $100,000 accounted for 73.4% of their total, compared with 59.7% for males. Hispanic, Black and Other females had the highest concentration under $100,000, all 75% or more. Asian males had the highest concentration in the $150,000 or more wage bracket at 27.5%, compared with 15.0% for Whites, 8.9% for Hispanics and 6.9% for Blacks.

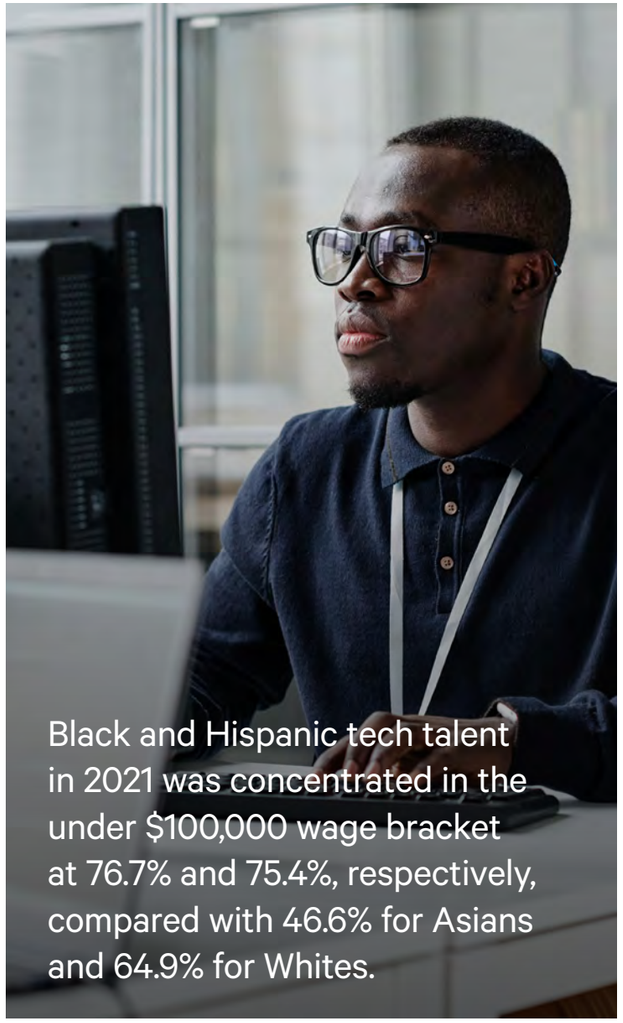
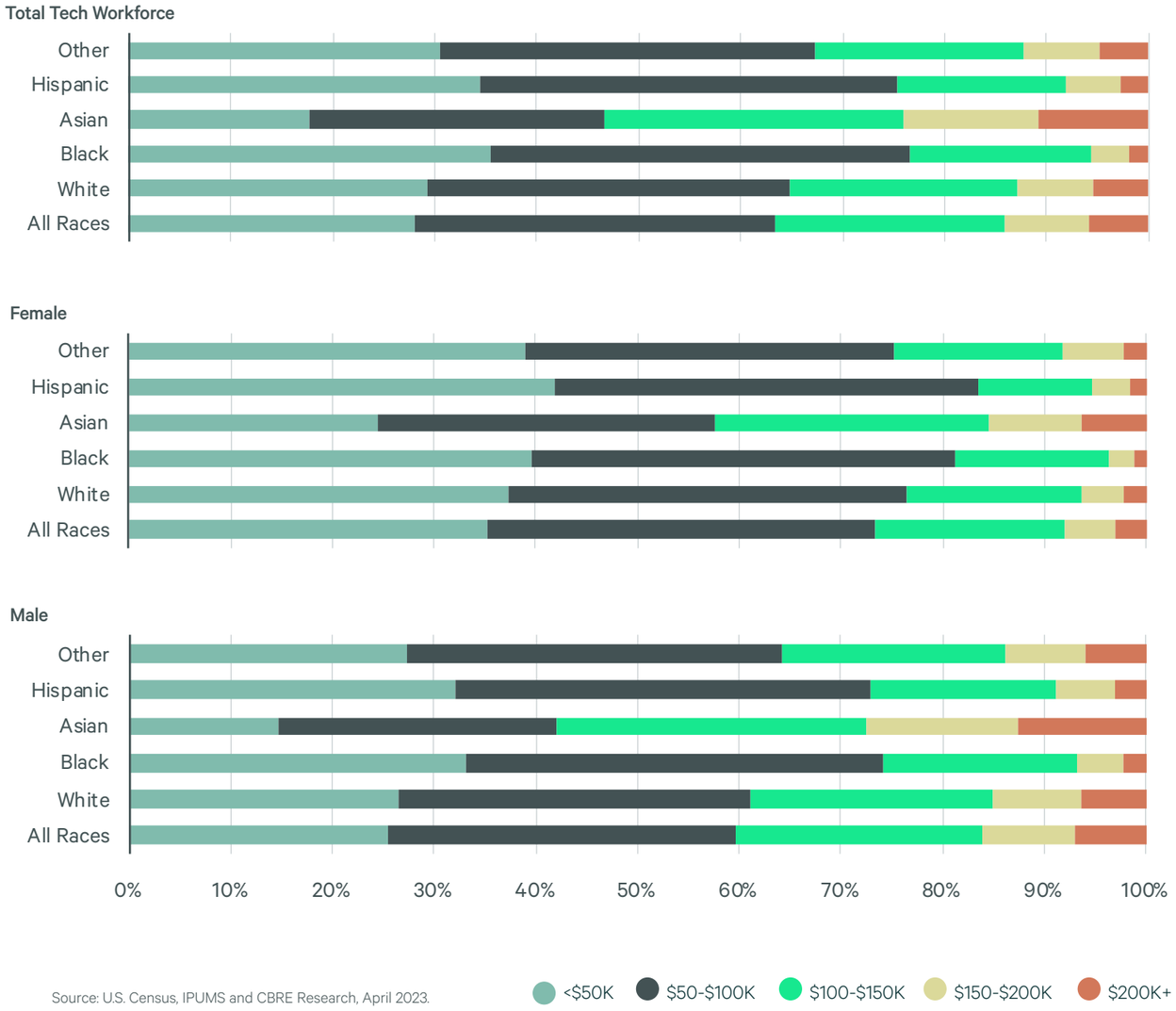
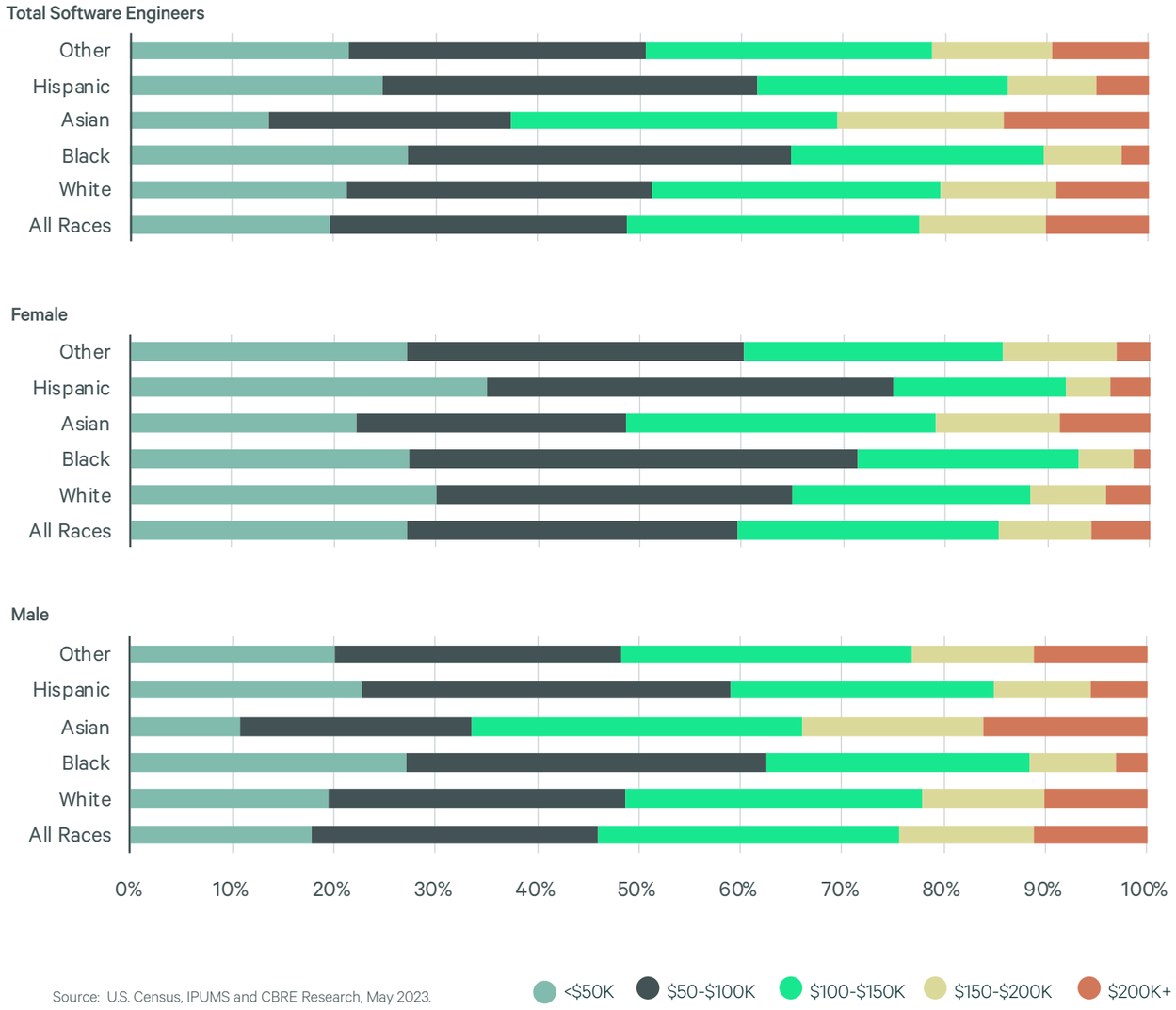


Figure 23: U.S. Tech Talent Workforce by Race/Ethnicity and Income Range (2021)



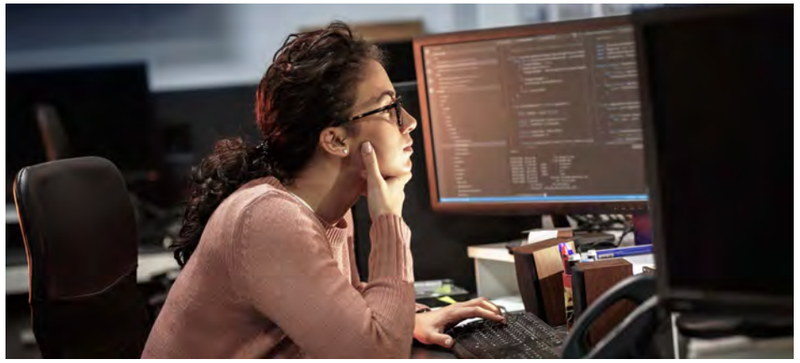
Source: U.S. Census, IPUMS and CBRE Research, April 2023.

Figure 24: U.S. Software Engineers by Race/Ethnicity and Income Range (2021)



Source: U.S. Census, IPUMS and CBRE Research, May 2023.

The same data was compiled for software engineers, the biggest tech talent growth category (Figure 24). In general, software engineers earned higher wages than tech talent overall. Other notable differences included 24.4% of males in the $150,000 or more wage bracket, compared with 14.8% for females. Hispanic females had the highest concentration in the under $100,000 wage bracket at 74.9%, followed by Black females at 71.3%. Asian and White males had the highest concentration above $150,000 at 34.0% and 22.2%, respectively.



24.4%

of males in the $150K+ wage bracket, compared with 14.8% of females.

74.9%

of Hispanic females make up the largest group in the under $100K wage bracket.

50.7%

of Asian females are in the under $100K wage bracket.

Geographic/Market Diversity

Demographics should be benchmarked by the representative workforce within a geographical or market area. For tech talent markets, there was variability in underrepresented race/ethnic groups and females when benchmarked by office-using industries. If the difference between tech talent and the office-using benchmark was a positive number, it means there was no underrepresentation using this metric.

For underrepresented race/ethnic groups, the most diverse large tech talent markets were Salt Lake City, Portland and Minneapolis/St. Paul, while the most diverse small tech talent markets were Nashville, San Antonio and Sacramento (Figure 25). The least diverse large markets were Dallas/Ft. Worth, San Diego and the San Francisco Bay Area, while the least diverse small markets were the Inland Empire, Jacksonville and Hartford.

For underrepresented race/ethnic groups, the most diverse large tech talent markets were Salt Lake City, Portland and Minneapolis/St. Paul, while the most diverse small tech talent markets were Nashville, San Antonio and Sacramento.

Figure 25: Underrepresented Race/Ethnic Groups in U.S. Tech Talent Workforce by Market (2021)

MOST DIVERSE

Large Tech Talent Markets (> 50,000 Workforce)

Market	Difference*	Tech Talent % of Underrepresented Groups**	Office-Using % of Underrepresented Groups**
Salt Lake City	0.5%	14.5%	13.9%
Portland	0.5%	15.7%	15.2%
Minneapolis/St. Paul	0.1%	11.9%	11.8%
St. Louis	-0.6%	17.9%	18.4%
South Florida	-1.4%	53.8%	55.2%

Small Tech Talent Markets (< 50,000 Workforce)

Market	Difference*	Tech Talent % of Underrepresented Groups**	Office-Using % of Underrepresented Groups**
Nashville	3.8%	23.8%	20.0%
San Antonio	1.9%	48.2%	46.4%
Sacramento	0.4%	28.1%	27.6%
Madison	-0.3%	9.3%	9.7%
Cleveland	-0.4%	21.0%	21.5%

LEAST DIVERSE

Large Tech Talent Markets (> 50,000 Workforce)

Market	Difference*	Tech Talent % of Underrepresented Groups**	Office-Using % of Underrepresented Groups**
Dallas/Ft. Worth	-9.4%	24.8%	34.2%
San Diego	-8.3%	19.9%	28.1%
San Francisco Bay Area	-8.1%	11.7%	19.8%
LA/Orange County	-8.1%	28.6%	36.7%
Chicago	-6.8%	21.6%	28.4%

Small Tech Talent Markets (< 50,000 Workforce)

Market	Difference*	Tech Talent % of Underrepresented Groups**	Office-Using % of Underrepresented Groups**
Inland Empire	-9.4%	41.2%	50.6%
Jacksonville	-7.8%	20.7%	28.5%
Hartford	-6.7%	13.7%	20.4%
Indianapolis	-5.6%	14.7%	20.3%
Richmond	-5.4%	26.2%	31.5%

*Difference calculation: tech talent Share minus Office-Using Share Benchmark; **Hispanic, Black, Other Non-White/Non-Asian
Note: See Table 27b in the Appendix section for underrepresented race/ethnic groups in Canadian tech talent workforce by market.
Source: U.S. Census, IPUMS and CBRE Research, April 2023.

For females, diversity was well below the office-using benchmark in all but one market (Madison). Large markets with the most female representation were Washington, D.C., Raleigh-Durham and San Diego (Figure 26), while small markets with the most were Madison, Sacramento and Cleveland.

Figure 26: Females in U.S. Tech Talent Workforce by Market (2021)

MOST DIVERSE

Large Tech Talent Markets (> 50,000 Workforce)

Market	Difference*	Tech Talent % of Females	Office-Using % of Females
Washington, D.C.	-18.6%	28.6%	47.2%
Raleigh-Durham	-19.4%	26.8%	46.2%
San Diego	-20.4%	25.0%	45.4%
Detroit	-20.4%	28.1%	48.5%
Atlanta	-20.4%	29.8%	50.3%

Small Tech Talent Markets (< 50,000 Workforce)

Market	Difference*	Tech Talent % of Females	Office-Using % of Females
Madison	0.4%	29.3%	28.9%
Sacramento	-17.7%	32.8%	50.5%
Cleveland	-22.4%	30.8%	53.2%
Pittsburgh	-22.7%	27.4%	50.1%
Jacksonville	-22.8%	27.4%	50.2%

LEAST DIVERSE

Large Tech Talent Markets (> 50,000 Workforce)

Market	Difference*	Tech Talent % of Females	Office-Using % of Females
Kansas City	-31.2%	19.4%	50.6%
Tampa	-29.4%	22.3%	51.7%
LA/Orange County	-26.7%	22.7%	49.4%
Salt Lake City	-26.3%	18.6%	45.0%
Phoenix	-26.0%	24.1%	50.1%

Small Tech Talent Markets (< 50,000 Workforce)

Market	Difference*	Tech Talent % of Females	Office-Using % of Females
San Antonio	-35.9%	16.0%	51.9%
Cincinnati	-31.1%	19.9%	51.0%
Inland Empire	-29.2%	23.6%	52.8%
Nashville	-28.6%	22.8%	51.4%
Milwaukee	-27.9%	24.1%	52.0%

*Difference calculation: tech talent Share minus Office-Using Share Benchmark.
Note: See Table 28b in the Appendix section for females in Canada's tech talent workforce by market.
Source: U.S. Census, IPUMS and CBRE Research, April 2023.

Tech Degree Graduate Diversity & Current Enrollment

The pipeline of recent tech degree graduates offers opportunities to build the next generation of talent and use analytics to measure success. These graduates, like the existing tech talent workforce, were predominantly White, Asian and male. Of the 348,500 U.S. tech degree graduates in 2021, 25.3% were from underrepresented race/ethnicity groups and 26.1% were female (Figure 27). Underrepresented race/ethnicity groups accounted for 31.2% of total college graduates in 2021 and females accounted for 59.4%. Asian, Hispanic and other race/ethnicity groups have materially increased their shares of tech degrees since 2010, while Blacks have increased slightly and the share of Whites has declined. The share of females has grown by 4.3 percentage points during this same timeframe.

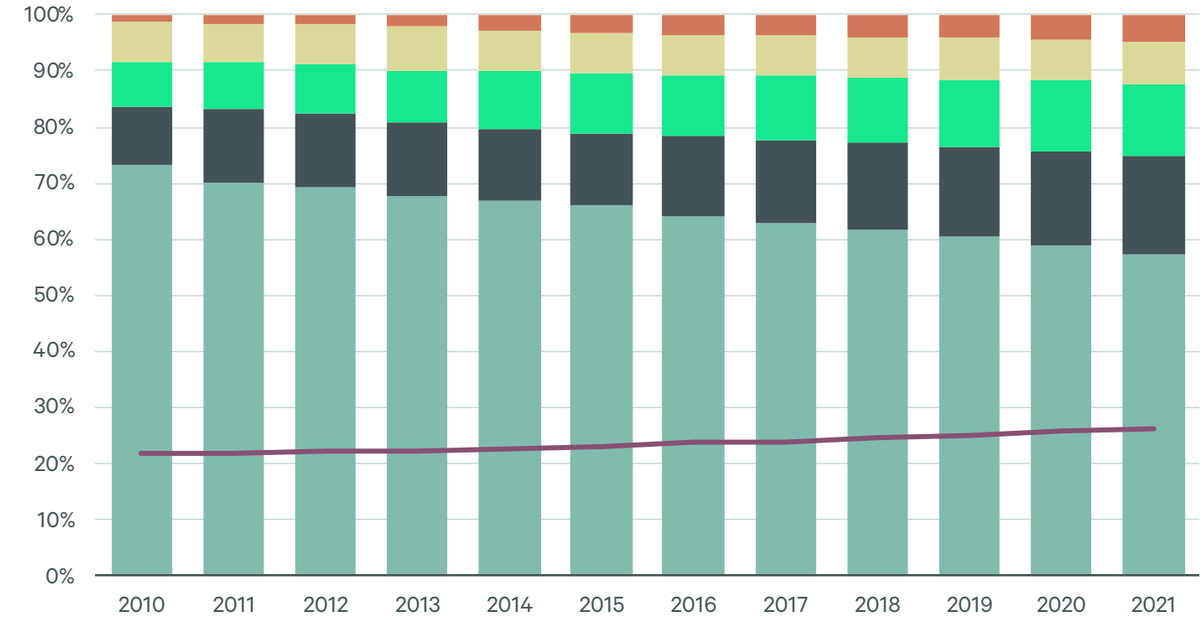
Compared with the existing tech talent workforce, the share of tech degree graduates from underrepresented groups (25.3%) exceeded existing workers (22.2%), as did female tech degree graduates (26.1%) compared with existing workers (24.3%). This is a positive indicator of future tech talent diversity.

For underrepresented race/ethnic groups, the most diverse markets for tech degree graduates were South Florida, San Antonio, Houston, the Inland Empire and Virginia Beach (Figure 28). The least diverse markets were Madison, Cincinnati, Detroit, Pittsburgh and Columbus.

For females, the most diverse markets for tech degree graduates were Pittsburgh, Seattle, Boston, San Francisco Bay Area and New York Metro. The least diverse markets were Salt Lake City, Orlando, Milwaukee, San Antonio and South Florida.

The U.S. tech degree graduate pipeline grew by 4.9% year-over-year to 1.7 million, according to the National Student Clearinghouse Research Center[4] and estimates by CBRE Research for students enrolled in bachelor's or higher programs as of Fall 2022. While diversity breakdowns for these students were not available, trends suggest there will be greater tech talent workforce diversity than exists today.

Figure 27: U.S. Tech Degree Graduate's Race/Ethnicity & Sex (2021)



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Tech Grads	156,333	166,344	178,283	192,191	211,353	233,970	263,364	288,446	304,692	318,659	338,883	348,494

Note: Total tech degree graduates and male/female breakdown includes U.S. resident and foreigners. Race/ethnicity breakdown excludes unknown races and foreigners.
Source: IPEDS and CBRE Research, April 2023.

[4] Overview: Fall 2022 Enrollment Estimates, National Student Clearinghouse Research Center.

Figure 28: U.S. Tech Degree Graduate's Race/Ethnicity & Sex by Market (2021)

Most Diverse (Highest % Underrepresented Groups*)

Market	Total Graduates	White	Asian	Underrepresented*	Hisp	Black	Other
South Florida	3,280	22.2%	6.6%	71.2%	53.9%	15.0%	2.3%
San Antonio	1,509	31.4%	8.4%	60.2%	49.1%	6.4%	4.6%
Houston	2,957	27.1%	27.3%	45.6%	26.8%	14.3%	4.4%
Inland Empire	1,712	26.0%	29.4%	44.6%	36.5%	3.6%	4.5%
Virginia Beach	1,736	55.2%	6.9%	37.9%	9.6%	21.2%	7.1%

Most Diverse (Highest % Female)

Market	Total Graduates	Female	Male
Pittsburgh	5,368	33.3%	66.7%
Seattle	5,430	32.5%	67.5%
Boston	13,802	32.4%	67.6%
San Francisco Bay Area	9,967	32.3%	67.7%
New York Metro	22,719	31.8%	68.2%

Least Diverse (Lowest % Underrepresented Groups*)

Market	Total Graduates	White	Asian	Underrepresented*	Hisp	Black	Other
Madison	2,423	77.8%	11.5%	10.8%	5.3%	1.6%	3.8%
Cincinnati	2,341	82.9%	5.3%	11.8%	4.0%	4.7%	3.0%
Detroit	6,776	66.4%	20.3%	13.2%	5.4%	4.4%	3.5%
Pittsburgh	5,368	64.1%	22.3%	13.6%	5.1%	4.7%	3.8%
Columbus	2,548	74.1%	12.2%	13.7%	5.7%	4.3%	3.7%

Least Diverse (Highest % Male)

Market	Total Graduates	Female	Male
Salt Lake City	8,607	14.8%	85.2%
Orlando	3,205	19.7%	80.3%
Milwaukee	1,417	20.5%	79.5%
San Antonio	1,509	21.0%	79.0%
South Florida	3,280	21.1%	78.9%

*Aggregate of Hispanic, Black, Other Non-White/Non-Asian

Note: Total tech degree graduates and male/female breakdown includes U.S. resident and foreigners. Race/ethnicity breakdown excludes unknown races and foreigners.

See Table 30b in the Appendix section for a breakdown of Canadian tech degree graduates' sex by market.

Source: IPEDS and CBRE Research, April 2023.

Tech Talent Diversity Progress

Greater diversity of the tech talent workforce should continue to slowly progress. Our review of U.S. Equal Employment Opportunity Commission diversity data and publicly released data from private tech companies confirms this. Changing the pace of workforce diversity is both a challenge and an opportunity.

Technology will be critical to support the new hybrid approach to work, in which team members can work either in the office, remotely or from widely dispersed locations. Tech talent employers were offering remote working arrangements for 20% of job postings as of May 2023, according to Lightcast data. This hybrid/remote approach shows promise to expand tech talent recruitment across all markets and increase workforce diversity.

06

Which are the highest- and lowest-cost markets to operate in?

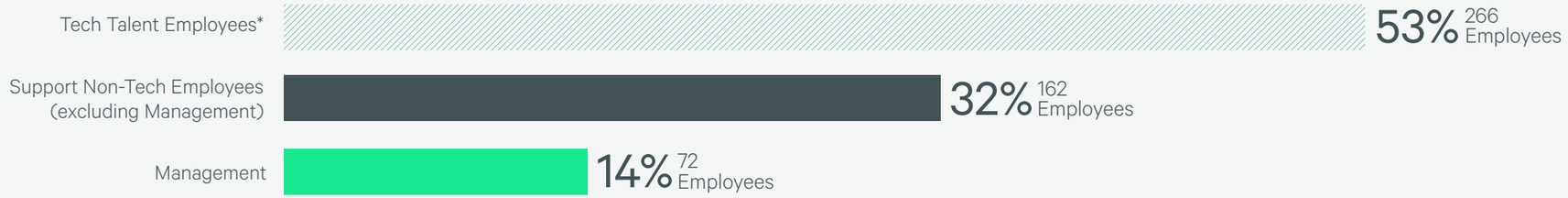
Employee wages are the largest cost for tech companies.

Highly skilled and educated tech workers often command more than double the average non-tech salary. The San Francisco Bay Area ranked highest for average tech worker salary at $157,000 per year, about $34,000 more than the next highest markets (Seattle and New York Metro). The average tech worker salary in 31 of the 50 top tech talent markets was at or above their respective national average (23 in the U.S. and all eight Canadian markets).

Office rent is the second-highest cost for most companies. Even as remote and hybrid work become more common, companies understand the benefits of tech clustering and often place a higher value on specific submarkets and even specific streets convenient to tech talent. Manhattan has the highest average office rents, followed by the San Francisco Bay Area, Austin, Seattle and Los Angeles/Orange County.

Combining wage and real estate costs provides a benchmark of what a tech company might pay to operate in any of the top 50 tech talent markets. For this comparison, U.S. occupational averages were analyzed to determine the makeup of a typical 500-person tech company (Figure 29) using 60,000 sq. ft. of office space. Due to hybrid and remote work, the amount of office space needed for 500 employees was reduced from 75,000 sq. ft. last year.

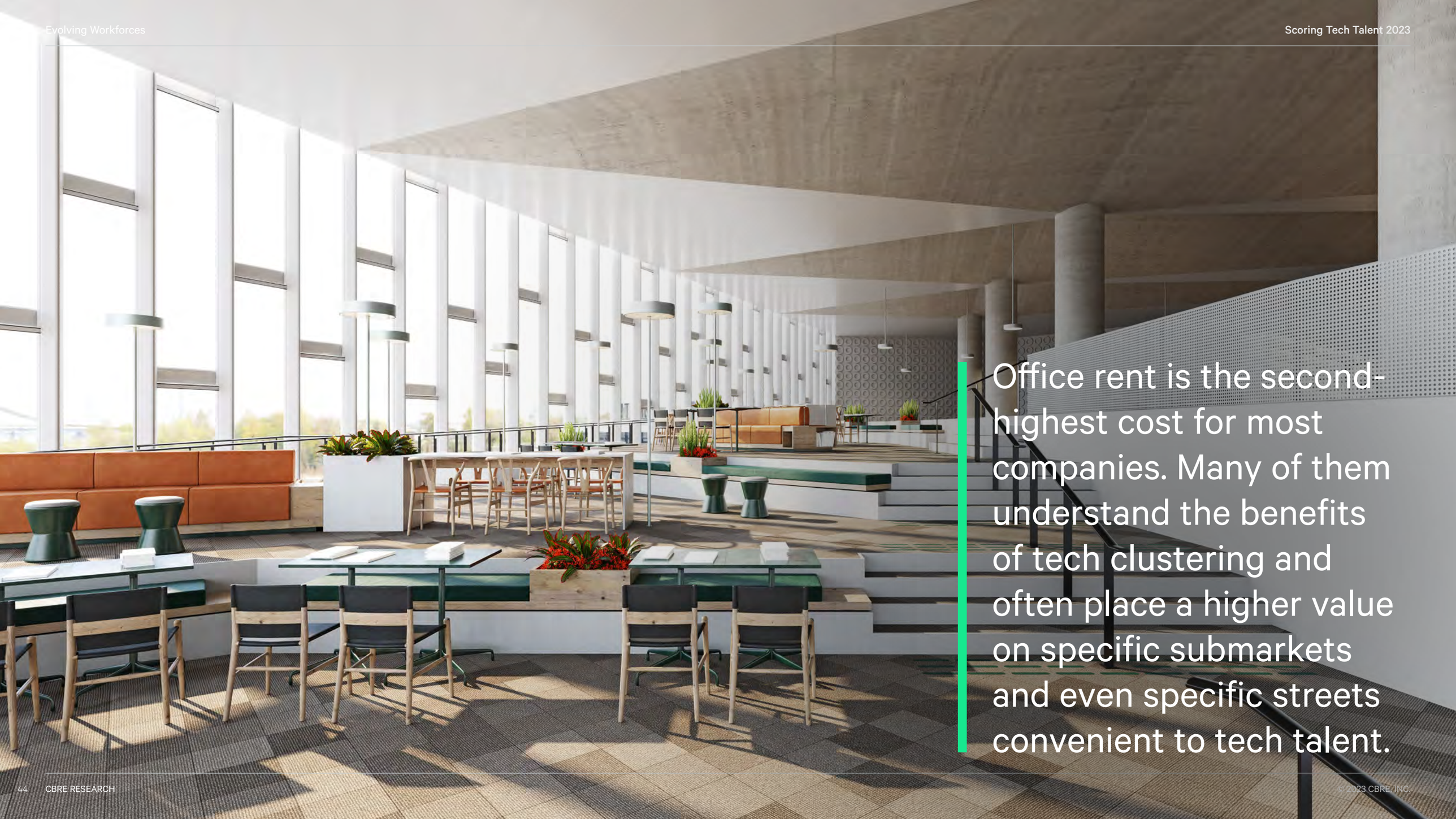
Figure 29: Average U.S. Tech Company Occupation Pools



*Tech talent includes the following occupation categories: software developers and programmers; computer support, database and systems; technology and engineering related; and computer information system managers
Source: U.S. Bureau of Labor Statistics (National), April 2023.

Local market wages were applied to the various occupations to determine total annual wage costs by market, while local market rents were used to estimate the annual cost of renting a 60,000-sq.-ft. office to house 500 employees.[5] The San Francisco Bay Area topped the list with the highest estimated annual cost in 2022 at almost $79 million, followed distantly by New York Metro, Seattle and Washington, D.C. The lowest cost markets were all in Canada (Figure 30). Since tech industry wages are 16% higher than the U.S. average, tech companies can expect higher annual costs. The 50-market average annual cost exceeded last year's by $3.5 million, primarily due to wage increases.

[5] The COVID-19 outbreak may have lasting effects on office use and density with the rise of hybrid and remote working arrangements.



Office rent is the second-highest cost for most companies. Many of them understand the benefits of tech clustering and often place a higher value on specific submarkets and even specific streets convenient to tech talent.

Figure 30: Estimated One-Year Company Costs by Market (500 Employees; 60,000 Sq. Ft. of Office Space)

	Rent Cost (Avg Rent x 60,000 SF)	Tech Talent Wages (Avg Wage x 266 People)	Support Non-Tech Wages (Avg Wage x 162 People)	Management Wage (Avg Wage x 72 People)	Total
San Francisco Bay Area	$4,187,194	$41,883,530	$14,363,482	$18,405,000	$78,839,206
New York Metro**	$4,634,400	$32,725,607	$11,860,407	$16,085,520	$65,305,933
Seattle	$2,693,400	$32,884,273	$12,005,555	$14,432,400	$62,015,628
Washington, D.C.	$2,535,000	$31,617,585	$12,350,519	$13,456,080	$59,959,183
Boston	$2,579,400	$30,701,881	$11,255,310	$12,951,360	$57,487,951
San Diego	$2,332,800	$30,246,618	$10,504,200	$13,316,400	$56,400,018
Los Angeles/Orange County	$2,611,769	$30,032,736	$10,169,540	$13,118,400	$55,932,445
Denver	$1,916,873	$29,297,137	$11,379,232	$13,005,840	$55,599,081
Sacramento	$1,530,600	$29,618,508	$10,217,334	$12,028,320	$53,394,762
Baltimore	$1,430,400	$29,817,906	$9,859,102	$11,903,040	$53,010,449
Austin	$2,857,029	$27,970,295	$9,426,297	$11,863,440	$52,117,062
Philadelphia	$1,880,400	$27,765,733	$9,606,358	$12,709,440	$51,961,931
Atlanta	$1,824,100	$27,499,809	$9,863,704	$12,508,560	$51,696,173
Chicago	$2,102,291	$27,673,618	$9,700,688	$11,898,720	$51,375,317
Raleigh-Durham	$1,927,800	$27,435,792	$9,967,077	$11,671,200	$51,001,870
Minneapolis/St. Paul	$1,690,200	$27,337,897	$10,157,829	$11,624,400	$50,810,326
Charlotte	$1,968,746	$27,424,246	$9,397,797	$11,973,600	$50,764,389
Richmond	$1,273,800	$27,596,802	$9,362,005	$12,310,560	$50,543,167
Portland	$1,945,602	$26,942,523	$9,804,447	$11,384,640	$50,077,212
Hartford	$1,245,000	$27,810,075	$9,509,720	$11,098,800	$49,663,595
Dallas/Ft. Worth	$1,545,000	$27,282,990	$9,100,493	$11,617,200	$49,545,682
Phoenix	$1,803,000	$26,885,566	$9,020,872	$11,565,360	$49,274,798
Houston	$1,870,330	$26,749,456	$8,942,281	$11,538,000	$49,100,066
Inland Empire	$1,492,800	$25,901,944	$9,165,384	$11,894,400	$48,454,528
South Florida	$2,480,642	$25,829,517	$8,673,755	$11,178,360	$48,162,273

Source: U.S. Bureau of Labor Statistics, April 2023, Canada Statistics April 2023, CBRE Research (Metro), Q4 2022.
Note: Occupational amounts sourced from Figure 29 which uses U.S. occupational averages to analyze the makeup of a 500-person tech company using 60,000 sq. ft. of office space.
** New York office cost represents Manhattan only, all others are metro area.

Figure 30 (cont.): Estimated One-Year Company Costs by Market (500 Employees; 60,000 Sq. Ft. of Office Space)

	Rent Cost (Avg Rent x 60,000 SF)	Tech Talent Wages (Avg Wage x 266 People)	Support Non-Tech Wages (Avg Wage x 162 People)	Management Wage (Avg Wage x 72 People)	Total
Orlando	$1,566,000	$25,600,861	$8,744,558	$11,478,240	$47,389,659
Tampa	$1,794,796	$25,247,558	$8,639,938	$11,432,160	$47,114,452
Detroit	$1,159,800	$24,714,544	$9,804,913	$11,325,960	$47,005,218
Cleveland	$1,144,800	$25,463,364	$8,940,224	$11,435,040	$46,983,427
Virginia Beach	$1,247,400	$26,047,682	$8,676,569	$10,901,520	$46,873,172
Milwaukee	$1,209,902	$25,041,765	$9,046,713	$11,090,160	$46,388,540
Cincinnati	$1,167,600	$25,037,437	$8,822,478	$11,352,960	$46,380,475
Pittsburgh	$1,506,000	$25,400,331	$8,500,971	$10,897,200	$46,304,501
San Antonio	$1,525,200	$26,010,406	$8,189,237	$10,551,600	$46,276,443
St. Louis	$1,317,000	$25,157,326	$8,953,102	$10,720,080	$46,147,507
Salt Lake City	$1,606,032	$24,623,795	$8,494,360	$11,252,520	$45,976,707
Madison	$1,281,600	$24,770,908	$9,176,778	$10,718,640	$45,947,926
Columbus	$1,277,804	$25,101,027	$8,429,514	$10,834,920	$45,643,266
Kansas City	$1,248,600	$24,313,097	$9,193,295	$10,550,160	$45,305,153
Nashville	$1,883,381	$23,948,579	$8,379,157	$10,522,800	$44,733,917
Jacksonville	$1,348,293	$23,973,155	$8,456,273	$10,803,600	$44,581,321
Indianapolis	$1,274,400	$23,115,122	$8,985,953	$9,473,760	$42,849,235
Calgary*	$1,330,214	$20,706,389	$8,941,204	$7,885,946	$38,863,754
Toronto*	$2,108,348	$19,943,488	$8,317,605	$7,750,103	$38,119,543
Vancouver*	$2,445,436	$19,584,591	$8,146,207	$7,372,511	$37,548,746
Ottawa*	$1,500,085	$19,894,655	$8,667,924	$7,448,688	$37,511,352
Waterloo Region, Canada*	$1,297,036	$19,405,143	$7,815,835	$6,983,825	$35,501,839
Edmonton*	$1,487,257	$17,667,337	$7,785,975	$7,113,033	$34,053,601
Montreal*	$1,615,545	$17,471,414	$7,751,217	$7,025,762	$33,863,938
Quebec City*	$1,178,481	$17,491,811	$7,694,125	$6,314,692	$32,679,108

*in US$

Source: U.S. Bureau of Labor Statistics, April 2022, Canada Statistics April 2022, CBRE Research (Metro), Q4 2022.

Note: Occupational amounts sourced from Figure 29 which uses U.S. occupational averages to analyze the makeup of a 500-person tech company using 60,000 sq. ft. of office space.

07

How is tech talent quality vs. cost measured?

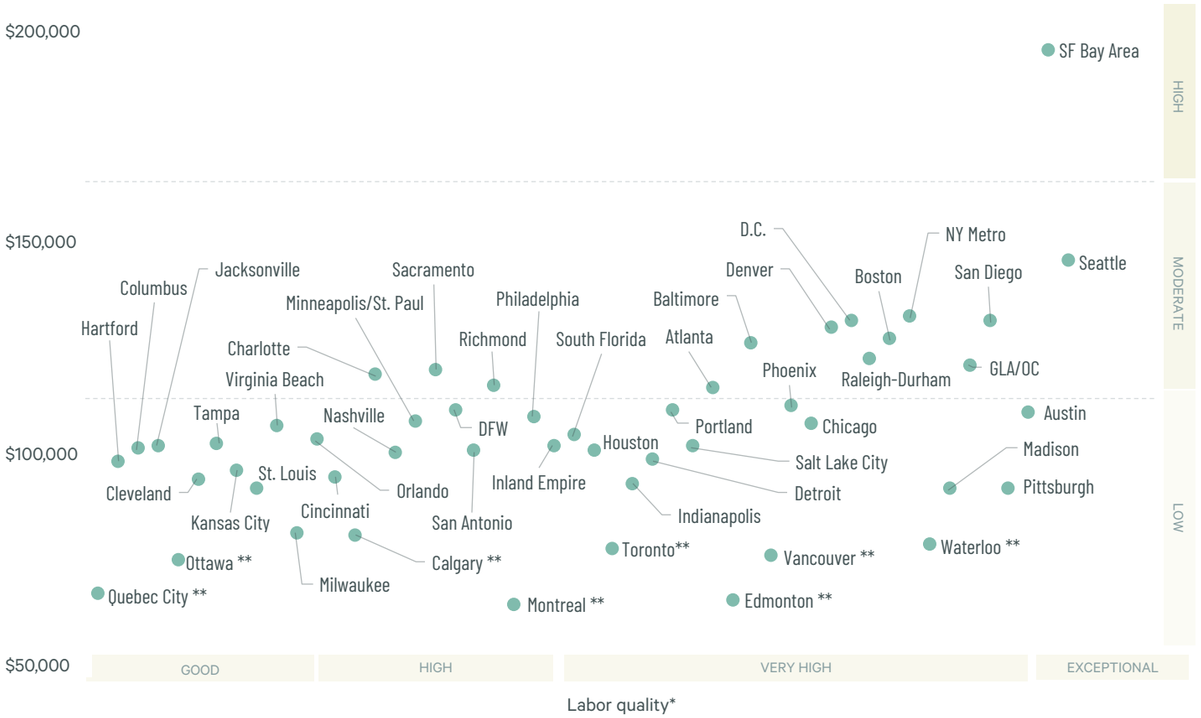
Assessing the quality of a labor market is difficult because no standard metrics exist.

Since salaries are the largest expense for most companies seeking tech talent, the quality of that tech talent is becoming one of their most important considerations. Figure 31 plots a quality assessment for software developers against their average salary by market to illustrate this trade-off across the top 50 tech talent markets.

Software engineer quality was measured by the number and concentration of software engineers with three or more years of experience and who graduated from one of the top 25 computer science schools in North America, including the top five in Canada, as determined by U.S. News & World Report. The highest-cost markets (San Francisco Bay Area and Seattle) also have the highest concentration of quality software engineers. Nevertheless, moderate, high and very high concentrations of quality software engineers are available in relatively low-cost markets, providing a range of options. Due in part to exchange rates, Waterloo, Vancouver and Edmonton in Canada provide the best value when it comes to cost and quality, followed by Madison, Pittsburgh and Detroit in the U.S.

Since salaries are the largest expense for most companies seeking tech talent, the quality of that tech talent is becoming one of their most important considerations.

Figure 31: Tech Talent Quality vs. Cost Analysis



*Concentration of software engineers/developers with 3+ years of experience that have earned degrees from the Top 25 Computer Information Science programs in U.S. and Top 5 in Canada as rated by U.S. News relative to total software engineers/developers.
**Data in US$.

Source: U.S. Bureau of Labor Statistics, April 2023, Canada Statistics April 2023, U.S. News & World Report, CBRE Labor Analytics, CBRE Research, 2023.
Note: LinkedIn Disclaimer: LinkedIn Talent Insights data is derived by aggregating profile data voluntarily submitted by LinkedIn members. As such, LinkedIn cannot guarantee the accuracy of LinkedIn Talent Insights data.

08

How does tech talent impact commercial real estate?

Since 2020, U.S. tech talent growth, primarily in the high-tech industry, totaled 610,000 jobs and has been the top driver of U.S. office leasing activity.

Recent economic uncertainty and rising layoffs caused a sharp drop in the high-tech industry's share of total U.S. and Canadian leasing activity[6] in 2022. Many tech talent markets, especially those with high concentrations or clusters of tech companies, had seen rising rents and declining vacancies prior to the pandemic. All but eight markets have seen office vacancy rates increase since early 2020, with the highest Q4 2022 vacancy in Calgary (30%). Compared with pre-pandemic Q1 2020, rents in New York and the San Francisco Bay Area were 5% lower in Q4 2022. Austin, Canada's Waterloo Region, Tampa and Vancouver had rent growth of 20% or more over the same period.

Tech talent continues to impact office markets through work-from-home and return-to-office policies. As hybrid work arrangements become more common, tech employers have been reconsidering their office space strategy. While many have downsized, others have maintained their portfolio size to accommodate large team meetings and ensure that there is sufficient space for collaboration.

[6] Includes transactions 10,000 sq. ft. or larger each quarter for the markets tracked by CBRE Research.

$77.24

Average annual asking rent per sq. ft. in New York Metro.

5%

Drop in New York and San Francisco average office rents between pre-pandemic Q1 2020 and Q4 2022.

