Occupation Report

Electronics Engineers, Except Computer

Sacramento-Roseville-Folsom, CA MSA

Occupation Snapshot

6-Digit Occupation	Empl	Avg Mean Wages	LQ	3-Year Empl Change	Annual Demand	Forecast Ann Growth
Electronics Engineers, Except Computer	**725**	**$122,100**	**0.93**	**-68**	**56**	**1.3%**

Electronics Engineers, Except Computer

Current
725

— Historical   -- Forecast

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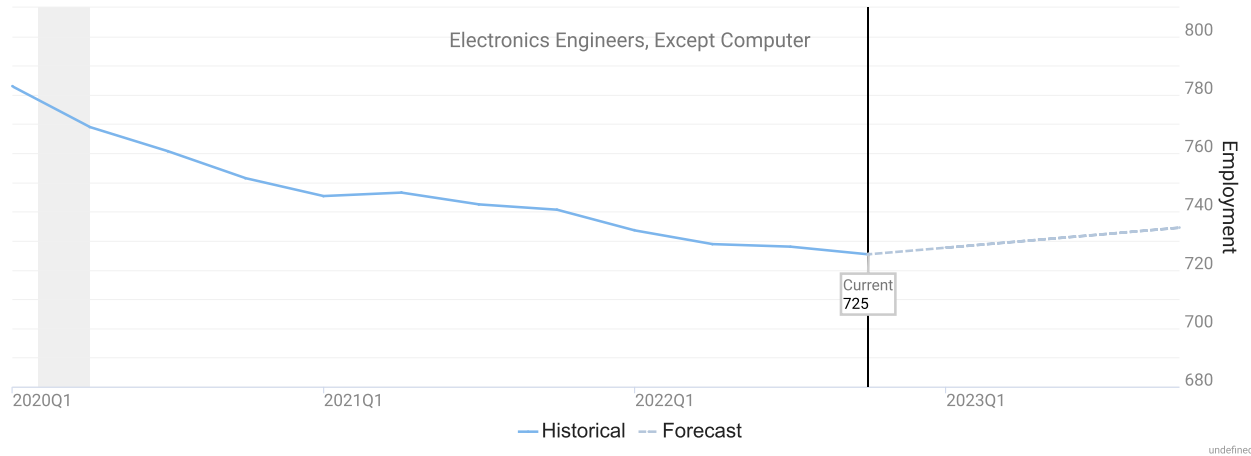
💡 "Annual Demand" is the projected need for new entrants into an occupation. New entrants are needed due to expected growth and to replace workers who left the occupation due to factors such as retirement or switching careers.

💡 "Forecast Ann Growth" is the expected change in jobs due to national, long-term trend projections (per the BLS) as well as local factors such as industry mix and population growth (as computed and modeled by Chmura).

Employment by Industry

Industry Title	% of Occ Empl	Empl	10-Year Separations	10-Year Empl Growth	10-Year Total Demand
Wired and Wireless Telecommunications (except Satellite)	16.7%	121	85	36	122
Architectural, Engineering, and Related Services	15.6%	113	72	6	77
Scientific Research and Development Services	13.0%	94	63	14	76
Semiconductor and Other Electronic Component Manufacturing	5.6%	40	28	11	39
Management of Companies and Enterprises	4.3%	31	20	3	23
Computer Systems Design and Related Services	3.8%	28	19	6	25
Employment Services	3.6%	26	17	2	19
Computer and Peripheral Equipment Manufacturing	2.6%	19	12	2	14
Audio and Video Equipment Manufacturing	2.4%	18	12	4	16
Administration of Environmental Quality Programs	2.4%	17	11	0	10
Building Equipment Contractors	2.1%	16	10	0	10
Justice, Public Order, and Safety Activities	2.0%	15	9	0	9
Executive, Legislative, and Other General Government Support	1.9%	14	9	0	9
Aerospace Product and Parts Manufacturing	1.9%	14	9	1	10
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	1.9%	13	9	1	9
Administration of Economic Programs	1.8%	13	8	0	8
Administration of Human Resource Programs	1.5%	11	7	0	7
Electronics and Appliance Retailers	1.0%	7	4	0	4
Management, Scientific, and Technical Consulting Services	0.9%	7	5	1	6
National Security and International Affairs	0.7%	5	3	0	3
All Others	14.2%	103	67	10	77

The industry distribution indicates the industries in which workers in the occupation(s) are primarily found.

