



Occupation Report

Aerospace Engineers

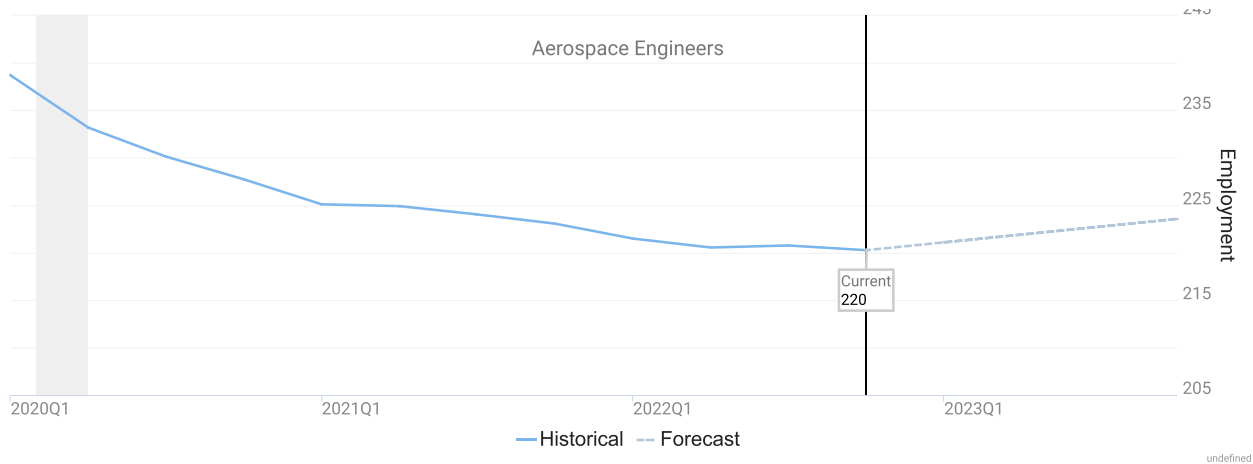
Sacramento-Roseville-Folsom, CA MSA



Occupation Snapshot 3
Employment by Industry 4
Wages 5
Occupation Demographics 6
Education Profile 7
Postsecondary Programs Linked to Aerospace Engineers 8
RTI (Job Postings) 9
Top Skill and Certification Gaps 13
Occupation Gaps 14
Geographic Distribution 15
Sacramento-Roseville-Folsom, CA MSA Regional Map..... 17
Data Notes..... 18
Region Definition..... 19
FAQ..... 20

Occupation Snapshot

6-Digit Occupation	Empl	Avg Mean Wages	LQ	3-Year Empl Change	Annual Demand	Forecast Ann Growth
Aerospace Engineers	220	\$136,100	0.54	-22	16	1.5%
Aerospace Engineers	220	\$136,100	0.54	-22	16	1.5%



- 💡 “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).