20%

Rent growth in Austin, Vancouver, Tampa and Waterloo Region, Canada between Q1 2020 and Q4 2022.

Figure 32: Office Asking Rent by Market (Q4 2022)

Market	Annual Gross Direct Asking Rent Per SF (US$)	Vacancy Rate
New York Metro	$77.24	15.4%
San Francisco Bay Area	$69.79	19.2%
Austin	$47.62	16.5%
Seattle	$44.89	14.7%
Los Angeles/Orange County	$43.53	17.1%
Boston	$42.99	12.1%
Washington, D.C.	$42.25	17.6%
South Florida	$41.34	17.0%
Vancouver	$40.76	7.8%
San Diego	$38.88	13.7%
Toronto	$35.14	16.2%
Chicago	$35.04	19.9%
Charlotte	$32.81	18.3%
Portland	$32.43	21.1%
Raleigh-Durham	$32.13	12.1%
Denver	$31.95	19.1%
Nashville	$31.39	19.6%
Philadelphia	$31.34	15.5%
Houston	$31.17	25.4%
Atlanta	$30.40	18.3%
Phoenix	$30.05	19.1%
Tampa	$29.91	14.7%
Minneapolis/St. Paul	$28.17	21.1%
Montreal	$26.93	17.0%
Salt Lake City	$26.77	20.0%

Market	Annual Gross Direct Asking Rent Per SF (US$)	Vacancy Rate
Orlando	$26.10	11.7%
Dallas/Ft. Worth	$25.75	24.3%
Sacramento	$25.51	15.7%
San Antonio	$25.42	18.4%
Pittsburgh	$25.10	13.7%
Ottawa	$25.00	11.1%
Inland Empire	$24.88	8.4%
Edmonton	$24.79	22.2%
Baltimore	$23.84	16.1%
Jacksonville	$22.47	16.6%
Calgary	$22.17	30.0%
St. Louis	$21.95	17.9%
Waterloo Region, Canada	$21.62	12.7%
Madison	$21.36	8.0%
Columbus	$21.30	18.1%
Indianapolis	$21.24	16.4%
Richmond	$21.23	11.8%
Kansas City	$20.81	14.6%
Virginia Beach	$20.79	10.5%
Hartford	$20.75	20.1%
Milwaukee	$20.17	15.4%
Quebec City	$19.64	8.8%
Cincinnati	$19.46	15.0%
Detroit	$19.33	16.4%
Cleveland	$19.08	13.7%

Note: New York represents Manhattan only, all others are metro area.
Source: CBRE Research (Office Market), Q4 2022.

The in-migration of talent to these tech markets also has a sizeable impact on residential real estate. Apartment rents have increased in almost every market since last year. Manhattan remains the most expensive with an average monthly rent of $3,508 (Figure 33). All but nine markets have seen average apartment rents recover to pre-pandemic levels, led by Tampa with 38% rent growth from Q1 2020 to Q4 2022. Comparing the annual average apartment rent with the annual average tech-worker salary shows that tech salaries generally can cover the cost of living in most of the priciest markets (Figure 34), based on the affordability standard of 30% of income to housing.

The pandemic has fundamentally changed real estate market dynamics across North America. How we use office space in the future and where we choose to live is unlikely to revert to pre-pandemic patterns. Technology's importance in society and to real estate utilization has been accelerated and disrupted. This will create new opportunities for both real estate occupiers and investors in tech talent markets.

Figure 33: Average Monthly Apartment Rent by Market (Q4 2022)

Market	Annual Gross Direct Asking Rent Per SF (US$)	Vacancy Rate
New York Metro	$3,508	16%
San Francisco Bay Area	$2,973	5%
San Diego	$2,777	38%
Los Angeles/Orange County	$2,776	19%
Boston	$2,698	21%
South Florida	$2,429	39%
Inland Empire	$2,196	45%
Seattle	$2,112	21%
Washington, D.C.	$2,040	15%
Sacramento	$1,946	36%
Tampa	$1,828	49%
Orlando	$1,809	41%
Philadelphia	$1,801	26%
Denver	$1,799	21%
Chicago	$1,787	12%
Portland	$1,759	26%
Atlanta	$1,699	39%
Austin	$1,669	34%
Baltimore	$1,658	23%
Nashville	$1,641	34%
Phoenix	$1,636	53%
Salt Lake City	$1,600	41%
Hartford	$1,597	17%
Charlotte	$1,591	41%
Raleigh-Durham	$1,553	41%

Market	Annual Gross Direct Asking Rent Per SF (US$)	Vacancy Rate
Dallas/Ft. Worth	$1,534	28%
Minneapolis/St. Paul	$1,505	12%
Jacksonville	$1,477	37%
Pittsburgh	$1,456	21%
Virginia Beach	$1,455	33%
Milwaukee	$1,400	16%
Richmond	$1,393	28%
Madison	$1,354	12%
Detroit	$1,295	27%
Houston	$1,285	11%
San Antonio	$1,273	26%
Vancouver	$1,228	28%
Toronto	$1,224	28%
St. Louis	$1,221	26%
Cincinnati	$1,221	21%
Columbus	$1,194	19%
Kansas City	$1,164	17%
Indianapolis	$1,128	25%
Cleveland	$1,123	15%
Ottawa	$1,077	31%
Waterloo Region, Canada	$1,031	34%
Calgary	$984	18%
Edmonton	$880	8%
Montreal	$736	30%
Quebec City	$698	19%

Note: New York represents Manhattan only, all others are metro area.
Source: CBRE Econometric Advisors, Axiometrics, CMHC, Q4 2022.

Figure 34: Ratio of Apartment Rent to Average Tech Wage by Market (US$)

Market	Annualized Apartment Rent (2022)	Average Annual Tech Wage (2022)	Rent-To-Tech Wage Ratio
New York Metro	$42,099	$123,029	34.2%
South Florida	$29,150	$97,376	29.9%
Los Angeles/Orange County	$33,307	$112,905	29.5%
San Diego	$33,325	$113,709	29.3%
Boston	$32,375	$115,421	28.0%
Inland Empire	$26,354	$101,074	26.1%
Tampa	$21,937	$96,244	22.8%
San Francisco Bay Area	$35,671	$157,457	22.7%
Orlando	$21,712	$97,783	22.2%
Sacramento	$23,357	$111,348	21.0%
Chicago	$21,448	$102,774	20.9%
Nashville	$19,688	$95,490	20.6%
Washington, D.C.	$24,477	$118,863	20.6%
Portland	$21,110	$102,568	20.6%
Philadelphia	$21,615	$105,151	20.6%
Seattle	$25,342	$123,625	20.5%
Salt Lake City	$19,201	$94,365	20.3%
Phoenix	$19,633	$97,103	20.2%
Vancouver	$14,731	$73,626	20.0%
Atlanta	$20,387	$103,142	19.8%
Denver	$21,589	$110,140	19.6%
Toronto	$14,687	$74,976	19.6%
Austin	$20,032	$104,036	19.3%
Jacksonville	$17,730	$94,142	18.8%
Milwaukee	$16,805	$90,125	18.6%

Market	Annualized Apartment Rent (2022)	Average Annual Tech Wage (2022)	Rent-To-Tech Wage Ratio
Pittsburgh	$17,476	$94,126	18.6%
Hartford	$19,169	$103,747	18.5%
Charlotte	$19,095	$103,383	18.5%
Virginia Beach	$17,464	$94,576	18.5%
Minneapolis/St. Paul	$18,064	$101,288	17.8%
Raleigh-Durham	$18,636	$104,549	17.8%
Madison	$16,248	$91,403	17.8%
Baltimore	$19,901	$112,097	17.8%
Dallas/Ft. Worth	$18,408	$104,382	17.6%
Ottawa	$12,926	$74,792	17.3%
Waterloo Region, Canada	$12,369	$72,952	17.0%
Richmond	$16,720	$100,562	16.6%
Detroit	$15,541	$94,916	16.4%
Edmonton	$10,564	$66,419	15.9%
Cincinnati	$14,650	$92,571	15.8%
St. Louis	$14,653	$93,124	15.7%
San Antonio	$15,277	$97,924	15.6%
Indianapolis	$13,537	$86,899	15.6%
Kansas City	$13,967	$90,032	15.5%
Calgary	$11,811	$77,844	15.2%
Columbus	$14,325	$95,727	15.0%
Houston	$15,420	$103,099	15.0%
Cleveland	$13,476	$92,912	14.5%
Montreal	$8,830	$65,682	13.4%
Quebec City	$8,379	$65,759	12.7%

Note: New York represents Manhattan only, all others are metro area.
Source: U.S. Bureau of Labor Statistics April 2023, Statistics Canada April 2023, CBRE Econometric Advisors, Axiometrics, CMHC Q4 2022.

09

Which are the up-and-coming markets for tech talent?

The rising importance of technology in business and society has caused a global expansion of tech talent labor pools and implementation of more distributed labor strategies by tech talent employers seeking innovation potential and efficiency.

Latin America's Top 10 Markets

Latin America has long been an important source of tech talent in North America, initially focused on manufacturing and business services. During the most recent economic growth cycle, Latin America's tech talent has increasingly focused on software development and innovation. This has attracted many multinational technology companies to the region, as well as further developed Latin America's own technology industry.

During the most recent economic growth cycle, Latin America's tech talent has increasingly focused on software development and innovation.

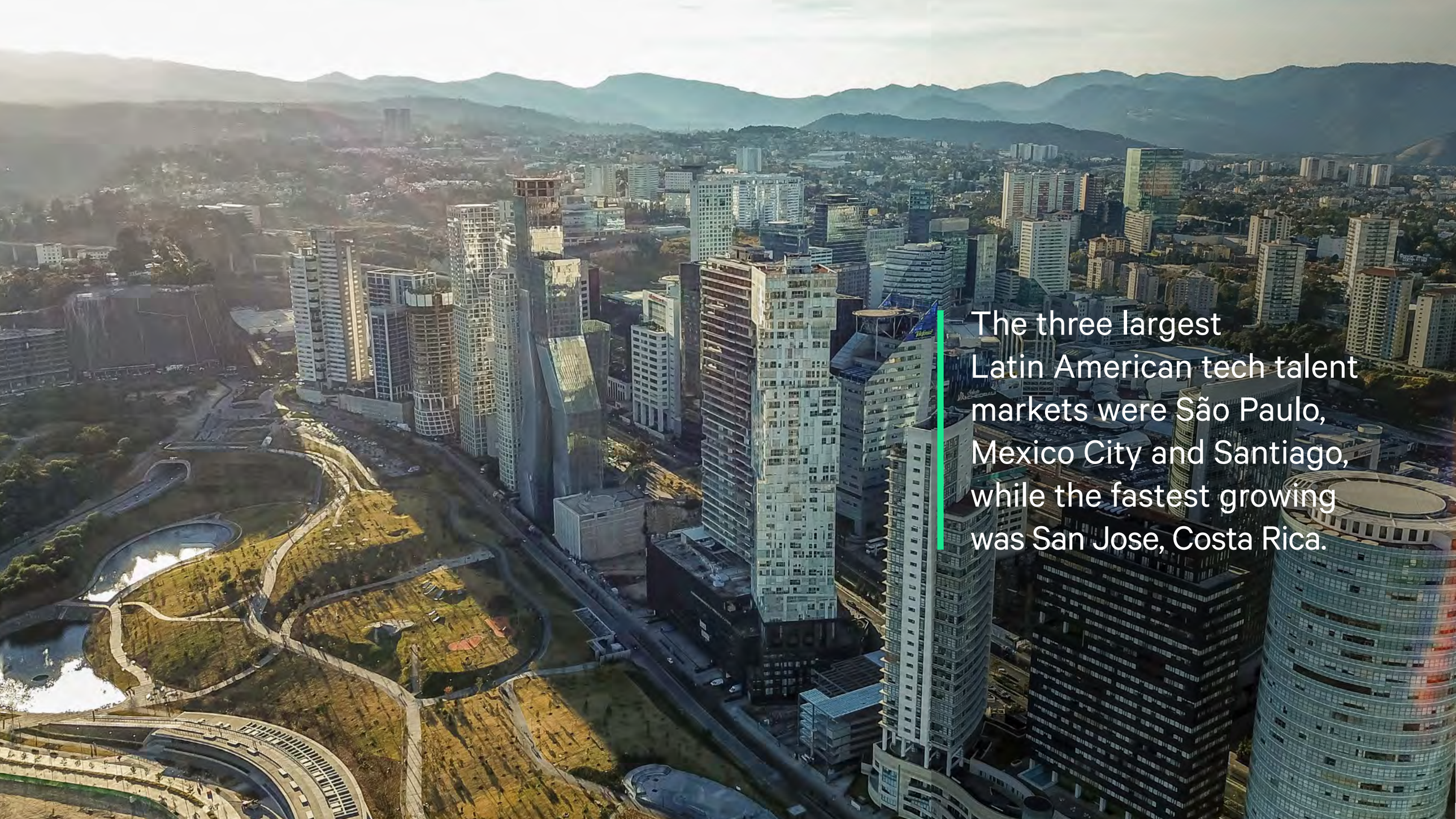
Over the past five years, Latin America's tech talent workforce has boomed. While costs have risen with rapid growth, average wages in Latin America remain about 38% of those in the U.S. The three largest Latin American tech talent markets were São Paulo, Mexico City and Santiago, while the fastest growing was San Jose, Costa Rica.

Real estate costs are also relatively low, making Latin America an even more attractive option for tech talent employers.

Figure 35: Latin America's Top 10 Markets

	Tech Talent Employment [1]		Tech Talent Avg Annual Wage (US$)[2]		Software Developer Avg Annual Wage (US$)[2]		Tech Degree Completions		Office Rent per Sq. Ft. (US$) Annual Avg Asking Rate[3]		Office Vacancy Rate	Apt Rent Monthly Avg per Unit[4]	
Market, Country	2022 Jobs	5-Yr Growth	2022 Wage	5-Yr Growth	2022 Wage	5-Yr Growth	2022 Degrees	5-Yr Growth	Q4 2022	5-Yr Growth	Q4 2022	Q4 2022	5-Yr Growth
São Paulo, Brazil	229,196	9%	$48,541	12%	$49,039	13%	15,065	28%	$33.75	40%	18%	$824	40%
Mexico City, Mexico	201,204	29%	$27,053	7%	$39,033	11%	22,978	23%	$25.25	-8%	24%	$1,459	54%
Santiago, Chile	150,903	20%	$41,779	4%	$49,300	10%	7,022	56%	$24.58	1%	12%	$1,479	95%
Buenos Aires, Argentina	103,300	28%	$21,056	-43%	$25,746	-52%	4,457	10%	$25.02	-10%	13%	$1,400	-13%
Bogota, Colombia	102,858	30%	$17,303	10%	$28,118	8%	6,492	69%	$15.05	-33%	12%	$1,249	76%
San Jose, Costa Rica	71,147	77%	$28,231	8%	$41,189	10%	2,754	22%	$19.92	-2%	21%	$1,484	109%
Guadalajara, Mexico	40,000	60%	$26,396	9%	$36,070	7%	5,752	23%	$23.15	0%	19%	$1,135	79%
Monterrey, Mexico	23,540	33%	$30,043	14%	$40,192	16%	4,003	30%	$21.00	-15%	20%	$1,216	76%
Campinas, Brazil	20,078	38%	$37,787	13%	$46,300	10%	2,808	27%	$12.41	10%	20%	$588	119%
Panama City, Panama	18,800	24%	$28,390	13%	$34,068	23%	1,200	22%	$18.51	-29%	25%	$1,300	35%
Latin America, 10-Market Avg	**837,648**	**32%**	**$38,073**	**4%**	**$46,528**	**5%**	**72,531**	**31%**	**$21.86**	**-2%**	**19%**	**$1,213**	**67%**
U.S. Overall Avg	5,949,590	17%	$99,016	6%	$108,738	7%	348,494	32%	$38.01	18%	17%	$2,137	22%

[1] Jobs related to the development, operation, monitoring and support of the digitized information transmission processes.
[2] Based on 2022 annual average exchange rates.
[3] Submarkets where tech firms are predominantly located.
[4] Submarkets where tech employees predominantly live.



The three largest Latin American tech talent markets were São Paulo, Mexico City and Santiago, while the fastest growing was San Jose, Costa Rica.

North America's Next 25

Fostering talent development in lesser-known and underdeveloped U.S. and Canadian markets could offer additional talent pools to employers seeking to expand their geographical reach and uncover opportunities. They have been separately ranked from the top 50 markets according to their relative strength. In the U.S., most of them are in the Midwest and South.

These 25 smaller markets have strong growth potential and are concentrated in the U.S. Midwest and South. They have been separately ranked from the top 50 markets according to their relative strength.

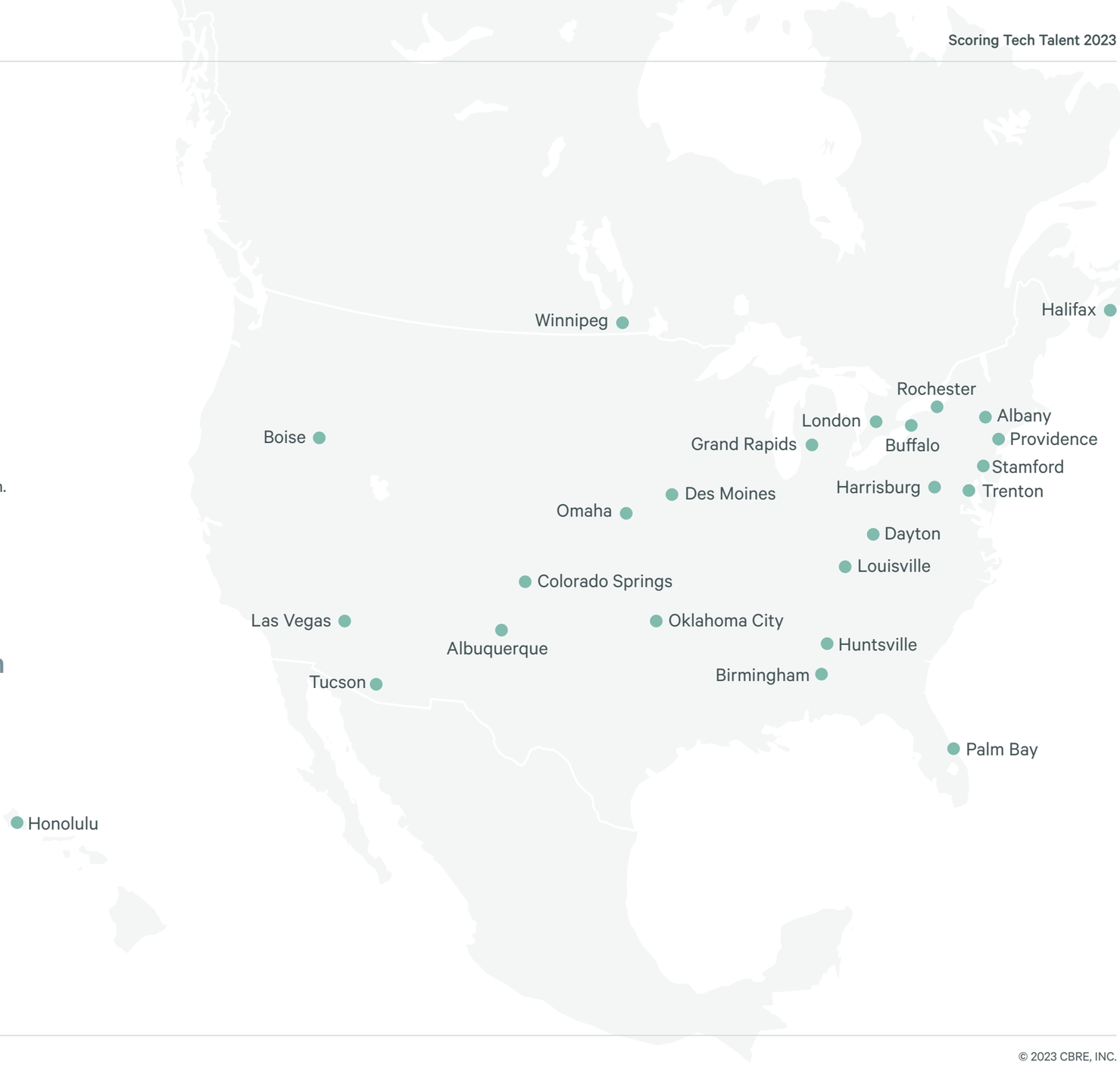


Figure 36: North America's Next 25 Markets

	Market	Total Tech Employment (2022)	Total Tech Growth (5 yrs)	Total Tech Wages (2022)	Total Tech Wage Growth (5 yrs)	Software Developer Wage (2022)	Software Developer Wage Growth (5 yrs)	Tech Talent Degree Graduates (2021)
1	Huntsville	23,620	14%	$96,740	13%	$113,530	17.1%	921
2	Colorado Springs	20,320	20%	$102,215	9%	$123,023	17.3%	1,460
3	Dayton	16,770	0%	$86,504	6%	$83,538	-3.2%	1,822
4	Halifax*	16,100	58%	$61,511	21%	$61,511	25.9%	1,142
5	Omaha	23,440	4%	$90,233	17%	$98,068	21.4%	993
6	Albany	18,300	-10%	$99,580	23%	$98,335	17.3%	1,998
7	Grand Rapids	17,200	28%	$82,021	20%	$78,991	8.9%	823
8	London*	16,100	79%	$66,618	14%	$66,618	20.5%	923
9	Trenton	13,940	6%	$116,492	17%	$120,367	19.7%	683
10	Stamford	16,520	24%	$118,157	26%	$117,097	12.5%	385
11	Rochester	20,640	-8%	$92,592	21%	$95,118	13.9%	2,321
12	Providence	18,830	-4%	$102,539	16%	$119,803	32.7%	1,868
13	Tucson	16,970	3%	$87,206	13%	$110,832	26.1%	1,269
14	Palm Bay	14,690	10%	$93,536	17%	$112,600	21.6%	664
15	Boise	12,670	12%	$85,147	21%	$92,011	20.6%	401
16	Des Moines	18,970	15%	$97,767	26%	$98,618	19.9%	93
17	Las Vegas	21,480	16%	$89,347	9%	$102,914	20.2%	487
18	Winnipeg*	19,900	26%	$63,244	14%	$63,244	21.1%	628
19	Louisville	19,000	2%	$85,002	14%	$91,190	19.6%	695
20	Buffalo	14,480	-10%	$92,783	25%	$92,554	16.3%	2,014
21	Harrisburg	12,070	-17%	$91,287	18%	$92,991	21.2%	700
22	Birmingham	15,820	1%	$88,141	13%	$93,789	13.8%	546
23	Oklahoma City	22,590	2%	$84,758	17%	$89,652	16.8%	1,069
24	Honolulu	13,500	13%	$95,824	17%	$105,883	31.1%	452
25	Albuquerque	15,010	1%	$92,548	27%	$93,820	18.2%	426

*data in US$
Note: Markets were separately ranked according to their relative strength based on eight of the 13 metrics used for the top 50.
Source: U.S. Bureau of Labor Statistics (Metro), Statistics Canada (Metro), April 2023.

10

Appendix I: Local Market Profiles

Return to Scorecard Rankings

Full Report Data Summary

1 San Francisco Bay Area

Score: 82.64

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	407,810	22.5%	$157,457	42.5%
Software Developers & Programmers	210,550	39.7%	$144,674	29.2%
Computer Support, Database & Systems	110,820	-2.5%	$155,689	54.1%
Computer & Information Systems Managers	45,780	81.5%	$255,625	37.2%
Technology Engineering-Related	40,660	-5.9%	$117,942	32.0%
Total Non-Tech Occupations	374,480	-13.2%	$88,663	31.2%
Sales	59,770	-6.2%	$130,805	38.8%
Administrative & Office Support	183,510	-19.0%	$58,332	22.5%
Business Operations & Finance	87,690	-0.7%	$114,283	20.9%
Marketing	43,510	-17.2%	$107,067	32.2%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

66.0% Core High-Tech*

6.1% FIRE**

6.1% Manufacturing***

5.3% Prof'l Services***

2.7% Transport, Warehouse & Wholesale

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

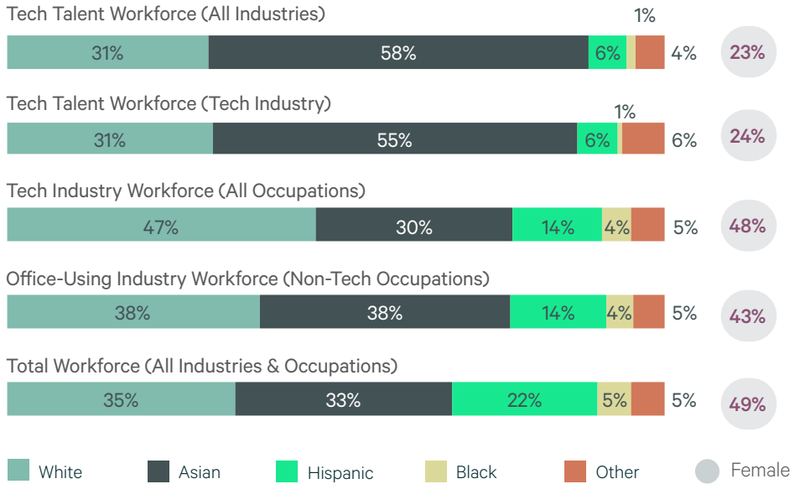
54.7% Inland Empire

53.3% Raleigh-Durham

SF Bay Area: 76.6%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

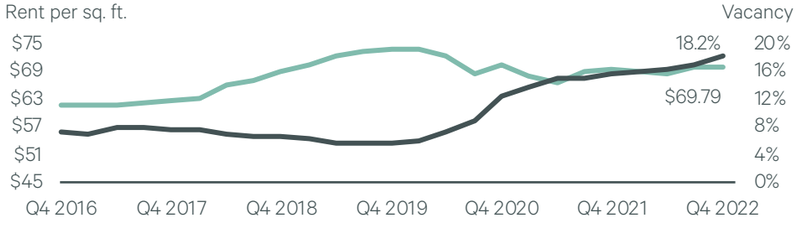
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	5,485	38%	65%	35%
Math/Statistics	1,444	22%	65%	35%
Other Tech Engineering	3,038	0%	74%	26%
Totals	9,967	22%	68%	32%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	5,485	25%	56%	10%	2%	6%
Math/Statistics	1,444	33%	43%	13%	2%	8%
Other Tech Engineering	3,038	31%	44%	15%	3%	7%
Totals	9,967	26%	47%	11%	2%	13%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#1 Rank

$75M Talent + $4M Office Rent = $78.8M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$2,973 Per unit/month

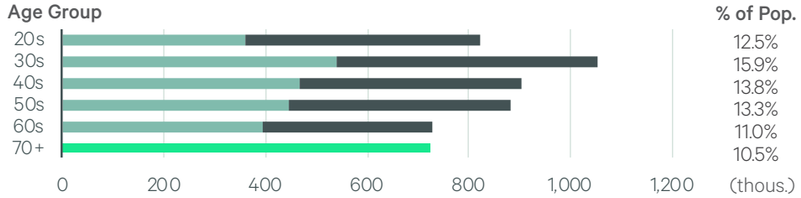
4.8% 5-year growth

22.7% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 107,411 (-11.6%) and 30-somethings grew by 29,054 (2.8%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

2 Seattle

Score: 71.37

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	194,040	29.3%	$123,625	14.4%
Software Developers & Programmers	113,240	48.4%	$114,887	1.6%
Computer Support, Database & Systems	58,080	10.3%	$129,174	37.3%
Computer & Information Systems Managers	12,310	15.2%	$200,450	23.6%
Technology Engineering-Related	10,410	0.9%	$96,873	7.8%
Total Non-Tech Occupations	239,000	3.6%	$74,108	27.2%
Sales	32,400	55.3%	$116,800	36.9%
Administrative & Office Support	129,590	-9.2%	$51,170	16.9%
Business Operations & Finance	51,560	16.5%	$96,058	20.4%
Marketing	25,450	11.4%	$92,090	23.9%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

63.4% Core High-Tech*

7.1% Manufacturing***

5.3% FIRE**

5.3% Prof'l Services***

2.7% Transport, Warehouse & Wholesale

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

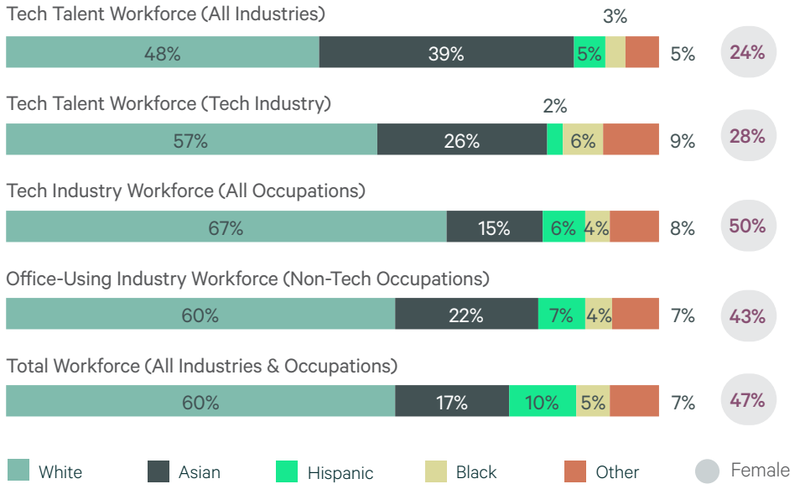
54.7% Inland Empire

53.3% Raleigh-Durham

Seattle: 76.4%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

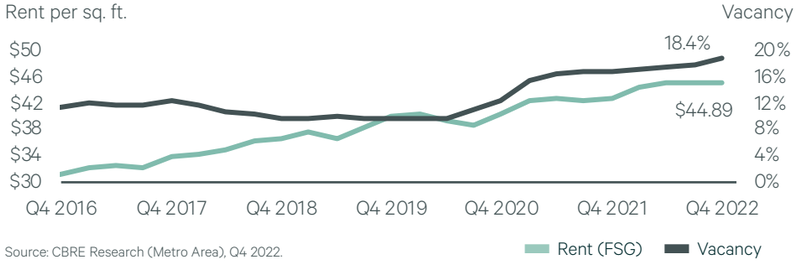
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	3,382	81%	65%	35%
Math/Statistics	661	-2%	59%	41%
Other Tech Engineering	1,387	15%	78%	22%
Totals	5,430	45%	67%	33%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	3,382	45%	34%	7%	5%	9%
Math/Statistics	661	59%	24%	9%	2%	7%
Other Tech Engineering	1,387	54%	27%	8%	4%	7%
Totals	5,430	46%	30%	7%	4%	13%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#3 Rank

$59M Talent + $3M Office Rent = $62M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$2,112 Per unit/month

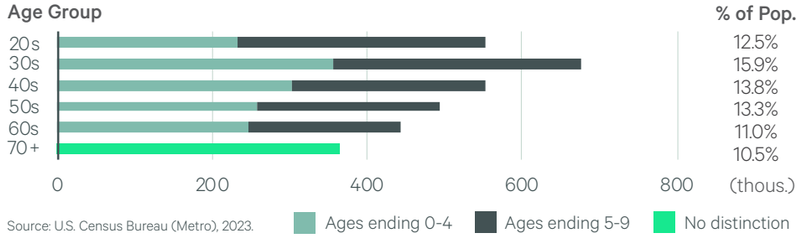
21.2% 5-year growth

20.5% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 7,389 (-1.3%) and 30-somethings grew by 83,131 (14.0%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

3 New York Metro

Score: 67.38

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	371,030	10.7%	$123,029	20.9%
Software Developers & Programmers	170,960	35.7%	$104,429	9.9%
Computer Support, Database & Systems	136,950	-15.5%	$119,268	26.1%
Computer & Information Systems Managers	42,790	33.3%	$223,410	22.1%
Technology Engineering-Related	20,330	37.6%	$93,490	16.3%
Total Non-Tech Occupations	1,149,630	-10.9%	$73,212	26.0%
Sales	112,650	-5.9%	$119,440	27.8%
Administrative & Office Support	651,610	-19.9%	$49,696	16.2%
Business Operations & Finance	257,340	4.0%	$104,187	20.5%
Marketing	128,030	16.5%	$89,967	31.3%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

37.0%	19.9%	7.9%	7.1%	4.8%
Core High-Tech*	FIRE**	Prof'l Services***	Information***	Health

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

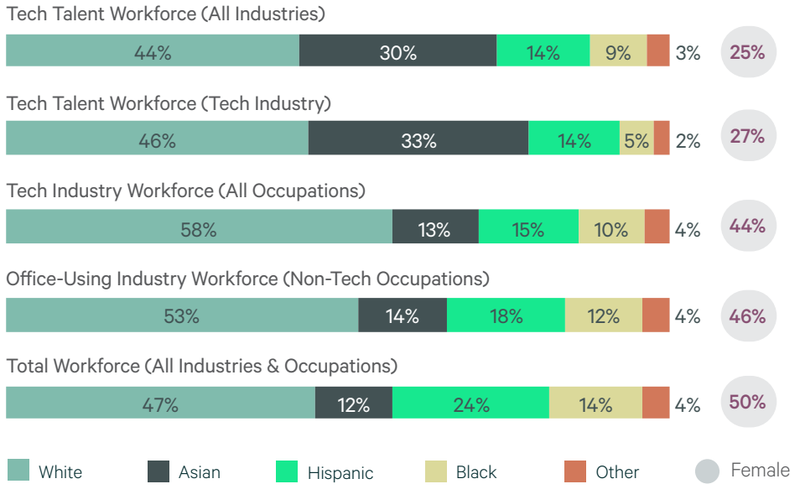
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

NY Metro: 48.1%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

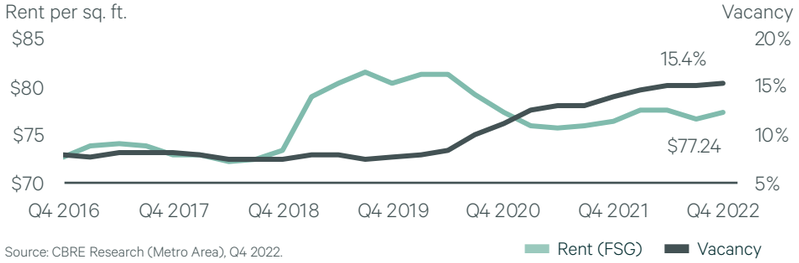
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	14,304	51%	68%	32%
Math/Statistics	4,083	26%	57%	43%
Other Tech Engineering	4,332	-12%	79%	21%
Totals	22,719	29%	68%	32%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	14,304	32%	37%	17%	10%	3%
Math/Statistics	4,083	43%	32%	15%	7%	3%
Other Tech Engineering	4,332	46%	29%	15%	6%	3%
Totals	22,719	35%	33%	15%	8%	8%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#2		$59M	+	$5M	=	$65.3M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

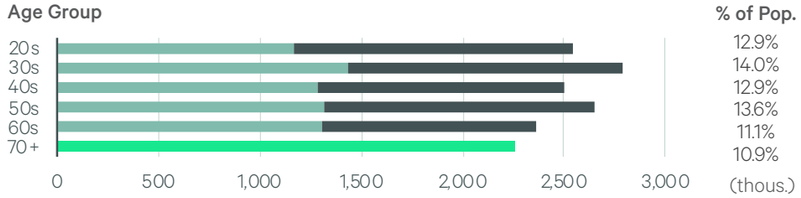
AVERAGE APARTMENT RENT (2022)

$3,508	15.9%	34.2%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 299,879 (-10.6%) and 30-somethings declined by 34,018 (-1.2%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

4 Washington, D.C.

Score: 66.73

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	265,240	6.9%	$118,863	26.8%
Software Developers & Programmers	98,000	37.5%	$103,842	13.3%
Computer Support, Database & Systems	134,110	-5.8%	$122,604	37.3%
Computer & Information Systems Managers	18,280	2.1%	$186,890	29.8%
Technology Engineering-Related	14,850	-10.8%	$100,469	9.2%
Total Non-Tech Occupations	359,440	-10.2%	$76,238	34.7%
Sales	36,920	-6.1%	$112,423	35.9%
Administrative & Office Support	177,100	-18.2%	$50,606	28.7%
Business Operations & Finance	97,570	1.8%	$99,037	21.1%
Marketing	47,850	-1.9%	$96,697	42.3%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

40.0%	21.9%	14.5%	6.6%	2.6%
Core High-Tech*	Government	Prof'l Services***	FIRE**	Education

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

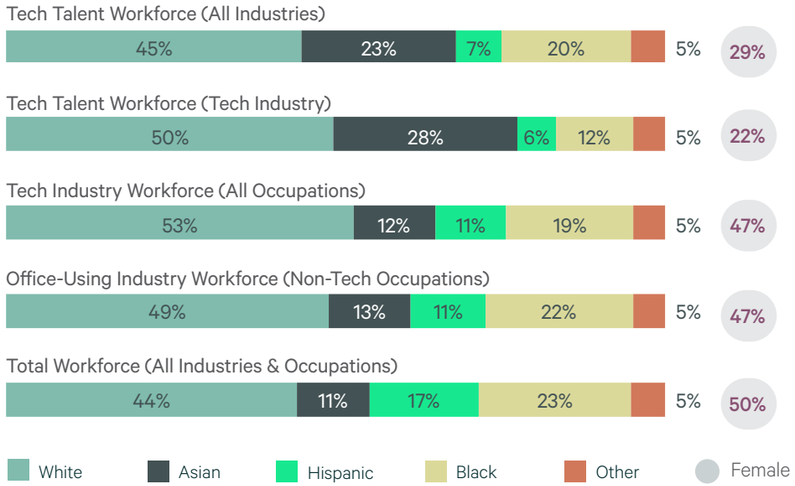
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Washington, D.C.: 52.1%

*% of total software engineers across all industries; Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

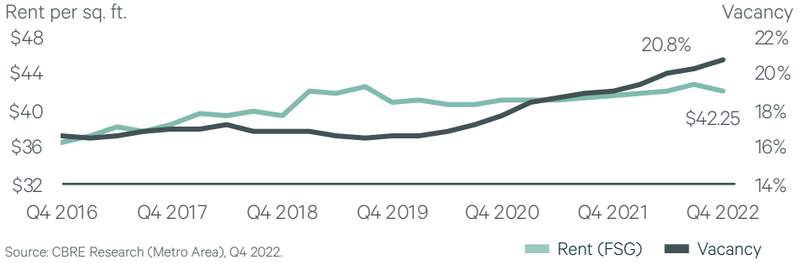
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	10,629	26%	73%	27%
Math/Statistics	1,037	36%	57%	43%
Other Tech Engineering	2,022	-3%	79%	21%
Totals	13,688	22%	72%	28%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	10,629	44%	17%	10%	24%	5%
Math/Statistics	1,037	58%	20%	9%	7%	6%
Other Tech Engineering	2,022	60%	16%	8%	11%	5%
Totals	13,688	44%	16%	9%	20%	11%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#4		$57M	+	$3M	=	$60M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

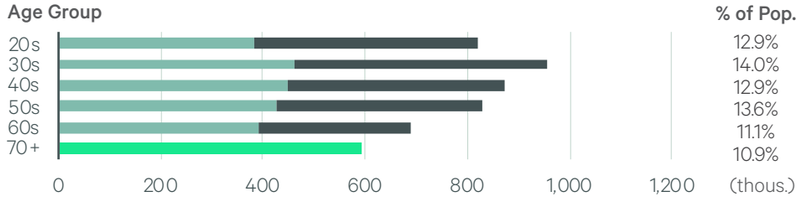
AVERAGE APARTMENT RENT (2022)

$2,040	15.1%	20.6%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings by 18,939 (-2.3%) and 30-somethings grew by 15,477 (1.6%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

5 Toronto

Score: 66.52

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	285,700	28.8%	$101,691	21.1%
Software Developers & Programmers	101,800	58.3%	$105,581	25.1%
Computer Support, Database & Systems	126,100	26.2%	$89,003	17.1%
Computer & Information Systems Managers	33,900	25.1%	$145,995	23.0%
Technology Engineering-Related	23,900	-21.9%	$89,315	13.7%
Total Non-Tech Occupations	515,900	13.0%	$69,638	20.6%
Sales	70,000	-6.8%	$72,426	5.9%
Administrative & Office Support	194,900	-2.8%	$51,251	14.9%
Business Operations & Finance	160,800	30.9%	$80,309	17.8%
Marketing	90,200	55.5%	$88,192	31.0%

*2022; ** 2017-2022; Source: Statistics Canada (Metro Area), April 2023. Data in C$.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

43.2%	20.1%	8.5%	6.8%	5.8%
Core High-Tech*	FIRE**	Other	Prof'l Services***	Manufacturing

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: Statistics Canada and CBRE Research, May 2023.

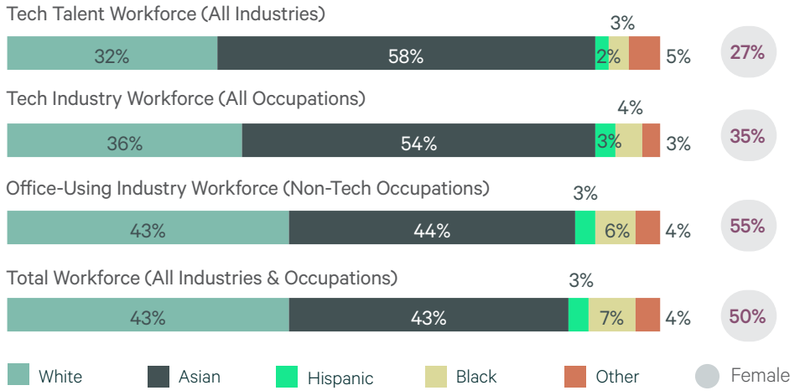
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	56.1%	55.2%	54.7%	53.3%
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Toronto: 28.8%

*% of total software engineers across all industries;
Source: Statistics Canada and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2022)



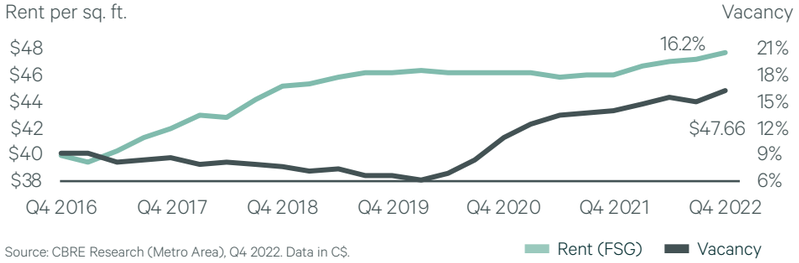
Source: Statistics Canada Census (Metro Area), Q4 2022.

TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	3,156	64%	74%	26%
Math/Statistics	1,854	89%	54%	47%
Other Tech Engineering	2,849	8%	78%	22%
Totals	7,859	42%	71%	30%

Note: Canadian Ministries of Education do not provide degree completions by ethnic diversity.
Source: Various Canadian Ministries of Education (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022. Data in C$.

ANNUAL OPERATING COSTS (2022)

#44		$36M	+	$2M	=	$38.1M
Rank		Talent		Office Rent		Total

Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

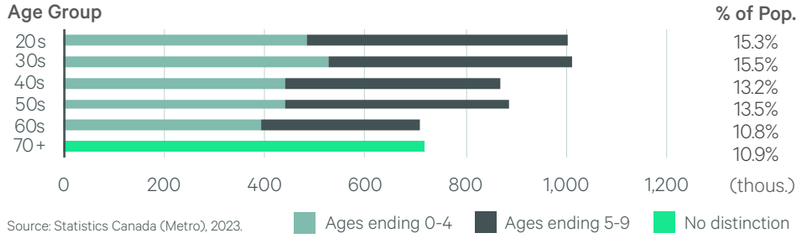
AVERAGE APARTMENT RENT (2022)

$1,224	27.7%	19.6%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

POPULATION TRENDS (2021)

20-somethings grew by 100,434 (11.1%) and 30-somethings grew by 129,678 (14.7%) since 2016.