"10-Year Empl Growth" may show industries with positive as well as negative growth; this would indicate that the occupation(s) being examined are expected to expand within some industries while contracting in others.
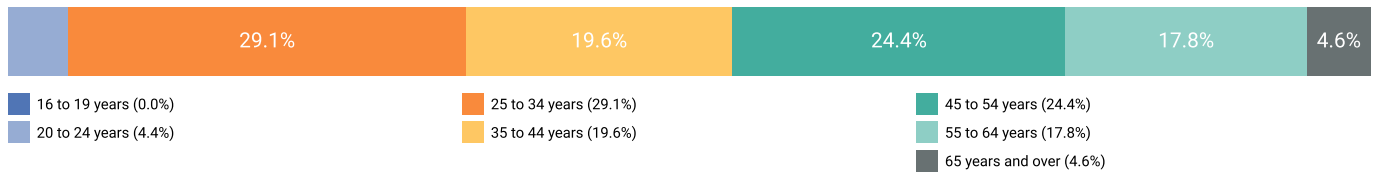
Wages
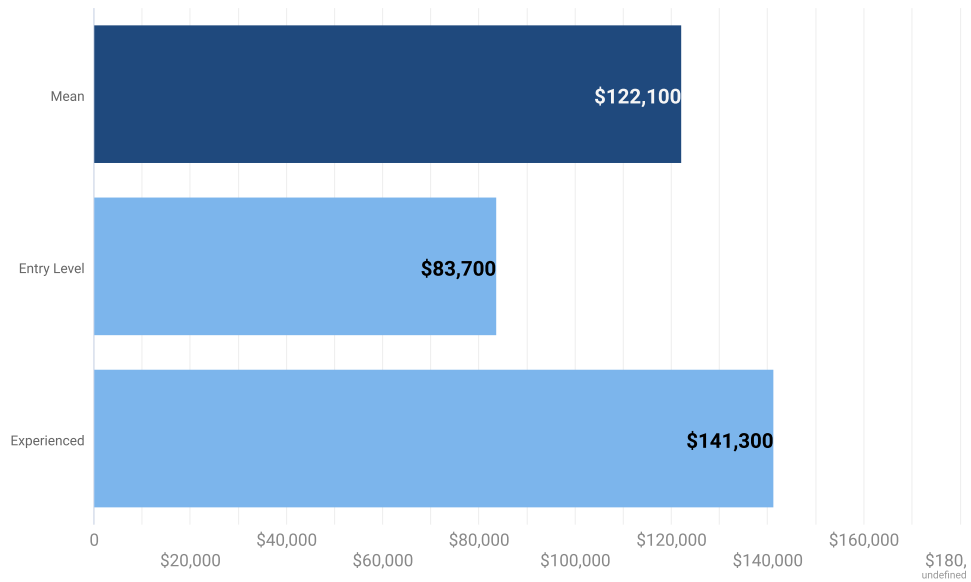
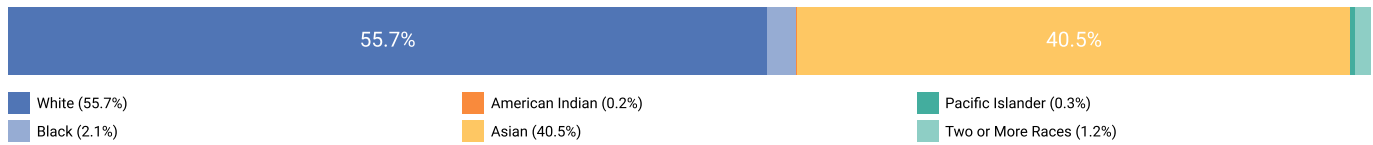| Occupation	Mean	Median	Entry Level	Experienced
Electronics Engineers, Except Computer	$122,100	$120,600	$83,700	$141,300

Occupation wages here utilize BLS OEWS data, imputed and brought forward by Chmura.