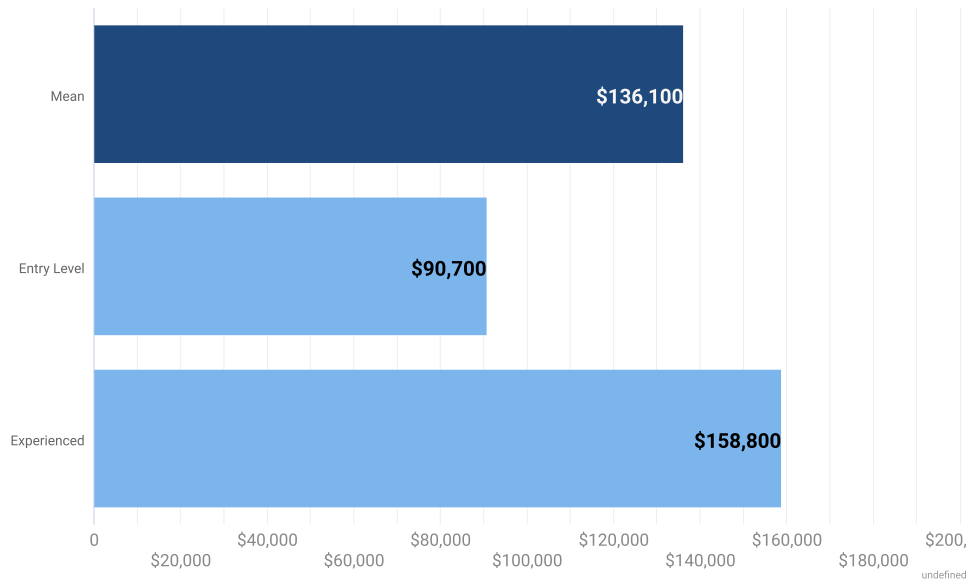
Employment by Industry

Industry Title	% of Occ Empl	Empl	10-Year Separations	10-Year Empl Growth	10-Year Total Demand
Architectural, Engineering, and Related Services	33.6%	74	44	11	55
Scientific Research and Development Services	20.5%	45	28	12	40
Aerospace Product and Parts Manufacturing	14.7%	32	19	2	21
Support Activities for Air Transportation	6.0%	13	8	2	10
Computer Systems Design and Related Services	5.6%	12	8	3	10
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	4.1%	9	5	1	7
Management of Companies and Enterprises	3.4%	8	4	1	5
Employment Services	2.3%	5	3	0	3
Management, Scientific, and Technical Consulting Services	2.0%	4	3	1	3
Colleges, Universities, and Professional Schools	1.3%	3	2	0	2
Administration of Environmental Quality Programs	1.0%	2	1	0	2
Justice, Public Order, and Safety Activities	0.9%	2	1	0	1
Administration of Economic Programs	0.7%	2	1	0	1
All Others	3.9%	9	5	1	6

 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

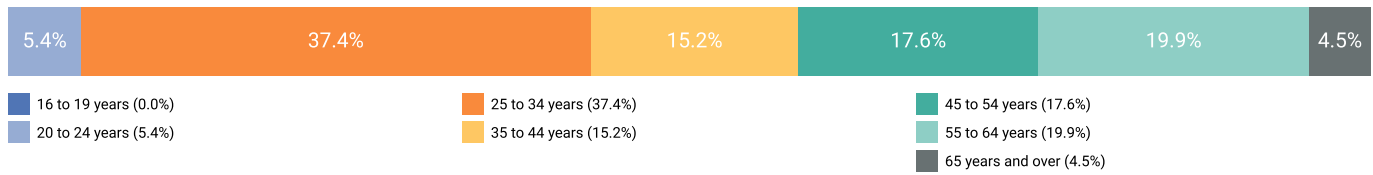


Occupation	Mean	Median	Entry Level	Experienced
Aerospace Engineers	\$136,100	\$128,400	\$90,700	\$158,800

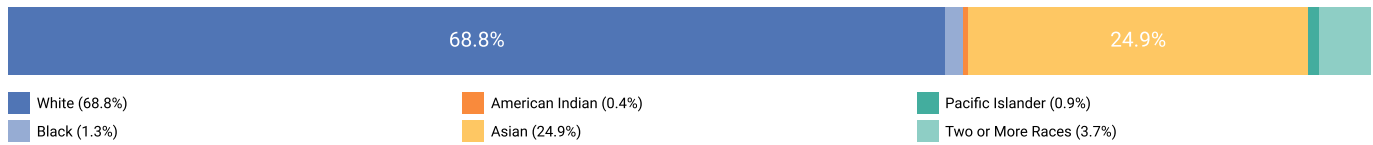
- 💡 Occupation wages here utilize BLS OEWS data, imputed and brought forward by Chmura.
- 💡 When this report is run for an occupation group, the table above displays up to the top ten detailed occupations which have the highest average wages within the occupation group.