Source: Statistics Canada (Metro), 2023.

6 Austin

Score: 66.41

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	96,610	38.8%	$104,036	17.9%
Software Developers & Programmers	35,560	32.0%	$87,737	-1.3%
Computer Support, Database & Systems	43,860	28.1%	$108,112	28.4%
Computer & Information Systems Managers	9,030	193.2%	$164,770	1.2%
Technology Engineering-Related	8,160	-19.8%	$85,950	10.4%
Total Non-Tech Occupations	159,790	2.3%	$58,187	8.1%
Sales	22,470	-11.7%	$90,538	4.0%
Administrative & Office Support	95,650	0.1%	$42,847	10.5%
Business Operations & Finance	28,620	19.3%	$79,333	11.7%
Marketing	13,050	16.6%	$68,543	-2.1%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

56.8%	8.5%	7.3%	5.9%	3.8%
Core High-Tech*	FIRE**	Government	Prof'l Services***	Education

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

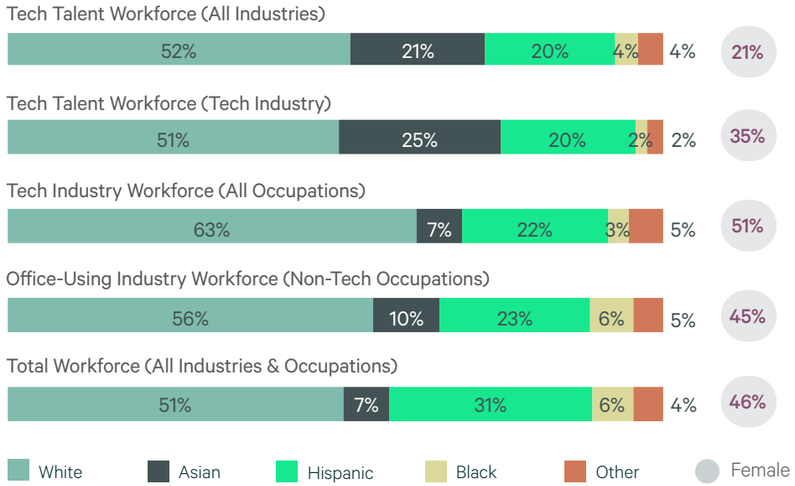
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Austin: 65.1%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

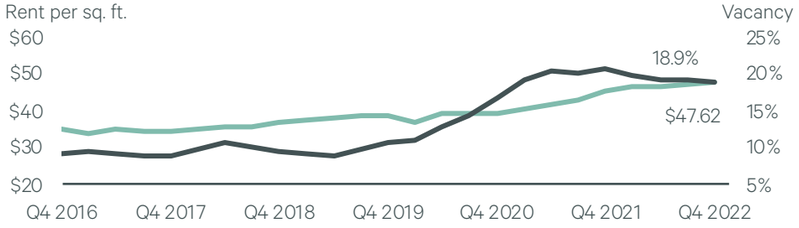
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	1,296	24%	72%	28%
Math/Statistics	518	9%	63%	37%
Other Tech Engineering	1,067	-5%	79%	21%
Totals	2,881	9%	73%	27%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	1,296	41%	27%	21%	7%	3%
Math/Statistics	518	41%	28%	21%	3%	7%
Other Tech Engineering	1,067	41%	30%	20%	2%	6%
Totals	2,881	41%	28%	20%	4%	7%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#11		$49M	+	$3M	=	$52.1M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

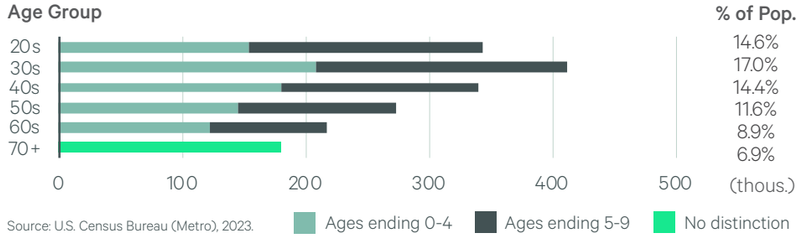
AVERAGE APARTMENT RENT (2022)

$1,669	33.7%	19.3%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 18,767 (5.8%) and 30-somethings grew by 67,198 (19.5%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

7 Boston

Score: 63.35

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	161,470	22.5%	$115,421	17.9%
Software Developers & Programmers	74,670	117.8%	$98,488	3.8%
Computer Support, Database & Systems	53,330	-14.6%	$121,349	33.5%
Computer & Information Systems Managers	19,670	31.7%	$179,880	13.6%
Technology Engineering-Related	13,800	-31.4%	$92,253	11.3%
Total Non-Tech Occupations	315,970	-0.7%	$69,477	13.1%
Sales	33,850	42.5%	$98,873	11.1%
Administrative & Office Support	178,090	-11.0%	$51,535	12.5%
Business Operations & Finance	73,230	10.9%	$92,977	11.8%
Marketing	30,800	9.0%	$85,043	18.7%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

43.2%	13.3%	11.5%	7.8%	4.8%
Core High-Tech*	Prof'l Services***	FIRE**	Manufacturing***	Education

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

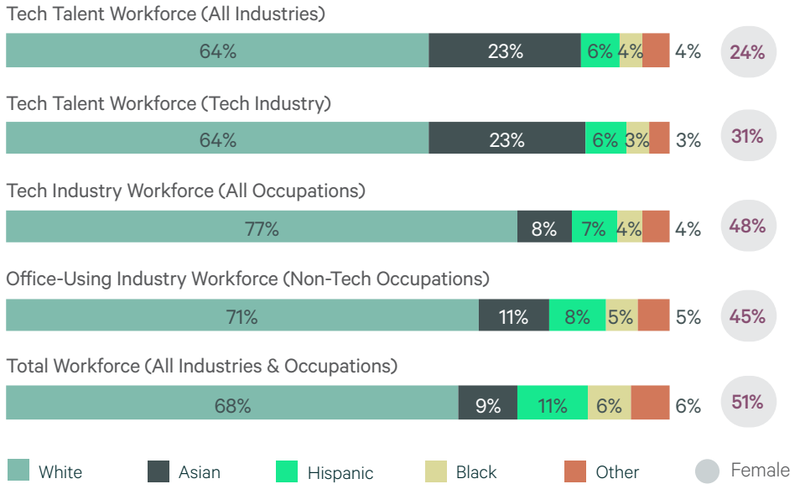
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Boston: 56.1%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

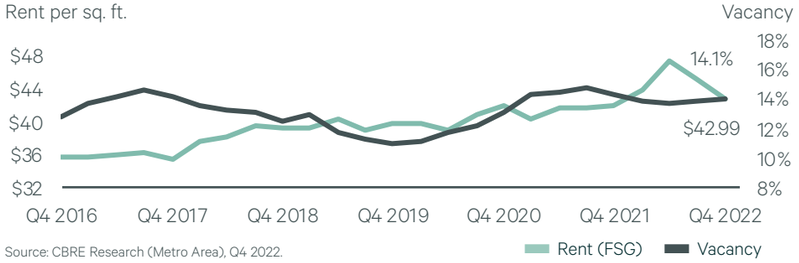
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	7,629	62%	68%	32%
Math/Statistics	1,849	19%	55%	45%
Other Tech Engineering	4,324	28%	72%	28%
Totals	13,802	43%	68%	32%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	7,629	53%	28%	9%	6%	4%
Math/Statistics	1,849	60%	25%	7%	4%	4%
Other Tech Engineering	4,324	64%	15%	11%	4%	6%
Totals	13,802	54%	22%	9%	5%	10%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#5		$55M	+	$3M	=	$57.5M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

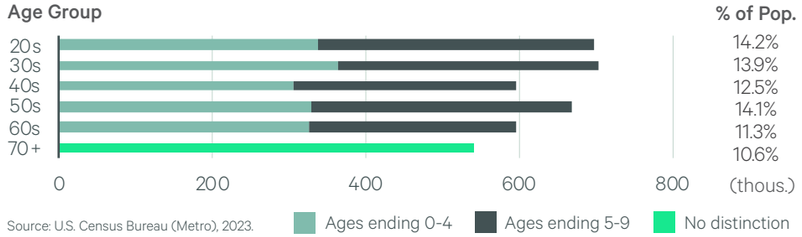
AVERAGE APARTMENT RENT (2022)

$2,698	20.9%	28.0%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 17,230 (-2.4%) and 30-somethings grew by 62,047 (9.7%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

8 Vancouver

Score: 60.60

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	111,100	68.6%	$99,861	28.5%
Software Developers & Programmers	51,600	119.6%	$103,022	33.0%
Computer Support, Database & Systems	35,900	31.5%	$85,842	16.7%
Computer & Information Systems Managers	12,600	142.3%	$138,882	39.5%
Technology Engineering-Related	11,000	11.1%	$86,070	10.0%
Total Non-Tech Occupations	214,200	7.9%	$68,203	20.6%
Sales	34,900	0.9%	$71,864	12.8%
Administrative & Office Support	90,700	7.2%	$54,184	20.4%
Business Operations & Finance	52,000	5.5%	$79,643	20.8%
Marketing	36,600	22.0%	$83,242	26.8%

*2022; ** 2017-2022; Source: Statistics Canada (Metro Area), April 2023. Data in C$.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

53.9% Core High-Tech*

11.3% Other

5.3% Manufacturing

5.2% Prof'l Services***

4.9% Information***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: Statistics Canada and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

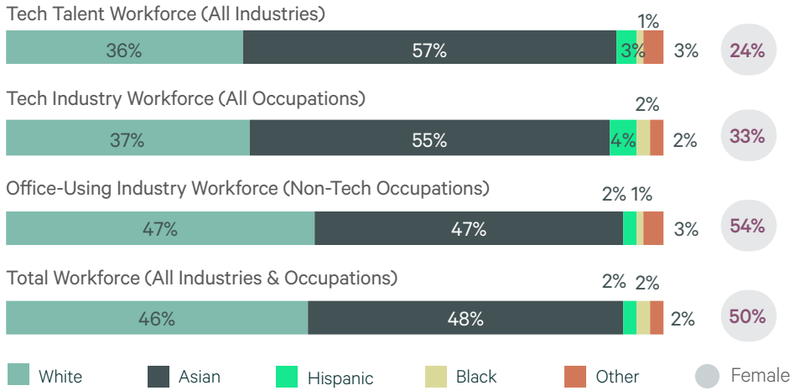
54.7% Inland Empire

53.3% Raleigh-Durham

Vancouver: 40.1%

*% of total software engineers across all industries;
Source: Statistics Canada and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2022)



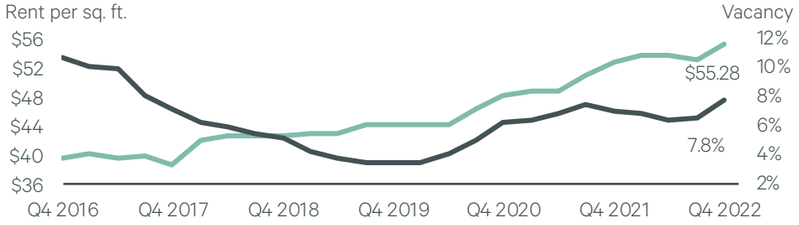
Source: Statistics Canada Census (Metro Area), Q4 2022.

TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	1,910	62%	69%	31%
Math/Statistics	586	115%	53%	47%
Other Tech Engineering	1,215	18%	78%	22%
Totals	3,711	50%	70%	30%

Note: Canadian Ministries of Education do not provide degree completions by ethnic diversity..
Source: Various Canadian Ministries of Education (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022. Data in C$.

ANNUAL OPERATING COSTS (2022)

#45 Rank | $35M Talent + $2M Office Rent = $37.5M Total

Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

AVERAGE APARTMENT RENT (2022)

$1,228 Per unit/month

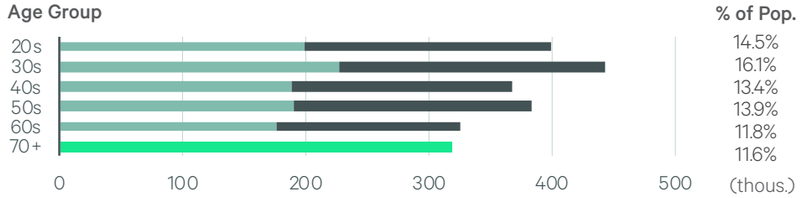
28.4% 5-year growth

20.0% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

POPULATION TRENDS (2021)

20-somethings grew by 13,263 (3.4%) and 30-somethings grew by 62,458 (16.4%) since 2016.



Source: Statistics Canada (Metro), 2023.

9 Dallas/Ft. Worth

Score: 60.49

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	205,920	28.1%	$104,382	16.5%
Software Developers & Programmers	75,240	46.4%	$88,174	-2.9%
Computer Support, Database & Systems	92,930	9.1%	$108,313	25.4%
Computer & Information Systems Managers	21,260	178.6%	$161,350	-1.2%
Technology Engineering-Related	16,490	-0.4%	$82,739	13.5%
Total Non-Tech Occupations	474,470	-1.9%	$56,176	5.9%
Sales	51,860	-3.8%	$86,928	4.7%
Administrative & Office Support	302,800	-7.1%	$42,823	7.3%
Business Operations & Finance	90,270	14.0%	$79,962	-1.7%
Marketing	29,540	19.2%	$66,377	-0.7%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

38.7% Core High-Tech*

17.9% FIRE**

6.8% Prof'l Services***

7.8% Manufacturing***

4.7% Transportation, Warehousing & Trade

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

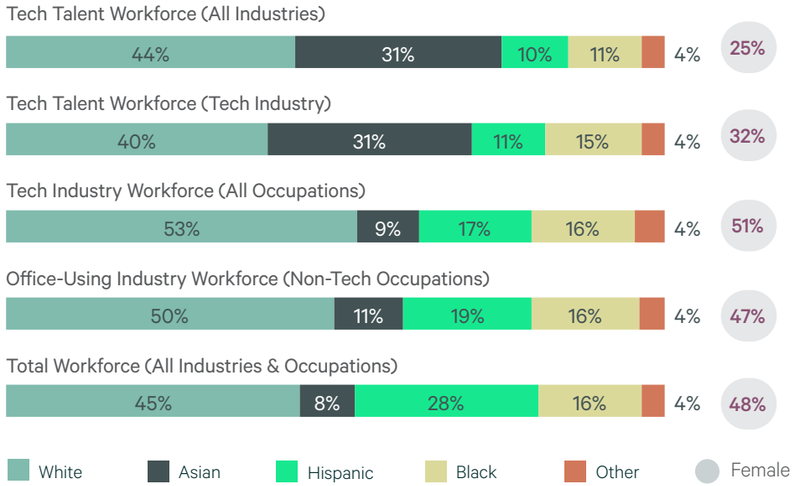
54.7% Inland Empire

53.3% Raleigh-Durham

Dallas/Ft. Worth: 48.9%

*% of total software engineers across all industries; Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

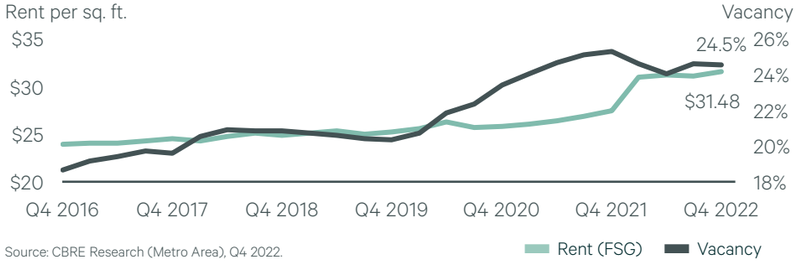
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	4,483	22%	70%	30%
Math/Statistics	890	89%	61%	39%
Other Tech Engineering	1,926	-18%	81%	19%
Totals	7,299	12%	72%	28%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	4,483	37%	34%	16%	9%	4%
Math/Statistics	890	60%	12%	16%	5%	6%
Other Tech Engineering	1,926	46%	19%	22%	7%	5%
Totals	7,299	42%	27%	18%	8%	6%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#21 Rank

$48M Talent + $2M Office Rent = $49.5M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,534 Per unit/month

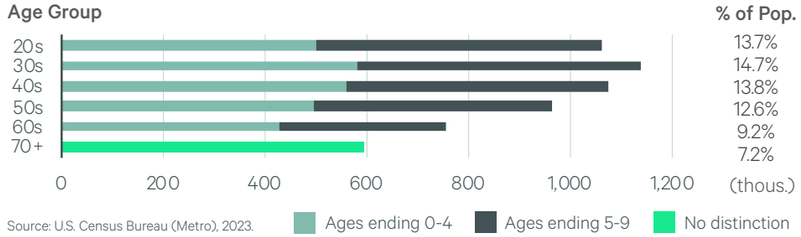
27.6% 5-year growth

17.6% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 57,771 (5.7%) and 30-somethings grew by 90,413 (8.6%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

10 Denver

Score: 58.50

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	125,800	26.1%	$110,140	24.7%
Software Developers & Programmers	45,970	27.6%	$102,366	15.7%
Computer Support, Database & Systems	54,580	16.0%	$110,523	29.8%
Computer & Information Systems Managers	9,100	58.3%	$180,637	21.8%
Technology Engineering-Related	16,150	47.9%	$91,247	20.3%
Total Non-Tech Occupations	229,850	5.8%	$70,242	23.1%
Sales	37,710	27.1%	$104,499	26.0%
Administrative & Office Support	109,000	-9.3%	$46,810	19.0%
Business Operations & Finance	54,730	15.4%	$90,564	4.9%
Marketing	28,410	41.5%	$75,522	18.1%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

40.7% Core High-Tech*

9.7% FIRE**

9.3% Prof'l Services***

6.7% Manufacturing***

6.5% Information***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

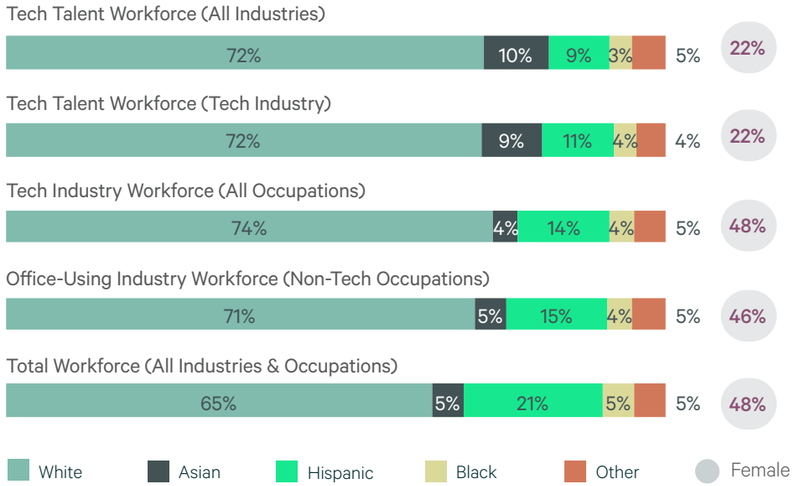
54.7% Inland Empire

53.3% Raleigh-Durham

Denver: 52.6%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

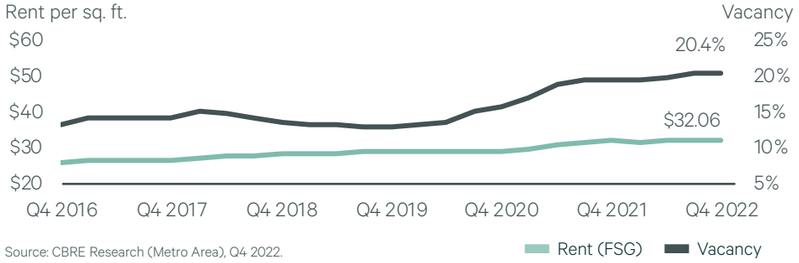
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	2,197	48%	75%	25%
Math/Statistics	505	46%	65%	35%
Other Tech Engineering	1,807	16%	78%	22%
Totals	4,509	33%	75%	25%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	2,197	67%	12%	11%	5%	5%
Math/Statistics	505	75%	6%	13%	2%	5%
Other Tech Engineering	1,807	76%	6%	10%	2%	6%
Totals	4,509	68%	8%	11%	3%	9%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#8 Rank | $54M Talent + $2M Office Rent = $55.6M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,799 Per unit/month

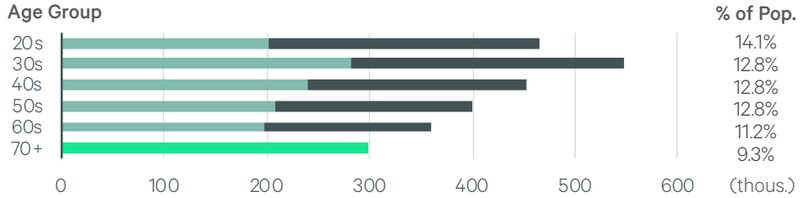
21.4% 5-year growth

19.6% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 5,622 (1.2%) and 30-somethings grew by 61,290 (12.6%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

11 Ottawa

Score: 57.81

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	94,100	39.6%	$101,442	16.6%
Software Developers & Programmers	34,900	46.0%	$101,629	15.4%
Computer Support, Database & Systems	41,700	40.9%	$93,704	19.8%
Computer & Information Systems Managers	9,400	36.2%	$140,317	18.1%
Technology Engineering-Related	8,100	15.7%	$95,534	7.2%
Total Non-Tech Occupations	111,700	-1.4%	$72,571	14.0%
Sales	10,500	-15.3%	$72,280	2.3%
Administrative & Office Support	42,800	-10.6%	$58,510	20.8%
Business Operations & Finance	44,200	21.1%	$81,578	9.2%
Marketing	14,200	-13.9%	$87,006	11.3%

*2022; ** 2017-2022; Source: Statistics Canada (Metro Area), April 2023. Data in C$.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

42.2% Government

32.4% Core High-Tech*

5.2% Prof'l Services***

4.0% Manufacturing

3.7% Information***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: Statistics Canada and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

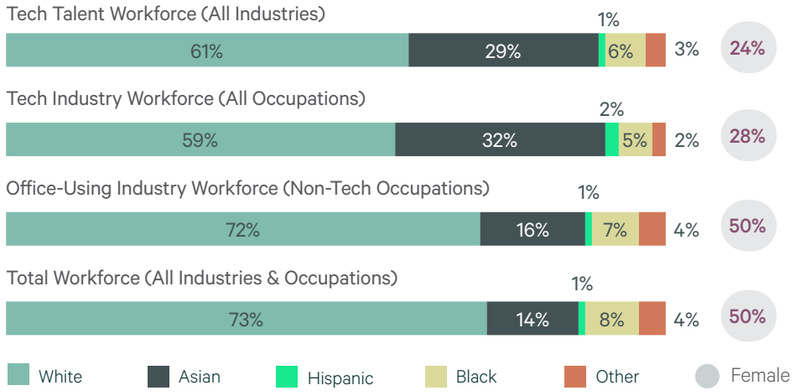
54.7% Inland Empire

53.3% Raleigh-Durham

Ottawa: 40.6%

*% of total software engineers across all industries;
Source: Statistics Canada and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2022)



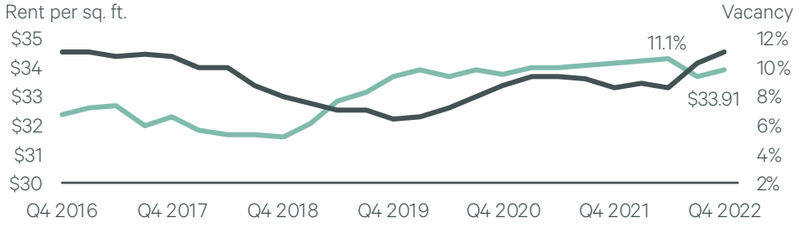
Source: Statistics Canada Census (Metro Area), Q4 2022.

TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	1,071	107%	79%	21%
Math/Statistics	206	38%	54%	46%
Other Tech Engineering	1,219	22%	78%	22%
Totals	2,496	50%	77%	23%

Note: Canadian Ministries of Education do not provide degree completions by ethnic diversity..
Source: Various Canadian Ministries of Education (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022. Data in C$.

ANNUAL OPERATING COSTS (2022)

#46 Rank | $36M Talent + $2M Office Rent = $37.5M Total

Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

AVERAGE APARTMENT RENT (2022)

$1,077 Per unit/month

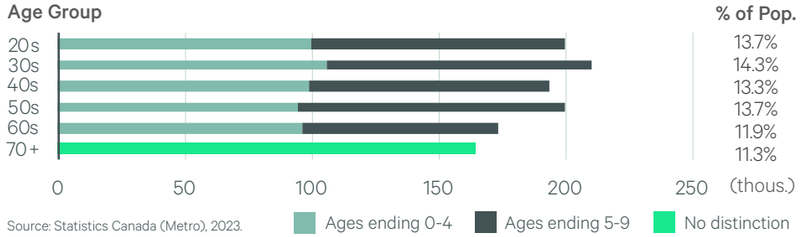
31.3% 5-year growth

17.3% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

POPULATION TRENDS (2021)

20-somethings grew by 8,228 (4.3%) and 30-somethings grew by 26,434 (14.4%) since 2016.



Source: Statistics Canada (Metro), 2023.

12 Montreal

Score: 57.74

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	172,400	42.6%	$89,086	15.8%
Software Developers & Programmers	52,800	56.2%	$87,776	25.9%
Computer Support, Database & Systems	81,300	55.4%	$83,366	12.0%
Computer & Information Systems Managers	12,200	1.7%	$132,350	27.3%
Technology Engineering-Related	26,100	14.5%	$89,294	12.8%
Total Non-Tech Occupations	331,000	10.2%	$64,896	17.5%
Sales	46,200	-3.1%	$66,456	13.7%
Administrative & Office Support	132,400	2.3%	$52,208	21.9%
Business Operations & Finance	97,200	19.7%	$75,920	12.8%
Marketing	55,200	31.4%	$74,547	12.1%

*2022; ** 2017-2022; Source: Statistics Canada (Metro Area), April 2023. Data in C$.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

41.2% Core High-Tech*

11.5% FIRE**

10.0% Other

9.0% Prof'l Services***

7.9% Manufacturing

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: Statistics Canada and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

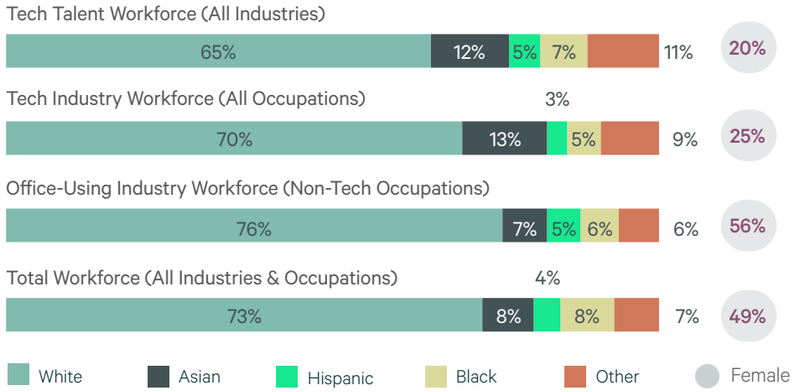
54.7% Inland Empire

53.3% Raleigh-Durham

Montreal: 26.6%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2022)



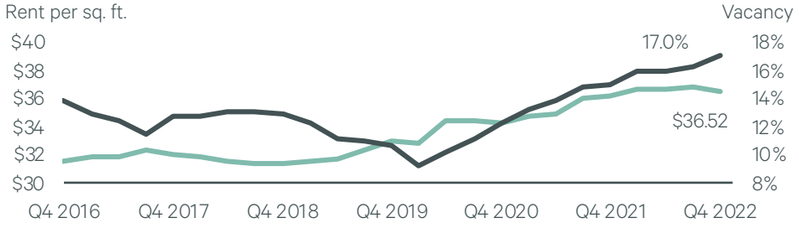
Source: Statistics Canada Census (Metro Area), Q4 2022.

TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	2,701	97%	77%	23%
Math/Statistics	406	35%	61%	39%
Other Tech Engineering	3,375	30%	79%	21%
Totals	6,482	52%	77%	23%

Note: Canadian Ministries of Education do not provide degree completions by ethnic diversity..
Source: Various Canadian Ministries of Education (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022. Data in C$.

ANNUAL OPERATING COSTS (2022)

#49 Rank | $32M Talent + $2M Office Rent = $33.9M Total

Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

AVERAGE APARTMENT RENT (2022)

$736 Per unit/month

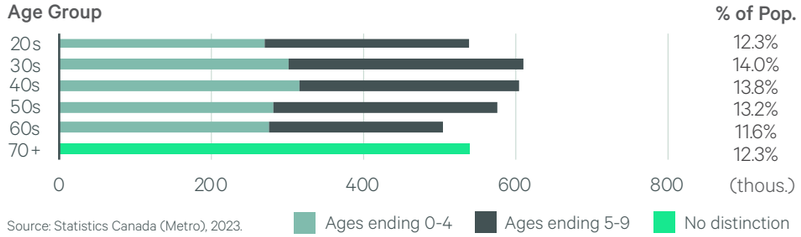
30.3% 5-year growth

13.4% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

POPULATION TRENDS (2021)

20-somethings declined by 26,867 (-4.7%) and 30-somethings grew by 15,844 (2.7%) since 2016.



Source: Statistics Canada (Metro), 2023.

13 Atlanta

Score: 56.55

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	125,800	6.2%	$110,140	24.7%
Software Developers & Programmers	45,970	32.2%	$102,366	15.7%
Computer Support, Database & Systems	54,580	-11.7%	$110,523	29.8%
Computer & Information Systems Managers	9,100	-1.4%	$180,637	21.8%
Technology Engineering-Related	16,150	-23.8%	$91,247	20.3%
Total Non-Tech Occupations	229,850	-1.1%	$70,242	23.1%
Sales	37,710	-4.8%	$104,499	26.0%
Administrative & Office Support	109,000	-6.3%	$46,810	19.0%
Business Operations & Finance	54,730	23.0%	$90,564	4.9%
Marketing	28,410	-3.3%	$75,522	18.1%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

42.3%	9.0%	8.4%	6.0%	5.4%
Core High-Tech*	FIRE**	Prof'l Services***	Manufacturing***	Government

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

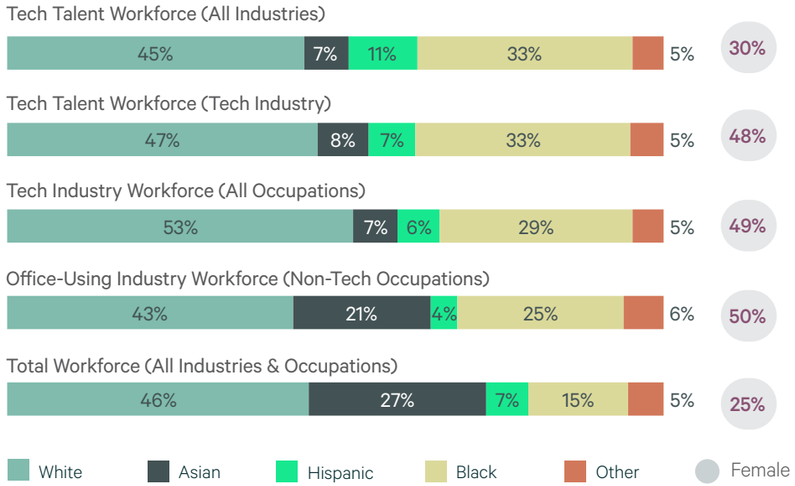
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Atlanta: 56.1%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

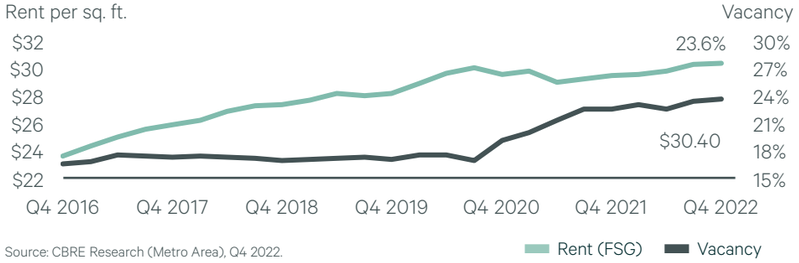
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	5,697	79%	75%	25%
Math/Statistics	602	4%	57%	43%
Other Tech Engineering	2,799	-1%	78%	22%
Totals	9,098	38%	75%	25%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	5,697	43%	27%	7%	18%	4%
Math/Statistics	602	39%	29%	7%	20%	5%
Other Tech Engineering	2,799	58%	21%	9%	8%	4%
Totals	9,098	47%	25%	8%	15%	6%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#13		$50M	+	$2M	=	$51.7M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

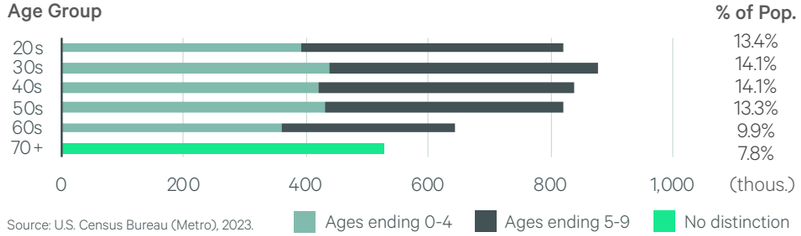
AVERAGE APARTMENT RENT (2022)

$1,699	38.7%	19.8%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 34,591 (4.4%) and 30-somethings grew by 66,451 (8.2%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

14 Los Angeles/Orange County

Score: 54.05

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	249,620	17.2%	$112,905	19.5%
Software Developers & Programmers	106,640	52.4%	$99,252	3.8%
Computer Support, Database & Systems	91,260	-5.0%	$113,985	32.3%
Computer & Information Systems Managers	25,570	60.5%	$182,200	14.3%
Technology Engineering-Related	26,150	-15.8%	$97,059	12.4%
Total Non-Tech Occupations	666,580	-11.4%	$62,775	15.9%
Sales	58,590	-24.7%	$98,433	15.5%
Administrative & Office Support	414,280	-15.7%	$47,830	16.8%
Business Operations & Finance	125,440	4.7%	$87,535	6.1%
Marketing	68,270	8.0%	$77,372	16.2%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

35.9% Core High-Tech*

10.6% Manufacturing***

9.8% Prof'l Services***

9.7% FIRE**

6.3% Education

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

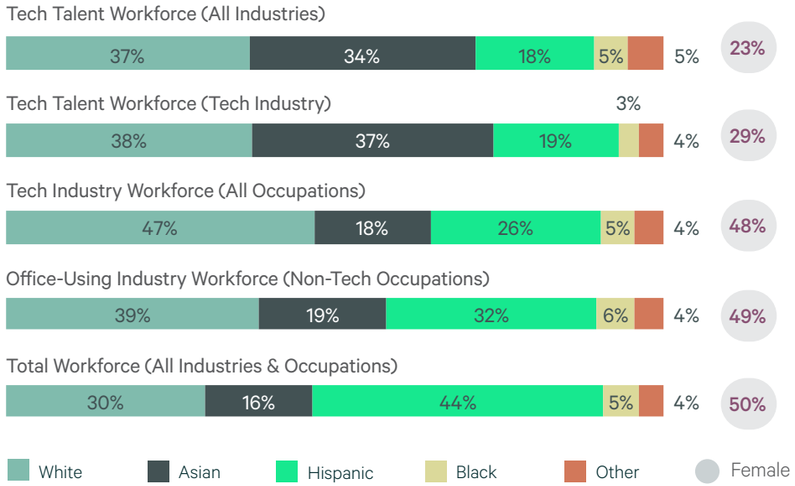
54.7% Inland Empire

53.3% Raleigh-Durham

LA/OC: 47.6%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

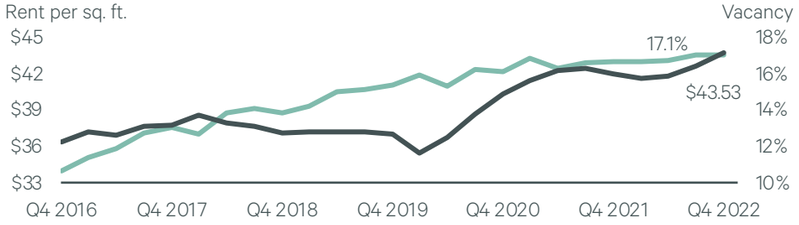
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	7,280	48%	76%	24%
Math/Statistics	2,573	30%	59%	41%
Other Tech Engineering	5,177	-4%	79%	21%
Totals	15,030	23%	74%	26%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	7,280	24%	45%	22%	3%	6%
Math/Statistics	2,573	31%	35%	27%	2%	5%
Other Tech Engineering	5,177	31%	29%	33%	2%	6%
Totals	15,030	26%	35%	25%	2%	12%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#7 Rank | $53M Talent + $3M Office Rent = $55.9M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$2,776 Per unit/month

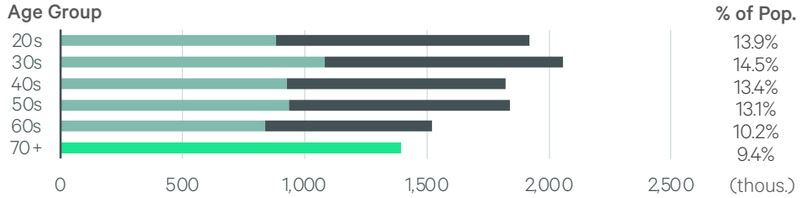
19.1% 5-year growth

29.5% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 247,575 (-11.4%) and 30-somethings grew by 46,568 (2.3%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

15 Phoenix

Score: 53.47

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	109,160	30.1%	$97,103	14.5%
Software Developers & Programmers	40,800	52.1%	$83,432	-1.5%
Computer Support, Database & Systems	47,490	6.5%	$99,270	22.9%
Computer & Information Systems Managers	9,400	59.6%	$160,630	16.2%
Technology Engineering-Related	11,470	73.0%	$84,701	16.1%
Total Non-Tech Occupations	292,130	9.3%	$55,684	20.9%
Sales	25,610	0.0%	$89,755	24.1%
Administrative & Office Support	200,290	5.1%	$44,925	19.0%
Business Operations & Finance	47,660	25.8%	$77,862	16.4%
Marketing	18,570	40.0%	$67,827	17.1%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

36.5%	16.0%	6.8%	6.7%	5.3%
Core High-Tech*	FIRE**	Prof'l Services***	Manufacturing***	Government

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

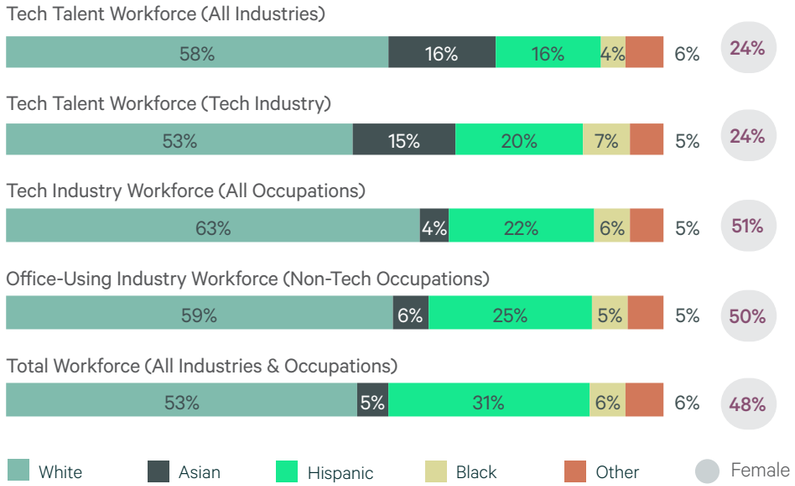
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Phoenix: 42.2%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

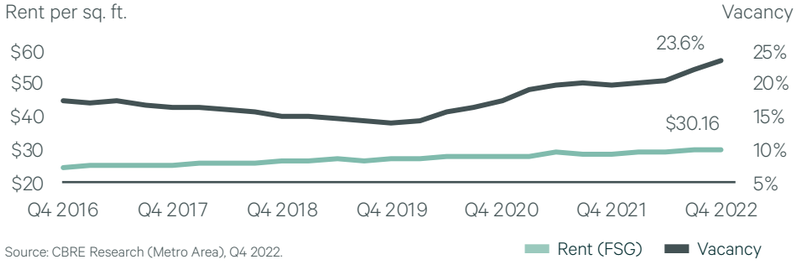
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	4,347	39%	74%	26%
Math/Statistics	307	65%	66%	34%
Other Tech Engineering	1,886	53%	81%	19%
Totals	6,540	44%	76%	24%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	4,347	48%	13%	16%	16%	7%
Math/Statistics	307	66%	11%	15%	5%	3%
Other Tech Engineering	1,886	61%	11%	20%	3%	5%
Totals	6,540	48%	11%	15%	11%	15%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#22		$47M	+	$2M	=	$49.3M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

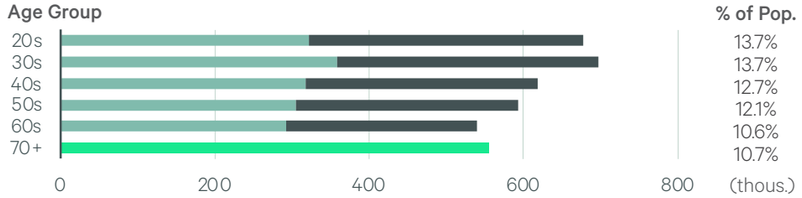
AVERAGE APARTMENT RENT (2022)

$1,636	53.5%	20.2%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 29,569 (4.6%) and 30-somethings grew by 63,483 (10.0%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

16 Salt Lake City

Score: 52.85

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	61,400	39.5%	$94,365	15.6%
Software Developers & Programmers	30,180	75.8%	$78,846	-7.3%
Computer Support, Database & Systems	22,390	11.4%	$103,241	40.9%
Computer & Information Systems Managers	5,240	25.1%	$156,285	23.0%
Technology Engineering-Related	3,590	39.1%	$79,086	25.1%
Total Non-Tech Occupations	156,240	9.3%	$52,434	16.4%
Sales	15,490	2.3%	$84,351	8.5%
Administrative & Office Support	101,790	2.3%	$41,675	17.0%
Business Operations & Finance	25,430	35.7%	$70,783	9.4%
Marketing	13,530	41.4%	$62,353	15.4%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

41.2% Core High-Tech*

12.5% FIRE**

6.7% Education

6.2% Prof'l Services***

6.0% Manufacturing***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

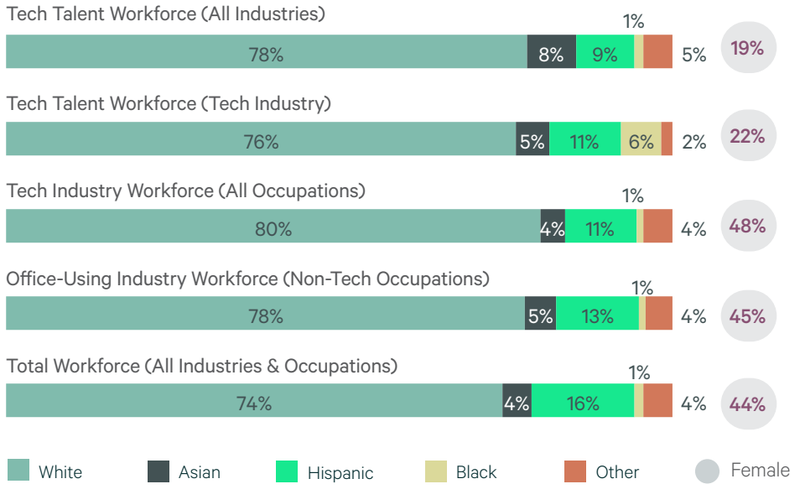
54.7% Inland Empire

53.3% Raleigh-Durham

Salt Lake City: 53.2%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

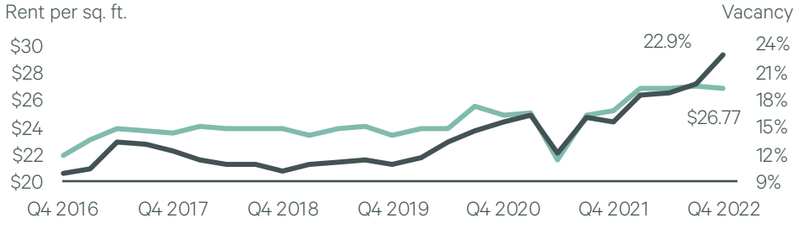
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	7,403	134%	86%	14%
Math/Statistics	489	52%	70%	30%
Other Tech Engineering	715	8%	88%	12%
Totals	8,607	108%	85%	15%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	7,403	71%	7%	10%	7%	5%
Math/Statistics	489	84%	6%	6%	0%	5%
Other Tech Engineering	715	85%	3%	8%	0%	4%
Totals	8,607	68%	6%	9%	6%	12%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#36 Rank