When this report is run for an occupation group, the table above displays up to the top ten detailed occupations which have the highest average wages within the occupation group.
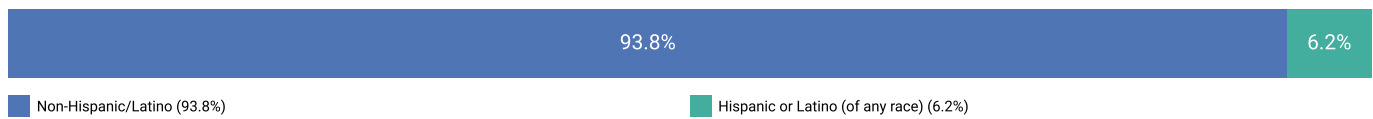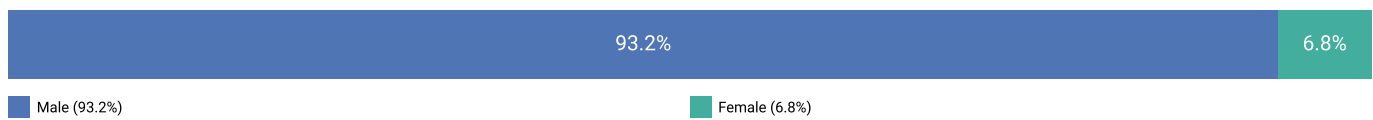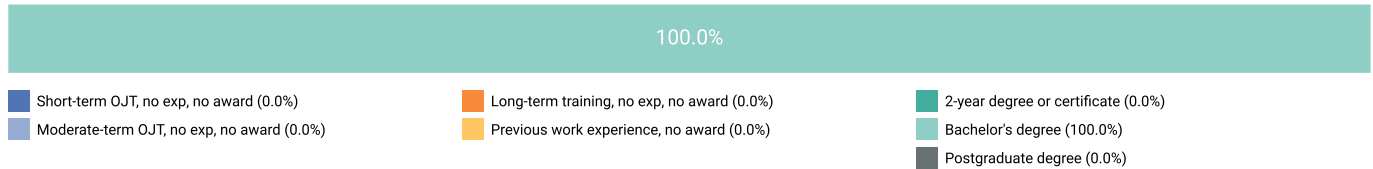
Occupation Demographics

Age

	29.1%	19.6%	24.4%	17.8%	4.6%

■ 16 to 19 years (0.0%) ■ 25 to 34 years (29.1%) ■ 45 to 54 years (24.4%)
■ 20 to 24 years (4.4%) ■ 35 to 44 years (19.6%) ■ 55 to 64 years (17.8%)
                                                    ■ 65 years and over (4.6%)

Race

55.7%		40.5%

■ White (55.7%)   ■ American Indian (0.2%)   ■ Pacific Islander (0.3%)
■ Black (2.1%)   ■ Asian (40.5%)   ■ Two or More Races (1.2%)

Ethnicity

93.8%	6.2%

■ Non-Hispanic/Latino (93.8%)   ■ Hispanic or Latino (of any race) (6.2%)

Gender

93.2%	6.8%

■ Male (93.2%)   ■ Female (6.8%)

Education and Training Requirements

100.0%

■ Short-term OJT, no exp, no award (0.0%)   ■ Long-term training, no exp, no award (0.0%)   ■ 2-year degree or certificate (0.0%)
■ Moderate-term OJT, no exp, no award (0.0%)   ■ Previous work experience, no award (0.0%)   ■ Bachelor's degree (100.0%)
                                                                                                ■ Postgraduate degree (0.0%)