Occupation Demographics

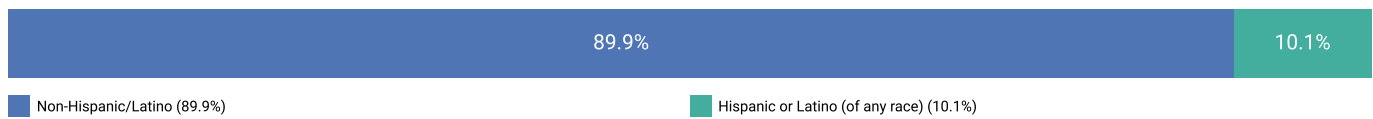
Age



Race



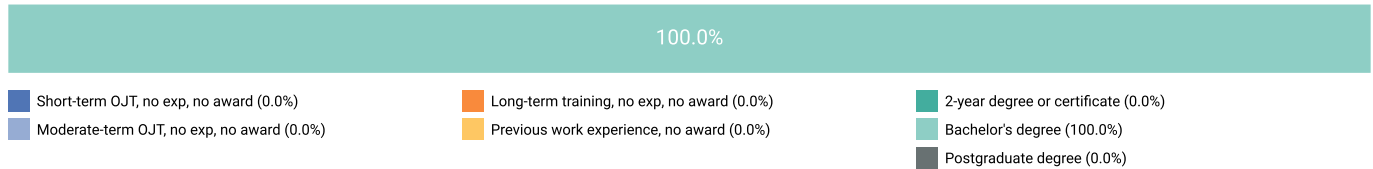
Ethnicity



Gender

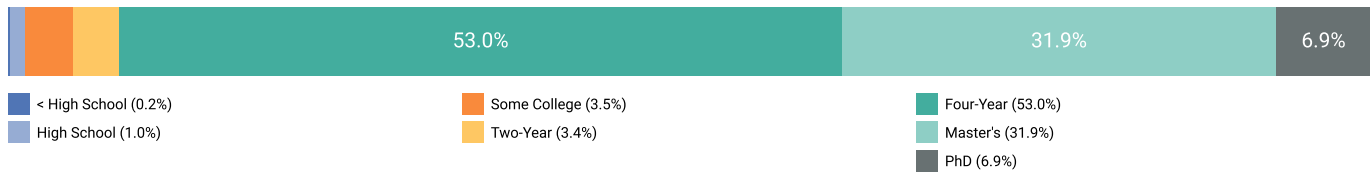


Education and Training Requirements



Education Profile

Educational Attainment





Occupation	Typical Entry-Level Education	Previous Work Experience	Typical On-the-Job Training
Aerospace Engineers	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.

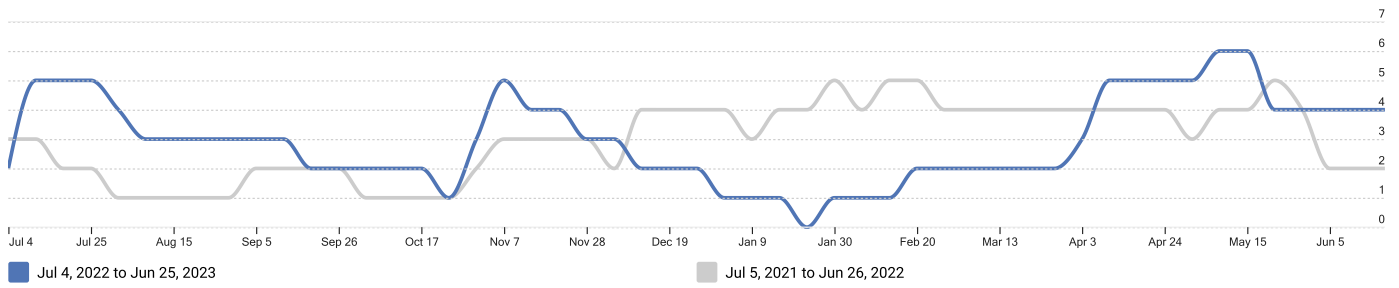
Postsecondary Programs Linked to Aerospace Engineers