$44M Talent + $2M Office Rent = $46M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,600 Per unit/month

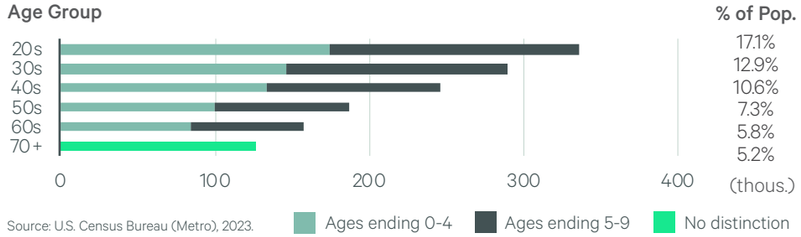
41.5% 5-year growth

20.3% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 34,599 (11.5%) and 30-somethings grew by 14,305 (5.2%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

17 Baltimore

Score: 52.66

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	76,460	5.3%	$112,097	21.1%
Software Developers & Programmers	24,380	25.8%	$95,003	6.8%
Computer Support, Database & Systems	39,720	-5.5%	$117,776	29.6%
Computer & Information Systems Managers	5,890	20.4%	$165,320	12.2%
Technology Engineering-Related	6,470	-39.6%	$93,199	15.2%
Total Non-Tech Occupations	141,780	-17.8%	$60,859	14.0%
Sales	15,840	-18.9%	$98,900	14.1%
Administrative & Office Support	90,320	-20.4%	$45,062	11.3%
Business Operations & Finance	26,830	-10.5%	$88,653	13.8%
Marketing	8,790	-6.3%	$69,783	12.8%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

31.4%	23.9%	14.4%	6.1%	6.0%
Core High-Tech*	Government	Prof'l Services***	Education	FIRE**

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

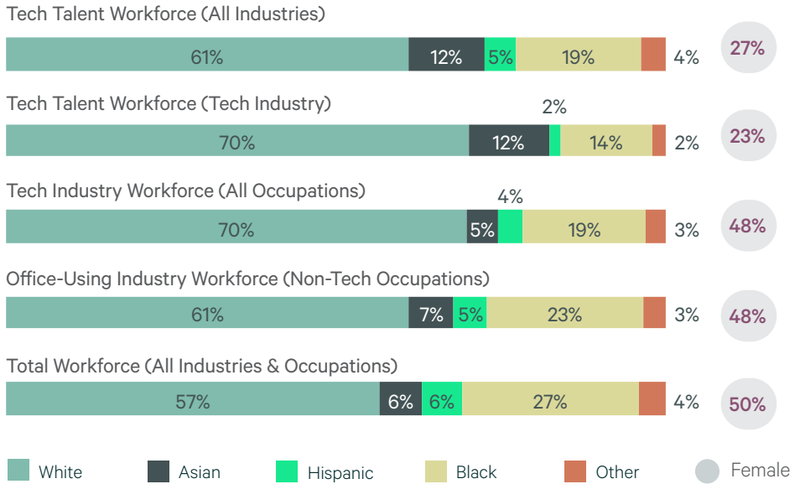
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Baltimore: 43.9%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

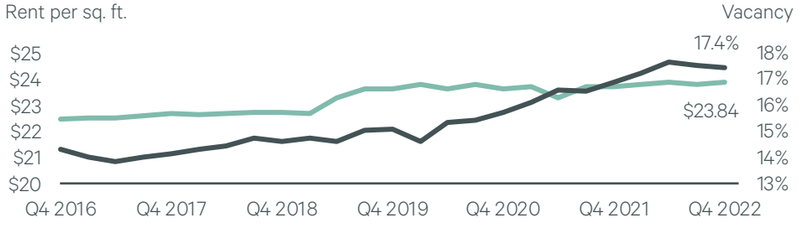
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	2,604	32%	70%	30%
Math/Statistics	575	28%	65%	35%
Other Tech Engineering	1,354	26%	78%	22%
Totals	4,533	30%	72%	28%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	2,604	44%	23%	6%	21%	6%
Math/Statistics	575	55%	21%	7%	9%	8%
Other Tech Engineering	1,354	57%	13%	9%	14%	6%
Totals	4,533	48%	19%	7%	17%	9%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#10		$52M	+	$1M	=	$53M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

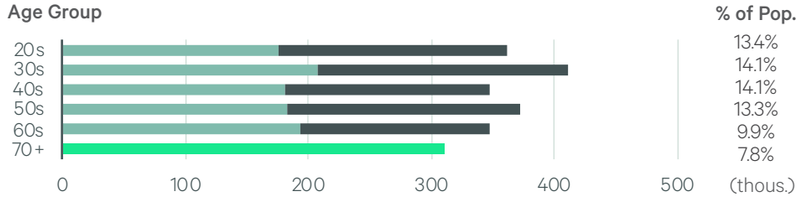
AVERAGE APARTMENT RENT (2022)

$1,658	23.1%	17.8%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 27,279 (-7.0%) and 30-somethings grew by 27,641 (7.2%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

18 Waterloo Region, Canada

Score: 52.48

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	29,700	51.5%	$98,946	13.1%
Software Developers & Programmers	11,900	60.8%	$106,642	15.7%
Computer Support, Database & Systems	11,700	85.7%	$89,003	12.5%
Computer & Information Systems Managers	2,900	52.6%	$131,560	20.8%
Technology Engineering-Related	3,200	-20.0%	$77,314	-5.8%
Total Non-Tech Occupations	40,400	19.9%	$65,437	12.2%
Sales	7,100	18.3%	$67,226	-5.6%
Administrative & Office Support	17,800	14.1%	$50,690	13.8%
Business Operations & Finance	9,600	18.5%	$84,365	20.5%
Marketing	5,900	47.5%	$76,773	11.0%

*2022; ** 2017-2022; Source: Statistics Canada (Metro Area), April 2023. Data in C$.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

50.0%	14.8%	11.1%	9.6%	6.7%
Core High-Tech*	FIRE**	Manufacturing	Other	Prof'l Services***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: Statistics Canada and CBRE Research, May 2023.

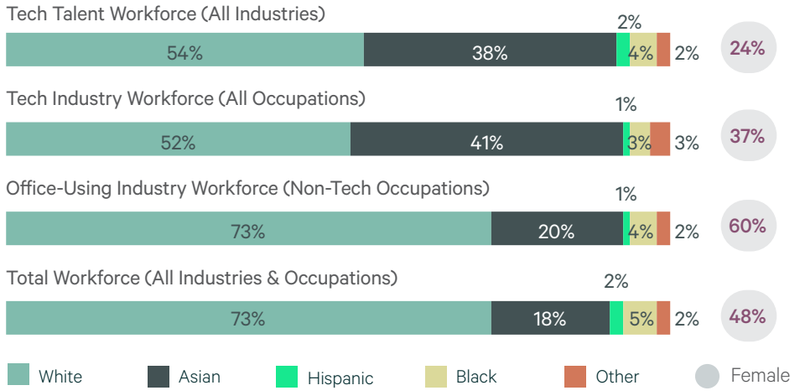
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area	76.4% Seattle	65.1% Austin	64.6% Portland	64.4% Madison
56.1% Atlanta	56.1% Boston	55.2% Hartford	54.7% Inland Empire	53.3% Raleigh-Durham

Waterloo Region: 34.6%

*% of total software engineers across all industries;
Source: Statistics Canada and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2022)



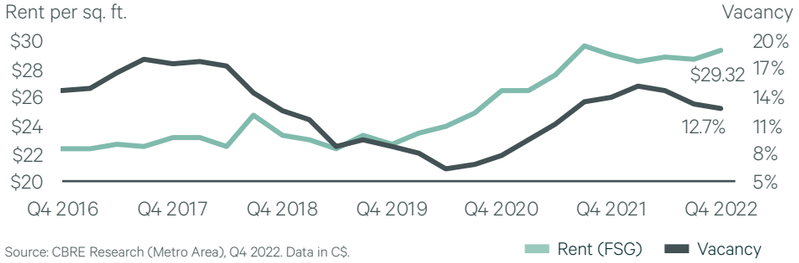
Source: Statistics Canada Census (Metro Area), Q4 2022.

TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	1,702	66%	79%	21%
Math/Statistics	922	26%	59%	41%
Other Tech Engineering	1,342	30%	76%	24%
Totals	3,966	42%	73%	27%

Note: Canadian Ministries of Education do not provide degree completions by ethnic diversity.
Source: Various Canadian Ministries of Education (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022. Data in C$.

ANNUAL OPERATING COSTS (2022)

#47		$34M	+	$1M	=	$35.5M
Rank		Talent		Office Rent		Total

Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

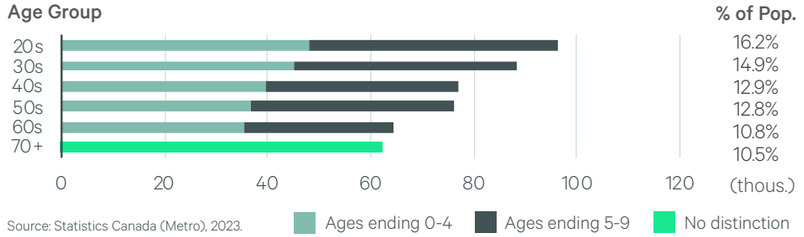
AVERAGE APARTMENT RENT (2022)

$1,031	34.4%	17.0%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

POPULATION TRENDS (2021)

20-somethings grew by 14,514 (17.7%) and 30-somethings grew by 13,006 (17.2%) since 2016.



Source: Statistics Canada (Metro), 2023.

19 Raleigh-Durham

Score: 49.99

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	73,790	24.3%	$104,549	18.5%
Software Developers & Programmers	33,210	59.8%	$92,389	4.3%
Computer Support, Database & Systems	27,640	-3.5%	$106,716	28.0%
Computer & Information Systems Managers	7,680	65.9%	$162,100	12.2%
Technology Engineering-Related	5,260	-0.8%	$85,907	22.2%
Total Non-Tech Occupations	126,020	5.1%	$61,525	20.6%
Sales	15,900	-2.4%	$102,599	32.4%
Administrative & Office Support	72,010	-3.7%	$43,972	14.7%
Business Operations & Finance	25,650	31.2%	$80,158	10.1%
Marketing	12,460	33.5%	$72,202	12.5%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

46.3%	13.8%	9.1%	8.7%	5.3%
Core High-Tech*	FIRE**	Prof'l Services***	Government	Manufacturing***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

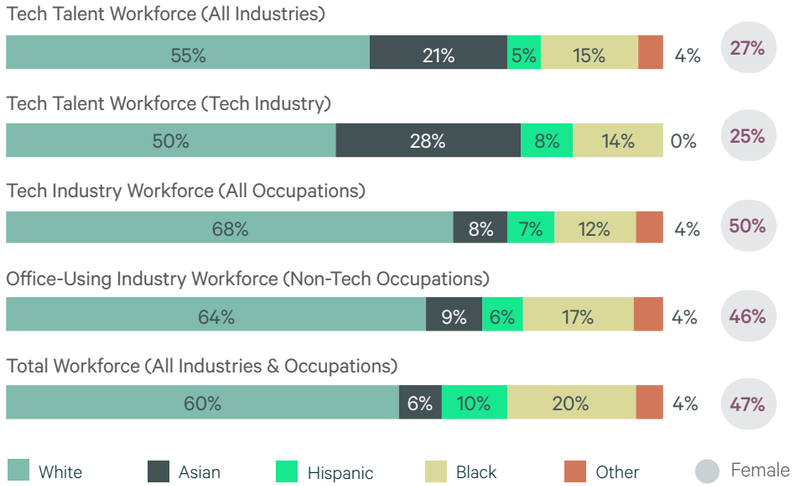
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Raleigh-Durham: 53.3%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

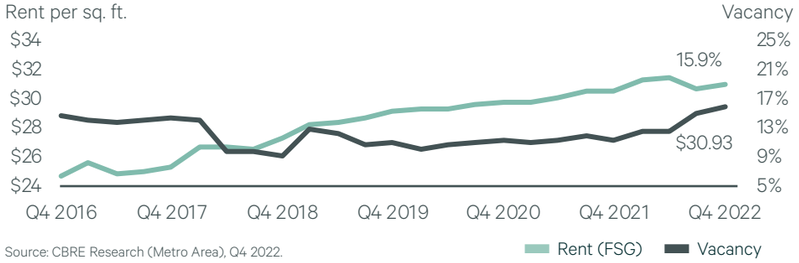
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	2,204	41%	71%	29%
Math/Statistics	947	34%	60%	40%
Other Tech Engineering	1,470	7%	78%	22%
Totals	4,621	27%	71%	29%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	2,204	54%	26%	7%	8%	5%
Math/Statistics	947	64%	23%	5%	5%	3%
Other Tech Engineering	1,470	76%	8%	8%	4%	4%
Totals	4,621	60%	19%	7%	6%	9%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#15		$49M	+	$2M	=	$51M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

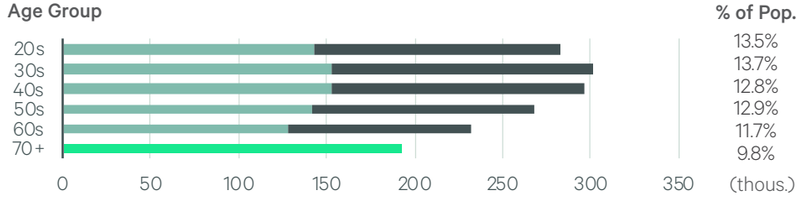
AVERAGE APARTMENT RENT (2022)

$1,553	40.7%	17.8%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 20,955 (8.0%) and 30-somethings grew by 31,683 (11.7%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

20 San Diego

Score: 49.82

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	78,860	12.5%	$113,709	22.9%
Software Developers & Programmers	29,860	20.2%	$105,466	16.0%
Computer Support, Database & Systems	27,000	6.8%	$110,945	23.7%
Computer & Information Systems Managers	7,370	58.5%	$184,950	19.3%
Technology Engineering-Related	14,630	-4.6%	$99,746	20.4%
Total Non-Tech Occupations	139,270	-13.0%	$64,841	27.7%
Sales	14,220	-16.1%	$102,635	42.1%
Administrative & Office Support	85,500	-19.9%	$48,942	21.2%
Business Operations & Finance	27,400	13.5%	$89,293	14.8%
Marketing	12,150	-1.2%	$77,343	23.3%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

39.8%	11.7%	9.2%	7.6%	5.1%
Core High-Tech*	Manufacturing***	Prof'l Services***	FIRE**	Education

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

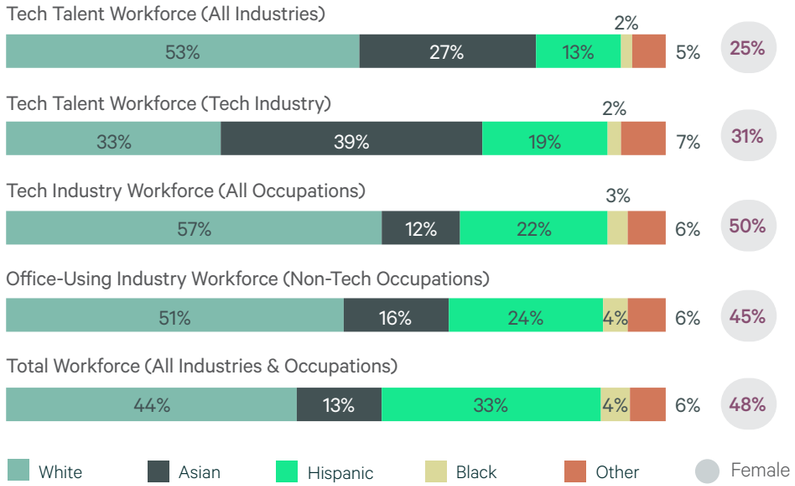
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	56.1%	55.2%	54.7%	53.3%
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

San Diego: 50.1%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

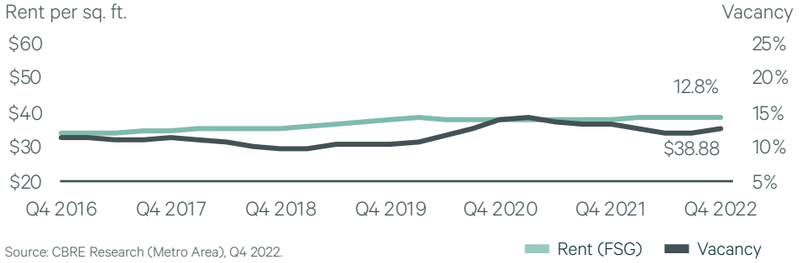
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	2,598	42%	77%	23%
Math/Statistics	1,069	54%	56%	44%
Other Tech Engineering	1,786	24%	81%	19%
Totals	5,453	37%	74%	26%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	2,598	32%	37%	18%	5%	7%
Math/Statistics	1,069	31%	37%	23%	2%	6%
Other Tech Engineering	1,786	37%	28%	25%	2%	8%
Totals	5,453	32%	32%	20%	4%	12%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#6	$54M	+	$2M	=	$56.4M
Rank	Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

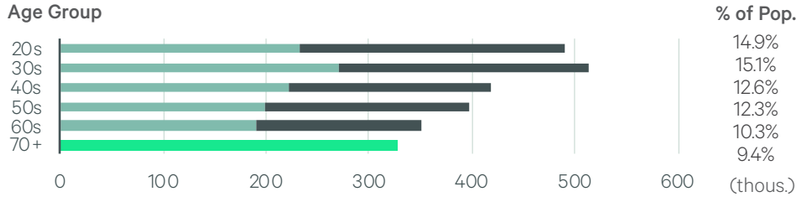
AVERAGE APARTMENT RENT (2022)

$2,777	38.5%	29.3%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 61,357 (-11.1%) and 30-somethings grew by 29,657 (6.1%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

21 Calgary

Score: 49.13

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	52,200	60.6%	$105,581	14.8%
Software Developers & Programmers	16,100	114.7%	$109,928	21.1%
Computer Support, Database & Systems	23,000	52.3%	$96,096	10.4%
Computer & Information Systems Managers	6,000	122.2%	$148,554	25.3%
Technology Engineering-Related	7,100	-1.4%	$90,168	-3.6%
Total Non-Tech Occupations	110,100	0.0%	$74,859	7.5%
Sales	16,400	-18.8%	$86,029	13.2%
Administrative & Office Support	42,100	-5.2%	$54,413	-2.6%
Business Operations & Finance	36,200	12.1%	$87,547	8.4%
Marketing	15,400	16.7%	$89,045	12.6%

*2022; ** 2017-2022; Source: Statistics Canada (Metro Area), April 2023. Data in C$.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

38.9% Core High-Tech*

15.3% Prof'l Services***

10.7% Other

6.1% Government

5.9% Transportation, Warehousing & Trade

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: Statistics Canada and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

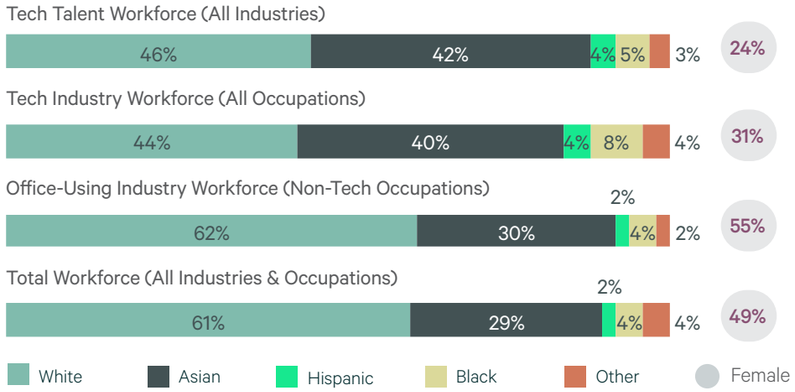
54.7% Inland Empire

53.3% Raleigh-Durham

Calgary: 32.6%

*% of total software engineers across all industries;
Source: Statistics Canada and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2022)



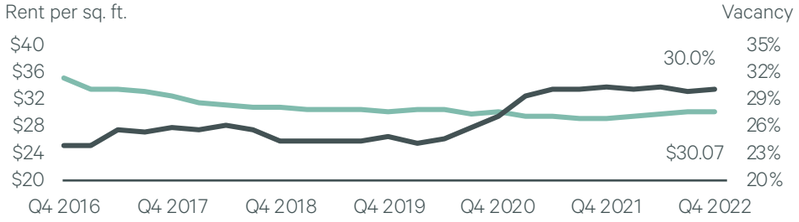
Source: Statistics Canada Census (Metro Area), Q4 2022.

TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	382	44%	80%	20%
Math/Statistics	110	43%	56%	45%
Other Tech Engineering	587	38%	80%	20%
Totals	1,079	40%	78%	22%

Note: Canadian Ministries of Education do not provide degree completions by ethnic diversity.
Source: Various Canadian Ministries of Education (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022. Data in C$.

ANNUAL OPERATING COSTS (2022)

#43 Rank

$38M Talent + **$1M** Office Rent = **$38.9M** Total

Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

AVERAGE APARTMENT RENT (2022)

$984 Per unit/month

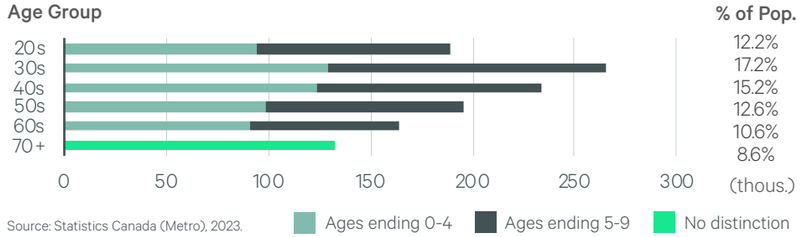
18.4% 5-year growth

15.2% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

POPULATION TRENDS (2021)

20-somethings declined by 21,647 (-10.3%) and 30-somethings grew by 16,736 (6.7%) since 2016.



Source: Statistics Canada (Metro), 2023.

22 Philadelphia

Score: 48.23

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	108,630	6.6%	$105,151	16.7%
Software Developers & Programmers	41,330	8.4%	$89,219	1.2%
Computer Support, Database & Systems	48,390	2.6%	$106,074	24.8%
Computer & Information Systems Managers	10,890	39.3%	$176,520	9.6%
Technology Engineering-Related	8,020	-8.8%	$84,784	16.1%
Total Non-Tech Occupations	326,120	-12.5%	$59,299	14.3%
Sales	25,850	-21.0%	$93,575	11.6%
Administrative & Office Support	214,480	-15.1%	$46,389	17.5%
Business Operations & Finance	62,400	-0.2%	$85,365	8.7%
Marketing	23,390	-5.7%	$70,253	6.4%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

39.8%	11.7%	9.2%	7.6%	5.1%
Core High-Tech*	Manufacturing***	Prof'l Services***	FIRE**	Education

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

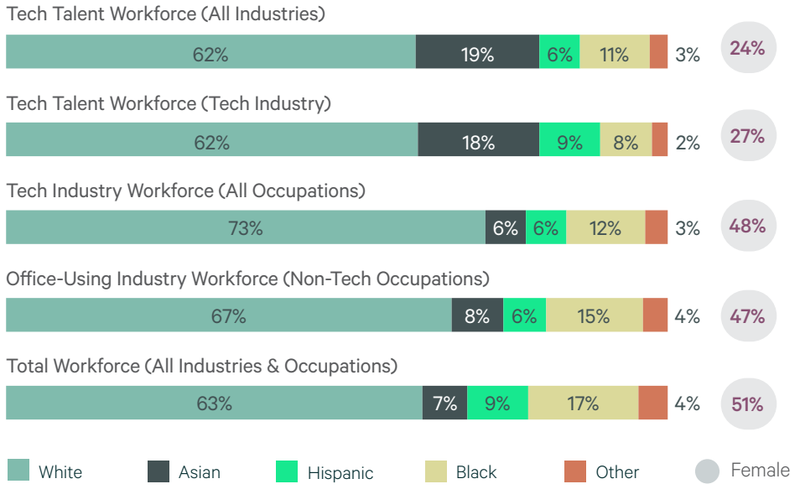
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Philadelphia: 40.5%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

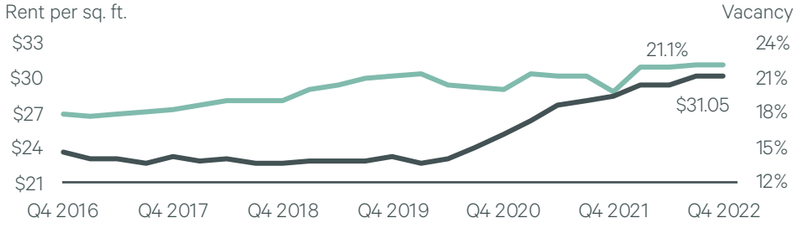
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	3,757	54%	71%	29%
Math/Statistics	815	-5%	61%	39%
Other Tech Engineering	1,606	-7%	78%	22%
Totals	6,178	23%	72%	28%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	3,757	55%	23%	8%	11%	4%
Math/Statistics	815	68%	17%	7%	5%	4%
Other Tech Engineering	1,606	67%	16%	7%	6%	4%
Totals	6,178	58%	20%	7%	8%	7%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#12		$50M	+	$2M	=	$52M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

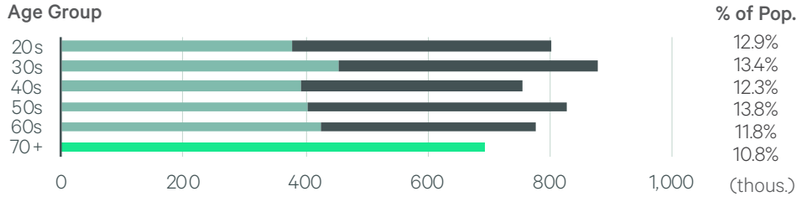
AVERAGE APARTMENT RENT (2022)

$1,801	26.4%	20.6%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 49,487 (-5.8%) and 30-somethings grew by 83,622 (10.5%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

23 Chicago

Score: 47.92

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	166,140	1.5%	$102,774	13.6%
Software Developers & Programmers	67,440	29.3%	$85,615	-2.0%
Computer Support, Database & Systems	71,270	-17.0%	$103,960	18.7%
Computer & Information Systems Managers	18,960	39.1%	$165,260	16.3%
Technology Engineering-Related	8,470	-29.2%	$89,545	18.1%
Total Non-Tech Occupations	522,140	-3.1%	$59,881	18.3%
Sales	47,420	0.0%	$93,455	24.2%
Administrative & Office Support	339,540	-7.7%	$46,337	15.2%
Business Operations & Finance	91,750	4.1%	$86,468	18.8%
Marketing	43,430	21.6%	$72,940	17.8%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

36.4%	15.4%	11.4%	7.9%	5.0%
Core High-Tech*	FIRE**	Prof'l Services***	Manufacturing***	Education

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

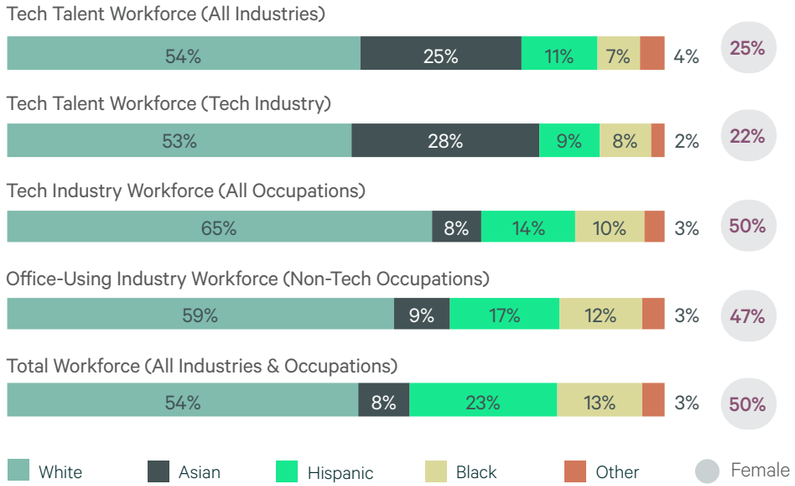
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Chicago: 45.9%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

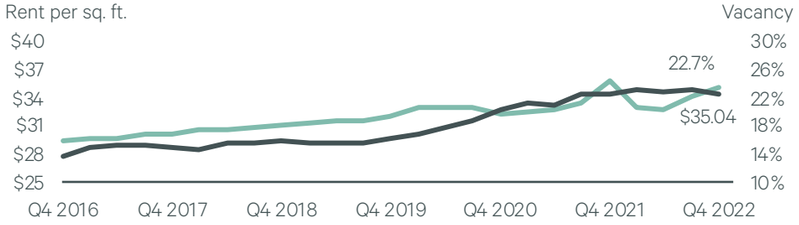
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	5,142	3%	73%	27%
Math/Statistics	1,727	25%	61%	39%
Other Tech Engineering	1,965	-17%	74%	26%
Totals	8,834	1%	71%	29%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	5,142	46%	25%	17%	8%	4%
Math/Statistics	1,727	51%	25%	15%	5%	4%
Other Tech Engineering	1,965	56%	17%	17%	6%	5%
Totals	8,834	47%	22%	16%	7%	9%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#14		$49M	+	$2M	=	$51.4M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

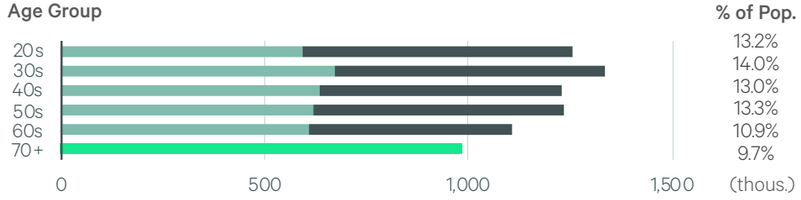
AVERAGE APARTMENT RENT (2022)

$1,787	12.5%	20.9%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 34,591 (4.4%) and 30-somethings grew by 66,451 (8.2%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

24 Portland

Score: 45.56

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	69,470	34.3%	$102,568	14.4%
Software Developers & Programmers	26,740	33.1%	$93,910	8.2%
Computer Support, Database & Systems	23,170	5.5%	$111,337	25.8%
Computer & Information Systems Managers	4,970	9.2%	$158,120	14.3%
Technology Engineering-Related	14,590	185.0%	$85,585	20.5%
Total Non-Tech Occupations	134,560	0.9%	$60,521	18.4%
Sales	11,090	-8.3%	$99,868	20.3%
Administrative & Office Support	86,650	-3.4%	$46,993	18.0%
Business Operations & Finance	24,040	13.9%	$83,328	12.9%
Marketing	12,780	21.3%	$75,200	10.2%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

47.5%	9.7%	7.4%	6.2%	5.5%
Core High-Tech*	Prof'l Services***	Health	Education	FIRE**

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

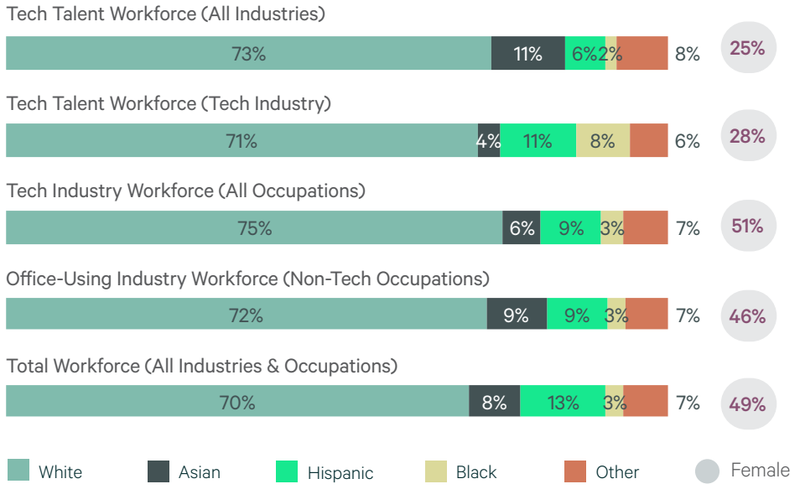
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Portland: 64.6%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

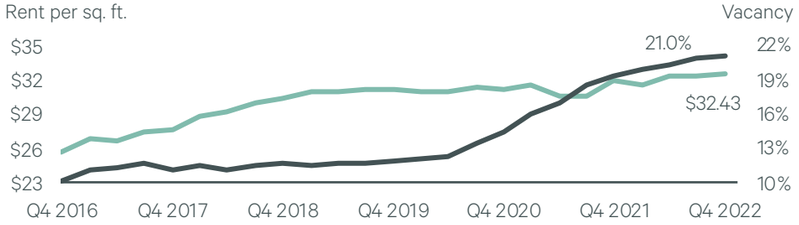
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	462	78%	78%	22%
Math/Statistics	246	-1%	59%	41%
Other Tech Engineering	391	-7%	84%	16%
Totals	1,099	18%	76%	24%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	462	65%	16%	9%	1%	9%
Math/Statistics	246	73%	10%	9%	1%	7%
Other Tech Engineering	391	67%	13%	10%	4%	6%
Totals	1,099	65%	13%	9%	2%	11%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#19		$48M	+	$2M	=	$50.1M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

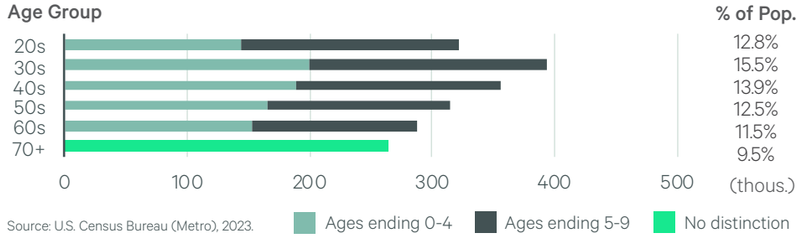
AVERAGE APARTMENT RENT (2022)

$1,759	26.3%	20.6%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 5,447 (-1.7%) and 30-somethings grew by 18,363 (4.9%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

25 Madison

Score: 44.69

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	23,530	45.2%	$91,403	19.7%
Software Developers & Programmers	9,850	364.6%	$80,951	16.1%
Computer Support, Database & Systems	10,750	-6.1%	$95,225	29.5%
Computer & Information Systems Managers	1,390	-4.8%	$148,870	23.9%
Technology Engineering-Related	1,540	31.6%	$79,699	18.5%
Total Non-Tech Occupations	50,410	0.4%	$56,647	17.4%
Sales	5,360	54.9%	$80,825	5.8%
Administrative & Office Support	30,990	-6.6%	$44,147	14.0%
Business Operations & Finance	9,570	5.4%	$79,255	18.3%
Marketing	4,490	0.2%	$65,870	9.5%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

56.6%	11.0%	8.5%	5.9%	5.1%
Core High-Tech*	FIRE**	Government	Prof'l Services***	Information***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

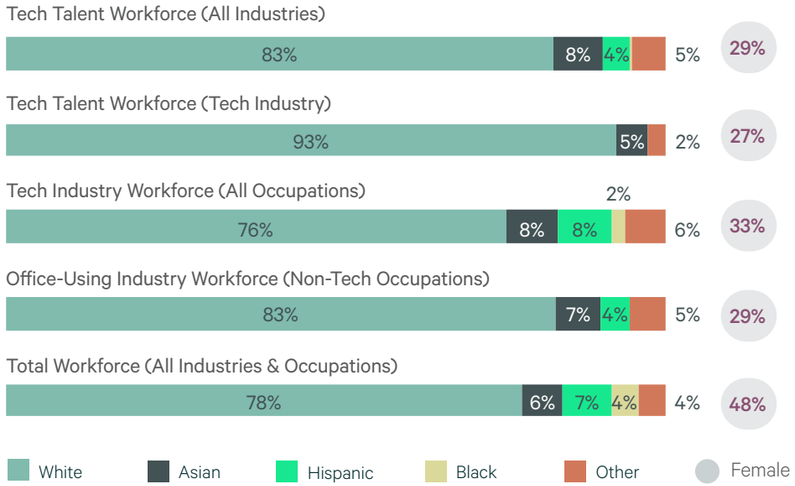
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Madison: 64.4%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

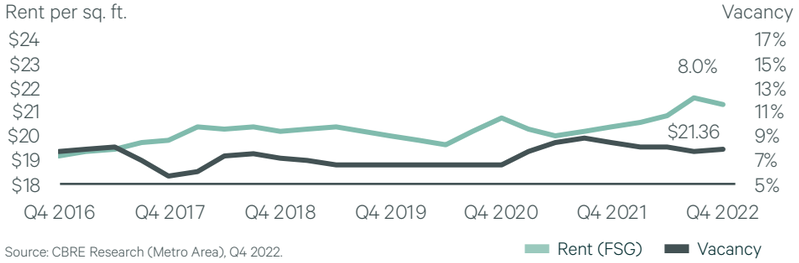
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	1,025	67%	79%	21%
Math/Statistics	566	66%	66%	34%
Other Tech Engineering	832	-1%	78%	22%
Totals	2,423	35%	76%	24%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	1,025	73%	15%	5%	2%	5%
Math/Statistics	566	76%	15%	4%	0%	4%
Other Tech Engineering	832	83%	6%	6%	2%	3%
Totals	2,423	75%	11%	5%	2%	7%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#37		$45M	+	$1M	=	$45.9M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022.