Education Profile

Educational Attainment

6.4%	54.5%	26.1%	6.5%

- ■ < High School (0.1%)
- ■ High School (2.1%)
- ■ Some College (4.4%)
- ■ Two-Year (6.4%)
- ■ Four-Year (54.5%)
- ■ Master's (26.1%)
- ■ PhD (6.5%)
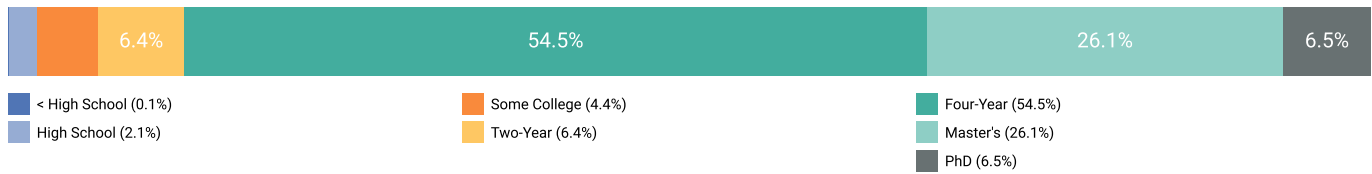
Occupation	Typical Entry-Level Education	Previous Work Experience	Typical On-the-Job Training
Electronics Engineers, Except Computer	Bachelor's degree	None	None

💡 The stacked bar chart here illustrates the estimated mix of educational attainment of the workers in this occupation(s) in aggregate.

💡 The table indicates typical education and training requirements rather than the mix of attainment of workers in such positions.

# Postsecondary Programs Linked to Electronics Engineers, Except Computer

Program	Awards
California State University-Sacramento	
Electrical and Electronics Engineering	113
Sacramento City College	
Telecommunications Engineering	0
University of California-Davis	
Electrical and Electronics Engineering	69

The number of graduates from postsecondary programs in the region identifies the pipeline of future workers as well as the training capacity to support industry demand.

Among postsecondary programs at schools located in the Sacramento-Roseville-Folsom, CA MSA, the sampling above identifies those most linked to Electronics Engineers, Except Computer. For a complete list see JobsEQ®, http://www.chmuraecon.com/jobseq

RTI (Job Postings)

Active Job Ads by Date

■ Jul 4, 2022 to Jun 25, 2023   ☐ Jul 5, 2021 to Jun 26, 2022
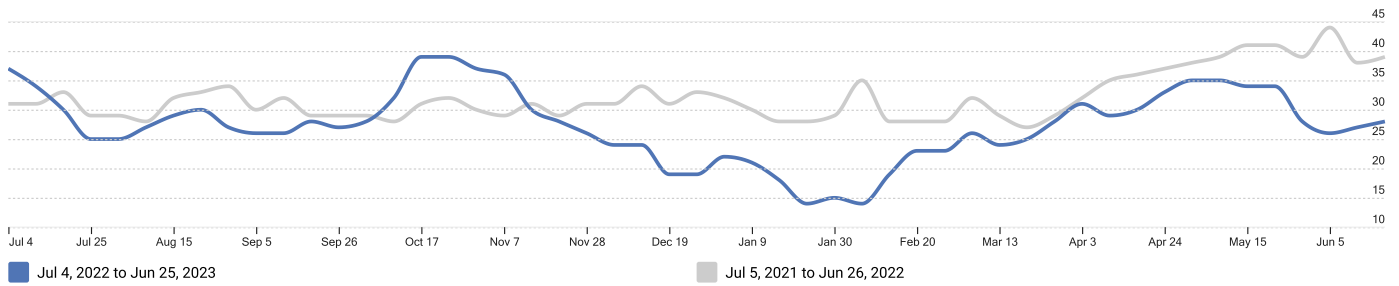
💡 Online job ads are a timely indicator of local demand. Occupation assignments shown below are made by Chmura based upon analysis of job titles and job descriptions. Top employers and listed job requirements are shown on the following pages.