Program	Awards
California State University-Sacramento	
Electrical and Electronics Engineering	113
Mechanical Engineering	229
University of California-Davis	
Aerospace, Aeronautical, and Astronautical/Space Engineering, General	86
Electrical and Electronics Engineering	69
Mechanical Engineering	274

-  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 Aerospace Engineers. For a complete list see JobsEQ®, <http://www.chmuraecon.com/jobseq>

RTI (Job Postings)

Active Job Ads by Date



 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
17-2011.00	Aerospace Engineers	19

Locations

Location	Active Job Ads	
Sacramento, California	10	
CA105: Golden Foothills Sacramento 5180 Golden Foothills Parkway Suite 200, El Dorado Hills, CA, 95762 USA	2	
Folsom, California	2	
HCA99: Field Office - CA Remote Location, Remote City, CA, 94203 USA	2	
Lincoln Park, CA, US	2	
Folsom, CA 95630	1	

Employers

Employer Name	Active Job Ads	
Raytheon Technologies	4	
Aerojet	2	
Boeing	2	
US Department of Transportation	2	
Valley Tech Systems, Inc	2	
Aerojet Rocketdyne	1	
Boeing Company	1	
Department of Transportation	1	
Intel Corporation	1	
Naval Air Systems Command (NAVAIR)	1	

Hard Skills

Skill Name	Active Job Ads	
Mathematics	5	
Finite Element Analysis Software (FEA Software)	4	
Lean Six Sigma	4	
MSC Nastran	4	
MATLAB	3	
Microsoft Excel	3	
Circuits	2	
Computer Aided Design Software (CAD Software)	2	
Computer Programming/Coding	2	
Dassault Systemes SolidWorks Software	2	

Job Titles

Job Title	Active Job Ads	
Public Notice for Engineering Technicians (Aerospace - Direct Hire)	2	
Section Lead Structural Analysis	2	
Associate Engineer, Structures and Dynamics	1	
Entry Level Electronic Systems Design and Analysis Engineer	1	
Flight Test Engineer (Associate or Mid-Level)	1	
GENERAL ENGINEER/MECHANICAL ENGINEER/AEROSPACE ENGINEER/CHEMICAL ENGINEER/PHYSICIST	1	
Intern - Avionics Engineering	1	
Lead Structural Analysis Engineer-remote	1	
Public Notice for Engineering Technicians (Aerospace)	1	
Senior Failure Analysis Engineer (SK)	1	

Education Levels

Minimum Education Level	Active Job Ads	
Bachelor's degree	13	
Unspecified/other	6	

Programs

Program Name	Active Job Ads	
Aerospace Engineering	6	
Engineering	6	
Mechanical Engineering	6	
Mathematics	5	
Industrial Technology	3	
Applied Physics	2	
Chemistry	2	
Computer Science	2	
Electrical	2	
Physics	2	

Top Skill and Certification Gaps

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

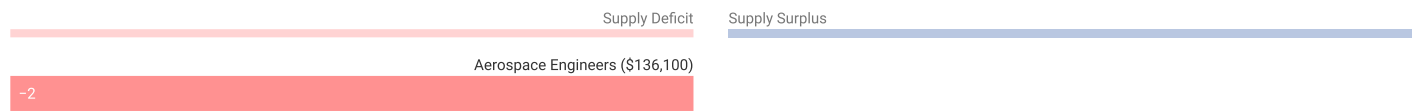
Name	Candidates	Openings	Gap
Mathematics	0	10	-10
Microsoft Office	0	1	-1
Microsoft Excel	0	1	-1
The MathWorks Simulink	0	1	-1
MATLAB	2	3	-1
Presentation	0	1	-1
Microsoft PowerPoint	0	1	-1
Agile	0	1	-1
System Integration	0	1	-1
Data Analysis	0	1	-1