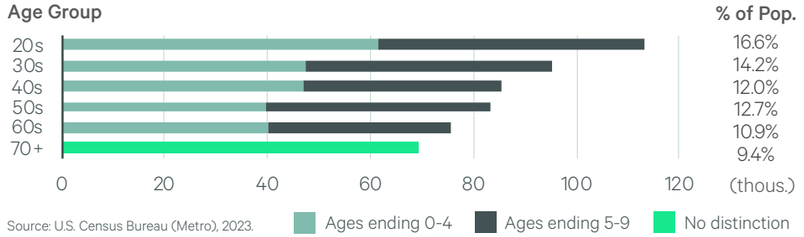
AVERAGE APARTMENT RENT (2022)

$1,354	12.0%	17.8%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 34,591 (4.4%) and 30-somethings grew by 66,451 (8.2%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

26 Minneapolis/St. Paul

Score: 43.96

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	94,650	3.8%	$101,288	15.0%
Software Developers & Programmers	42,080	51.8%	$91,063	7.2%
Computer Support, Database & Systems	39,390	-18.1%	$103,257	24.2%
Computer & Information Systems Managers	7,520	-6.0%	$161,450	10.2%
Technology Engineering-Related	5,660	-23.7%	$83,664	11.4%
Total Non-Tech Occupations	232,060	-3.1%	$62,703	15.2%
Sales	22,290	-14.0%	$91,100	1.6%
Administrative & Office Support	136,250	-8.1%	$47,191	15.8%
Business Operations & Finance	46,370	4.9%	$86,882	14.2%
Marketing	27,150	28.6%	$75,937	17.7%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

33.0% Core High-Tech*

14.4% FIRE**

10.0% Manufacturing***

7.0% Prof'l Services***

5.6% Health

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

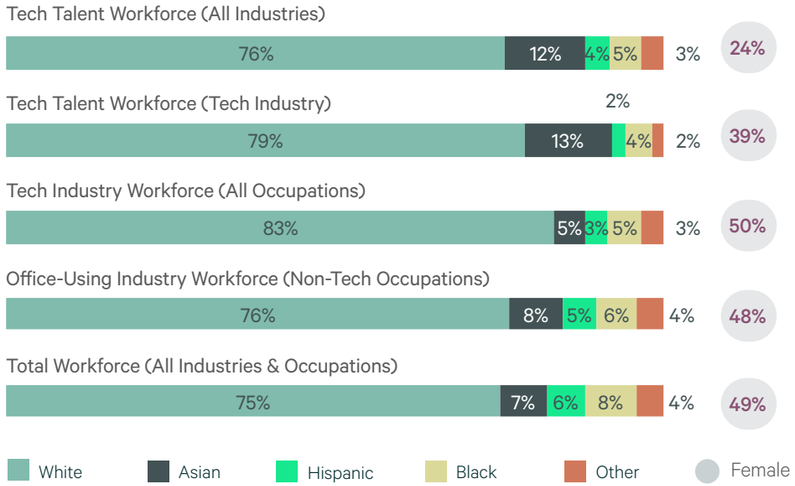
54.7% Inland Empire

53.3% Raleigh-Durham

Minneapolis/St. Paul: 44.5%

*% of total software engineers across all industries; Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

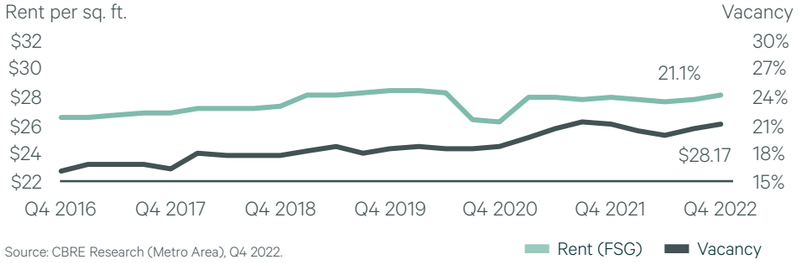
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	2,384	18%	73%	27%
Math/Statistics	585	-6%	59%	41%
Other Tech Engineering	976	-6%	78%	22%
Totals	3,945	7%	72%	28%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	2,384	57%	17%	5%	16%	4%
Math/Statistics	585	79%	10%	4%	2%	5%
Other Tech Engineering	976	81%	7%	5%	3%	3%
Totals	3,945	63%	13%	5%	11%	9%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#16 Rank | $49M Talent + $2M Office Rent = $50.8M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,505 Per unit/month

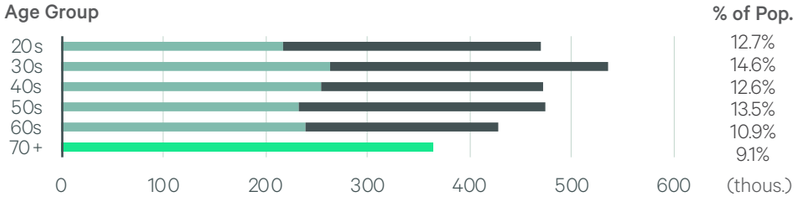
12.0% 5-year growth

17.8% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 5,747 (-1.2%) and 30-somethings grew by 24,426 (4.8%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

27 Detroit

Score: 43.58

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	97,520	10.0%	$94,916	22.4%
Software Developers & Programmers	38,890	22.0%	$82,474	5.8%
Computer Support, Database & Systems	36,280	-15.9%	$96,889	25.9%
Computer & Information Systems Managers	8,710	248.4%	$157,305	14.9%
Technology Engineering-Related	13,640	7.0%	$85,301	24.2%
Total Non-Tech Occupations	225,640	-10.9%	$60,524	22.4%
Sales	20,400	-15.0%	$119,831	48.4%
Administrative & Office Support	144,740	-17.5%	$44,778	14.9%
Business Operations & Finance	42,010	18.1%	$81,345	11.3%
Marketing	18,490	1.6%	$71,050	13.4%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

30.4% Core High-Tech*

18.4% Manufacturing***

12.8% FIRE**

9.7% Prof'l Services***

5.8% Health

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

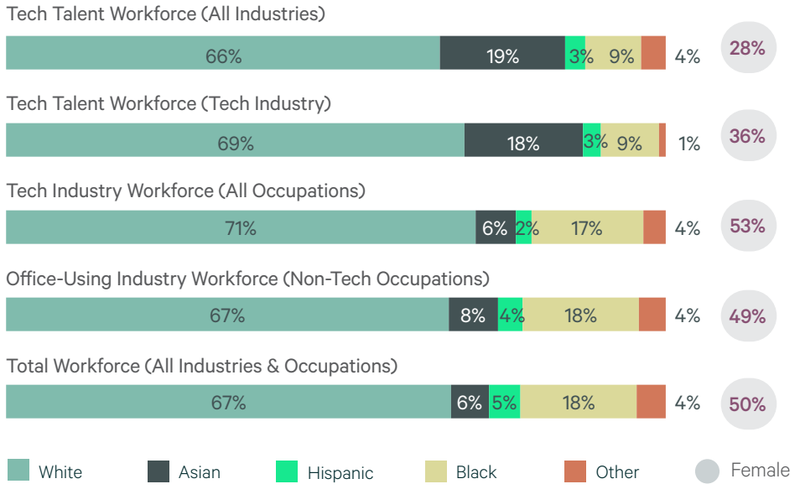
54.7% Inland Empire

53.3% Raleigh-Durham

Detroit: 35.4%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

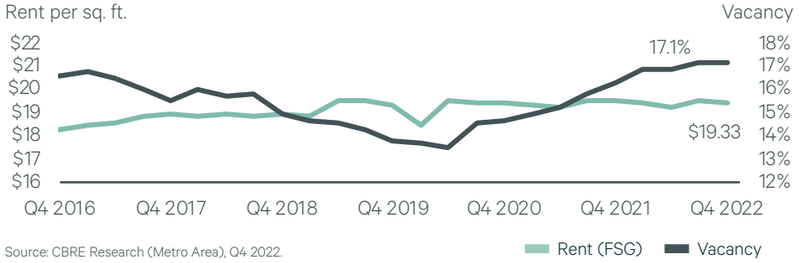
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	3,062	57%	70%	30%
Math/Statistics	566	0%	60%	40%
Other Tech Engineering	3,148	-2%	77%	23%
Totals	6,776	19%	73%	27%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	3,062	61%	26%	5%	5%	3%
Math/Statistics	566	66%	21%	5%	4%	3%
Other Tech Engineering	3,148	71%	15%	6%	4%	4%
Totals	6,776	63%	19%	5%	4%	9%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#28 Rank

$46M Talent + $1M Office Rent = $47M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,295 Per unit/month

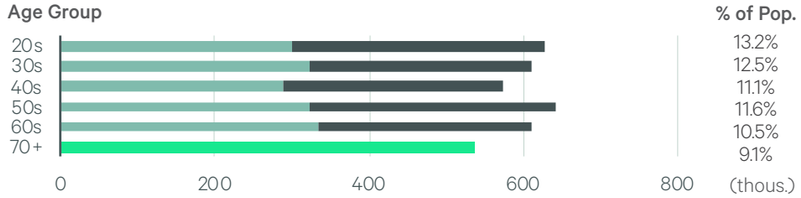
26.5% 5-year growth

16.4% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 17,130 (-2.7%) and 30-somethings grew by 51,434 (9.2%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

28 Orlando

Score: 41.93

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	47,840	25.6%	$97,783	23.9%
Software Developers & Programmers	17,290	37.8%	$83,496	4.0%
Computer Support, Database & Systems	22,230	13.9%	$103,363	39.5%
Computer & Information Systems Managers	3,550	34.5%	$159,420	21.0%
Technology Engineering-Related	4,770	41.1%	$77,699	14.5%
Total Non-Tech Occupations	156,780	0.0%	$53,979	20.6%
Sales	17,230	2.0%	$91,688	23.2%
Administrative & Office Support	100,340	-5.9%	$40,975	18.3%
Business Operations & Finance	27,100	18.0%	$73,812	13.4%
Marketing	12,110	16.6%	$63,690	8.9%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

38.0% Core High-Tech*

10.6% Prof'l Services***

7.3% Manufacturing***

6.7% FIRE**

5.8% Government

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

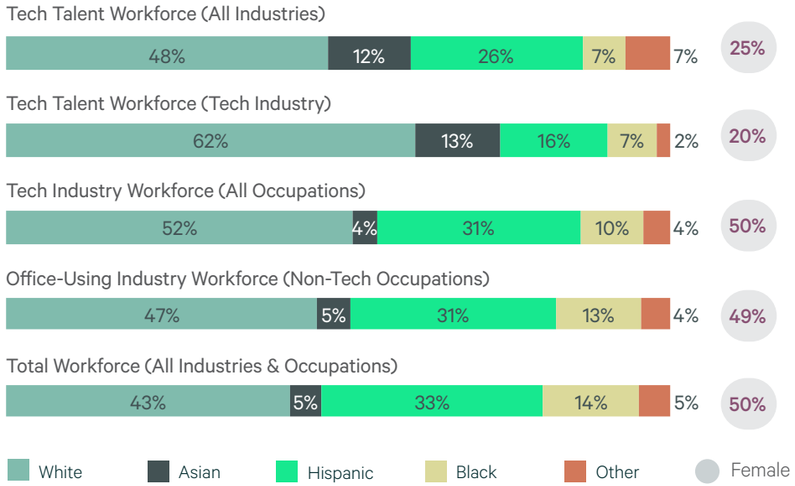
54.7% Inland Empire

53.3% Raleigh-Durham

Orlando: 43.4%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

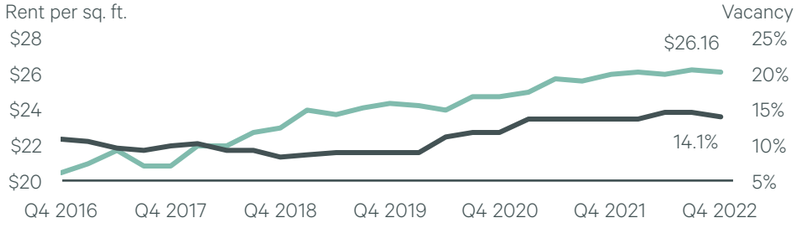
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	1,402	18%	81%	19%
Math/Statistics	158	28%	58%	42%
Other Tech Engineering	1,645	23%	82%	18%
Totals	3,205	21%	80%	20%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	1,402	51%	12%	24%	8%	5%
Math/Statistics	158	52%	11%	25%	5%	6%
Other Tech Engineering	1,645	55%	8%	25%	7%	5%
Totals	3,205	52%	10%	24%	7%	7%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#26 Rank

$46M Talent + $2M Office Rent = $47.4M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,809 Per unit/month

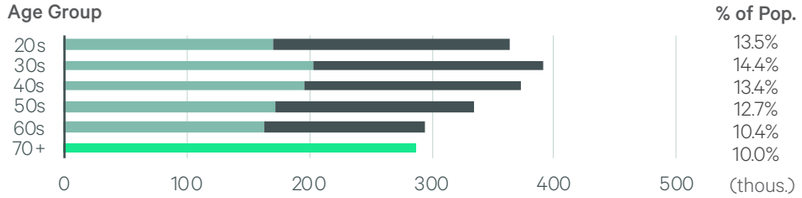
41.0% 5-year growth

22.2% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 3,265 (-0.9%) and 30-somethings grew by 39,067 (11.1%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

29 Charlotte

Score: 40.61

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	65,520	20.9%	$103,383	18.2%
Software Developers & Programmers	26,780	59.4%	$91,250	1.7%
Computer Support, Database & Systems	28,490	-2.4%	$105,488	33.0%
Computer & Information Systems Managers	6,000	16.1%	$166,300	14.9%
Technology Engineering-Related	4,250	40.3%	$76,896	11.0%
Total Non-Tech Occupations	150,830	-2.6%	$58,011	16.3%
Sales	14,260	-12.5%	$88,360	15.4%
Administrative & Office Support	90,270	-9.1%	$42,649	13.9%
Business Operations & Finance	34,120	23.0%	$80,368	6.1%
Marketing	12,180	6.0%	$73,703	22.7%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

28.3% FIRE**

24.2% Core High-Tech*

8.9% Prof'l Services***

5.6% Manufacturing***

5.3% Health

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

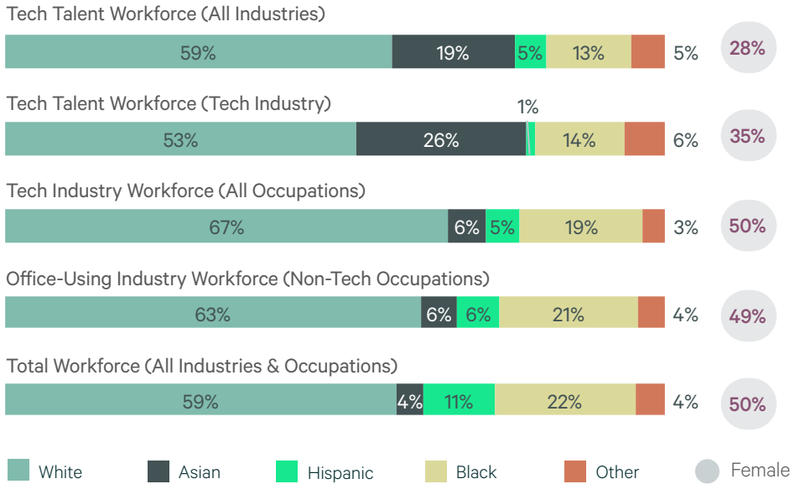
54.7% Inland Empire

53.3% Raleigh-Durham

Charlotte: 37.7%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

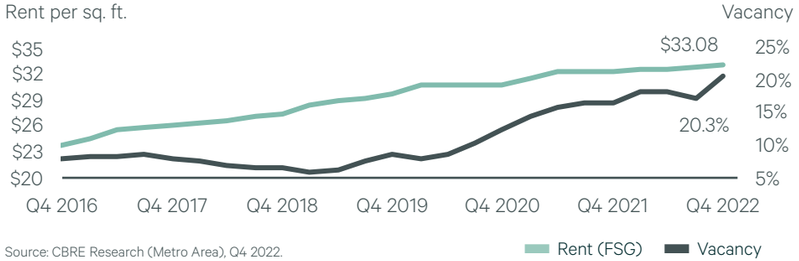
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	1,245	80%	75%	25%
Math/Statistics	203	-9%	64%	36%
Other Tech Engineering	448	-3%	86%	14%
Totals	1,896	37%	76%	24%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	1,245	56%	16%	9%	14%	6%
Math/Statistics	203	67%	12%	8%	10%	3%
Other Tech Engineering	448	76%	6%	8%	6%	4%
Totals	1,896	60%	12%	8%	11%	7%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#17 Rank

$49M Talent + $2M Office Rent = $50.8M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,591 Per unit/month

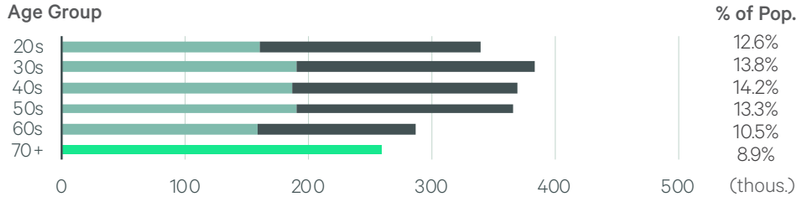
40.9% 5-year growth

18.5% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 17,482 (5.4%) and 30-somethings grew by 47,756 (14.2%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

30 Pittsburgh

Score: 40.09

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	41,680	-6.0%	$94,126	20.7%
Software Developers & Programmers	15,100	14.8%	$76,900	0.5%
Computer Support, Database & Systems	19,180	-16.8%	$98,754	31.9%
Computer & Information Systems Managers	3,790	21.1%	$151,350	8.9%
Technology Engineering-Related	3,610	-27.7%	$81,510	26.1%
Total Non-Tech Occupations	123,050	-16.4%	$52,475	17.7%
Sales	9,070	-8.8%	$83,415	19.2%
Administrative & Office Support	83,690	-21.3%	$42,491	17.0%
Business Operations & Finance	22,330	0.2%	$73,912	7.4%
Marketing	7,960	-8.1%	$62,057	9.3%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

33.7% Core High-Tech*

18.4% FIRE**

9.6% Health

8.6% Prof'l Services***

7.1% Education

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

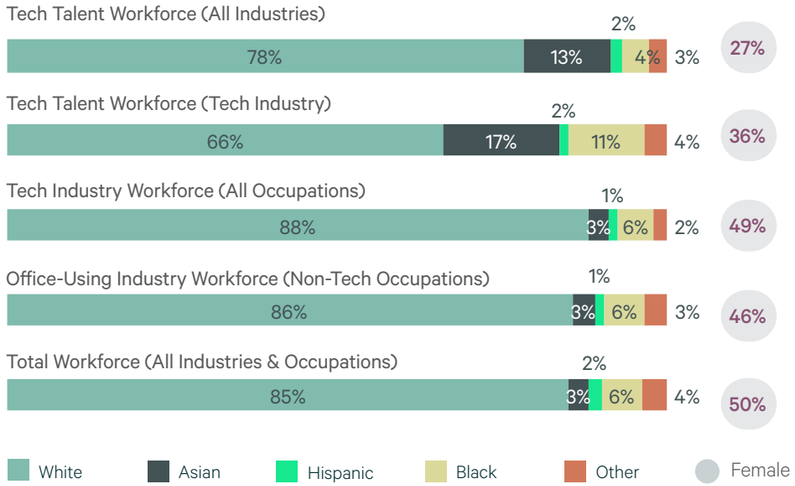
54.7% Inland Empire

53.3% Raleigh-Durham

Pittsburgh: 44.7%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

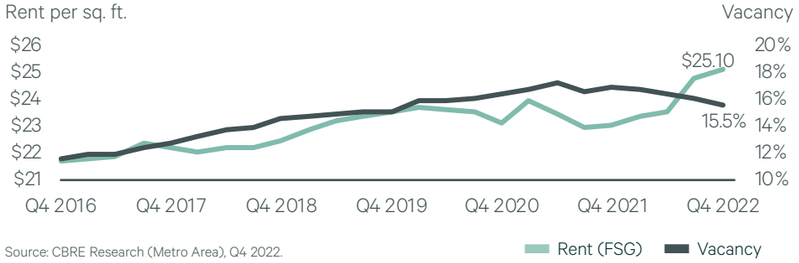
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	2,854	24%	66%	34%
Math/Statistics	704	38%	54%	46%
Other Tech Engineering	1,810	9%	73%	27%
Totals	5,368	20%	67%	33%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	2,854	66%	23%	4%	4%	3%
Math/Statistics	704	63%	28%	4%	2%	3%
Other Tech Engineering	1,810	62%	19%	7%	7%	5%
Totals	5,368	61%	21%	5%	4%	9%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#33 Rank

$45M Talent + $2M Office Rent = $46.3M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,456 Per unit/month

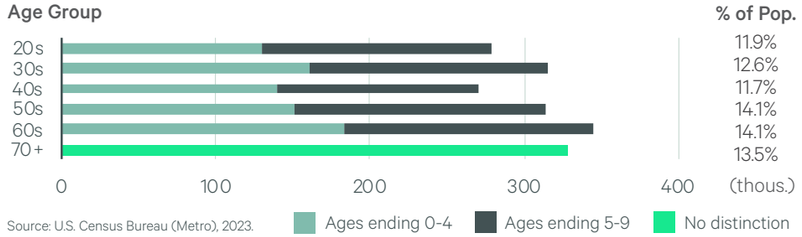
21.3% 5-year growth

18.6% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 22,625 (-7.5%) and 30-somethings grew by 29,307 (10.3%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

31 South Florida

Score: 39.87

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	77,700	24.1%	$97,376	29.6%
Software Developers & Programmers	29,130	50.4%	$87,765	12.9%
Computer Support, Database & Systems	37,000	5.9%	$96,762	40.8%
Computer & Information Systems Managers	6,710	51.5%	$155,255	20.5%
Technology Engineering-Related	4,860	25.9%	$79,740	18.0%
Total Non-Tech Occupations	375,500	4.4%	$53,542	20.3%
Sales	38,210	14.3%	$83,466	11.8%
Administrative & Office Support	247,530	-4.4%	$42,033	16.1%
Business Operations & Finance	59,980	25.1%	$75,562	17.7%
Marketing	29,780	53.8%	$66,460	19.2%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

35.0%	12.7%	7.4%	6.1%	6.1%
Core High-Tech*	FIRE**	Prof'l Services***	Education	Government

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

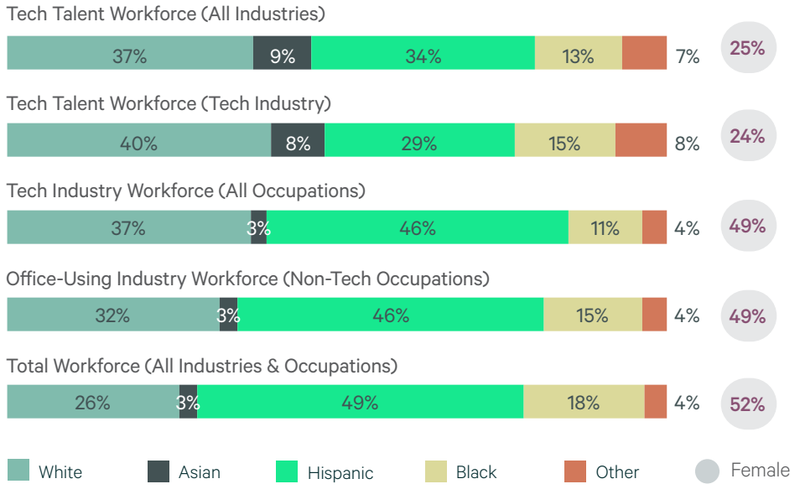
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

South Florida: 45.1%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

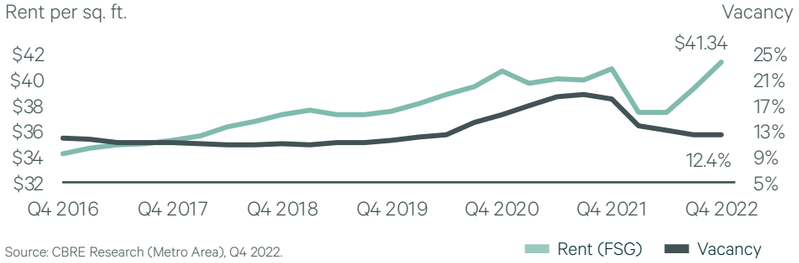
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	2,190	33%	78%	22%
Math/Statistics	226	45%	61%	39%
Other Tech Engineering	864	21%	86%	14%
Totals	3,280	30%	79%	21%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	2,190	19%	7%	55%	16%	2%
Math/Statistics	226	35%	5%	46%	11%	3%
Other Tech Engineering	864	29%	5%	51%	12%	2%
Totals	3,280	22%	6%	53%	15%	4%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#25		$46M	+	$2M	=	$48.2M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

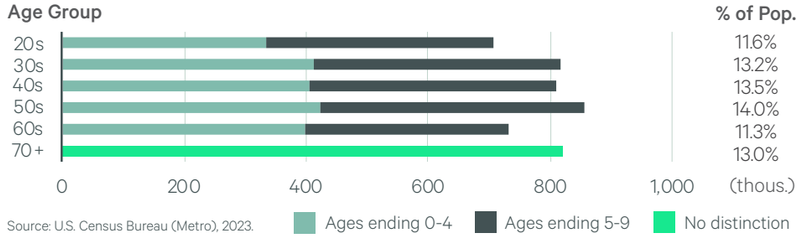
AVERAGE APARTMENT RENT (2022)

$2,429	39.3%	29.9%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 76,925 (-9.8%) and 30-somethings grew by 14,111 (1.8%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

32 St. Louis

Score: 39.22

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	57,070	7.1%	$93,124	11.7%
Software Developers & Programmers	20,780	33.3%	$79,400	-4.3%
Computer Support, Database & Systems	27,120	-10.6%	$96,593	20.8%
Computer & Information Systems Managers	4,400	38.8%	$148,890	6.4%
Technology Engineering-Related	4,770	12.8%	$81,744	13.5%
Total Non-Tech Occupations	147,760	-13.2%	$55,266	16.6%
Sales	10,030	-39.1%	$83,915	16.6%
Administrative & Office Support	96,780	-17.0%	$43,581	19.4%
Business Operations & Finance	28,910	6.5%	$78,770	4.8%
Marketing	12,040	18.9%	$68,890	10.8%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

33.5%	17.1%	10.5%	8.0%	5.9%
Core High-Tech*	FIRE**	Manufacturing***	Government	Information***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

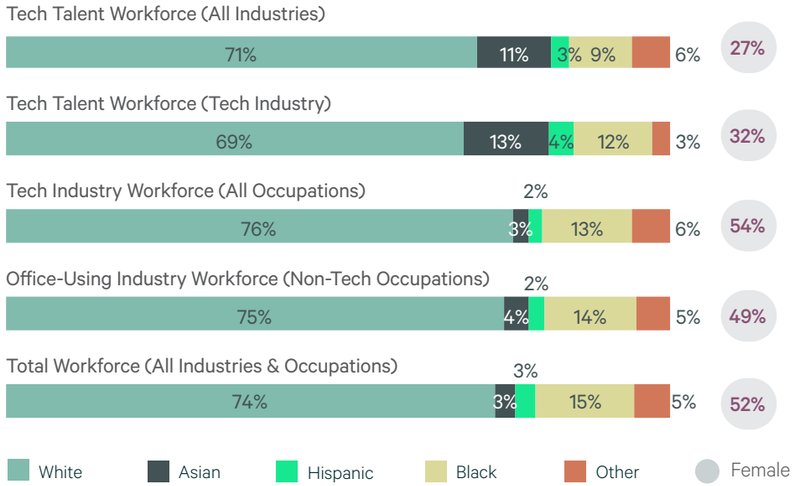
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area	76.4% Seattle	65.1% Austin	64.6% Portland	64.4% Madison
56.1% Atlanta	56.1% Boston	55.2% Hartford	54.7% Inland Empire	53.3% Raleigh-Durham

St. Louis: 44.4%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

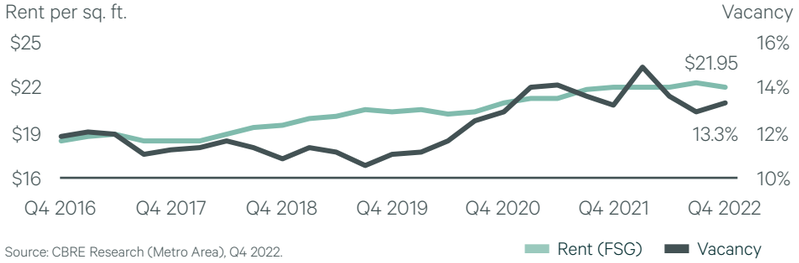
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	1,154	23%	75%	25%
Math/Statistics	388	39%	57%	43%
Other Tech Engineering	783	0%	78%	22%
Totals	2,325	16%	73%	27%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	1,154	67%	14%	6%	10%	4%
Math/Statistics	388	69%	13%	7%	7%	4%
Other Tech Engineering	783	74%	8%	9%	5%	4%
Totals	2,325	67%	11%	7%	7%	8%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#35	$45M	+	$1M	=	$46.1M
Rank	Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

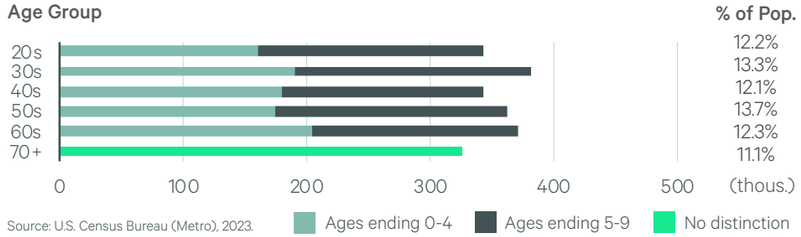
AVERAGE APARTMENT RENT (2022)

$1,221	26.1%	15.7%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 22,856 (-6.3%) and 30-somethings grew by 10,386 (2.8%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

33 Tampa

Score: 38.66

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	55,970	23.4%	$96,244	21.5%
Software Developers & Programmers	19,370	38.6%	$80,104	2.7%
Computer Support, Database & Systems	27,750	7.4%	$101,541	33.6%
Computer & Information Systems Managers	4,100	53.6%	$158,780	18.3%
Technology Engineering-Related	4,750	64.9%	$77,136	10.3%
Total Non-Tech Occupations	189,640	-3.4%	$53,333	18.7%
Sales	19,640	1.6%	$84,043	10.1%
Administrative & Office Support	124,790	-10.9%	$41,273	16.6%
Business Operations & Finance	32,230	15.7%	$76,782	14.5%
Marketing	12,980	44.4%	$64,587	8.3%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

37.3%	16.6%	9.4%	5.9%	5.3%
Core High-Tech*	FIRE**	Prof'l Services***	Health	Government

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

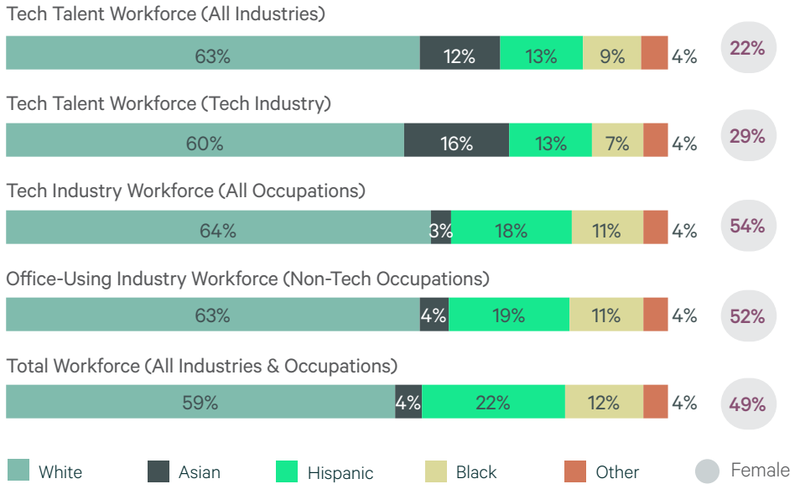
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	56.1%	55.2%	54.7%	53.3%
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Tampa: 46.2%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

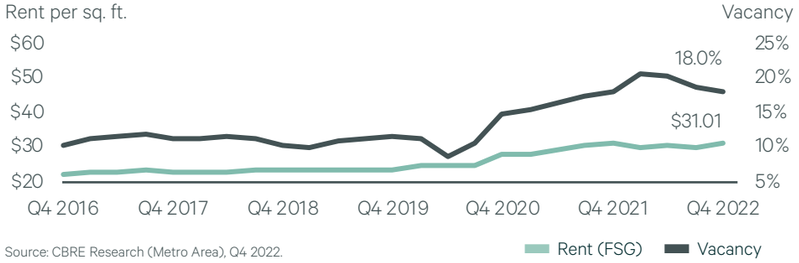
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	1,156	26%	75%	25%
Math/Statistics	124	-7%	57%	43%
Other Tech Engineering	514	-12%	83%	17%
Totals	1,794	10%	76%	24%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	1,156	54%	10%	19%	13%	4%
Math/Statistics	124	65%	10%	15%	2%	8%
Other Tech Engineering	514	64%	8%	21%	5%	3%
Totals	1,794	53%	9%	18%	10%	11%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#27		$45M	+	$2M	=	$47.1M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

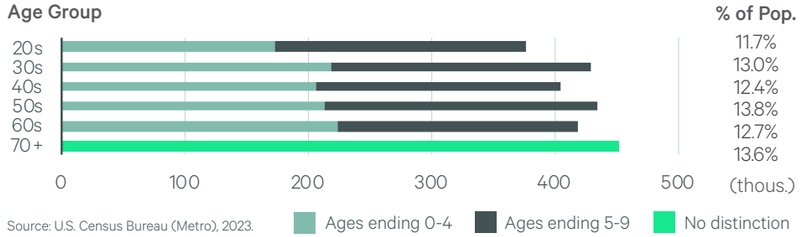
AVERAGE APARTMENT RENT (2022)

$1,828	49.5%	22.8%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 839 (0.2%) and 30-somethings grew by 51,275 (13.5%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

34 Kansas City

Score: 38.39

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	50,470	-4.4%	$90,032	11.8%
Software Developers & Programmers	19,090	26.0%	$73,133	-6.0%
Computer Support, Database & Systems	23,130	-17.5%	$96,149	23.7%
Computer & Information Systems Managers	3,880	-1.5%	$146,530	13.8%
Technology Engineering-Related	4,370	-23.1%	$81,316	14.3%
Total Non-Tech Occupations	124,690	-9.3%	$56,749	19.1%
Sales	12,900	3.9%	$91,578	23.9%
Administrative & Office Support	76,640	-17.0%	$43,788	17.1%
Business Operations & Finance	23,950	4.1%	$75,267	6.8%
Marketing	11,200	15.6%	$65,723	9.6%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

38.6% Core High-Tech*

14.0% FIRE**

9.3% Prof'l Services***

7.9% Manufacturing***

7.1% Government

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

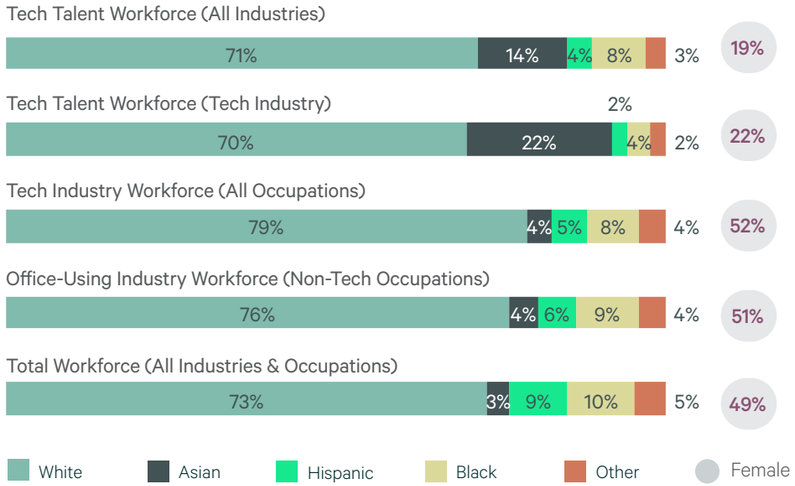
54.7% Inland Empire

53.3% Raleigh-Durham

Kansas City: 46.9%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

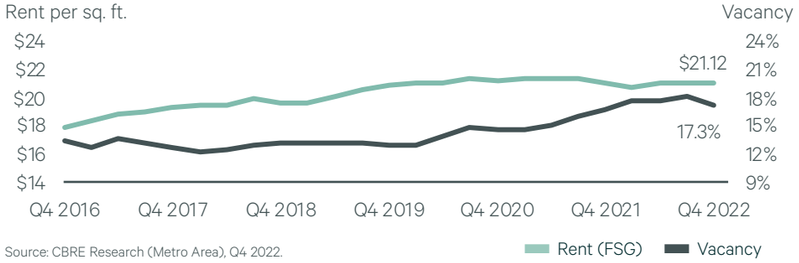
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	648	6%	77%	23%
Math/Statistics	49	11%	65%	35%
Other Tech Engineering	125	-57%	83%	17%
Totals	822	-13%	77%	23%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	648	55%	15%	11%	12%	7%
Math/Statistics	49	64%	13%	11%	7%	4%
Other Tech Engineering	125	67%	14%	9%	9%	2%
Totals	822	52%	14%	10%	10%	15%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#39 Rank | $44M Talent + $1M Office Rent = $45.3M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,164 Per unit/month

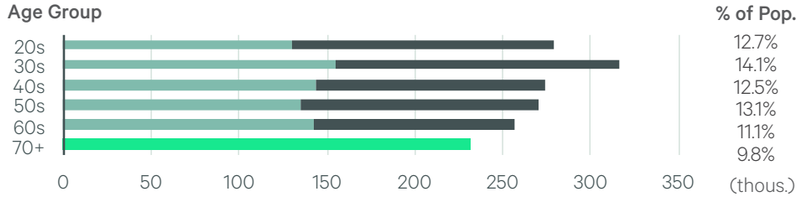
17.4% 5-year growth

15.5% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 10,354 (3.8%) and 30-somethings grew by 23,311 (8.0%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

35 Quebec City

Score: 37.98

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	36,400	34.3%	$89,190	22.2%
Software Developers & Programmers	10,200	34.2%	$90,813	37.1%
Computer Support, Database & Systems	18,500	42.3%	$87,194	15.0%
Computer & Information Systems Managers	1,400	0.0%	--	--
Technology Engineering-Related	6,300	23.5%	$82,742	35.6%
Total Non-Tech Occupations	61,100	5.2%	$64,418	10.9%
Sales	5,000	-44.4%	$71,718	9.9%
Administrative & Office Support	24,800	9.7%	$53,290	20.5%
Business Operations & Finance	22,900	18.7%	$71,115	8.0%
Marketing	8,400	16.7%	$74,755	4.1%

*2022; ** 2017-2022; Source: Statistics Canada (Metro Area), April 2023. Data in C$.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

29.4% Core High-Tech*

22.8% Government

19.2% FIRE**

16.2% Other

8.0% Prof'l Services***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: Statistics Canada and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

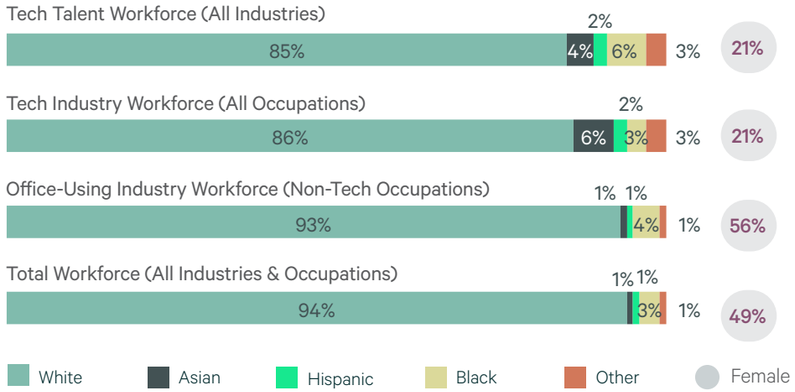
54.7% Inland Empire

53.3% Raleigh-Durham

Quebec City: 31.3%

*% of total software engineers across all industries;
Source: Statistics Canada and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2022)



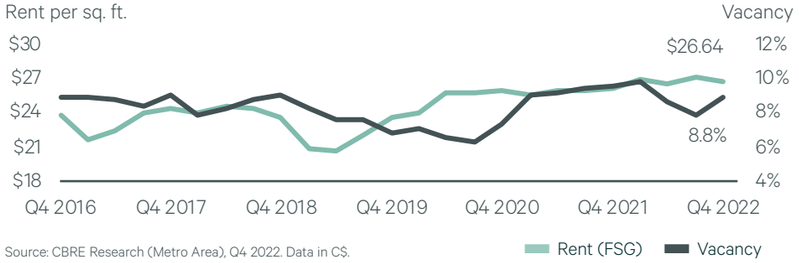
Source: Statistics Canada Census (Metro Area), Q4 2022.

TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	198	19%	90%	10%
Math/Statistics	37	-18%	51%	49%
Other Tech Engineering	197	-22%	83%	17%
Totals	432	-7%	83%	17%

Note: Canadian Ministries of Education do not provide degree completions by ethnic diversity.
Source: Various Canadian Ministries of Education (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022. Data in C$.

ANNUAL OPERATING COSTS (2022)

#50 Rank | $32M Talent + $1M Office Rent = $32.7M Total

Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

AVERAGE APARTMENT RENT (2022)

$698 Per unit/month

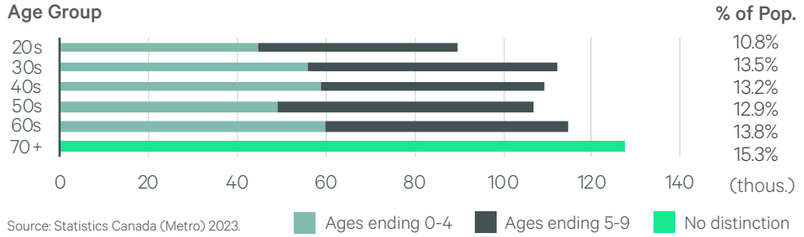
19.4% 5-year growth

12.7% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

POPULATION TRENDS (2021)

20-somethings declined by 17,265 (-16.2%) and 30-somethings grew by 0,468 (0.4%) since 2016.



Source: Statistics Canada (Metro) 2023.

36 Houston

Score: 37.92

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	105,840	11.6%	$103,099	13.7%
Software Developers & Programmers	33,850	28.1%	$85,545	-0.2%
Computer Support, Database & Systems	49,790	-1.8%	$107,368	20.1%
Computer & Information Systems Managers	10,390	88.2%	$160,250	-1.8%
Technology Engineering-Related	11,810	-3.0%	$85,133	7.0%
Total Non-Tech Occupations	326,210	3.7%	$55,199	0.7%
Sales	30,940	-21.0%	$88,698	6.8%
Administrative & Office Support	218,610	13.6%	$41,951	8.4%
Business Operations & Finance	59,390	-11.0%	$83,773	1.3%
Marketing	17,270	7.1%	$64,623	-2.8%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

34.9% Core High-Tech*

12.4% FIRE**

8.2% Manufacturing***

7.8% Prof'l Services***

5.4% Transportation, Warehousing & Trade

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

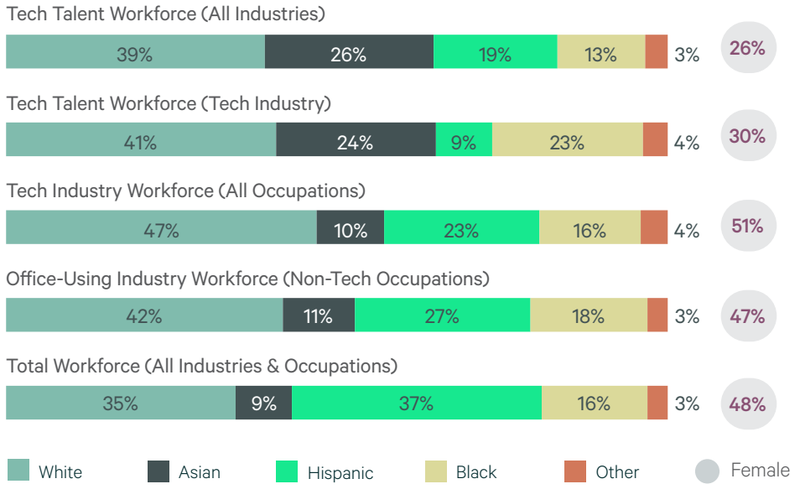
54.7% Inland Empire

53.3% Raleigh-Durham

Houston: 45.5%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

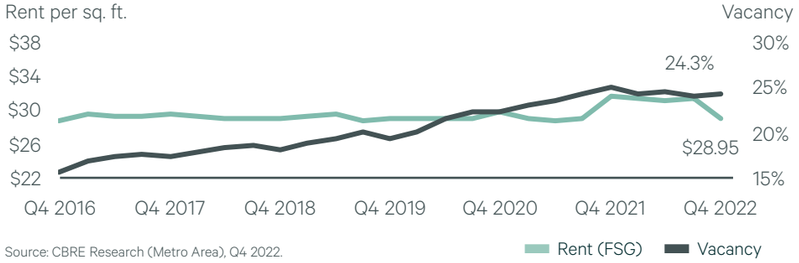
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	1,575	16%	74%	26%
Math/Statistics	477	17%	59%	41%
Other Tech Engineering	905	-3%	80%	20%
Totals	2,957	10%	74%	26%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	1,575	24%	33%	25%	14%	5%
Math/Statistics	477	37%	21%	32%	6%	4%
Other Tech Engineering	905	27%	22%	28%	19%	4%
Totals	2,957	26%	26%	26%	14%	8%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#23 Rank | $47M Talent + $2M Office Rent = $49.1M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,285 Per unit/month

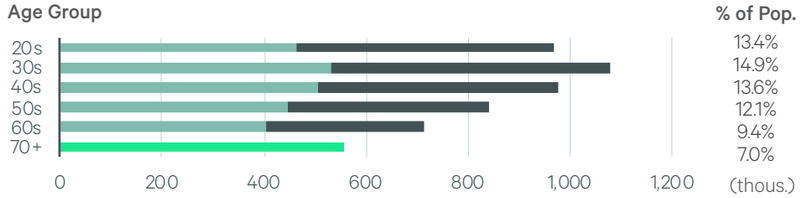
11.1% 5-year growth

15.0% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 7,564 (0.8%) and 30-somethings grew by 84,945 (8.5%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

37 Columbus

Score: 37.87

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	51,650	4.8%	$95,727	12.4%
Software Developers & Programmers	19,930	25.2%	$87,266	10.7%
Computer Support, Database & Systems	24,830	-6.1%	$97,454	18.3%
Computer & Information Systems Managers	3,580	-13.7%	$150,485	2.1%
Technology Engineering-Related	3,310	19.1%	$74,494	12.4%
Total Non-Tech Occupations	137,030	4.8%	$52,034	7.8%
Sales	10,640	-18.8%	$81,696	15.3%
Administrative & Office Support	89,340	4.3%	$39,995	5.3%
Business Operations & Finance	26,760	15.5%	$74,065	5.9%
Marketing	10,290	16.9%	$68,600	11.9%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

31.1%	21.8%	7.6%	7.3%	4.4%
Core High-Tech*	FIRE**	Government	Health	Manufacturing***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

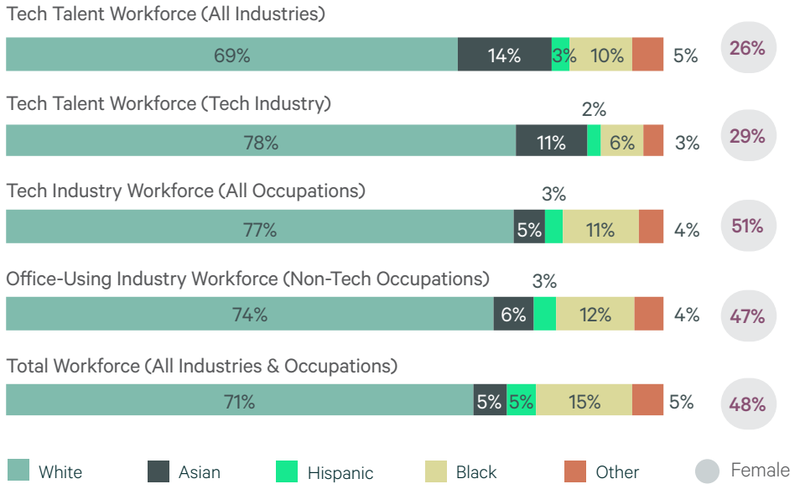
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Columbus: 40.4%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