Occupations

SOC	Occupation	Active Job Ads	
17- 2072.00	Electronics Engineers, Except Computer	170	
17- 2072.01	Radio Frequency Identification Device Specialists	4	

Locations

Location	Active Job Ads	
Folsom, California	45	
Sacramento, California	45	
Sacramento County, California	22	
Mcclellan, California	8	
McClellan Park, CA, US	7	
Roseville, California	7	
Davis, CA, US, 95616	3	
95630	2	
95827	2	
Rancho Cordova, California	2	

Employers

Employer Name	Active Job Ads	
Intel Corporation	19	
NORTHROP GRUMMAN	16	
Encore Semi Inc.	15	
US Navy	8	
Intel	6	
Department of Defense	4	
Dish Network	4	
State of California California Governor's Office of Emergency Services	4	
State of California Department of Technology	4	
State of California Department of Transportation	4	

Hard Skills

Skill Name	Active Job Ads	
Python	37	
Computer Programming/Coding	34	
Telecommunications	28	
Radio Frequency (RF)	25	
Circuits	24	
Perl	23	
Verilog	20	
Computer Aided Design Software (CAD Software)	19	
Tool Command Language (Tcl)	18	
Mathematics	17	

Job Titles

Job Title	Active Job Ads	
Electronics Engineer	17	
ASSOCIATE TELECOMMUNICATIONS ENGINEER	8	
Senior Telecommunications Engineer	8	
Analog Engineer	7	
Analog Engineer (SK)	5	
Senior Power Signal Integrity Engineer - CA	4	
ASSISTANT TELECOMMUNICATIONS ENGINEER	3	
RF Engineer	3	
Senior Power Signal Integrity Engineer (100% remote) - CA	3	
Electronics Engineering	2	

Education Levels

Minimum Education Level	Active Job Ads	
Bachelor's degree	77	
High school diploma or equivalent	10	
Master's degree	9	
Associate's degree	3	
Doctoral or professional degree	3	
Unspecified/other	72	

Programs

Program Name	Active Job Ads	
Electrical Engineering	39	
Engineering	33	
Computer Science	21	
Mathematics	17	
Science	17	
Computer Engineering	16	
Technology	13	
STEM	10	
Electrical	7	
Mechanical Engineering	7	

Top Skill and Certification Gaps

Top 10 Skill Gaps in Sacramento-Roseville-Folsom, CA MSA

Name	Candidates	Openings	Gap
Field Programmable Gate Array (FPGA)	7	25	-18
Linux	7	24	-17
Python	8	17	-9
Perl	6	13	-7
Verilog	6	12	-6
Radio Frequency (RF)	8	11	-4
JavaScript	0	3	-3
Circuits	8	11	-2
Process Development	0	2	-2
Protocol Analyzers	1	3	-2

Top 10 Certification Gaps in Sacramento-Roseville-Folsom, CA MSA

| Name	Candidates	Openings	Gap
Secret Clearance	0	2	-2
Engineer in Training (EIT)	1	1	0
Certified Planning Engineer (CPE)	1	0	1
CompTIA Security+ CE (Continuing Education) Certification	1	0	1

Skill and certifications gaps can help inform employee development programs, as well as provide a comparison of the needs of regional employers to the supply.