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

Name	Candidates	Openings	Gap
Secret Clearance	0	6	-6

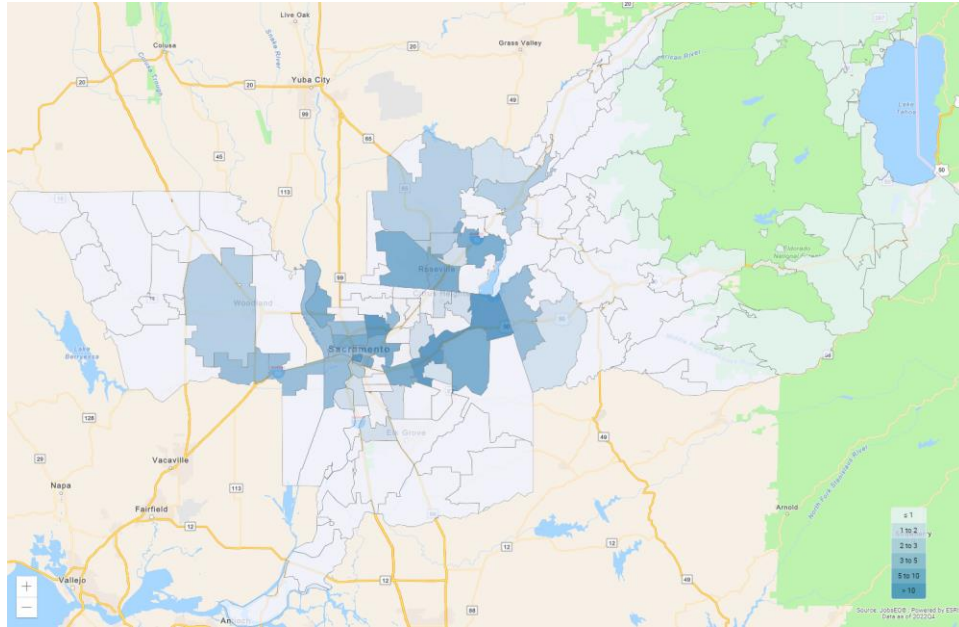
 Skill and certifications gaps can help inform employee development programs, as well as provide a comparison of the needs of regional employers to the supply.

Occupation Gaps



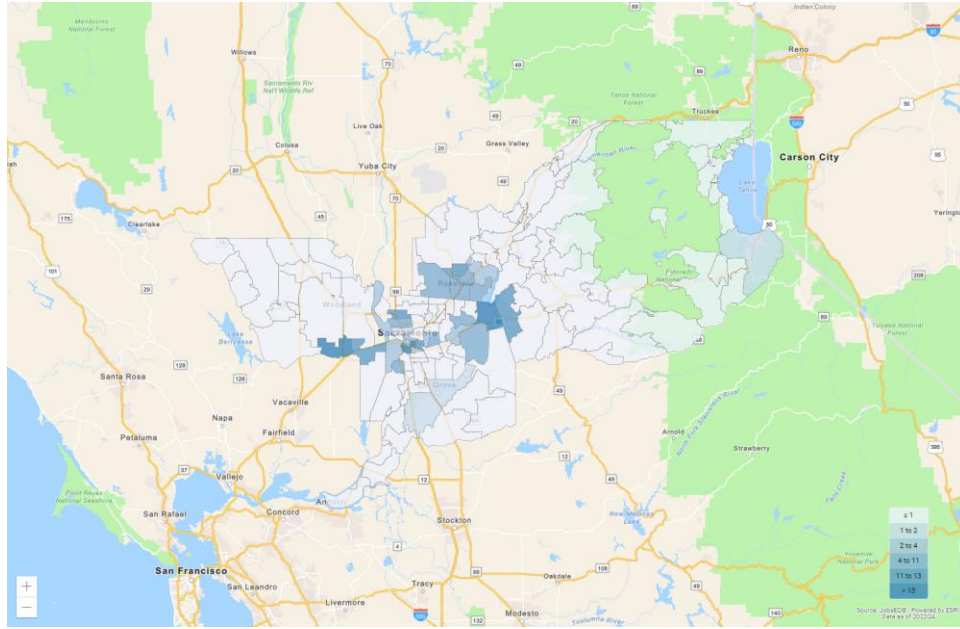
-  The above are the potential average annual gaps over 10 years. Many variables go into this analysis, but at its core it is based on a forecast comparing occupation demand growth to the local population growth and the projected educational attainment of those residents. When an area, for example, has 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 Aerospace Engineers, 2022Q4