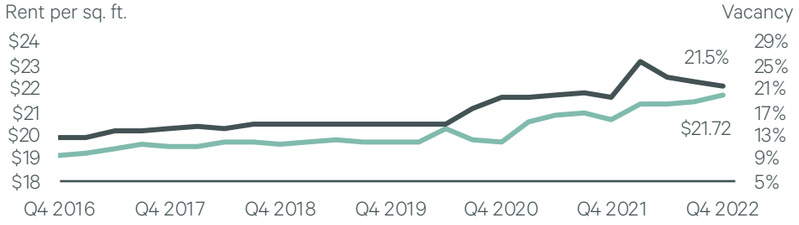
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	857	25%	82%	18%
Math/Statistics	524	92%	62%	38%
Other Tech Engineering	1,167	-7%	79%	21%
Totals	2,548	15%	76%	24%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	857	67%	19%	4%	6%	5%
Math/Statistics	524	75%	10%	8%	3%	4%
Other Tech Engineering	1,167	79%	8%	6%	4%	3%
Totals	2,548	69%	11%	5%	4%	10%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#38		$44M	+	$1M	=	$45.6M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

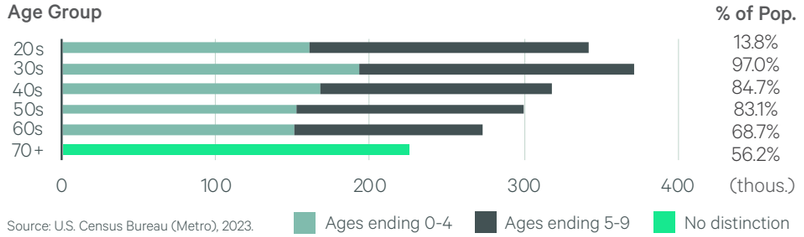
AVERAGE APARTMENT RENT (2022)

$1,194	19.4%	15.0%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 9,603 (-2.7%) and 30-somethings grew by 34,833 (10.4%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

38 Nashville

Score: 35.95

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	39,180	35.9%	$95,490	24.5%
Software Developers & Programmers	13,340	68.9%	$80,478	4.6%
Computer Support, Database & Systems	19,730	25.8%	$97,066	27.9%
Computer & Information Systems Managers	4,150	50.9%	$146,150	16.9%
Technology Engineering-Related	1,960	-21.9%	$74,535	12.3%
Total Non-Tech Occupations	126,360	2.7%	$51,723	10.2%
Sales	14,180	22.6%	$74,180	2.7%
Administrative & Office Support	82,600	-2.6%	$41,582	8.8%
Business Operations & Finance	23,120	14.5%	$71,195	7.5%
Marketing	6,460	0.2%	$62,410	7.1%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

32.5%	13.6%	11.4%	10.6%	6.2%
Core High-Tech*	Health	FIRE**	Prof'l Services***	Education

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

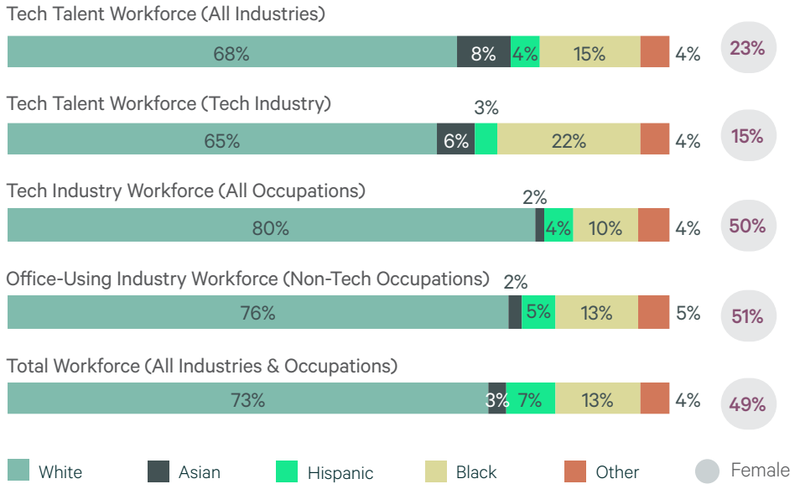
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Nashville: 50.0%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

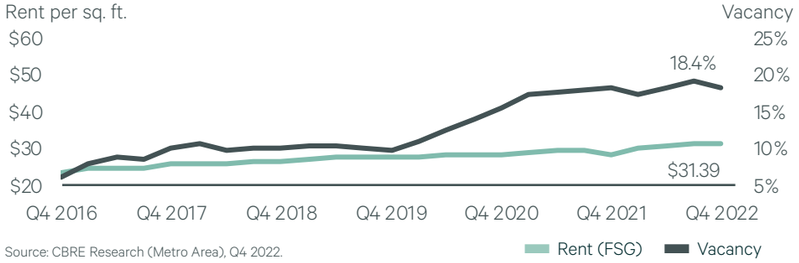
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	535	39%	74%	26%
Math/Statistics	375	48%	75%	25%
Other Tech Engineering	278	-3%	77%	23%
Totals	1,188	28%	75%	25%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	535	56%	22%	6%	10%	7%
Math/Statistics	375	65%	14%	8%	6%	7%
Other Tech Engineering	278	56%	8%	11%	18%	7%
Totals	1,188	58%	16%	8%	10%	9%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#40		$43M	+	$2M	=	$44.7M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

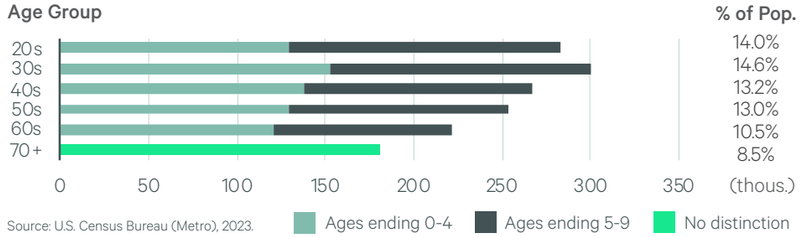
AVERAGE APARTMENT RENT (2022)

$1,641	34.2%	20.6%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 12,266 (4.5%) and 30-somethings grew by 30,268 (11.2%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

39 Edmonton

Score: 35.43

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	31,100	44.7%	$90,085	12.1%
Software Developers & Programmers	10,300	151.2%	$88,650	14.8%
Computer Support, Database & Systems	13,600	17.2%	$92,186	20.1%
Computer & Information Systems Managers	1,500	25.0%	$133,994	16.4%
Technology Engineering-Related	5,700	23.9%	$80,517	5.0%
Total Non-Tech Occupations	96,200	9.7%	$65,187	4.3%
Sales	15,200	-3.8%	$73,674	5.4%
Administrative & Office Support	46,000	17.0%	$56,264	10.6%
Business Operations & Finance	24,000	-7.7%	$75,421	5.9%
Marketing	11,000	66.7%	$68,266	-14.8%

*2022; ** 2017-2022; Source: Statistics Canada (Metro Area), April 2023. Data in C$.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

33.8% Core High-Tech*

10.6% Prof'l Services***

8.4% FIRE**

7.7% Health Care

7.7% Government

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: Statistics Canada and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

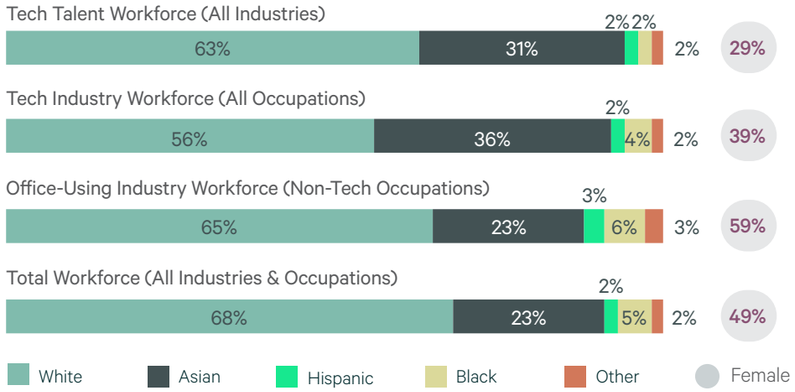
54.7% Inland Empire

53.3% Raleigh-Durham

Edmonton: 32.7%

*% of total software engineers across all industries;
Source: Statistics Canada and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2022)



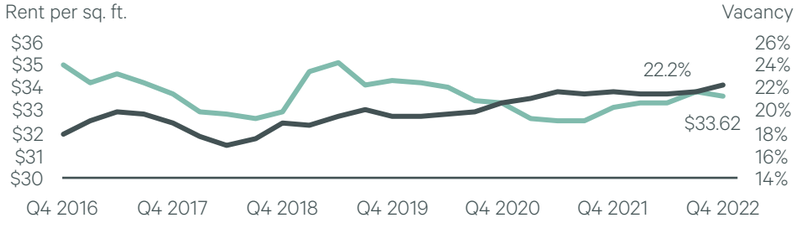
Source: Statistics Canada Census (Metro Area), Q4 2022.

TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	584	71%	75%	25%
Math/Statistics	171	8%	44%	56%
Other Tech Engineering	709	34%	78%	22%
Totals	1,464	42%	73%	27%

Note: Canadian Ministries of Education do not provide degree completions by ethnic diversity.
Source: Various Canadian Ministries of Education (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022. Data in C$.

ANNUAL OPERATING COSTS (2022)

#48 Rank | $33M Talent + $1M Office Rent = $34.1M Total

Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

AVERAGE APARTMENT RENT (2022)

$880 Per unit/month

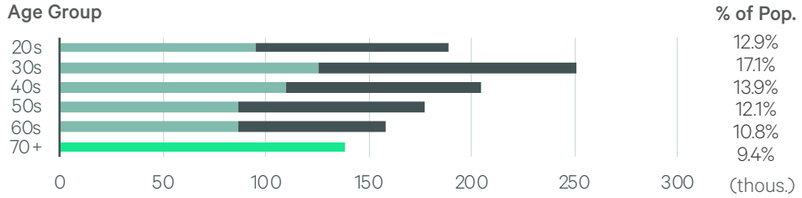
8.4% 5-year growth

15.9% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Statistics Canada (Metro Area) April 2023, CBRE Research and CMHC (Metro) Q4 2022. Data in US$.

POPULATION TRENDS (2021)

20-somethings declined by 27,335 (-12.6%) and 30-somethings grew by 24,503 (10.8%) since 2016.



Source: Statistics Canada (Metro), 2023.

40 Indianapolis

Score: 31.74

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	35,980	0.8%	$86,899	13.4%
Software Developers & Programmers	11,870	8.7%	$77,834	8.5%
Computer Support, Database & Systems	18,700	-4.9%	$85,273	13.5%
Computer & Information Systems Managers	3,380	30.5%	$131,580	3.7%
Technology Engineering-Related	2,030	-19.4%	$80,482	26.2%
Total Non-Tech Occupations	119,640	0.5%	$55,469	15.0%
Sales	11,230	-18.6%	$86,075	1.2%
Administrative & Office Support	76,340	-1.4%	$42,505	14.7%
Business Operations & Finance	22,780	13.7%	$80,335	23.5%
Marketing	9,290	18.0%	$64,027	18.4%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

29.0% Core High-Tech*

12.0% FIRE**

11.9% Manufacturing***

10.2% Prof'l Services***

8.3% Government

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

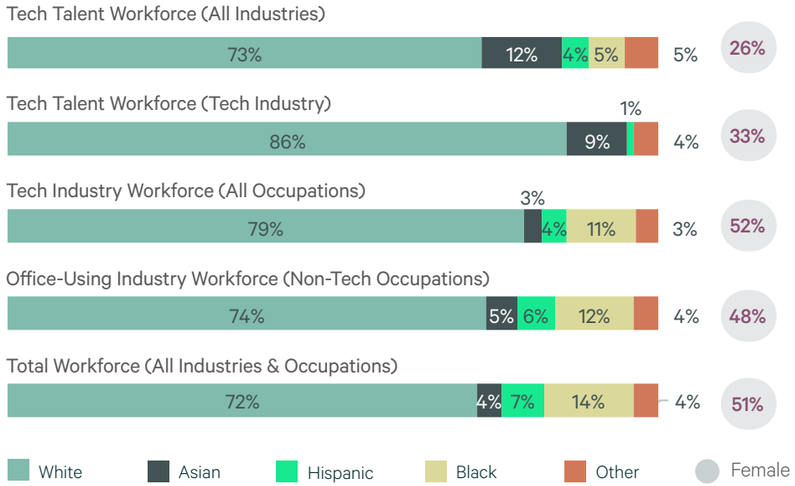
54.7% Inland Empire

53.3% Raleigh-Durham

Indianapolis: 30.6%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

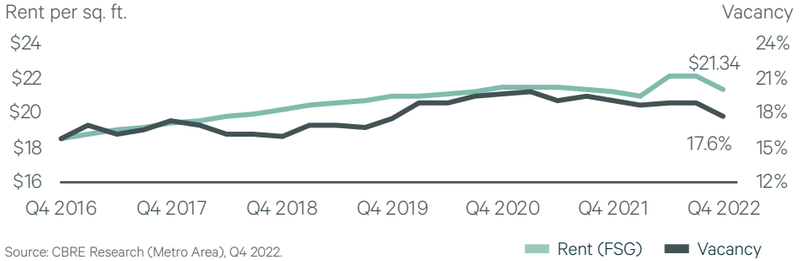
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	479	31%	75%	25%
Math/Statistics	106	8%	56%	44%
Other Tech Engineering	425	-1%	81%	19%
Totals	1,010	13%	75%	25%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	479	66%	10%	8%	9%	7%
Math/Statistics	106	84%	6%	7%	3%	0%
Other Tech Engineering	425	78%	8%	5%	7%	2%
Totals	1,010	72%	9%	7%	8%	5%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#42 Rank | $42M Talent + $1M Office Rent = $42.8M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,128 Per unit/month

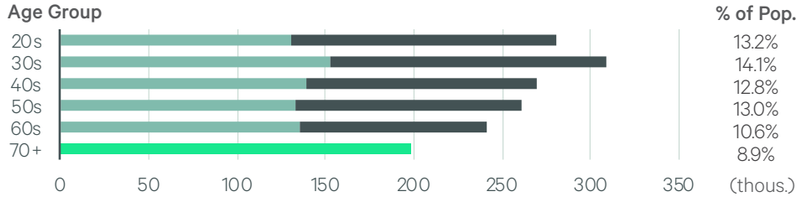
24.5% 5-year growth

15.6% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 6,228 (2.3%) and 30-somethings grew by 33,011 (12.0%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

41 Sacramento

Score: 31.14

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	42,360	7.3%	$111,348	23.2%
Software Developers & Programmers	12,620	-9.5%	$95,917	7.5%
Computer Support, Database & Systems	22,890	28.2%	$114,482	31.9%
Computer & Information Systems Managers	3,510	43.9%	$167,060	20.9%
Technology Engineering-Related	3,340	-36.1%	$89,626	4.7%
Total Non-Tech Occupations	104,010	-11.0%	$63,070	24.9%
Sales	7,490	-12.5%	$103,393	30.9%
Administrative & Office Support	66,320	-18.4%	$49,025	23.5%
Business Operations & Finance	21,880	4.5%	$86,222	11.2%
Marketing	8,320	35.9%	$77,840	16.9%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

30.7% Core High-Tech*

29.7% Government

6.9% FIRE**

6.5% Health

4.1% Prof'l Services***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

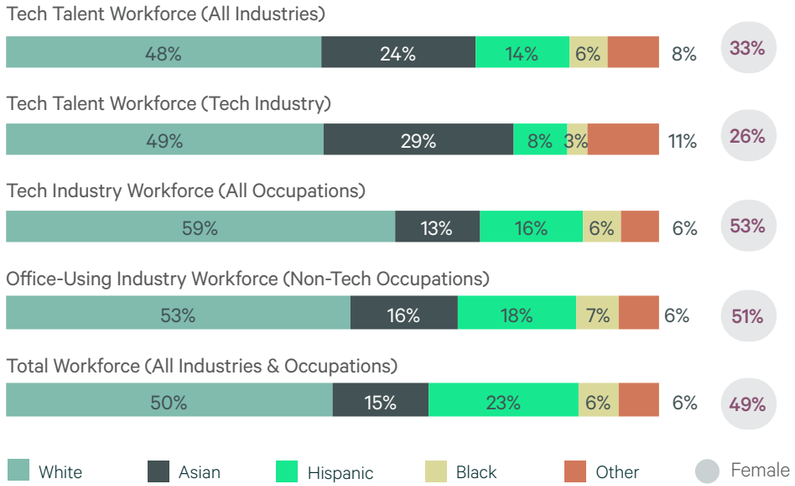
54.7% Inland Empire

53.3% Raleigh-Durham

Sacramento: 51.7%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

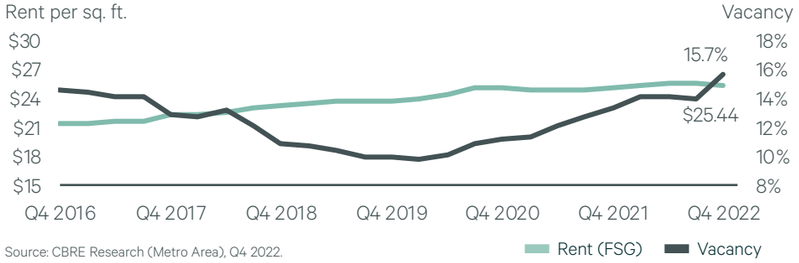
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	946	37%	77%	23%
Math/Statistics	621	53%	61%	39%
Other Tech Engineering	947	11%	83%	17%
Totals	2,514	29%	75%	25%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	946	32%	46%	15%	1%	5%
Math/Statistics	621	35%	41%	20%	1%	4%
Other Tech Engineering	947	38%	24%	27%	2%	9%
Totals	2,514	33%	34%	20%	2%	11%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#42 Rank | $52M Talent + $2M Office Rent = $53.4M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,946 Per unit/month

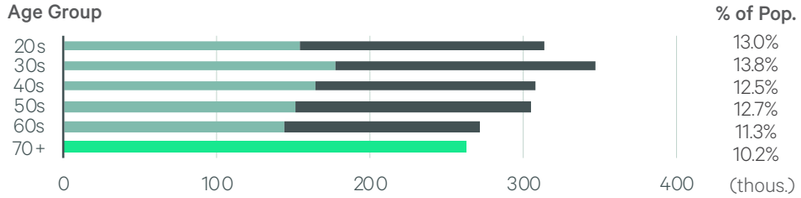
35.6% 5-year growth

21.0% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 12,234 (-3.8%) and 30-somethings grew by 38,164 (12.4%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

42 Cincinnati

Score: 29.83

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	40,450	9.6%	$92,571	16.7%
Software Developers & Programmers	15,220	52.5%	$80,601	6.3%
Computer Support, Database & Systems	19,380	-8.5%	$96,010	27.4%
Computer & Information Systems Managers	2,620	-20.4%	$157,680	20.2%
Technology Engineering-Related	3,230	31.3%	$75,523	14.1%
Total Non-Tech Occupations	117,840	-4.3%	$54,460	12.9%
Sales	10,510	-21.5%	$88,443	18.0%
Administrative & Office Support	75,090	-6.0%	$41,799	12.2%
Business Operations & Finance	22,090	1.8%	$74,830	8.2%
Marketing	10,150	23.8%	$68,603	13.8%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

34.7%	11.6%	10.7%	9.8%	7.2%
Core High-Tech*	FIRE**	Manufacturing***	Prof'l Services***	Health

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

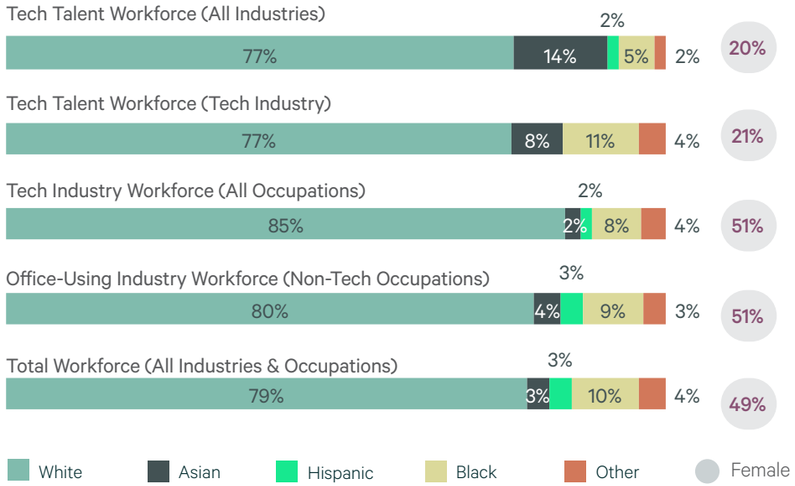
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Cincinnati: 44.7%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

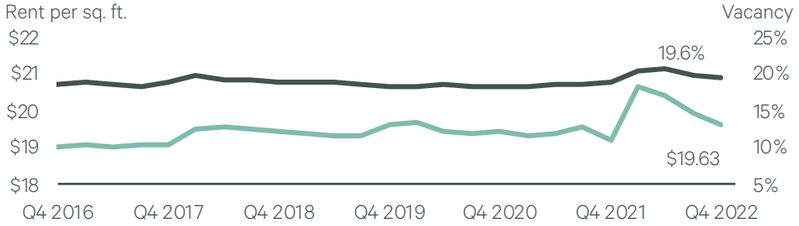
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	1,262	48%	74%	26%
Math/Statistics	293	25%	57%	43%
Other Tech Engineering	786	19%	82%	18%
Totals	2,341	34%	75%	25%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	1,262	80%	6%	4%	7%	3%
Math/Statistics	293	89%	3%	3%	4%	1%
Other Tech Engineering	786	85%	4%	5%	2%	4%
Totals	2,341	82%	5%	4%	5%	4%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#32		$45M	+	$1M	=	$46.4M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

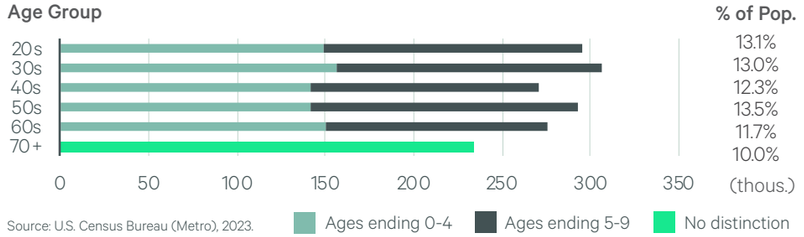
AVERAGE APARTMENT RENT (2022)

$1,221	20.7%	15.8%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 5,584 (1.9%) and 30-somethings grew by 29,554 (10.7%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

43 Hartford

Score: 29.47

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	27,500	5.6%	$103,747	10.2%
Software Developers & Programmers	12,290	43.7%	$87,990	-3.7%
Computer Support, Database & Systems	10,150	-18.9%	$105,833	21.6%
Computer & Information Systems Managers	3,680	14.6%	$154,150	7.0%
Technology Engineering-Related	1,380	-22.0%	$94,330	23.7%
Total Non-Tech Occupations	60,850	-16.2%	$58,702	10.3%
Sales	3,570	-35.8%	$80,985	-1.8%
Administrative & Office Support	40,260	-20.5%	$47,746	12.1%
Business Operations & Finance	13,240	3.9%	$81,513	2.7%
Marketing	3,780	3.3%	$74,447	10.7%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

36.5%	27.9%	8.3%	5.5%	4.9%
Core High-Tech*	FIRE**	Manufacturing***	Prof'l Services***	Education

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

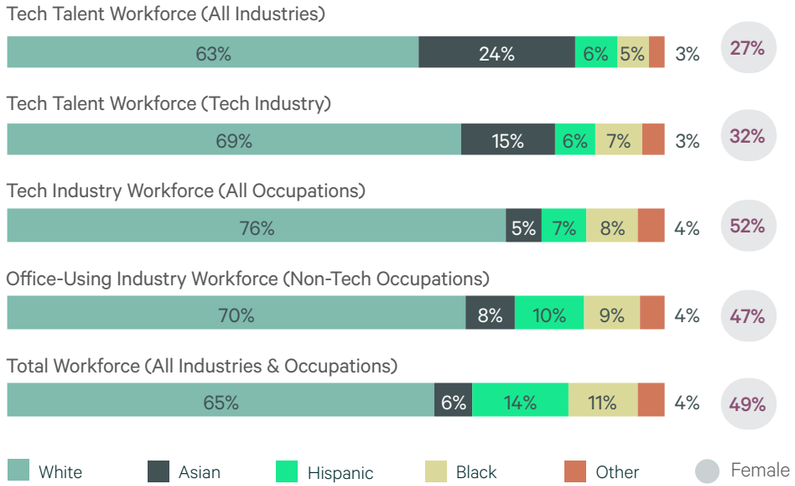
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Hartford: 55.2%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

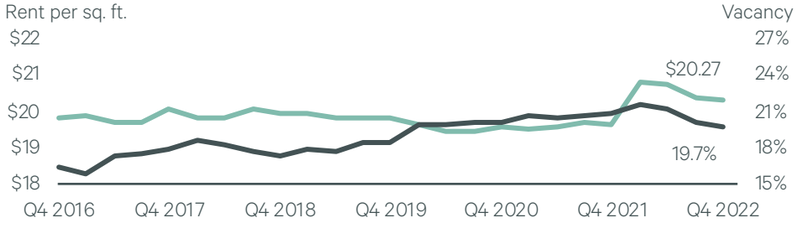
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	532	28%	82%	18%
Math/Statistics	619	18%	57%	43%
Other Tech Engineering	703	2%	82%	18%
Totals	1,854	14%	74%	26%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	532	57%	21%	12%	7%	4%
Math/Statistics	619	70%	17%	5%	6%	1%
Other Tech Engineering	703	74%	9%	9%	5%	4%
Totals	1,854	65%	14%	9%	6%	6%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#20		$48M	+	$1M	=	$49.7M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

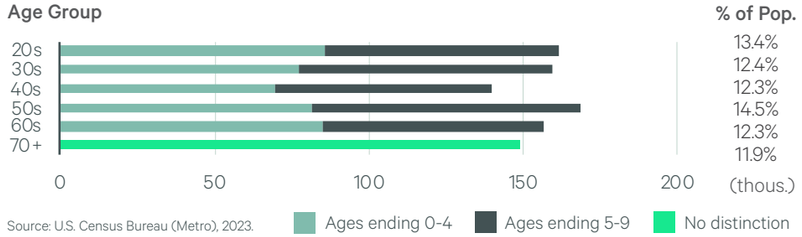
AVERAGE APARTMENT RENT (2022)

$1,597	17.0%	18.5%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 1,132 (-0.7%) and 30-somethings grew by 19,318 (13.8%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

44 Jacksonville

Score: 28.83

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	23,620	17.0%	$94,142	22.3%
Software Developers & Programmers	7,980	22.8%	$80,842	-0.3%
Computer Support, Database & Systems	12,040	10.5%	$97,153	37.9%
Computer & Information Systems Managers	1,820	23.8%	$150,050	19.6%
Technology Engineering-Related	1,780	35.9%	$76,233	12.0%
Total Non-Tech Occupations	93,830	1.3%	$52,199	19.6%
Sales	8,070	-5.4%	$85,585	11.3%
Administrative & Office Support	63,660	-5.7%	$41,193	16.9%
Business Operations & Finance	16,150	26.7%	$74,198	17.6%
Marketing	5,950	56.6%	$64,963	15.6%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

29.8% FIRE**

28.8% Core High-Tech*

7.0% Transportation, Warehousing & Trade

6.1% Prof'l Services***

5.3% Government

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

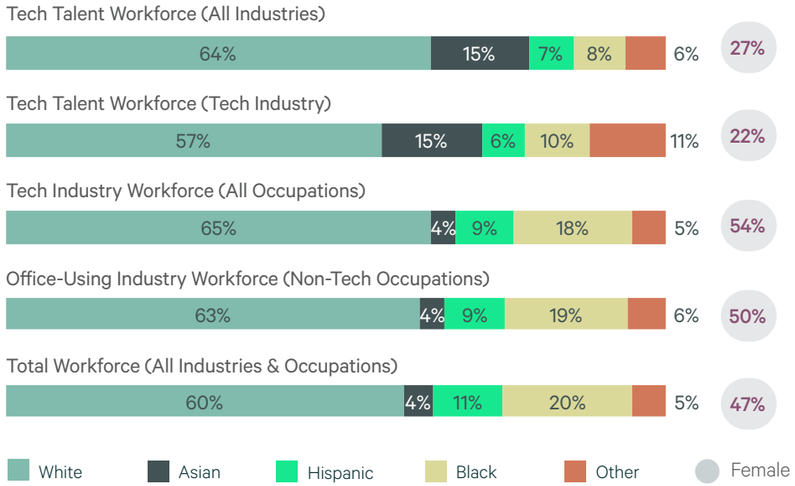
54.7% Inland Empire

53.3% Raleigh-Durham

Jacksonville: 33.1%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

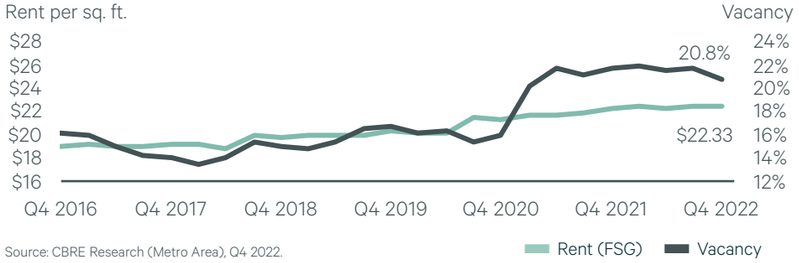
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	291	13%	79%	21%
Math/Statistics	59	2%	56%	44%
Other Tech Engineering	135	96%	87%	13%
Totals	485	26%	79%	21%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	291	62%	8%	11%	15%	4%
Math/Statistics	59	69%	9%	6%	11%	6%
Other Tech Engineering	135	65%	10%	12%	6%	7%
Totals	485	63%	9%	10%	12%	6%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#41 Rank | $43M Talent + $1M Office Rent = $44.6M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,477 Per unit/month

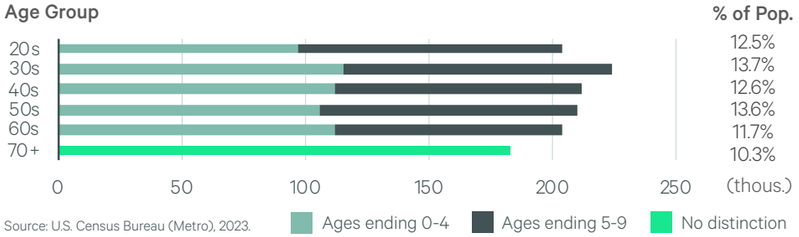
37.4% 5-year growth

18.8% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 1,653 (0.8%) and 30-somethings grew by 27,364 (13.9%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

45 San Antonio

Score: 26.66

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	33,470	7.3%	$97,924	11.0%
Software Developers & Programmers	8,440	-1.5%	$84,270	-15.3%
Computer Support, Database & Systems	18,850	2.5%	$98,927	20.0%
Computer & Information Systems Managers	3,330	164.3%	$146,550	-5.4%
Technology Engineering-Related	2,850	-3.7%	$74,905	1.0%
Total Non-Tech Occupations	122,810	-6.7%	$50,551	9.6%
Sales	9,760	-1.0%	$78,583	-3.2%
Administrative & Office Support	85,610	-11.5%	$40,816	11.8%
Business Operations & Finance	20,790	6.0%	$74,133	2.5%
Marketing	6,650	21.1%	$61,007	-5.1%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

34.3% Core High-Tech*

18.0% FIRE**

11.9% Government

8.2% Prof'l Services***

5.9% Education

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

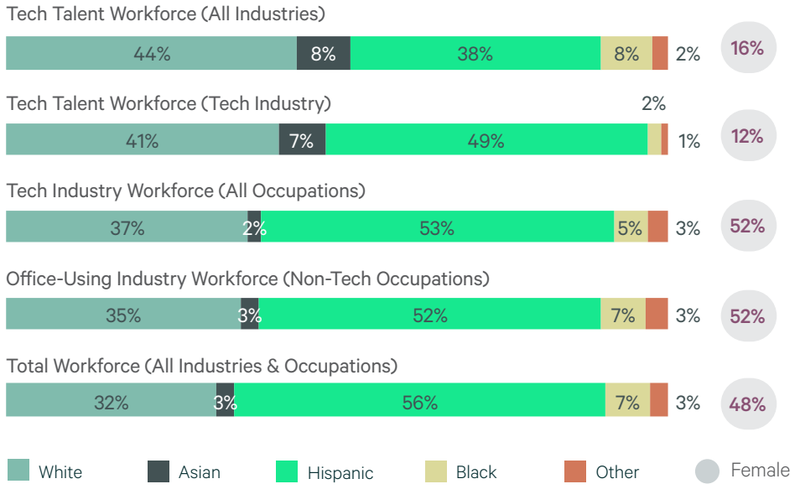
54.7% Inland Empire

53.3% Raleigh-Durham

San Antonio: 42.8%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

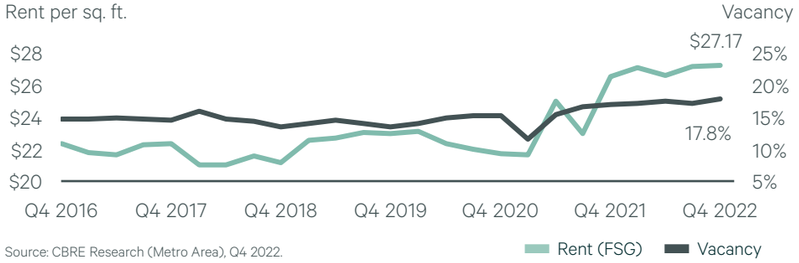
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	949	95%	80%	20%
Math/Statistics	160	-5%	60%	40%
Other Tech Engineering	400	-18%	83%	17%
Totals	1,509	32%	79%	21%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	949	31%	10%	48%	7%	5%
Math/Statistics	160	28%	6%	54%	6%	5%
Other Tech Engineering	400	34%	6%	51%	5%	3%
Totals	1,509	31%	8%	48%	6%	6%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#34 Rank | $45M Talent + $2M Office Rent = $46.3M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,273 Per unit/month

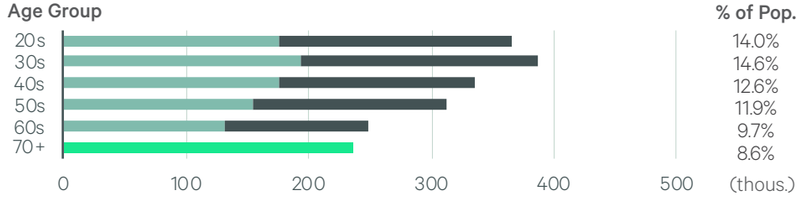
26.3% 5-year growth

15.6% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings grew by 8,270 (2.3%) and 30-somethings grew by 44,991 (13.1%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

46 Cleveland

Score: 26.48

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	38,130	6.4%	$92,912	23.5%
Software Developers & Programmers	15,460	30.6%	$83,084	16.2%
Computer Support, Database & Systems	17,470	-4.6%	$94,726	35.9%
Computer & Information Systems Managers	2,500	-14.7%	$158,820	18.7%
Technology Engineering-Related	2,700	-1.5%	$76,425	7.7%
Total Non-Tech Occupations	110,000	-10.3%	$55,187	15.4%
Sales	8,880	-32.1%	$83,855	13.9%
Administrative & Office Support	69,710	-13.5%	$42,088	13.7%
Business Operations & Finance	22,640	9.2%	$79,653	13.4%
Marketing	8,770	6.4%	$67,113	13.4%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

27.9% Core High-Tech*

22.8% FIRE**

9.7% Manufacturing***

9.4% Health

7.2% Prof'l Services***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

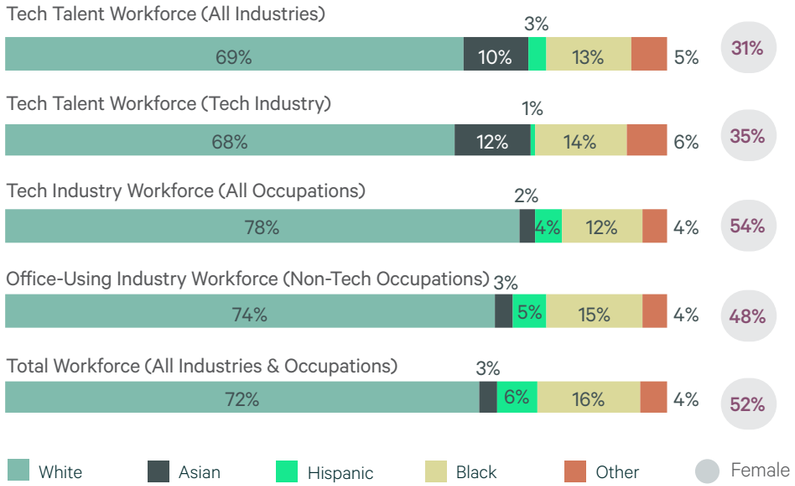
54.7% Inland Empire

53.3% Raleigh-Durham

Cleveland: 41.7%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

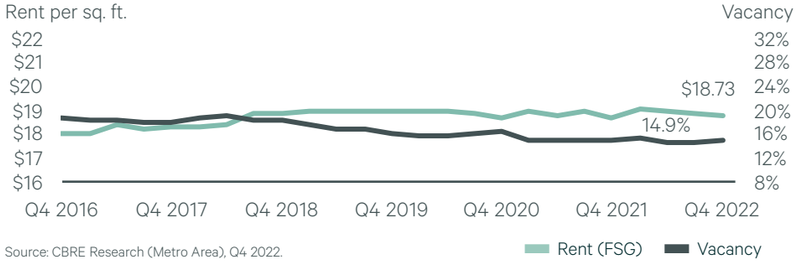
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	534	54%	78%	22%
Math/Statistics	155	3%	61%	39%
Other Tech Engineering	508	-21%	79%	21%
Totals	1,197	5%	76%	24%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	534	66%	16%	5%	8%	5%
Math/Statistics	155	76%	4%	8%	3%	8%
Other Tech Engineering	508	74%	11%	8%	3%	4%
Totals	1,197	71%	12%	6%	5%	6%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#29 Rank

$46M Talent + $1M Office Rent = $47M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,123 Per unit/month

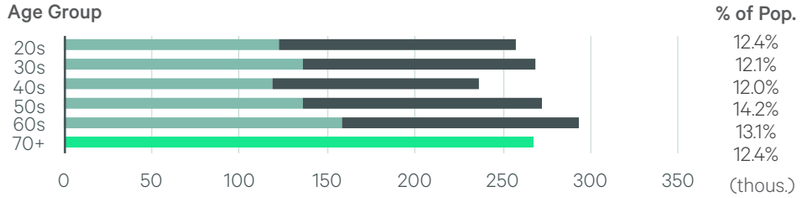
14.7% 5-year growth

14.5% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 3,331 (-1.3%) and 30-somethings grew by 22,091 (9.0%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

47 Virginia Beach

Score: 26.06

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	31,210	17.2%	$94,576	17.0%
Software Developers & Programmers	10,020	75.2%	$86,232	3.1%
Computer Support, Database & Systems	15,830	10.2%	$97,724	24.1%
Computer & Information Systems Managers	1,390	24.1%	$151,410	2.7%
Technology Engineering-Related	3,970	-26.6%	$83,188	13.6%
Total Non-Tech Occupations	74,920	-7.8%	$53,559	18.8%
Sales	5,870	8.1%	$94,293	23.4%
Administrative & Office Support	49,650	-16.1%	$40,839	11.7%
Business Operations & Finance	14,760	10.6%	$75,333	9.9%
Marketing	4,640	37.7%	$68,873	17.9%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

30.7% Core High-Tech*

13.0% Government

10.7% Prof'l Services***

7.2% Education

6.2% Manufacturing***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

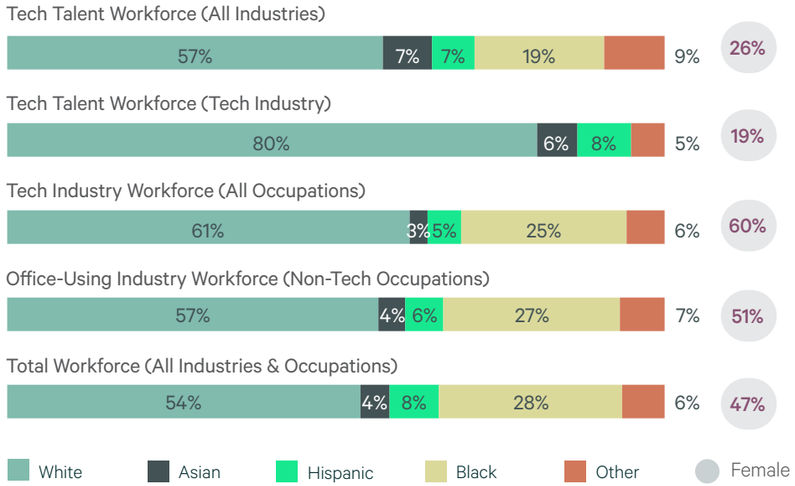
54.7% Inland Empire

53.3% Raleigh-Durham

Virginia Beach: 38.5%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

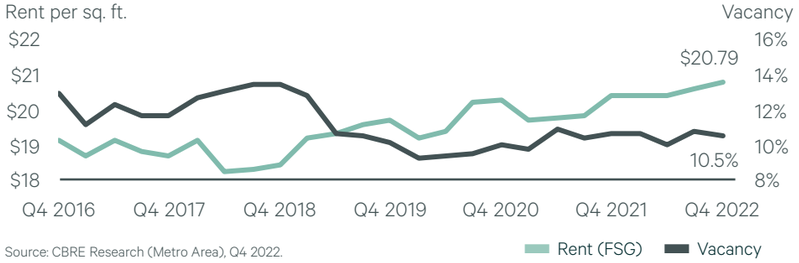
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	1,111	17%	78%	22%
Math/Statistics	126	-22%	50%	50%
Other Tech Engineering	499	-1%	81%	19%
Totals	1,736	8%	77%	23%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	1,111	51%	7%	9%	25%	7%
Math/Statistics	126	70%	5%	8%	12%	6%
Other Tech Engineering	499	62%	6%	11%	14%	7%
Totals	1,736	54%	7%	9%	21%	10%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#30 Rank | $46M Talent + $1M Office Rent = $46.9M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,455 Per unit/month

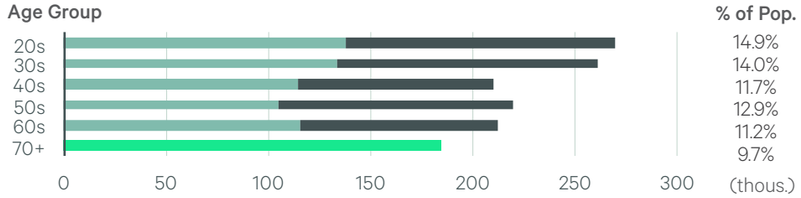
33.3% 5-year growth

18.5% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 13,405 (-4.7%) and 30-somethings grew by 29,949 (12.9%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

48 Milwaukee

Score: 25.83

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	35,260	14.3%	$90,125	17.7%
Software Developers & Programmers	16,340	84.8%	$81,973	7.7%
Computer Support, Database & Systems	13,490	-18.6%	$94,598	32.7%
Computer & Information Systems Managers	1,810	-31.4%	$154,030	23.0%
Technology Engineering-Related	3,620	29.7%	$78,300	16.6%
Total Non-Tech Occupations	94,510	-9.1%	$55,844	16.8%
Sales	8,250	-8.6%	$82,895	11.1%
Administrative & Office Support	61,340	-12.1%	$44,175	16.8%
Business Operations & Finance	18,140	1.7%	$78,843	13.0%
Marketing	6,780	-7.6%	$66,963	15.1%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