Occupation Gaps

Supply Deficit   Supply Surplus
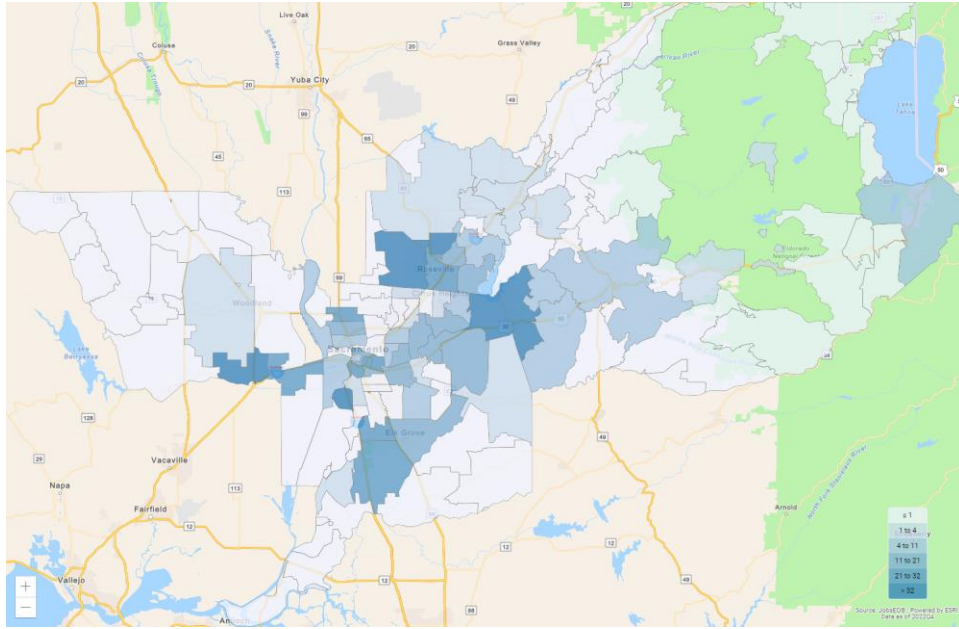
Electronics Engineers, Except Computer ($122,100)

−5
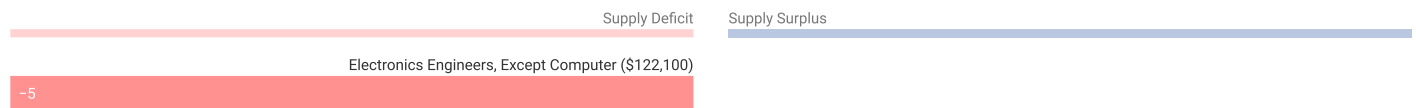
The above are the potential average annual gaps over 10 years. Many variables go into this analysis, but at its core it is based on a forecast comparing occupation demand growth to the local population growth and the projected educational attainment of those residents. When an area, for example, has an occupation expected to grow quickly but the educational requirement for the occupation does not match well with the educational attainment of its residents, there is a high potential for an occupation shortfall in the region. Alternatively, slow-growing or contracting occupations often represent potential supply surpluses.

The potential supply shortfall is an underlying force that the market needs to resolve one way or another, such as by employers recruiting from further distances for these occupations, wages going up to attract more candidates, and/or increased demand and wages enticing more local residents to get training for these occupations. While this an important analysis for determining local occupation needs, the occupation gap should be considered along with other regional data including growth and separation forecasts, unemployment rates, wage trends, and award and skill gap analyses.