Region	Employment
ZCTA 95630	22
ZCTA 95814	21
ZCTA 95670	21
ZCTA 95827	15
ZCTA 95838	10
ZCTA 95833	6
ZCTA 95837 (Sacramento County, CA portion)	6
ZCTA 95747	6
ZCTA 95816	6
ZCTA 95661	6

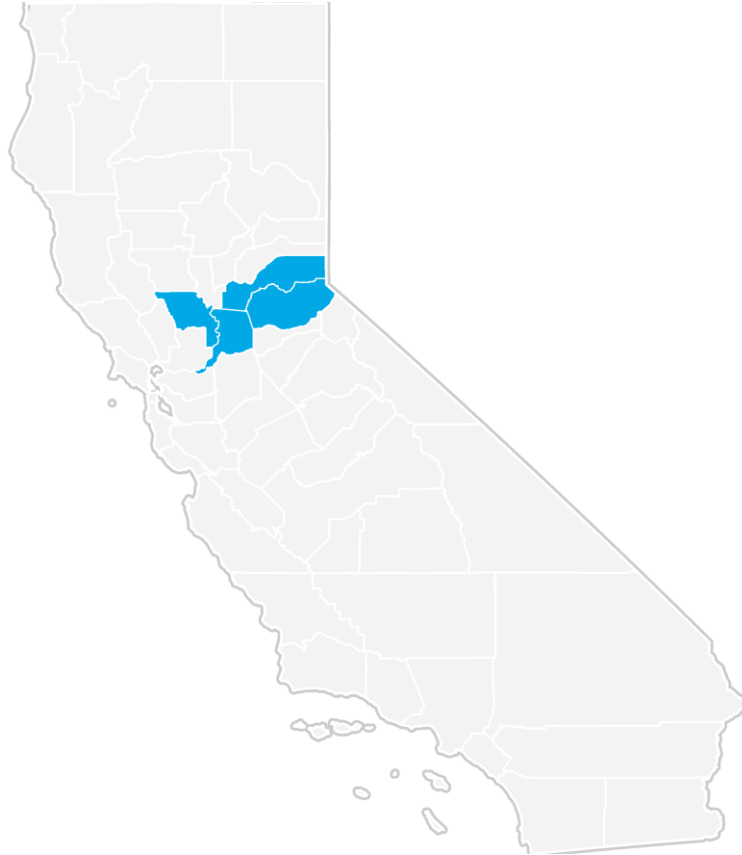


Top ZCTAs by Place of Residence for Aerospace Engineers, 2022Q4

Region	Employment
ZCTA 95630	26
ZCTA 95616	17
ZCTA 95816	15
ZCTA 95818	13
ZCTA 95835	13
ZCTA 95765	13
ZCTA 95618 (Yolo County, CA portion)	12
ZCTA 95762	11
ZCTA 95819	11
ZCTA 95747	10

💡 “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 dynamics, including educational attainment and projected growth.
- Occupation employment by place of residence is as of 2022Q4 and modeled by Chmura based upon occupation employment by place of work and commuting patterns. Commuting patterns are derived from source data from the Census Bureau, occupation-specific commuting tendencies, 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

Placer County, California

Sacramento 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.