29.9% Core High-Tech*

14.7% FIRE**

13.3% Manufacturing***

7.6% Health

6.6% Prof'l Services***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

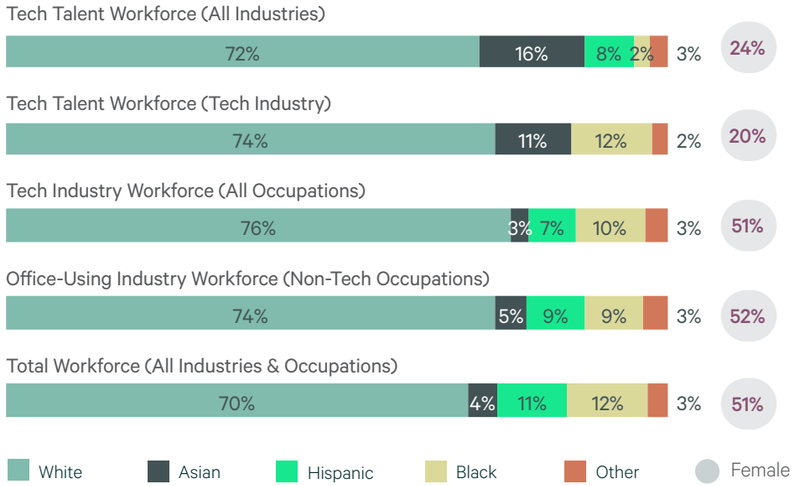
54.7% Inland Empire

53.3% Raleigh-Durham

Milwaukee: 39.0%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

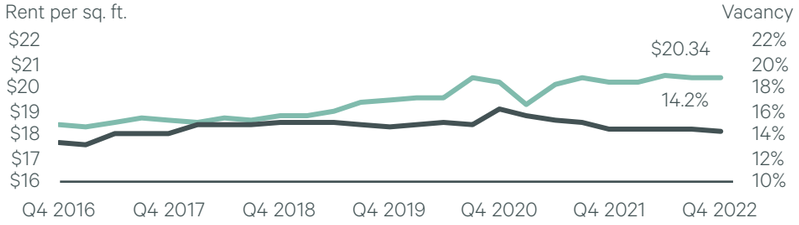
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	696	6%	78%	22%
Math/Statistics	74	-29%	59%	41%
Other Tech Engineering	647	-11%	84%	16%
Totals	1,417	-5%	79%	21%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	696	66%	16%	10%	5%	4%
Math/Statistics	74	74%	11%	11%	2%	3%
Other Tech Engineering	647	78%	6%	10%	2%	4%
Totals	1,417	70%	11%	10%	3%	6%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#31 Rank | $45M Talent + $1M Office Rent = $46.4M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,400 Per unit/month

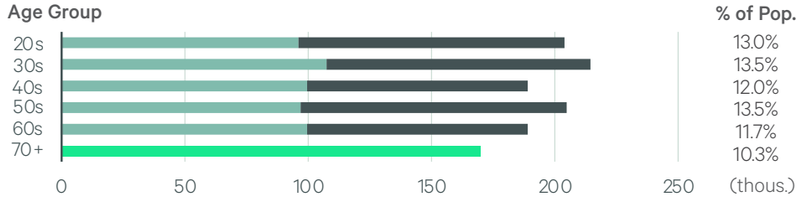
16.0% 5-year growth

18.6% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 8,952 (-4.2%) and 30-somethings grew by 6,823 (3.3%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

49 Richmond

Score: 24.59

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	28,480	14.4%	$100,562	15.6%
Software Developers & Programmers	10,930	35.6%	$88,089	1.4%
Computer Support, Database & Systems	13,630	-1.6%	$104,049	26.7%
Computer & Information Systems Managers	1,790	15.5%	$170,980	16.4%
Technology Engineering-Related	2,130	49.0%	$83,074	8.3%
Total Non-Tech Occupations	77,840	-7.4%	$57,790	16.2%
Sales	5,840	-4.3%	$95,495	12.0%
Administrative & Office Support	47,930	-15.6%	$42,588	11.5%
Business Operations & Finance	18,000	13.3%	$81,235	10.0%
Marketing	6,070	14.5%	$72,030	12.9%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

33.7% Core High-Tech*

20.4% FIRE**

12.3% Government

8.5% Prof'l Services***

5.1% Manufacturing***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6% SF Bay Area

76.4% Seattle

65.1% Austin

64.6% Portland

64.4% Madison

56.1% Atlanta

56.1% Boston

55.2% Hartford

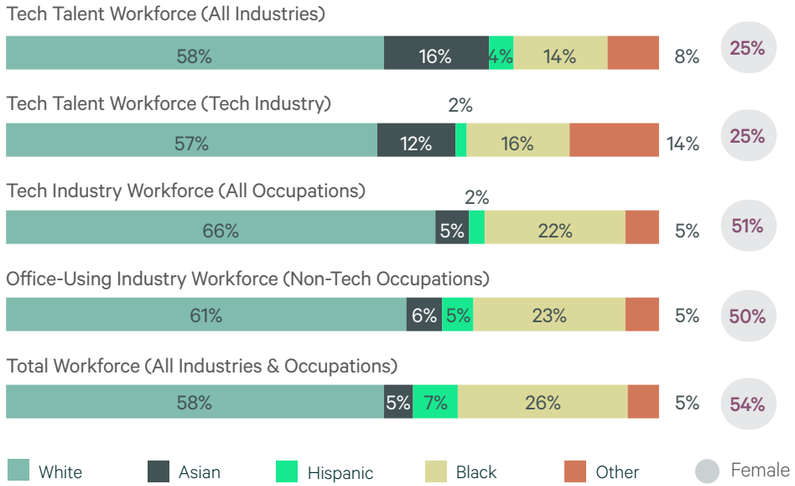
54.7% Inland Empire

53.3% Raleigh-Durham

Richmond: 46.8%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

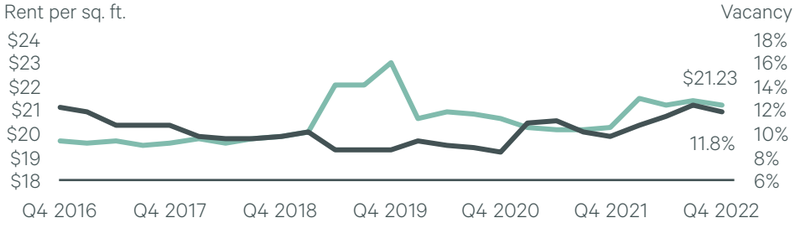
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	472	12%	75%	25%
Math/Statistics	126	-7%	48%	52%
Other Tech Engineering	196	3%	85%	15%
Totals	794	6%	73%	27%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	472	38%	21%	6%	29%	5%
Math/Statistics	126	44%	14%	12%	25%	6%
Other Tech Engineering	196	65%	10%	5%	11%	10%
Totals	794	45%	17%	7%	23%	8%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#18 Rank

$49M Talent + $1M Office Rent = $50.5M Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

AVERAGE APARTMENT RENT (2022)

$1,393 Per unit/month

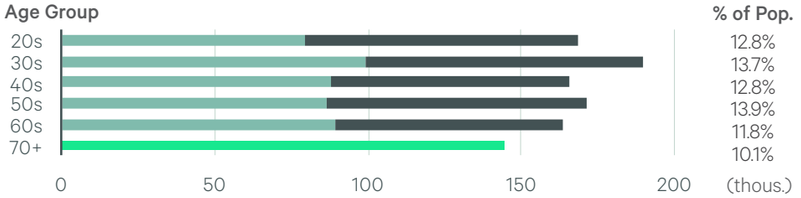
27.6% 5-year growth

16.6% Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 7,065 (-4.0%) and 30-somethings grew by 22,972 (13.8%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

50 Inland Empire

Score: 18.43

EMPLOYMENT BREAKDOWN

	Employed*	5-Yr Growth**	Avg Wage*	5-Yr Growth**
Total Tech Occupations	26,850	44.0%	$101,074	19.4%
Software Developers & Programmers	8,460	103.4%	$87,657	2.8%
Computer Support, Database & Systems	12,630	23.5%	$101,796	26.3%
Computer & Information Systems Managers	2,310	106.3%	$165,200	22.2%
Technology Engineering-Related	3,450	10.2%	$88,393	8.8%
Total Non-Tech Occupations	128,270	-1.0%	$56,576	26.4%
Sales	10,180	-7.0%	$95,370	41.3%
Administrative & Office Support	90,890	-7.3%	$46,364	22.1%
Business Operations & Finance	19,280	36.4%	$78,957	12.8%
Marketing	7,920	22.4%	$69,430	20.9%

*2022; ** 2017-2022; Source: U.S. Bureau of Labor Statistics (Metro Area), April 2023.

TOP 5 INDUSTRIES EMPLOYING TECH TALENT (2021)

33.5%	10.0%	6.7%	6.4%	6.4%
Core High-Tech*	Government	Prof'l Services***	FIRE**	Manufacturing***

*Includes computer software and services and computer product manufacturing;
**Finance, Insurance, Real Estate; ***Excl high-tech. Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

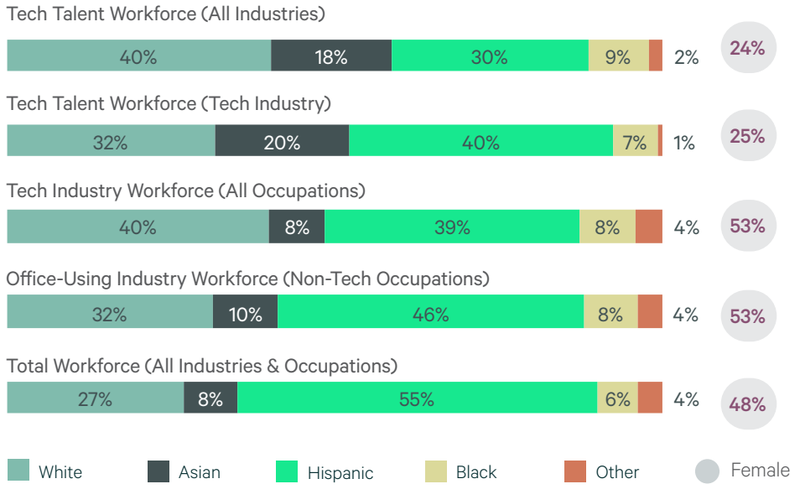
TOP 10 MOST CONCENTRATED MARKETS FOR SOFTWARE ENGINEERS EMPLOYED IN THE TECH INDUSTRY (2021)*

76.6%	76.4%	65.1%	64.6%	64.4%
SF Bay Area	Seattle	Austin	Portland	Madison
56.1%	**56.1%**	**55.2%**	**54.7%**	**53.3%**
Atlanta	Boston	Hartford	Inland Empire	Raleigh-Durham

Inland Empire: 54.7%

*% of total software engineers across all industries;
Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

WORKFORCE DIVERSITY (2021)



Source: U.S. Census (Metro), IPUMS and CBRE Research, May 2023.

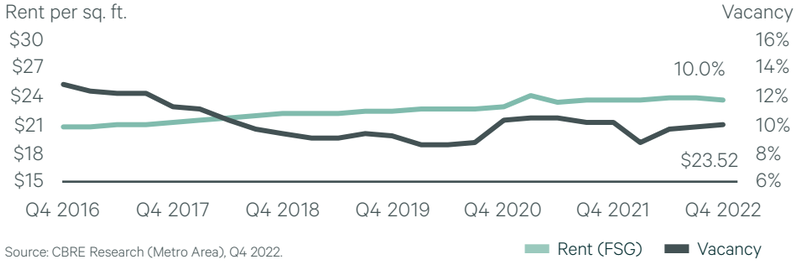
TALENT PIPELINE & DIVERSITY

Degree Completions (2021)	Total	Growth 2017-21	Male	Female
Computer Engineering	941	22%	84%	16%
Math/Statistics	361	36%	52%	48%
Other Tech Engineering	410	25%	81%	19%
Totals	1,712	26%	77%	23%

Degree Completions (2021)	Total	White	Asian	Hispanic	Black	Other
Computer Engineering	941	25%	29%	36%	5%	5%
Math/Statistics	361	23%	27%	45%	2%	3%
Other Tech Engineering	410	31%	32%	29%	3%	4%
Totals	1,712	25%	28%	35%	3%	8%

Source: The National Center for Education Statistics (Region), 2023.

OFFICE RENT & VACANCY TRENDS



Source: CBRE Research (Metro Area), Q4 2022.

ANNUAL OPERATING COSTS (2022)

#24		$47M	+	$1M	=	$48.5M
Rank		Talent		Office Rent		Total

Source: U.S. Bureau of Labor Statistics April 2023, CBRE Research (Metro) Q4 2022

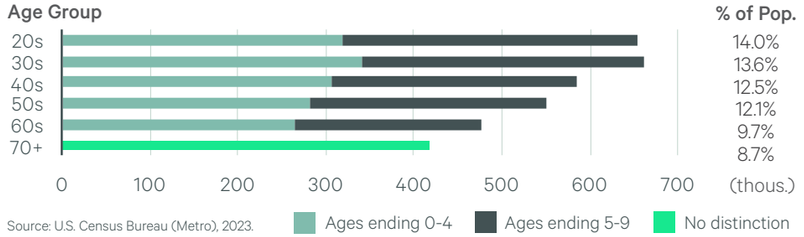
AVERAGE APARTMENT RENT (2022)

$2,196	44.6%	26.1%
Per unit/month	5-year growth	Rent-to-Tech Wage Ratio*

*Ratio of annualized apartment rent (2022) to average annual wage for tech talent occupations (2022)
Source: Bureau of Labor Statistics April 2023, CBRE Research (Metro) and Axiometrics (Metro) Q4 2022.

POPULATION TRENDS (2021)

20-somethings declined by 25,561 (-3.8%) and 30-somethings grew by 64,889 (10.9%) since 2016.



Source: U.S. Census Bureau (Metro), 2023.

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Appendix II: Full Report Data Summary

Local Market Profiles | Return to Market Rankings

Table 1: Share of People Primarily Working from Home by Occupation and Industry

Occupation	2019	2020	2021
Tech Talent	10.3%	37.5%	**46.3%**
Finance, Insurance & Consulting	11.1%	31.0%	**38.1%**
Legal	6.5%	24.4%	**28.6%**
Scientific	4.7%	20.9%	**23.7%**
Office/Administrative & Sales	5.6%	14.5%	**17.4%**
All Occupations	4.6%	12.1%	**13.9%**
Health Care	4.3%	7.4%	**8.3%**
Retail & Service Industry	3.3%	6.7%	**8.0%**
Transportation Workers	2.5%	4.4%	**4.7%**
Manufacturing & Construction	2.0%	3.7%	**4.2%**

Industry	2019	2020	2021
Core High-Tech*	14.0%	36.7%	**44.4%**
Professional, Scientific & Technical Services**	12.2%	27.7%	**32.6%**
FIRE	9.3%	26.3%	**32.3%**
Information**	7.5%	23.1%	**28.0%**
Management of Companies & Enterprises	15.5%	21.5%	**25.6%**
Government	2.5%	13.2%	**16.1%**
Education	2.9%	14.7%	**12.5%**
Manufacturing**	2.8%	9.3%	**11.1%**
Health Care	3.5%	8.4%	**9.9%**
Transportation, Warehousing & Wholesale	4.1%	8.4%	**9.3%**
All Industries	2.7%	7.2%	**8.3%**
Other	3.5%	6.9%	**7.8%**

*Includes computer software and services and computer product manufacturing
**Excludes High-Tech
Note: FIRE is an abbreviation for the finance, insurance and real estate industries
Source: U.S. Census, IPUMS and CBRE Research, April 2023.

Table 2a: U.S.Tech Talent Workforce by Industry (2022)

Tech Talent Occupations in Each Industry as a % of U.S. Tech Talent

Industry	% of Total Tech Talent Labor
Core High-Tech*	41.0%
Professional, Scientific & Technical Services**	11.7%
FIRE	8.5%
Other	8.7%
Management of Companies & Enterprises	6.6%
Government	5.5%
Education	4.3%
Transportation, Warehousing & Wholesale	4.2%
Manufacturing**	3.6%
Information**	3.5%
Health Care	2.5%

*Includes computer software and services and computer product manufacturing
**Excludes High-Tech
Note: FIRE is an abbreviation for the finance, insurance and real estate industries.
Source: U.S. Bureau of Labor Statistics, April 2023..

Table 2b: Canadian Tech Talent Workforce by Industry (2022)

Tech Talent Occupations in Each Industry as a % of Canadian Tech Talent

Industry	% of Total Tech Talent Labor
Core High-Tech*	39.0%
FIRE**	11.7%
Other	10.5%
Government	9.6%
Professional, Scientific & Technical Services (Excluding High-Tech)	7.5%
Manufacturing	7.3%
Information (Excluding High-Tech)	4.3%
Transportation, Warehousing & Wholesale	4.1%
Education	3.0%
Health Care	2.8%
Management of Companies & Enterprises	N/A

*Includes computer software and services and computer product manufacturing
**FIRE stands for finance, insurance and real estate industries.
Note: Data not available for Management of Companies & Enterprises industry.
Source: Statistics Canada, April 2023.

Table 3: Tech Talent Scorecard Ranking

Rank	Market	Score
1	San Francisco Bay Area	82.6
2	Seattle	71.4
3	New York Metro	67.4
4	Washington, D.C.	66.7
5	Toronto	66.5
6	Austin	66.4
7	Boston	63.3
8	Vancouver	60.6
9	Dallas/Ft. Worth	60.5
10	Denver	58.5
11	Ottawa	57.8
12	Montreal	57.7
13	Atlanta	56.5
14	Los Angeles/Orange County	54.1
15	Phoenix	53.5
16	Salt Lake City	52.8
17	Baltimore	52.7
18	Waterloo Region, Canada	52.5
19	Raleigh-Durham	50.0
20	San Diego	49.8
21	Calgary	49.1
22	Philadelphia	48.2
23	Chicago	47.9
24	Portland	45.6
25	Madison	44.7
26	Minneapolis/St. Paul	44.0
27	Detroit	43.6
28	Orlando	41.9
29	Charlotte	40.6
30	Pittsburgh	40.1
31	South Florida	39.9
32	St. Louis	39.2
33	Tampa	38.7
34	Kansas City	38.4
35	Quebec City	38.0
36	Houston	37.9
37	Columbus	37.9
38	Nashville	36.0
39	Edmonton	35.4
40	Indianapolis	31.7
41	Sacramento	31.1
42	Cincinnati	29.8
43	Hartford	29.5
44	Jacksonville	28.8
45	San Antonio	26.7
46	Cleveland	26.5
47	Virginia Beach	26.1
48	Milwaukee	25.8
49	Richmond	24.6
50	Inland Empire	18.4

Source: CBRE Research, CBRE Econometric Advisors, U.S. Bureau of Labor Statistics, Statistics Canada, Oxford Economics, The National Center of Education Statistics, National Science Foundation, Axiometrics, 2023.

Table 4: Tech Talent Workforce Concentration (2022)

Market	Tech Talent Jobs as a % of Total Jobs	Market	Tech Talent Jobs as a % of Total Jobs
Ottawa	13.3%	Kansas City	4.8%
San Francisco Bay Area	11.6%	Detroit	4.7%
Waterloo Region, Canada	10.1%	Richmond	4.5%
Seattle	9.5%	Edmonton	4.4%
Toronto	9.5%	Milwaukee	4.4%
Quebec City	9.1%	Columbus	4.4%
Washington, D.C.	8.8%	St. Louis	4.4%
Vancouver	8.5%	Virginia Beach	4.3%
Montreal	8.3%	Sacramento	4.1%
Austin	8.2%	Tampa	4.1%
Raleigh-Durham	7.4%	New York Metro	4.0%
Calgary	6.9%	Pittsburgh	3.9%
Denver	6.8%	Philadelphia	3.9%
Madison	6.1%	Los Angeles/Orange County	3.9%
Boston	6.0%	Cleveland	3.9%
Baltimore	5.9%	Cincinnati	3.8%
Portland	5.9%	Nashville	3.8%
Salt Lake City	5.8%	Chicago	3.8%
Dallas/Ft. Worth	5.4%	Orlando	3.7%
San Diego	5.3%	Houston	3.5%
Atlanta	5.2%	Indianapolis	3.4%
Charlotte	5.2%	Jacksonville	3.3%
Minneapolis/St. Paul	5.0%	San Antonio	3.2%
Hartford	4.9%	South Florida	2.8%
Phoenix	4.9%	Inland Empire	1.6%

Source: U.S. Bureau of Labor Statistics (Metro) April 2023, Statistics Canada (Metro), 2022.

Table 5: Tech Talent in Tech Industry Concentration (2021)

Market	Tech Talent in Tech Industry as a % of Total Tech Talent Jobs	Market	Tech Talent in Tech Industry as a % of Total Tech Talent Jobs
San Francisco Bay Area	66.0%	Los Angeles/Orange County	35.9%
Seattle	63.4%	South Florida	35.0%
Austin	56.8%	Houston	34.9%
Madison	56.6%	Cincinnati	34.7%
Vancouver	53.9%	San Antonio	34.3%
Waterloo Region, Canada	50.0%	Edmonton	33.8%
Portland	47.5%	Richmond	33.7%
Raleigh-Durham	46.3%	Pittsburgh	33.7%
Toronto	43.2%	Inland Empire	33.5%
Boston	43.2%	St. Louis	33.5%
Atlanta	42.3%	Minneapolis/St. Paul	33.0%
Montreal	41.2%	Nashville	32.5%
Salt Lake City	41.2%	Ottawa	32.4%
Denver	40.7%	Baltimore	31.4%
Washington, D.C.	40.0%	Columbus	31.1%
San Diego	39.8%	Virginia Beach	30.7%
Calgary	38.9%	Sacramento	30.7%
Dallas/Ft. Worth	38.7%	Detroit	30.4%
Kansas City	38.6%	Philadelphia	30.3%
Orlando	38.0%	Milwaukee	29.9%
Tampa	37.3%	Quebec City	29.4%
New York Metro	37.0%	Indianapolis	29.0%
Hartford	36.5%	Jacksonville	28.8%
Phoenix	36.5%	Cleveland	27.9%
Chicago	36.4%	Charlotte	24.2%

Source: U.S. Bureau of Labor Statistics (Metro), Statistics Canada (Metro), CBRE Research and IPUMS, May 2023.

Table 6: Average Annual Wage for U.S. Tech Talent by Industry (2021)

Industry	Average Annual Wage
Technology	$102,854
FIRE	$96,917
Prof. Services	$85,218
Manufacturing	$87,502
Government	$77,760
Health	$72,531
All Industries	$88,961

Note: FIRE is an abbreviation for the finance, insurance and real estate industries
Source: U.S. Census, IPUMS and CBRE Research, March 2023.

Table 7: Average Annual Wage for U.S. Tech Talent Employed by the Tech Industry (2021)

Market	Average Annual Wage
San Francisco Bay Area	$185,425
Seattle	$172,009
Boston	$121,794
Baltimore	$113,544
Sacramento	$107,580
Washington, D.C.	$105,808
Austin	$105,495
Jacksonville	$105,353
San Diego	$105,316
New York Metro	$104,220
Portland	$104,156
Los Angeles/Orange County	$102,172
Raleigh-Durham	$99,825
Denver	$98,109
Madison	$97,196
Richmond	$95,763
Charlotte	$95,344
Inland Empire	$94,525
Atlanta	$92,438
Milwaukee	$92,396
Pittsburgh	$91,542

Market	Average Annual Wage
Dallas/Ft. Worth	$91,051
Virginia Beach	$90,941
Chicago	$88,589
Nashville	$87,543
Philadelphia	$86,617
Salt Lake City	$85,552
Phoenix	$84,314
Houston	$83,946
Hartford	$82,598
Detroit	$82,286
Kansas City	$80,901
San Antonio	$79,048
Columbus	$78,019
Minneapolis/St. Paul	$77,380
St. Louis	$75,527
Orlando	$73,978
Tampa	$73,962
Cleveland	$73,881
Cincinnati	$73,689
South Florida	$72,162
Indianapolis	$70,177

Note: FIRE is an abbreviation for the finance, insurance and real estate industries
Source: U.S. Census, IPUMS and CBRE Research, March 2023.

Table 8: Top 10 Markets for Software Engineers Employed in the Tech Industry (2021)

Market	Software Engineers in Tech Industry
San Francisco Bay Area	76.6%
Seattle	76.4%
Austin	65.1%
Portland	64.6%
Madison	64.4%
Atlanta	56.1%
Boston	56.1%
Hartford	55.2%
Inland Empire	54.7%
Raleigh-Durham	53.3%
U.S.	**50.4%**

Source: U.S. Census, IPUMS and CBRE Research, April 2023.

Table 9: Tech Talent Workforce by Market (2022)

Workforce Size	Market	Tech Talent Total
Large Tech Talent Markets (> 50,000 Workforce)	San Francisco Bay Area	407,810
	New York Metro	371,030
	Toronto	285,700
	Washington, D.C.	265,240
	Los Angeles/Orange County	249,620
	Dallas/Ft. Worth	205,920
	Seattle	194,040
	Montreal	172,400
	Chicago	166,140
	Boston	161,470
	Atlanta	143,150
	Denver	125,800
	Vancouver	111,100
	Phoenix	109,160
	Philadelphia	108,630
	Houston	105,840
	Detroit	97,520
	Austin	96,610
	Minneapolis/St. Paul	94,650
	Ottawa	94,100
	San Diego	78,860
	South Florida	77,700
	Baltimore	76,460
	Raleigh-Durham	73,790
	Portland	69,470

Workforce Size	Market	Tech Talent Total
Large Tech Talent Markets Cont. (> 50,000 Workforce)	Charlotte	65,520
	Salt Lake City	61,400
	St. Louis	57,070
	Tampa	55,970
	Calgary	52,200
	Columbus	51,650
	Kansas City	50,470
Small Tech Talent Markets (< 50,000 Workforce)	Orlando	47,840
	Sacramento	42,360
	Pittsburgh	41,680
	Cincinnati	40,450
	Nashville	39,180
	Cleveland	38,130
	Quebec City	36,400
	Indianapolis	35,980
	Milwaukee	35,260
	San Antonio	33,470
	Virginia Beach	31,210
	Edmonton	31,100
	Waterloo Region, Canada	29,700
	Richmond	28,480
	Hartford	27,500
	Inland Empire	26,850
	Jacksonville	23,620
	Madison	23,530

Note: Canadian markets have been recalculated based on revisions to Statistics Canada definitions.
Source: U.S. Bureau of Labor Statistics (Metro) April 2023, Statistics Canada (Metro), 2022.

Table 10: Tech Talent Workforce Growth Rates (2017-2022)

Workforce Size	Market	% Change	By Volume
Large Tech Talent Markets (> 50,000 Workforce)	Vancouver	68.6%	45,200
	Calgary	60.6%	19,700
	Montreal	42.6%	51,500
	Ottawa	39.6%	26,700
	Salt Lake City	39.5%	17,370
	Austin	38.8%	27,000
	Portland	34.3%	17,750
	Phoenix	30.1%	25,230
	Seattle	29.3%	44,020
	Toronto	28.8%	63,800
	Dallas/Ft. Worth	28.1%	45,170
	Denver	26.1%	26,040
	Raleigh-Durham	24.3%	14,430
	South Florida	24.1%	15,090
	Tampa	23.4%	10,610
	San Francisco Bay Area	22.5%	75,020
	Boston	22.5%	29,650
	Charlotte	20.9%	11,320
	Los Angeles/Orange County	17.2%	36,650
	San Diego	12.5%	8,760
	Houston	11.6%	11,030
	New York Metro	10.7%	36,010
	Detroit	10.0%	8,890
	St. Louis	7.1%	3,760
	Washington, D.C.	6.9%	17,100
Large Tech Talent Markets Cont. (> 50,000 Workforce)	Philadelphia	6.6%	6,710
	Atlanta	6.2%	8,380
	Baltimore	5.3%	3,860
	Columbus	4.8%	2,350
	Minneapolis/St. Paul	3.8%	3,440
	Chicago	1.5%	2,500
	Kansas City	-4.4%	-2,350
Small Tech Talent Markets (< 50,000 Workforce)	Waterloo Region, Canada	51.5%	10,100
	Madison	45.2%	7,330
	Edmonton	44.7%	9,600
	Inland Empire	44.0%	8,210
	Nashville	35.9%	10,340
	Quebec City	34.3%	9,300
	Orlando	25.6%	9,760
	Virginia Beach	17.2%	4,590
	Jacksonville	17.0%	3,440
	Richmond	14.4%	3,590
	Milwaukee	14.3%	4,410
	Cincinnati	9.6%	3,550
	San Antonio	7.3%	2,290
	Sacramento	7.3%	2,890
	Cleveland	6.4%	2,310
	Hartford	5.6%	1,450
	Indianapolis	0.8%	280
	Pittsburgh	-6.0%	-2,640

Note: Canadian markets have been recalculated based on revisions to Statistics Canada definitions.
Source: U.S. Bureau of Labor Statistics (Metro) April 2023, Statistics Canada (Metro), 2022.

Table 11: Top 10 Markets for Educational Attainment

25+ Years Old, Bachelor's Degree or Higher (2021)

Market	Educational Attainment Rate
Washington, D.C.	53.4%
San Francisco Bay Area	52.4%
Boston	51.1%
Raleigh-Durham	50.7%
Stamford	50.5%
Austin	50.0%
Denver	49.2%
Madison	48.8%
Seattle	46.8%
Minneapolis/St. Paul	44.7%
U.S.	**35.0%**
Canada	**32.2%**

Source: U.S. Census Bureau (Metro) and Environs Analytics, May 2023.

Table 12: Top 10 Markets for Tech Degree Completions

Market	Tech Degree Completions (2021)	Growth (2017-2021)
New York Metro	22,719	28.4%
Los Angeles/Orange County	15,030	19.2%
Boston	13,802	43.2%
Washington, D.C.	13,688	21.7%
San Francisco Bay Area	9,967	4.6%
Atlanta	9,098	28.7%
Chicago	8,834	0.0%
Salt Lake City	8,607	98.8%
Toronto	7,859	15.2%
Dallas/Ft. Worth	7,299	10.5%

Note: Bachelor's Degree or Higher.
Source: The National Center for Education Statistics (Region), Canadian Universities, April 2023.

Table 13: Where are Tech Talent Workers Coming From and Where Are They Headed?

Market	Tech Degrees (2017-2021)*	Tech Jobs Added (2018-2022)*	Jobs Minus Degrees
Toronto	32,395	63,800	31,405
Vancouver	15,268	45,200	29,932
Montreal	26,252	51,500	25,248
Dallas/Ft. Worth	34,530	59,440	24,910
Seattle	23,094	43,190	20,096
Ottawa	10,401	26,700	16,299
Calgary	4,219	19,700	15,481
San Francisco Bay Area	50,739	61,110	10,371
Austin	14,124	22,160	8,036
Quebec City	2,328	9,300	6,972
Nashville	5,270	9,950	4,680
Edmonton	6,280	9,600	3,320
Portland	10,259	12,700	2,441
Charlotte	8,512	7,810	-702
Jacksonville	2,211	1,410	-801
Tampa	8,983	7,430	-1,553
Inland Empire	7,714	6,160	-1,554
Richmond	3,790	1,950	-1,840
Denver	23,083	18,680	-4,403
Madison	10,762	6,280	-4,482
Milwaukee	7,581	2,930	-4,651
Philadelphia	31,108	25,740	-5,368
South Florida	14,273	7,640	-6,633
Virginia Beach	8,356	1,660	-6,696
Waterloo Region, Canada	17,075	10,100	-6,975
Orlando	13,913	6,500	-7,413
San Antonio	6,593	-1,220	-7,813
Indianapolis	6,068	-1,760	-7,828
Hartford	8,714	-110	-8,824
Raleigh-Durham	20,631	11,460	-9,171
Cincinnati	10,788	970	-9,818
St. Louis	10,847	790	-10,057
Cleveland	9,927	-370	-10,297
Phoenix	28,053	17,580	-10,473
Sacramento	10,833	220	-10,613
Houston	14,572	1,160	-13,412
Columbus	12,029	-1,470	-13,499
Kansas City	9,029	-5,290	-14,319
Salt Lake City	30,763	14,600	-16,163
Boston	59,748	40,560	-19,188
San Diego	23,568	3,790	-19,778
Baltimore	20,090	-550	-20,640
Minneapolis/St. Paul	18,973	-2,520	-21,493
Chicago	42,799	17,630	-25,169
New York Metro	101,687	70,850	-30,837
Detroit	33,664	2,540	-31,124
Washington, D.C.	62,770	30,840	-31,930
Pittsburgh	26,234	-6,030	-32,264
Atlanta	40,972	2,060	-38,912
Los Angeles/Orange County	69,293	27,030	-42,263

*Tech degrees cover the most recent five-year period available (2017-2021) and tech jobs added cover the time period reflecting when most graduates would be counted in employment Figures (2018-2022).
Source: CBRE Research, U.S. Bureau of Labor Statistics, National Center for Education Statistics (Metro), Canadian Universities, 2023.

Table 14: Population Change of Those in Their 20s by Market (2016-2021)

Workforce Size	Market	% Change
Large Tech Talent Markets (> 50,000 Workforce)	Salt Lake City	11.5%
	Toronto	11.1%
	Ottawa	10.0%
	Raleigh-Durham	8.0%
	Vancouver	7.7%
	Austin	5.8%
	Dallas/Ft. Worth	5.7%
	Charlotte	5.4%
	Phoenix	4.6%
	Atlanta	4.4%
	Kansas City	3.8%
	Montreal	1.6%
	Denver	1.2%
	Houston	0.8%
	Tampa	0.2%
	Minneapolis/St. Paul	-1.2%
	Seattle	-1.3%
	Portland	-1.7%
	Washington, D.C.	-2.3%
	Boston	-2.4%
	Detroit	-2.7%
	Columbus	-2.9%
	Calgary	-4.2%
	Chicago	-5.7%
	Philadelphia	-5.8%
Large Tech Talent Markets (> 50,000 Workforce)	St. Louis	-6.3%
	Baltimore	-7.0%
	South Florida	-9.8%
	New York Metro	-10.6%
	San Diego	-11.1%
	Los Angeles/Orange County	-11.4%
	San Francisco Bay Area	-11.6%
Small Tech Talent Markets (< 50,000 Workforce)	Waterloo Region, Canada	21.3%
	Nashville	4.5%
	Madison	3.3%
	San Antonio	2.3%
	Indianapolis	2.3%
	Cincinnati	1.9%
	Jacksonville	0.8%
	Hartford	-0.7%
	Orlando	-0.9%
	Cleveland	-1.3%
	Sacramento	-3.8%
	Inland Empire	-3.8%
	Richmond	-4.0%
	Milwaukee	-4.2%
	Edmonton	-4.3%
	Virginia Beach	-4.7%
	Quebec City	-4.8%
	Pittsburgh	-7.5%

Source: U.S. Census Bureau (County), Statistics Canada (Metro), 2023.

Table 15: Population Change of Those in Their 30s by Market (2016-2021)

Workforce Size	Market	% Change
Large Tech Talent Markets (> 50,000 Workforce)	Austin	19.5%
	Vancouver	16.4%
	Toronto	14.7%
	Ottawa	14.4%
	Charlotte	14.2%
	Seattle	14.0%
	Tampa	13.5%
	Denver	12.6%
	Raleigh-Durham	11.7%
	Philadelphia	10.5%
	Columbus	10.4%
	Phoenix	10.0%
	Boston	9.7%
	Detroit	9.2%
	Dallas/Ft. Worth	8.6%
	Houston	8.5%
	Atlanta	8.2%
	Kansas City	8.0%
	Baltimore	7.2%
	Calgary	6.7%
	San Diego	6.1%
	Salt Lake City	5.2%
	Portland	4.9%
	Minneapolis/St. Paul	4.8%
	San Francisco Bay Area	2.8%
Large Tech Talent Markets Cont. (> 50,000 Workforce)	St. Louis	2.8%
	Montreal	2.7%
	Los Angeles/Orange County	2.3%
	South Florida	1.8%
	Washington, D.C.	1.6%
	Chicago	0.9%
	New York Metro	-1.2%
Small Tech Talent Markets (< 50,000 Workforce)	Waterloo Region, Canada	17.2%
	Jacksonville	13.9%
	Hartford	13.8%
	Richmond	13.8%
	San Antonio	13.1%
	Virginia Beach	12.9%
	Sacramento	12.4%
	Indianapolis	12.0%
	Nashville	11.2%
	Orlando	11.1%
	Inland Empire	10.9%
	Edmonton	10.8%
	Cincinnati	10.7%
	Pittsburgh	10.3%
	Cleveland	9.0%
	Milwaukee	3.3%
	Madison	2.1%
	Quebec City	0.4%

Source: U.S. Census Bureau (County), Statistics Canada (Metro), 2023.

Table 16: Change in Residents in Their 20s with College Degrees by Market (2016-2021)

Workforce Size	Market	% Change
Large Tech Talent Markets (> 50,000 Workforce)	Tampa	34.7%
	Denver	31.4%
	Charlotte	29.9%
	Austin	28.5%
	Phoenix	27.8%
	Dallas/Ft. Worth	24.1%
	Salt Lake City	22.9%
	Atlanta	22.3%
	Raleigh-Durham	20.4%
	St. Louis	17.5%
	Kansas City	15.2%
	Minneapolis/St. Paul	14.0%
	Houston	12.9%
	San Diego	12.3%
	Seattle	11.8%
	Detroit	11.3%
	South Florida	10.8%
	Columbus	8.7%
	Boston	8.2%
	Philadelphia	6.8%
	Los Angeles/Orange County	6.0%
Large Tech Talent Markets (> 50,000 Workforce)	Washington, D.C.	5.6%
	New York Metro	5.3%
	Baltimore	4.8%
	Chicago	3.8%
	Portland	-6.0%
	San Francisco Bay Area	-8.5%
Small Tech Talent Markets (< 50,000 Workforce)	Nashville	28.1%
	Inland Empire	27.6%
	Cincinnati	26.2%
	Cleveland	22.0%
	Indianapolis	21.4%
	Milwaukee	18.6%
	San Antonio	17.6%
	Jacksonville	15.8%
	Hartford	10.4%
	Sacramento	9.8%
	Virginia Beach	5.8%
	Orlando	5.7%
	Richmond	1.4%
	Madison	-0.1%
	Pittsburgh	-5.9%

Source: U.S. Census Bureau (County), 2023.

Table 17: Change in Residents in Their 30s with College Degrees by Market (2016-2021)

Workforce Size	Market	% Change
Large Tech Talent Markets (> 50,000 Workforce)	Austin	52.4%
	Tampa	36.2%
	Phoenix	32.4%
	Denver	32.0%
	Charlotte	30.9%
	Philadelphia	30.1%
	Seattle	30.0%
	Houston	28.7%
	Detroit	27.0%
	Atlanta	26.9%
	South Florida	26.8%
	Boston	24.8%
	Dallas/Ft. Worth	24.2%
	Columbus	24.0%
	Salt Lake City	22.3%
	Portland	21.9%
	Los Angeles/Orange County	19.6%
	Raleigh-Durham	18.9%
	Kansas City	18.2%
	New York Metro	16.3%
	Minneapolis/St. Paul	16.0%
Large Tech Talent Markets Cont. (> 50,000 Workforce)	San Diego	15.6%
	Chicago	12.5%
	San Francisco Bay Area	11.4%
	St. Louis	10.8%
	Washington, D.C.	9.4%
	Baltimore	5.6%
Small Tech Talent Markets (< 50,000 Workforce)	Virginia Beach	38.5%
	Richmond	36.0%
	Nashville	31.1%
	Hartford	27.5%
	Inland Empire	26.7%
	Orlando	24.7%
	Sacramento	23.2%
	Pittsburgh	21.9%
	Cleveland	21.7%
	San Antonio	21.1%
	Milwaukee	17.6%
	Cincinnati	16.6%
	Madison	16.2%
	Indianapolis	14.5%
	Jacksonville	10.0%

Source: U.S. Census Bureau (County), 2023.

Table 18: Top 10 Most Concentrated Markets for Residents in Their 20s (2021)

Market	Population Concentration
Salt Lake City	17.1%
Madison	16.6%
Waterloo Region, Canada	16.6%
Toronto	15.3%
Vancouver	15.0%
Virginia Beach	14.9%
San Diego	14.9%
Austin	14.6%
Ottawa	14.3%
Columbus	14.2%

Source: U.S. Census Bureau (Metro) and Oxford Economics (Metro), 2023.

Table 19: Top 10 Most Concentrated Markets for Residents in Their 30s (2021)

Market	Population Concentration
Austin	17.5%
Calgary	17.0%
Edmonton	16.9%
Seattle	16.8%
Denver	16.6%
San Francisco Bay Area	16.0%
Vancouver	16.0%
Portland	15.7%
San Diego	15.6%
Toronto	15.5%

Source: U.S. Census Bureau (Metro) and Oxford Economics (Metro), 2023.

Table 20: U.S. Workforce by Age for Selected Industries (2021)

Tech Talent (All Industries)	20-24 yr.	25-29 yrs.	30-34 yrs.	35-39 yrs.	40-44 yrs.	45-49 yrs.	50-54 yrs.	55-59 yrs.	60-64 yrs.	65+ yrs.
Female	7.6%	13.2%	14.2%	12.2%	11.4%	9.6%	9.2%	9.1%	7.7%	5.9%
Male	7.0%	12.6%	14.2%	14.1%	12.7%	10.1%	9.8%	7.8%	6.4%	5.4%
Total	7.2%	12.8%	14.2%	13.6%	12.3%	9.9%	9.6%	8.1%	6.7%	5.5%

Tech Talent (Tech Industry)	20-24 yr.	25-29 yrs.	30-34 yrs.	35-39 yrs.	40-44 yrs.	45-49 yrs.	50-54 yrs.	55-59 yrs.	60-64 yrs.	65+ yrs.
Female	7.6%	17.3%	18.0%	13.7%	11.4%	8.9%	7.2%	6.3%	5.1%	4.4%
Male	6.7%	13.9%	16.3%	14.7%	12.7%	10.0%	8.8%	6.9%	5.5%	4.4%
Total	6.9%	14.6%	16.7%	14.5%	12.4%	9.8%	8.5%	6.8%	5.4%	4.4%

Office-Using Industries (Non-Tech Occupations)	20-24 yr.	25-29 yrs.	30-34 yrs.	35-39 yrs.	40-44 yrs.	45-49 yrs.	50-54 yrs.	55-59 yrs.	60-64 yrs.	65+ yrs.
Female	6.5%	10.9%	11.8%	11.4%	10.8%	9.7%	10.0%	9.4%	8.7%	10.9%
Male	6.6%	10.3%	11.5%	11.6%	11.0%	9.8%	10.0%	9.0%	8.3%	12.0%
Total	6.5%	10.6%	11.7%	11.5%	10.9%	9.7%	10.0%	9.2%	8.5%	11.5%

Source: U.S. Census, IPUMS and CBRE Research, May 2023.

Table 21a: U.S. Tech Talent Workforce Concentration by Industry (2022)

Tech Talent Occupations as a % of All Occupations in Each Industry

Industry	Tech Talent as % of Total Industry Occupations
Core High-Tech*	53.2%
Information (Excluding High-Tech)	13.7%
Professional, Scientific & Technical Services (Excluding High-Tech)	8.8%
Management of Companies & Enterprises	7.6%
FIRE	5.9%
Total U.S. Employment	4.0%
Government	3.4%
Education	2.0%
Transportation, Warehousing & Wholesale	1.9%
Manufacturing (Excluding High-Tech)	1.8%
Other	1.0%
Health Care	0.7%

*Includes computer software and services and computer product manufacturing.
Source: U.S. Bureau of Labor Statistics, April 2023.

Table 21b: Canadian Tech Talent Workforce Concentration by Industry (2022)

Tech Talent Occupations as a % of All Occupations in Each Industry

Industry	Tech Talent as % of Total Industry Occupations
Core High-Tech*	66.9%
Information (Excluding High-Tech)	17.9%
Professional, Scientific & Technical Services (excluding High-Tech)	17.9%
FIRE	11.4%
Government	9.4%
Total Canadian Employment	6.5%
Manufacturing	4.8%
Transportation, Warehousing & Wholesale	3.2%
Education	2.4%
Other	1.5%
Health Care	1.4%
Management of Companies & Enterprises	0.0%

*Includes computer software and services and computer product manufacturing.
**FIRE stands for finance, insurance and real estate industries.
Note: Data not available for Management of Companies & Enterprises industry.
Source: Statistics Canada, April 2023.