Geographic Distribution
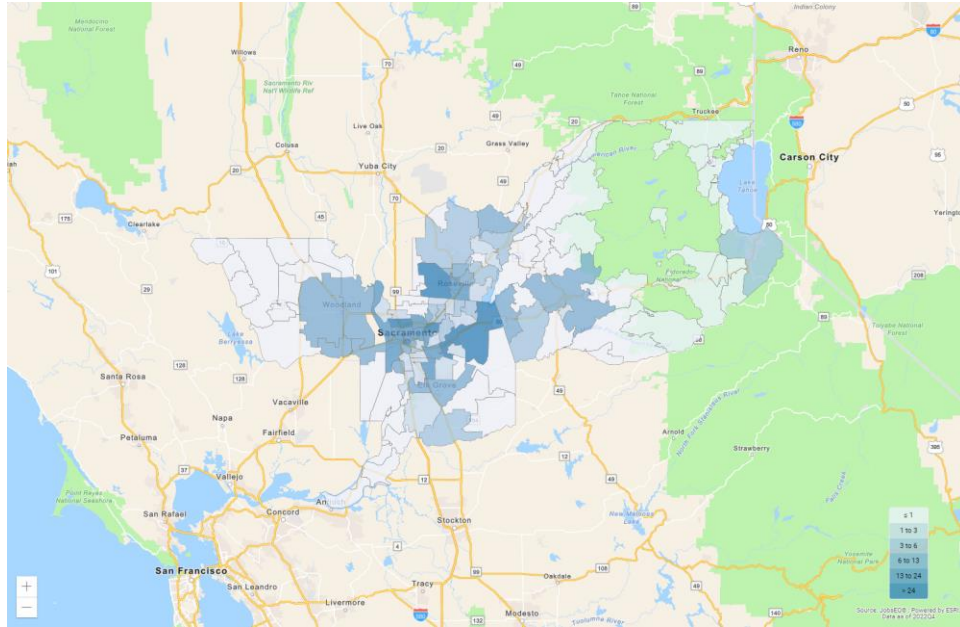
Top ZCTAs by Place of Work for Electronics Engineers, Except Computer, 2022Q4

Region	Employment
ZCTA 95814	65
ZCTA 95630	53
ZCTA 95827	38
ZCTA 95742	34
ZCTA 95670	31
ZCTA 95821	30
ZCTA 95834	26
ZCTA 95747	24
ZCTA 95678	22
ZCTA 95815	21

Top ZCTAs by Place of Residence for Electronics Engineers, Except Computer, 2022Q4

Region	Employment
ZCTA 95630	68
ZCTA 95747	55
ZCTA 95616	38
ZCTA 95762	33
ZCTA 95831	32
ZCTA 95765	32
ZCTA 95835	31
ZCTA 95816	29
ZCTA 95757	26
ZCTA 95678	25

"Place of work" employment is based upon the location of employers for these workers. "Place of residence" data refers to the home locations of the workforce, which is typically the preferred data set to use when calculating labor availability within a drive-time or radius of a potential worksite.

Sacramento-Roseville-Folsom, CA MSA Regional Map
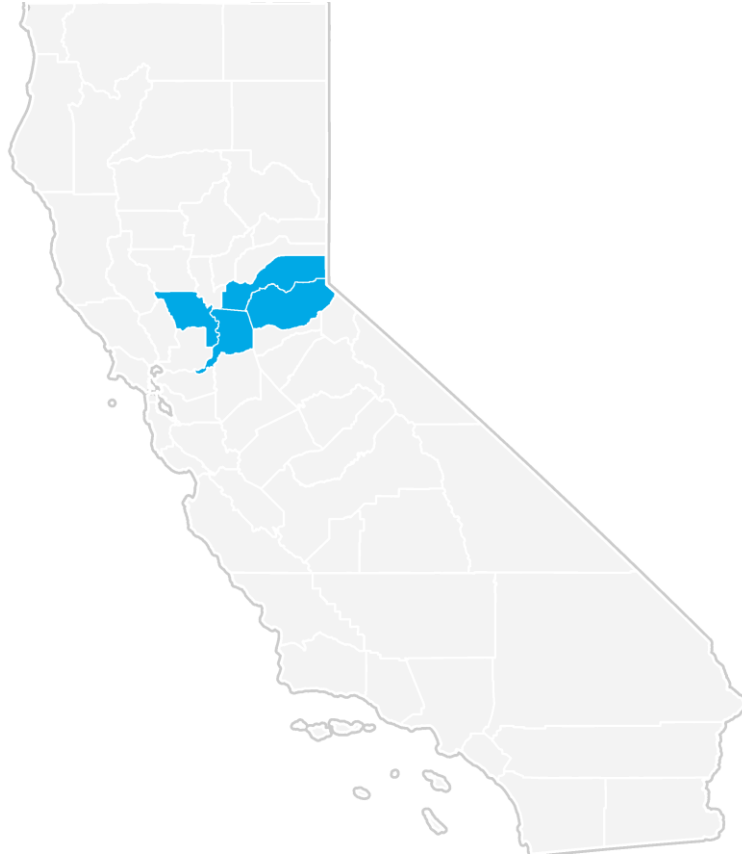
Data Notes

