JOBSEQ

Occupation Report

Architectural and Engineering Managers

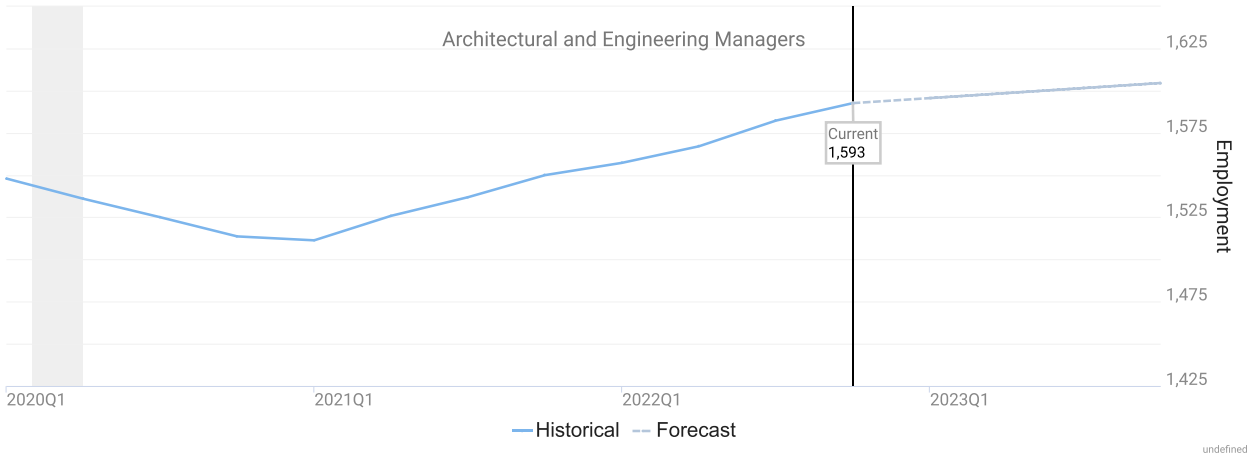
Sacramento-Roseville-Folsom, CA MSA

Occupation Snapshot 3
Employment by Industry 4
Wages 5
Occupation Demographics 6
Education Profile 7
Postsecondary Programs Linked to Architectural and Engineering Managers 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

Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

Occupation Snapshot

6-Digit Occupation	Empl	Avg Mean Wages	LQ	3-Year Empl Change	Annual Demand	Forecast Ann Growth
Architectural and Engineering Managers	1,593	$178,600	1.16	48	126	0.7%
Architectural and Engineering Managers	**1,593**	**$178,600**	**1.16**	**48**	**126**	**0.7%**



"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).

Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

Employment by Industry

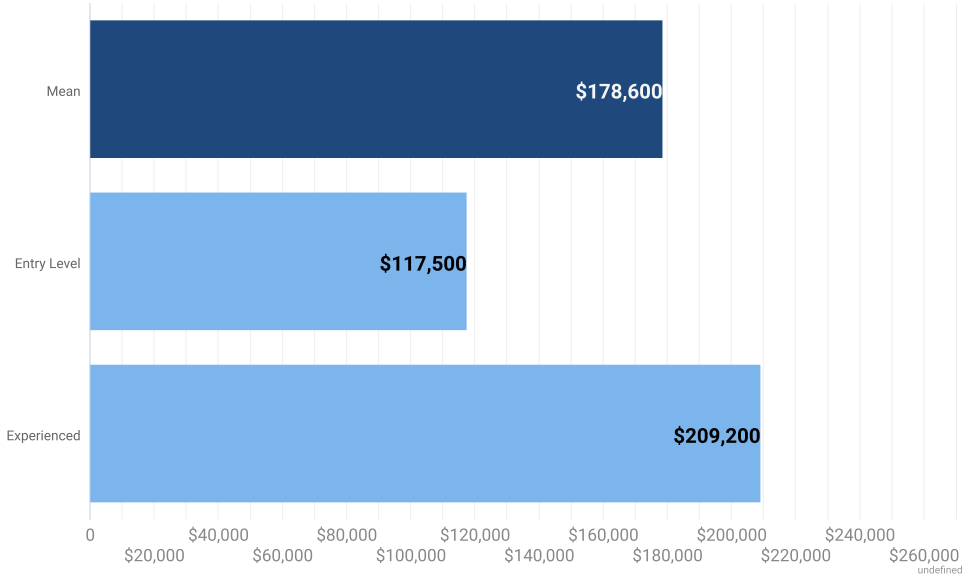
Industry Title	% of Occ Empl	Empl	10-Year Separations	10-Year Empl Growth	10-Year Total Demand
Architectural, Engineering, and Related Services	34.5%	550	394	28	423
Scientific Research and Development Services	9.1%	144	108	21	129
Executive, Legislative, and Other General Government Support	4.7%	75	53	1	54
Management of Companies and Enterprises	4.6%	73	53	6	59
Computer and Peripheral Equipment Manufacturing	3.2%	51	37	5	42
Justice, Public Order, and Safety Activities	2.8%	44	31	1	33
Administration of Human Resource Programs	2.7%	44	31	0	31
Administration of Environmental Quality Programs	2.5%	40	28	0	28
Electric Power Generation, Transmission and Distribution	2.3%	37	30	12	42
Administration of Economic Programs	2.2%	36	25	0	25
Railroad Rolling Stock Manufacturing	1.8%	29	19	-3	17
Natural Gas Distribution	1.8%	28	20	1	21
Computer Systems Design and Related Services	1.7%	27	21	6	27
Medical Equipment and Supplies Manufacturing	1.7%	27	20	4	25
Management, Scientific, and Technical Consulting Services	1.7%	27	20	5	25
Semiconductor and Other Electronic Component Manufacturing	1.6%	26	19	3	22
Aerospace Product and Parts Manufacturing	1.2%	19	14	1	15
Building Equipment Contractors	1.1%	18	13	1	14
Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	1.1%	17	12	1	13
Nonresidential Building Construction	0.7%	11	8	1	9
All Others	16.9%	270	198	28	226

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.

Source: JobsEQ®, http://www.chmuraecon.com/jobseq
Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

Wages



Occupation	Mean	Median	Entry Level	Experienced
Architectural and Engineering Managers	$178,600	$176,100	$117,500	$209,200

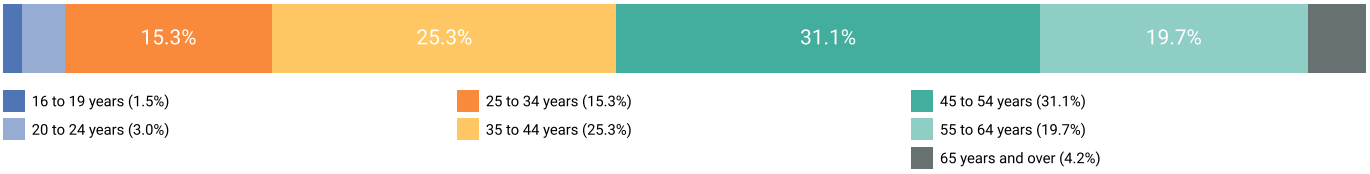
Occupation wages here utilize BLS OEWS data, imputed and brought forward by Chmura.

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.

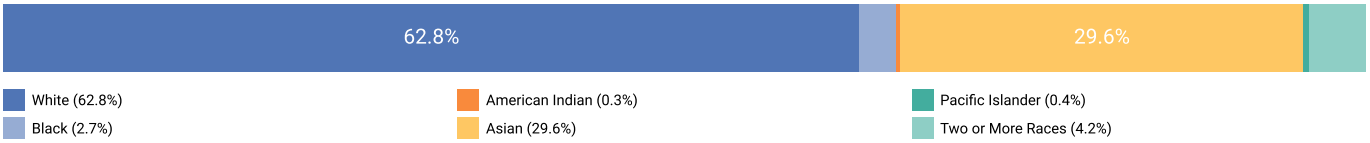
Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