Table 22a: U.S. Workforce by Race/Ethnicity for Selected Industries (2021)

	White	Asian	Hispanic	Black	Other	Female
Total Workforce (All Industries and Occupations)	58.6%	7.5%	19.8%	11.5%	2.7%	47.2%
Office-Using Industry Workforce (Non-Tech Occupations)	64.7%	8.0%	13.1%	9.7%	4.6%	51.8%
Tech Industry Workforce (All Occupations, Tech & Non-Tech)	56.3%	17.6%	13.1%	8.6%	4.4%	33.0%
Tech Talent Workforce (Tech Industry)	55.1%	25.6%	8.3%	6.3%	4.8%	20.6%
Tech Talent Workforce (All Industries)	57.9%	19.9%	9.6%	7.8%	4.8%	24.3%

Source: U.S. Census, IPUMS and CBRE Research, May 2023.

Table 22b: Canadian Workforce by Race/Ethnicity for Selected Industries (2022)

	White	Asian	Hispanic	Black	Other	Female
Total Workforce (All Industries and Occupations)	72.0%	19.1%	2.0%	4.2%	2.7%	49.1%
Office-Using Industry Workforce (Non-Tech Occupations)	66.3%	24.1%	2.2%	4.4%	3.0%	56.4%
Tech Industry Workforce (All Occupations, Tech & Non-Tech)	54.8%	35.0%	2.6%	3.9%	3.7%	31.0%
Tech Talent Workforce (All Industries)	55.7%	33.7%	2.6%	3.9%	4.1%	22.7%

Source: Statistics Canada, June 2023.

Table 23a: U.S. Female Workforce for Selected Industries (2021)
% Female of Total Workforce (Male and Female)

	All Races	Other	Black	Hispanic	Asian	White	Unrepresented*
Total Workforce (All Industries and Occupations)	47%	48%	53%	44%	48%	47%	48%
Office-Using Industry Workforce (Non-Tech Occupations)	52%	53%	62%	55%	46%	50%	57%
Tech Industry Workforce (All Occupations, Tech & Non-Tech)	33%	34%	40%	35%	33%	31%	36%
Tech Talent Workforce (Tech Industry)	21%	23%	22%	19%	27%	18%	21%
Tech Talent Workforce (All Industries)	24%	26%	34%	22%	27%	23%	27%

Source: U.S. Census, IPUMS and CBRE Research, May 2023.

Table 23b: Canadian Female Workforce for Selected Industries (2022)
% Female of Total Workforce (Male and Female)

	Female Share
Total Workforce (All Industries and Occupations)	49%
Office-Using Industry Workforce (Non-Tech Occupations)	57%
Tech Industry Workforce (All Occupations, Tech & Non-Tech)	32%
Tech Talent Workforce (Tech Industry)	22%
Tech Talent Workforce (All Industries)	24%

Note: Office-using industries includes information, financial activities and professional and business services (excluding tech industry within these categories)
Source: Statistics Canada, April 2023.

Table 24a: U.S. Tech Talent Occupation Category by Race/Ethnicity & Sex (2021)

		Race/Ethnicity Share of Occupations				
Tech Talent Occupation Category	Share of Occupations	White	Asian	Hispanic	Black	Other
Software Developers, Programmers & Engineers (42% of Jobs)						
Female	18.4%	45.4%	38.4%	6.5%	5.2%	4.5%
Male	81.6%	56.9%	27.3%	7.9%	3.7%	4.2%
Total (Female and Male)	**100.0%**	**54.8%**	**29.4%**	**7.6%**	**4.0%**	**4.3%**
Computer Support, Database & Systems (58% of Jobs)						
Female	28.6%	57.3%	14.1%	9.7%	13.6%	5.3%
Male	71.4%	61.2%	12.8%	11.7%	9.4%	5.0%
Total (Female and Male)	**100.0%**	**60.1%**	**13.1%**	**11.1%**	**10.6%**	**5.1%**
Total Tech Talent (100% of Jobs)						
Female	24.3%	53.5%	21.8%	8.6%	11.0%	5.1%
Male	75.7%	59.2%	19.3%	9.9%	6.8%	4.7%
Total (Female and Male)	**100.0%**	**57.9%**	**19.9%**	**9.6%**	**7.8%**	**4.8%**

Source: U.S. Census, IPUMS and CBRE Research, May 2023.

Table 24b: Canadian Tech Talent Occupation Category by Sex (2022)

Tech Talent Occupation Category	Share of Occupations
Software Developers, Programmers & Engineers (43% of Jobs)	
Female	18.8%
Male	81.2%
Total (Female and Male)	**100.0%**
Computer Support, Database & Systems (57% of Jobs)	
Female	29.5%
Male	70.5%
Total (Female and Male)	**100.0%**
Total Tech Talent (100% of Jobs)	
Female	23.6%
Male	76.4%
Total (Female and Male)	**100.0%**

Source: Statistics Canada, April 2023.

Table 25: U.S. Tech Talent Workforce by Race/Ethnicity and Income Range (2021)

Total Tech Talent, All Industries	All Races	White	Black	Asian	Hispanic	Other
Less than $50K	28.0%	29.2%	35.5%	17.6%	34.4%	30.5%
$50-$100K	35.4%	35.7%	41.2%	28.9%	41.0%	36.8%
$100-$150K	22.6%	22.2%	17.6%	29.5%	16.6%	20.5%
$150-$200K	8.1%	7.5%	3.9%	13.2%	5.3%	7.4%
$200K+	5.9%	5.4%	1.8%	10.8%	2.7%	4.9%

Female Tech Talent, All Industries	All Races	White	Black	Asian	Hispanic	Other
Less than $50K	35.2%	37.3%	39.6%	24.4%	41.9%	38.9%
$50-$100K	38.2%	39.1%	41.7%	33.2%	41.6%	36.4%
$100-$150K	18.5%	17.2%	15.1%	26.9%	11.3%	16.6%
$150-$200K	5.1%	4.1%	2.5%	9.1%	3.6%	6.0%
$200K+	3.0%	2.3%	1.2%	6.3%	1.7%	2.2%

Male Tech Talent, All Industries	All Races	White	Black	Asian	Hispanic	Other
Less than $50K	25.4%	26.6%	33.2%	14.8%	32.1%	27.3%
$50-$100K	34.4%	34.6%	41.0%	27.2%	40.8%	36.9%
$100-$150K	24.1%	23.8%	19.0%	30.6%	18.2%	21.9%
$150-$200K	9.2%	8.6%	4.7%	14.9%	5.9%	8.0%
$200K+	6.9%	6.4%	2.2%	12.6%	3.0%	5.9%

Source: U.S. Census, IPUMS and CBRE Research, May 2023.

Table 26: U.S. Software Engineers by Race/Ethnicity and Income Range (2021)

Total Software Engineers, All Industries	All Races	White	Black	Asian	Hispanic	Other
Less than $50K	19.6%	21.2%	27.2%	13.7%	24.8%	21.5%
$50-$100K	29.1%	30.1%	37.6%	23.8%	36.7%	29.2%
$100-$150K	28.8%	28.2%	24.9%	31.9%	24.6%	28.0%
$150-$200K	12.4%	11.3%	7.6%	16.4%	8.6%	11.8%
$200K+	10.1%	9.2%	2.7%	14.3%	5.3%	9.6%

Female Software Engineers, All Industries	All Races	White	Black	Asian	Hispanic	Other
Less than $50K	27.1%	30.1%	27.3%	22.1%	34.9%	27.2%
$50-$100K	32.4%	34.8%	44.0%	26.6%	40.0%	33.1%
$100-$150K	25.6%	23.4%	21.8%	30.3%	17.0%	25.2%
$150-$200K	9.1%	7.4%	5.3%	12.2%	4.4%	11.3%
$200K+	5.7%	4.3%	1.5%	8.8%	3.7%	3.2%

Male Software Engineers, All Industries	All Races	White	Black	Asian	Hispanic	Other
Less than $50K	17.8%	19.5%	27.1%	10.7%	22.9%	20.1%
$50-$100K	28.3%	29.2%	35.4%	22.8%	36.1%	28.1%
$100-$150K	29.6%	29.1%	25.9%	32.4%	26.0%	28.7%
$150-$200K	13.2%	12.0%	8.4%	17.8%	9.5%	11.9%
$200K+	11.1%	10.1%	3.2%	16.2%	5.5%	11.2%

Source: U.S. Census, IPUMS and CBRE Research, May 2023.

Table 27a: Underrepresented Race/Ethnic Groups in U.S. Tech Talent Workforce by Market (2021)

Workforce Size	Market	Difference*	Tech Talent Share of Underrepresented Groups**	Office-Using Share of Underrepresented Groups**
Most Diverse				
Large Tech Talent Markets (> 50,000 Workforce)	Salt Lake City	0.5%	14.5%	13.9%
	Portland	0.5%	15.7%	15.2%
	Minneapolis/St. Paul	0.1%	11.9%	11.8%
	St. Louis	-0.6%	17.9%	18.4%
	South Florida	-1.4%	53.8%	55.2%
Small Tech Talent Markets (< 50,000 Workforce)	Nashville	3.8%	23.8%	20.0%
	San Antonio	1.9%	48.2%	46.4%
	Sacramento	0.4%	28.1%	27.6%
	Madison	-0.3%	9.3%	9.7%
	Cleveland	-0.4%	21.0%	21.5%
Least Diverse				
Large Tech Talent Markets (> 50,000 Workforce)	Dallas/Ft. Worth	-9.4%	24.8%	34.2%
	San Diego	-8.3%	19.9%	28.1%
	San Francisco Bay Area	-8.1%	11.7%	19.8%
	Los Angeles/Orange County	-8.1%	28.6%	36.7%
	Chicago	-6.8%	21.6%	28.4%
Small Tech Talent Markets (< 50,000 Workforce)	San Antonio	-16.4%	45.5%	61.9%
	Inland Empire	-13.7%	40.4%	54.1%
	Madison	-7.4%	6.6%	14.1%
	Indianapolis	-6.0%	12.0%	18.0%
	Orlando	-5.3%	36.5%	41.9%

*Difference calculation: tech talent Share minus Office-Using Share Benchmark
**Hispanic, Black, Other Non-White/Non-Asian
Source: U.S. Census, IPUMS and CBRE Research, May 2023.

Table 27b: Underrepresented Race/Ethnic Groups in Canadian Tech Talent Workforce by Market (2022)

Market	Difference*	Tech Talent Share of Underrepresented Groups**	Office-Using Share of Underrepresented Groups**
Ranked from Most to Lease Diverse			
Montreal	5.8%	23.0%	17.2%
Quebec City	5.3%	11.1%	5.8%
Calgary	4.1%	12.3%	8.2%
Vancouver	1.3%	6.8%	5.5%
Waterloo Region	0.7%	8.1%	7.4%
Ottawa	-1.9%	10.1%	12.0%
Toronto	-3.3%	9.5%	12.8%
Edmonton	-5.8%	5.5%	11.3%

*Difference calculation: Tech Talent Share minus Office-Using Share Benchmark
**Hispanic, Black, Other Non-White/Non-Asian
Source: Statistics Canada, June 2023.

Table 28a: Females in U.S. Tech Talent Workforce by Market (2021)

Workforce Size	Market	Difference*	Tech Talent Share of Females	Office-Using Share of Females
Most Diverse				
Large Tech Talent Markets (> 50,000 Workforce)	Washington, D.C.	-18.6%	28.6%	47.2%
	Raleigh-Durham	-19.4%	26.8%	46.2%
	San Diego	-20.4%	25.0%	45.4%
	Detroit	-20.4%	28.1%	48.5%
	Atlanta	-20.4%	29.8%	50.3%
Small Tech Talent Markets (< 50,000 Workforce)	Madison	0.4%	29.3%	28.9%
	Sacramento	-17.7%	32.8%	50.5%
	Cleveland	-22.4%	30.8%	53.2%
	Pittsburgh	-22.7%	27.4%	50.1%
	Jacksonville	-22.8%	27.4%	50.2%
Least Diverse				
Large Tech Talent Markets (> 50,000 Workforce)	Kansas City	-31.2%	19.4%	50.6%
	Tampa	-29.4%	22.3%	51.7%
	Los Angeles/Orange County	-26.7%	22.7%	49.4%
	Salt Lake City	-26.3%	18.6%	45.0%
	Phoenix	-26.0%	24.1%	50.1%
Small Tech Talent Markets (< 50,000 Workforce)	San Antonio	-35.9%	16.0%	51.9%
	Cincinnati	-31.1%	19.9%	51.0%
	Inland Empire	-29.2%	23.6%	52.8%
	Nashville	-28.6%	22.8%	51.4%
	Milwaukee	-27.9%	24.1%	52.0%

*Difference calculation: tech talent Share minus Office-Using Share Benchmark
Source: U.S. Census, IPUMS and CBRE Research, May 2023.

Table 28b: Females in Canadian Tech Talent Workforce by Market (2022)

Market	Difference*	Tech Talent Share of Females	Office-Using Share of Females
Ranked from Most to Lease Diverse			
Ottawa	-25.7%	24.0%	49.7%
Toronto	-27.4%	27.1%	54.5%
Edmonton	-29.4%	29.3%	58.7%
Vancouver	-29.7%	24.2%	53.9%
Calgary	-31.1%	23.8%	54.9%
Quebec City	-34.9%	21.2%	56.1%
Waterloo Region	-35.6%	24.2%	59.8%
Montreal	-36.0%	19.5%	55.5%

*Difference calculation: tech talent Share minus Office-Using Share Benchmark
Source: Statistics Canada and CBRE Research, April 2023.

Table 29: U.S. Tech Degree Graduate's Race/Ethnicity & Sex (2021)

Bachelor's Degree or Higher

		Sex		Race/Ethnicity				
Year	Total Graduates	Male	Female	White	Asian	Hisp	Black	Other
2010	156,333	78.2%	21.8%	73.4%	10.4%	7.8%	7.2%	1.2%
2011	166,344	78.1%	21.9%	70.0%	13.2%	8.3%	7.1%	1.5%
2012	178,283	77.9%	22.1%	69.3%	12.9%	8.9%	7.1%	1.8%
2013	192,191	77.8%	22.2%	67.8%	13.0%	9.3%	7.8%	2.2%
2014	211,353	77.4%	22.6%	66.9%	12.8%	10.1%	7.4%	2.8%
2015	233,970	76.9%	23.1%	65.9%	13.1%	10.4%	7.4%	3.2%
2016	263,364	76.4%	23.6%	64.2%	14.1%	10.9%	7.2%	3.6%
2017	288,446	76.1%	23.9%	62.9%	14.9%	11.4%	7.1%	3.8%
2018	304,692	75.5%	24.5%	61.7%	15.6%	11.6%	7.1%	4.0%
2019	318,659	75.1%	24.9%	60.3%	16.2%	12.1%	7.3%	4.2%
2020	338,883	74.3%	25.7%	59.0%	16.7%	12.5%	7.2%	4.5%
2021	348,494	73.9%	26.1%	57.4%	17.3%	13.0%	7.6%	4.7%

Note: Total tech degree graduates and male/female breakdown includes U.S. resident and foreigners. Race/ethnicity breakdown excludes unknown races and foreigners.
Source: IPEDS and CBRE Research, April 2023.

Table 30a: U.S. Tech Degree Graduate's Race/Ethnicity & Sex by Market (2021)
Bachelor's Degree or Higher

		Race/Ethnicity					
Market	Total Graduates	White	Asian	Underrepresented*	Hisp	Black	Other
Most Diverse (Highest % Underrepresented Groups*)							
South Florida	3,280	22.2%	6.6%	71.2%	53.9%	15.0%	2.3%
San Antonio	1,509	31.4%	8.4%	60.2%	49.1%	6.4%	4.6%
Houston	2,957	27.1%	27.3%	45.6%	26.8%	14.3%	4.4%
Inland Empire	1,712	26.0%	29.4%	44.6%	36.5%	3.6%	4.5%
Virginia Beach	1,736	55.2%	6.9%	37.9%	9.6%	21.2%	7.1%
Least Diverse (Lowest % Underrepresented Groups*)							
Madison	2,423	77.8%	11.5%	10.8%	5.3%	1.6%	3.8%
Cincinnati	2,341	82.9%	5.3%	11.8%	4.0%	4.7%	3.0%
Detroit	6,776	66.4%	20.3%	13.2%	5.4%	4.4%	3.5%
Pittsburgh	5,368	64.1%	22.3%	13.6%	5.1%	4.7%	3.8%
Columbus	2,548	74.1%	12.2%	13.7%	5.7%	4.3%	3.7%

		Sex	
Market	Total Graduates	Male	Female
Most Diverse (Highest % Female)			
Pittsburgh	5,368	66.7%	33.3%
Seattle	5,430	67.5%	32.5%
Boston	13,802	67.6%	32.4%
San Francisco Bay Area	9,967	67.7%	32.3%
New York Metro	22,719	68.2%	31.8%

		Sex	
Market	Total Graduates	Male	Female
Least Diverse (Highest % Male)			
Salt Lake City	8,607	85.2%	14.8%
Orlando	3,205	80.3%	19.7%
Milwaukee	1,417	79.5%	20.5%
San Antonio	1,509	79.0%	21.0%
South Florida	3,280	78.9%	21.1%

*Aggregate of Hispanic, Black, Other Non-White/Non-Asian
Note: Total tech degree graduates and male/female breakdown includes U.S. resident and foreigners. Race/ethnicity breakdown excludes unknown races and foreigners
Source: IPEDS and CBRE Research, April 2023.

Table 30b: Canadian Tech Degree Graduate's Sex by Market (2021)
Bachelor's Degree or Higher

		Sex	
Market	Total Graduates	Male	Female
Ranked from Most (Highest % Female) to Least (Highest % Male) Diverse			
Vancouver**	3,711	69.9%	30.1%
Toronto*	7,859	70.5%	29.5%
Edmonton	1,464	73.0%	27.0%
Waterloo Region	3,966	73.2%	26.8%
Ottawa	2,496	76.6%	23.4%
Montreal	6,482	77.0%	23.0%
Calgary	1,079	77.6%	22.4%
Quebec City	432	83.3%	16.7%

*Includes graduate counts at universities in Hamilton and Oshawa.
**Sex breakdown is based on University of British Columbia, the market's largest university.
Source: Various Provincial Ministries and Higher Education Institutions, April 2023.

Table 31: Tech Talent by Type: Software Developers & Programmers
Ranked by % of Tech Talent

Market	Software Developers & Programmers	% of Tech Talent
Seattle	113,240	58.4%
San Francisco Bay Area	210,550	51.6%
Salt Lake City	30,180	49.2%
Vancouver	51,600	46.4%
Milwaukee	16,340	46.3%
Boston	74,670	46.2%
New York Metro	170,960	46.1%
Raleigh-Durham	33,210	45.0%
Hartford	12,290	44.7%
Minneapolis/St. Paul	42,080	44.5%
Los Angeles/Orange County	106,640	42.7%
Madison	9,850	41.9%
Charlotte	26,780	40.9%
Chicago	67,440	40.6%
Cleveland	15,460	40.5%
Waterloo Region, Canada	11,900	40.1%
Detroit	38,890	39.9%
Atlanta	57,000	39.8%
Columbus	19,930	38.6%
Portland	26,740	38.5%
Richmond	10,930	38.4%
Philadelphia	41,330	38.0%
San Diego	29,860	37.9%
Kansas City	19,090	37.8%
Cincinnati	15,220	37.6%

Market	Software Developers & Programmers	% of Tech Talent
South Florida	29,130	37.5%
Phoenix	40,800	37.4%
Ottawa	34,900	37.1%
Washington, D.C.	98,000	36.9%
Austin	35,560	36.8%
Denver	45,970	36.5%
Dallas/Ft. Worth	75,240	36.5%
St. Louis	20,780	36.4%
Pittsburgh	15,100	36.2%
Orlando	17,290	36.1%
Toronto	101,800	35.6%
Tampa	19,370	34.6%
Nashville	13,340	34.0%
Jacksonville	7,980	33.8%
Edmonton	10,300	33.1%
Indianapolis	11,870	33.0%
Virginia Beach	10,020	32.1%
Houston	33,850	32.0%
Baltimore	24,380	31.9%
Inland Empire	8,460	31.5%
Calgary	16,100	30.8%
Montreal	52,800	30.6%
Sacramento	12,620	29.8%
Quebec City	10,200	28.0%
San Antonio	8,440	25.2%

Note: Software Developers & Programmers include: computer programmers; software application developers, software systems software developers and web developers.
Source: U.S. Bureau of Labor Statistics, Statistics Canada, April 2023.

Table 32: Tech Talent by Type: Computer, Support Database & Systems
Ranked by % of Tech Talent

Market	Computer, Support Database & Systems	% of Tech Talent	Market	Computer, Support Database & Systems	% of Tech Talent
San Antonio	18,850	56.3%	Dallas/Ft. Worth	92,930	45.1%
Sacramento	22,890	54.0%	Philadelphia	48,390	44.5%
Indianapolis	18,700	52.0%	Ottawa	41,700	44.3%
Baltimore	39,720	51.9%	Toronto	126,100	44.1%
Jacksonville	12,040	51.0%	Calgary	23,000	44.1%
Quebec City	18,500	50.8%	Edmonton	13,600	43.7%
Virginia Beach	15,830	50.7%	Phoenix	47,490	43.5%
Washington, D.C.	134,110	50.6%	Charlotte	28,490	43.5%
Nashville	19,730	50.4%	Denver	54,580	43.4%
Tampa	27,750	49.6%	Chicago	71,270	42.9%
Columbus	24,830	48.1%	Minneapolis/St. Paul	39,390	41.6%
Cincinnati	19,380	47.9%	Waterloo Region, Canada	11,700	39.4%
Richmond	13,630	47.9%	Milwaukee	13,490	38.3%
South Florida	37,000	47.6%	Raleigh-Durham	27,640	37.5%
St. Louis	27,120	47.5%	Detroit	36,280	37.2%
Montreal	81,300	47.2%	New York Metro	136,950	36.9%
Houston	49,790	47.0%	Hartford	10,150	36.9%
Inland Empire	12,630	47.0%	Los Angeles/Orange County	91,260	36.6%
Orlando	22,230	46.5%	Salt Lake City	22,390	36.5%
Pittsburgh	19,180	46.0%	San Diego	27,000	34.2%
Kansas City	23,130	45.8%	Portland	23,170	33.4%
Cleveland	17,470	45.8%	Boston	53,330	33.0%
Madison	10,750	45.7%	Vancouver	35,900	32.3%
Atlanta	65,040	45.4%	Seattle	58,080	29.9%
Austin	43,860	45.4%	San Francisco Bay Area	110,820	27.2%

Source: U.S. Bureau of Labor Statistics, Statistics Canada, April 2023.
Note: Computer Support, Database & Systems include: computer and information research scientists, computer systems analysts, information security analysts, database administrators, network and computer systems administrators, computer network architects, computer user support specialists, computer network support specialists and all other computer occupations.

Table 33: Tech Talent by Type: Computer & Information Systems Managers
Ranked by % of Tech Talent

Market	Computer & Information Systems Managers	% of Tech Talent	Market	Computer & Information Systems Managers	% of Tech Talent
Hartford	3,680	13.4%	Inland Empire	2,310	8.6%
Boston	19,670	12.2%	Salt Lake City	5,240	8.5%
Toronto	33,900	11.9%	Sacramento	3,510	8.3%
New York Metro	42,790	11.5%	Minneapolis/St. Paul	7,520	7.9%
Calgary	6,000	11.5%	Atlanta	11,250	7.9%
Chicago	18,960	11.4%	St. Louis	4,400	7.7%
Vancouver	12,600	11.3%	Jacksonville	1,820	7.7%
San Francisco Bay Area	45,780	11.2%	Baltimore	5,890	7.7%
Nashville	4,150	10.6%	Kansas City	3,880	7.7%
Raleigh-Durham	7,680	10.4%	Orlando	3,550	7.4%
Dallas/Ft. Worth	21,260	10.3%	Tampa	4,100	7.3%
Los Angeles/Orange County	25,570	10.2%	Denver	9,100	7.2%
Philadelphia	10,890	10.0%	Portland	4,970	7.2%
Ottawa	9,400	10.0%	Montreal	12,200	7.1%
San Antonio	3,330	9.9%	Columbus	3,580	6.9%
Houston	10,390	9.8%	Washington, D.C.	18,280	6.9%
Waterloo Region, Canada	2,900	9.8%	Cleveland	2,500	6.6%
Indianapolis	3,380	9.4%	Cincinnati	2,620	6.5%
Austin	9,030	9.3%	Seattle	12,310	6.3%
San Diego	7,370	9.3%	Richmond	1,790	6.3%
Charlotte	6,000	9.2%	Madison	1,390	5.9%
Pittsburgh	3,790	9.1%	Milwaukee	1,810	5.1%
Detroit	8,710	8.9%	Edmonton	1,500	4.8%
South Florida	6,710	8.6%	Virginia Beach	1,390	4.5%
Phoenix	9,400	8.6%	Quebec City	1,400	3.8%

Source: U.S. Bureau of Labor Statistics, Statistics Canada, April 2023.

Table 34: Tech Talent by Type: Technology Engineering-Related
Ranked by % of Tech Talent

Market	Technology Engineering-Related	% of Tech Talent
Portland	14,590	21.0%
San Diego	14,630	18.6%
Edmonton	5,700	18.3%
Quebec City	6,300	17.3%
Montreal	26,100	15.1%
Detroit	13,640	14.0%
Calgary	7,100	13.6%
Inland Empire	3,450	12.8%
Denver	16,150	12.8%
Virginia Beach	3,970	12.7%
Houston	11,810	11.2%
Waterloo Region, Canada	3,200	10.8%
Phoenix	11,470	10.5%
Los Angeles/Orange County	26,150	10.5%
Milwaukee	3,620	10.3%
Orlando	4,770	10.0%
San Francisco Bay Area	40,660	10.0%
Vancouver	11,000	9.9%
Pittsburgh	3,610	8.7%
Kansas City	4,370	8.7%
Ottawa	8,100	8.6%
Boston	13,800	8.5%
San Antonio	2,850	8.5%
Tampa	4,750	8.5%
Baltimore	6,470	8.5%
Austin	8,160	8.4%
Toronto	23,900	8.4%
St. Louis	4,770	8.4%
Dallas/Ft. Worth	16,490	8.0%
Cincinnati	3,230	8.0%
Sacramento	3,340	7.9%
Jacksonville	1,780	7.5%
Richmond	2,130	7.5%
Philadelphia	8,020	7.4%
Raleigh-Durham	5,260	7.1%
Cleveland	2,700	7.1%
Atlanta	9,860	6.9%
Madison	1,540	6.5%
Charlotte	4,250	6.5%
Columbus	3,310	6.4%
South Florida	4,860	6.3%
Minneapolis/St. Paul	5,660	6.0%
Salt Lake City	3,590	5.8%
Indianapolis	2,030	5.6%
Washington, D.C.	14,850	5.6%
New York Metro	20,330	5.5%
Seattle	10,410	5.4%
Chicago	8,470	5.1%
Hartford	1,380	5.0%
Nashville	1,960	5.0%

Note: Technology Engineering-Related includes: computer programmers; computer hardware engineers, electrical engineers, electronics engineers except computer, electrical and electronics drafters, electrical and electronics engineering technicians and electro-mechanical technicians.
Source: U.S. Bureau of Labor Statistics, Statistics Canada, April 2023.

Table 35: Average U.S. Tech Company Occupation Pools
500 Employees

Occupation Pools	Employees	% of Tech Talent Labor
Tech Talent Employees*	266	53%
Support Non-Tech Employees (excluding Management)	162	32%
Management	72	14%

* Tech Talent includes the following occupation categories: software developers and programmers; computer support, database and systems; technology and engineering related; and computer information system managers.
Source: U.S. Bureau of Labor Statistics (National), April 2023.

Table 36: Estimated One-Year Costs by Market: Wage and Rent Obligation for Typical Tech Firm

Tech Firm Estimates: 500 Employees, 60,000 Sq. Ft. of Office Space

Market	Rent Cost (Avg. Rent x 60,000 SF)	Tech Talent Wages (Avg. Wage x 266 People)	Support Non-Tech Wages (Avg. Wage x 162 People)	Management Wage (Avg. Wage x 72 People)	Total
San Francisco Bay Area	$4,187,194	$41,883,530	$14,363,482	$18,405,000	$78,839,206
New York Metro**	$4,634,400	$32,725,607	$11,860,407	$16,085,520	$65,305,933
Seattle	$2,693,400	$32,884,273	$12,005,555	$14,432,400	$62,015,628
Washington, D.C.	$2,535,000	$31,617,585	$12,350,519	$13,456,080	$59,959,183
Boston	$2,579,400	$30,701,881	$11,255,310	$12,951,360	$57,487,951
San Diego	$2,332,800	$30,246,618	$10,504,200	$13,316,400	$56,400,018
Los Angeles/Orange County	$2,611,769	$30,032,736	$10,169,540	$13,118,400	$55,932,445
Denver	$1,916,873	$29,297,137	$11,379,232	$13,005,840	$55,599,081
Sacramento	$1,530,600	$29,618,508	$10,217,334	$12,028,320	$53,394,762
Baltimore	$1,430,400	$29,817,906	$9,859,102	$11,903,040	$53,010,449
Austin	$2,857,029	$27,970,295	$9,426,297	$11,863,440	$52,117,062
Philadelphia	$1,880,400	$27,765,733	$9,606,358	$12,709,440	$51,961,931
Atlanta	$1,824,100	$27,499,809	$9,863,704	$12,508,560	$51,696,173
Chicago	$2,102,291	$27,673,618	$9,700,688	$11,898,720	$51,375,317
Raleigh-Durham	$1,927,800	$27,435,792	$9,967,077	$11,671,200	$51,001,870
Minneapolis/St. Paul	$1,690,200	$27,337,897	$10,157,829	$11,624,400	$50,810,326
Charlotte	$1,968,746	$27,424,246	$9,397,797	$11,973,600	$50,764,389
Richmond	$1,273,800	$27,596,802	$9,362,005	$12,310,560	$50,543,167
Portland	$1,945,602	$26,942,523	$9,804,447	$11,384,640	$50,077,212
Hartford	$1,245,000	$27,810,075	$9,509,720	$11,098,800	$49,663,595
Dallas/Ft. Worth	$1,545,000	$27,282,990	$9,100,493	$11,617,200	$49,545,682
Phoenix	$1,803,000	$26,885,566	$9,020,872	$11,565,360	$49,274,798
Houston	$1,870,330	$26,749,456	$8,942,281	$11,538,000	$49,100,066
Inland Empire	$1,492,800	$25,901,944	$9,165,384	$11,894,400	$48,454,528
South Florida	$2,480,642	$25,829,517	$8,673,755	$11,178,360	$48,162,273

Market	Rent Cost (Avg. Rent x 60,000 SF)	Tech Talent Wages (Avg. Wage x 266 People)	Support Non-Tech Wages (Avg. Wage x 162 People)	Management Wage (Avg. Wage x 72 People)	Total
Orlando	$1,566,000	$25,600,861	$8,744,558	$11,478,240	$47,389,659
Tampa	$1,794,796	$25,247,558	$8,639,938	$11,432,160	$47,114,452
Detroit	$1,159,800	$24,714,544	$9,804,913	$11,325,960	$47,005,218
Cleveland	$1,144,800	$25,463,364	$8,940,224	$11,435,040	$46,983,427
Virginia Beach	$1,247,400	$26,047,682	$8,676,569	$10,901,520	$46,873,172
Milwaukee	$1,209,902	$25,041,765	$9,046,713	$11,090,160	$46,388,540
Cincinnati	$1,167,600	$25,037,437	$8,822,478	$11,352,960	$46,380,475
Pittsburgh	$1,506,000	$25,400,331	$8,500,971	$10,897,200	$46,304,501
San Antonio	$1,525,200	$26,010,406	$8,189,237	$10,551,600	$46,276,443
St. Louis	$1,317,000	$25,157,326	$8,953,102	$10,720,080	$46,147,507
Salt Lake City	$1,606,032	$24,623,795	$8,494,360	$11,252,520	$45,976,707
Madison	$1,281,600	$24,770,908	$9,176,778	$10,718,640	$45,947,926
Columbus	$1,277,804	$25,101,027	$8,429,514	$10,834,920	$45,643,266
Kansas City	$1,248,600	$24,313,097	$9,193,295	$10,550,160	$45,305,153
Nashville	$1,883,381	$23,948,579	$8,379,157	$10,522,800	$44,733,917
Jacksonville	$1,348,293	$23,973,155	$8,456,273	$10,803,600	$44,581,321
Indianapolis	$1,274,400	$23,115,122	$8,985,953	$9,473,760	$42,849,235
Calgary*	$1,330,214	$20,706,389	$8,941,204	$7,885,946	$38,863,754
Toronto*	$2,108,348	$19,943,488	$8,317,605	$7,750,103	$38,119,543
Vancouver*	$2,445,436	$19,584,591	$8,146,207	$7,372,511	$37,548,746
Ottawa*	$1,500,085	$19,894,655	$8,667,924	$7,448,688	$37,511,352
Waterloo Region, Canada*	$1,297,036	$19,405,143	$7,815,835	$6,983,825	$35,501,839
Edmonton*	$1,487,257	$17,667,337	$7,785,975	$7,113,033	$34,053,601
Montreal*	$1,615,545	$17,471,414	$7,751,217	$7,025,762	$33,863,938
Quebec City*	$1,178,481	$17,491,811	$7,694,125	$6,314,692	$32,679,108

*in US$ ** New York office rent cost represents Manhattan only, all others are metro area.
Source: U.S. Bureau of Labor Statistics, April 2023, Canada Statistics April 2023, CBRE Research (Metro), Q4 2022.

Table 37: Office Asking Rent by Market (Q4 2022)

Market	Annual Gross Direct Asking Rent (US$)	Office Rent 5 Yr. Growth
New York Metro*	$77.24	6%
San Francisco Bay Area	$69.79	12%
Austin	$47.62	38%
Seattle	$44.89	33%
Los Angeles/Orange County	$43.53	16%
Boston	$42.99	21%
Washington, D.C.	$42.25	10%
South Florida	$41.34	17%
Vancouver	$40.76	0%
San Diego	$38.88	12%
Toronto	$35.14	1%
Chicago	$35.04	16%
Charlotte	$32.81	27%
Portland	$32.43	17%
Raleigh-Durham	$32.13	27%
Denver	$31.95	20%
Nashville	$31.39	20%
Philadelphia	$31.34	15%
Houston	$31.17	6%
Atlanta	$30.40	17%
Phoenix	$30.05	18%
Tampa	$29.91	31%
Minneapolis/St. Paul	$28.17	5%
Montreal	$26.93	-2%
Salt Lake City	$26.77	14%

Market	Annual Gross Direct Asking Rent (US$)	Office Rent 5 Yr. Growth
Orlando	$26.10	25%
Dallas/Ft. Worth	$25.75	5%
Sacramento	$25.51	14%
San Antonio	$25.42	14%
Pittsburgh	$25.10	13%
Ottawa	$25.00	0%
Inland Empire	$24.88	17%
Edmonton	$24.79	2%
Baltimore	$23.84	5%
Jacksonville	$22.47	18%
Calgary	$22.17	3%
St. Louis	$21.95	19%
Waterloo Region, Canada	$21.62	-7%
Madison	$21.36	8%
Columbus	$21.30	9%
Indianapolis	$21.24	9%
Richmond	$21.23	8%
Kansas City	$20.81	8%
Virginia Beach	$20.79	11%
Hartford	$20.75	4%
Milwaukee	$20.17	9%
Quebec City	$19.64	1%
Cincinnati	$19.46	2%
Detroit	$19.33	2%
Cleveland	$19.08	4%

* New York represents Manhattan only, all others are metro area.
Source: CBRE Research (Office Market), Q4 2022.

Table 38: Office Vacancy Rate by Market (Q4 2022)

Market	Vacancy Rate	5 Yrs. Ago (Q4 2017)	Market	Vacancy Rate	5 Yrs. Ago (Q4 2017)
Vancouver	7.0%	10.7%	Seattle	16.5%	8.1%
Madison	8.4%	6.3%	San Antonio	16.7%	16.2%
Ottawa	8.6%	11.1%	Pittsburgh	16.8%	9.6%
Quebec City	9.5%	8.8%	Baltimore	16.8%	13.6%
Richmond	9.8%	11.0%	South Florida	17.9%	12.0%
Inland Empire	10.2%	12.7%	Tampa	18.2%	11.7%
Virginia Beach	10.6%	12.0%	Nashville	18.3%	5.5%
Raleigh-Durham	11.1%	7.2%	Denver	18.9%	12.9%
St. Louis	13.2%	9.9%	Cincinnati	18.9%	15.0%
San Diego	13.3%	12.1%	Indianapolis	19.0%	12.6%
Sacramento	13.4%	15.2%	Washington, D.C.	19.1%	15.4%
Orlando	13.7%	10.5%	Portland	19.4%	10.2%
Toronto	13.9%	9.2%	Philadelphia	19.4%	11.0%
Waterloo Region, Canada, Canada	14.0%	14.6%	Columbus	19.5%	12.1%
New York Metro*	14.0%	8.0%	Phoenix	19.8%	16.4%
Kansas City	14.2%	12.4%	Austin	20.7%	7.7%
Milwaukee	14.4%	13.6%	Minneapolis/St. Paul	21.1%	15.9%
Boston	14.4%	9.5%	Edmonton	21.6%	17.8%
Cleveland	14.8%	10.9%	Jacksonville	21.7%	12.0%
Montreal	15.0%	13.8%	Chicago	22.5%	14.0%
San Francisco Bay Area	15.5%	7.7%	Atlanta	22.6%	15.1%
Salt Lake City	15.7%	10.0%	Hartford	23.7%	17.5%
Los Angeles/Orange County	16.0%	12.7%	Houston	24.8%	19.9%
Detroit	16.2%	15.9%	Dallas/Ft. Worth	25.3%	17.5%
Charlotte	16.4%	10.4%	Calgary	30.4%	23.7%

* New York represents Manhattan only, all others are metro area.
Source: CBRE Research (Office Market), Q4 2022.

Table 39: Tech Talent Wages by Market (2022)
U.S. Average = 100%

Market	Average Tech Talent Wage	Wage Relative to U.S. Average	Talent Wage 5 Yr. Growth
San Francisco Bay Area	$157,457	254%	42%
Seattle	$123,625	200%	14%
New York Metro	$123,029	199%	21%
Washington, D.C.	$118,863	192%	27%
Boston	$115,421	186%	18%
San Diego	$113,709	184%	23%
Los Angeles/Orange County	$112,905	182%	20%
Baltimore	$112,097	181%	21%
Sacramento	$111,348	180%	23%
Denver	$110,140	178%	25%
Philadelphia	$105,151	170%	17%
Raleigh-Durham	$104,549	169%	19%
Dallas/Ft. Worth	$104,382	169%	17%
Austin	$104,036	168%	18%
Hartford	$103,747	168%	10%
Charlotte	$103,383	167%	18%
Atlanta	$103,142	167%	18%
Houston	$103,099	167%	14%
Chicago	$102,774	166%	14%
Portland	$102,568	166%	14%
Minneapolis/St. Paul	$101,288	164%	15%
Inland Empire	$101,074	163%	19%
Richmond	$100,562	162%	16%
San Antonio	$97,924	158%	11%
Orlando	$97,783	158%	24%
South Florida	$97,376	157%	30%
Phoenix	$97,103	157%	14%
Tampa	$96,244	155%	21%
Columbus	$95,727	155%	12%
Nashville	$95,490	154%	24%
Detroit	$94,916	153%	22%
Virginia Beach	$94,576	153%	17%
Salt Lake City	$94,365	152%	16%
Jacksonville	$94,142	152%	22%
Pittsburgh	$94,126	152%	21%
St. Louis	$93,124	150%	12%
Cleveland	$92,912	150%	23%
Cincinnati	$92,571	150%	17%
Madison	$91,403	148%	20%
Milwaukee	$90,125	146%	18%
Kansas City	$90,032	145%	12%
Indianapolis	$86,899	140%	13%
Calgary*	$77,844	126%	15%
Toronto	$74,976	121%	21%
Ottawa*	$74,792	121%	17%
Vancouver*	$73,626	119%	29%
Waterloo Region, Canada*	$72,952	118%	13%
Edmonton*	$66,419	107%	12%
Quebec City*	$65,759	106%	22%
Montreal*	$65,682	106%	16%

*data in US$
Source: U.S. Bureau of Labor Statistics (Metro), Statistics Canada (Metro), April 2023.

Table 40: Tech Wage to Apartment Rent Ratio (US$)

Market	Annualized Apt. Rent (2022)	Average Annual Tech Wage (2022)	Rent-to-Tech Wage Ratio
New York Metro	$37,686	$117,637	32.0%
Los Angeles/Orange County	$30,653	$104,750	29.3%
South Florida	$25,374	$89,956	28.2%
San Diego	$28,872	$106,617	27.1%
Boston	$29,333	$112,096	26.2%
Inland Empire	$24,192	$94,908	25.5%
San Francisco Bay Area	$33,316	$139,907	23.8%
Tampa	$19,620	$89,198	22.0%
Toronto	$14,560	$68,600	21.2%
Orlando	$18,888	$90,378	20.9%
Sacramento	$22,320	$106,812	20.9%
Denver	$21,229	$101,593	20.9%
Nashville	$17,748	$86,217	20.6%
Vancouver	$14,337	$71,268	20.1%
Chicago	$19,920	$99,763	20.0%
Washington, D.C.	$22,716	$113,846	20.0%
Phoenix	$19,260	$96,289	20.0%
Seattle	$24,156	$122,341	19.7%
Salt Lake City	$17,720	$90,105	19.7%
Portland	$19,536	$100,463	19.4%
Philadelphia	$19,008	$97,822	19.4%
Jacksonville	$17,064	$87,851	19.4%
Austin	$18,720	$98,006	19.1%
Atlanta	$19,032	$100,816	18.9%
Milwaukee	$15,612	$85,989	18.2%
Hartford	$18,468	$100,846	18.3%
Ottawa	$13,077	$72,739	18.0%
Virginia Beach	$15,948	$90,285	17.7%
Charlotte	$17,160	$98,875	17.4%
Pittsburgh	$15,360	$88,779	17.3%
Baltimore	$18,636	$108,669	17.1%
Minneapolis/St. Paul	$16,788	$98,247	17.1%
Raleigh-Durham	$17,148	$100,683	17.0%
Richmond	$15,996	$94,484	16.9%
Madison	$14,832	$87,775	16.9%
Dallas/Ft. Worth	$16,932	$103,532	16.4%
Calgary	$11,398	$70,411	16.2%
Detroit	$13,836	$88,592	15.6%
Waterloo Region, Canada	$12,191	$78,220	15.6%
Edmonton	$10,801	$70,185	15.4%
Indianapolis	$12,852	$83,826	15.3%
Kansas City	$13,200	$86,144	15.3%
Cincinnati	$13,392	$88,088	15.2%
Houston	$14,772	$97,715	15.1%
St. Louis	$13,308	$88,945	15.0%
San Antonio	$13,932	$93,458	14.9%
Columbus	$13,608	$92,727	14.7%
Cleveland	$12,768	$89,424	14.3%
Quebec City	$8,535	$63,556	13.4%
Montreal	$8,516	$65,997	12.9%

*in US$
Note: New York represents Manhattan only, all others are metro area.
Source: U.S. Bureau of Labor Statistics April 2023, Statistics Canada April 2023, CBRE Econometric Advisors, Axiometrics, CMHC Q4 2022.

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