- Occupation employment by default indicates employment by place of work. Occupation employment is as of 2022Q4 and is based on industry employment and local staffing patterns calculated by Chmura and utilizing BLS OEWS data. Employment forecasts are modeled by Chmura and are consistent with BLS national-level 10-year forecasts. Wages by occupation are as of 2022Q4, utilizing BLS OEWS data, imputed and brought forward by Chmura. Entry-level and experienced wages are derived from these source data, computed by Chmura.
- Industry employment is as of 2022Q4 and is based upon BLS QCEW data, imputed by Chmura where necessary, and supplemented by additional sources including Census ZBP data.
- Education and training requirements are from the BLS. Educational attainment mix and other occupation demographics data are modeled by Chmura for 2022Q4 using regional occupation employment from JobsEQ, ZCTA-level demographics data from the Census Bureau, and national occupation-demographics patterns from the BLS.
- Postsecondary awards are per the NCES and are for the 2020-2021 academic year. Any programs shown are linked with the occupation(s) being analyzed via the program-occupation crosswalk, which may not be comprehensive. Any programs shown reflect only data reported to the NCES; reporting is required of all Title IV schools. Training providers that do not report data to the NCES are not reflected.
- Job ads data are online job posts from the Real-Time Intelligence (RTI) data set, produced wholly by Chmura and gleaned from over 40,000 websites. Data reflect ads active during the last twelve month period ending 06/29/2023 and advertised for any Zip Code Tabulation Area in or intersecting with the region for which this report was produced. Historical ad volume is revised as additional data are made available and processed. Since many extraneous factors can affect short-term volume of online job postings, time-series data can be volatile and should be used with caution. All ad counts represent deduplicated figures.
- For skill and certification gaps, openings and candidates are based upon regional occupation demand (growth plus separations) and the percent of skill demand and supply. Skill demand mix data are per a one-year sample of RTI data; skill supply data are estimated using a five-year sample of resumes data; both data sets compiled as of August 2021. Data may be based, at least in part, on data from broader geographies; see the Skill Gaps analytic export for more details.
- Occupation gaps are modeled by Chmura, indicating long-term potential supply and demand mismatches in a region due, in part, to job demand and labor pool dyanamics, including educational attainment and projected growth.
- Occupation employment by place of residence is as of 2022Q4 and modeled by Chmura based upon occuaption employment by place of work and commuting patterns. Commuting patterns are derived from source data from the Census Bureau, occupation-specific commuting tendancies, and updated to reflect more recent population and employment estimates.
- Figures may not sum due to rounding.

Region Definition

Sacramento-Roseville-Folsom, CA MSA is defined as the following counties:

El Dorado County, California	Sacramento County, California
Placer County, California	Yolo County, California

FAQ

What is (LQ) location quotient?

Location quotient is a measurement of concentration in comparison to the nation. An LQ of 1.00 indicates a region has the same concentration of an industry (or occupation) as the nation. An LQ of 2.00 would mean the region has twice the expected employment compared to the nation and an LQ of 0.50 would mean the region has half the expected employment in comparison to the nation.

What is annual demand?

Annual demand is a of the sum of the annual projected growth demand and separation demand. Separation demand is the number of jobs required due to separations—labor force exits (including retirements) and turnover resulting from workers moving from one occupation into another. Note that separation demand does not include all turnover—it does not include when workers stay in the same occupation but switch employers. Growth demand is the increase or decrease of jobs expected due to expansion or contraction of the overall number of jobs.