Occupation Demographics

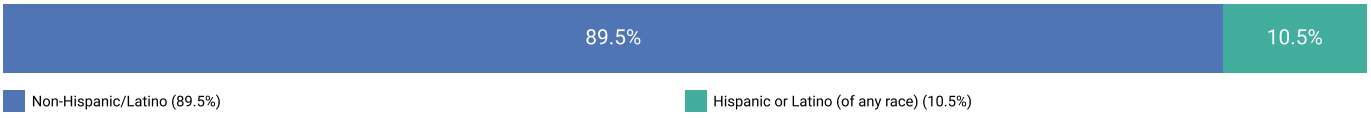
Age



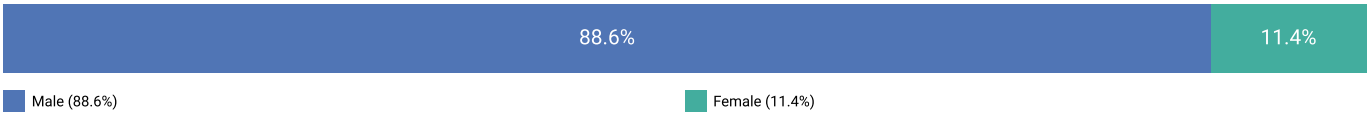
Race



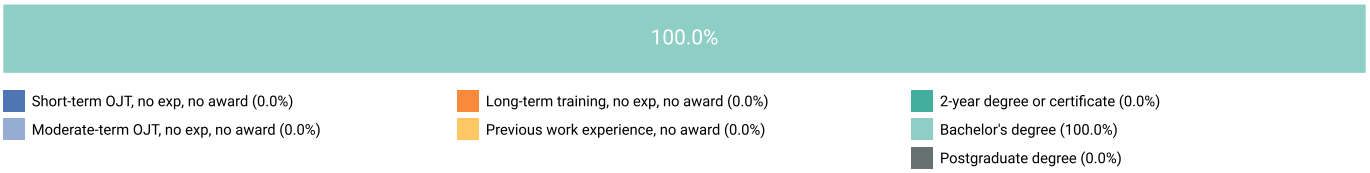
Ethnicity



Gender



Education and Training Requirements

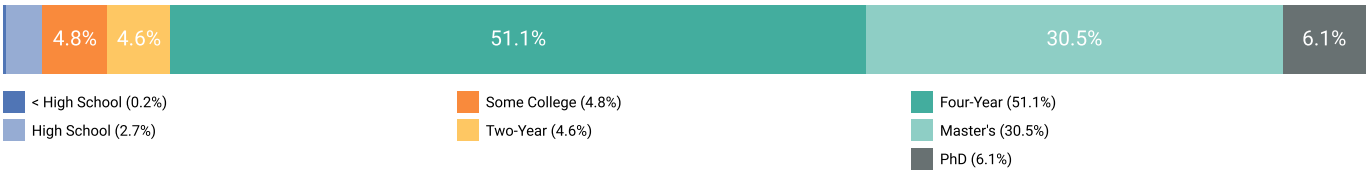


Source: JobsEQ®, http://www.chmuraecon.com/jobseq

Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

Education Profile

Educational Attainment



Occupation	Typical Entry-Level Education	Previous Work Experience	Typical On-the-Job Training
Architectural and Engineering Managers	Bachelor's degree	5 years or more	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.

Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

Postsecondary Programs Linked to Architectural and Engineering Managers

Program	Awards
California State University-Sacramento	
Civil Engineering, General	179
Electrical and Electronics Engineering	113
Mechanical Engineering	229
University of California-Davis	
Aerospace, Aeronautical, and Astronautical/Space Engineering, General	86
Bioengineering and Biomedical Engineering	129
Chemical Engineering	104
City/Urban, Community, and Regional Planning	60
Civil Engineering, General	228
Engineering, General	123
Mechanical Engineering	274

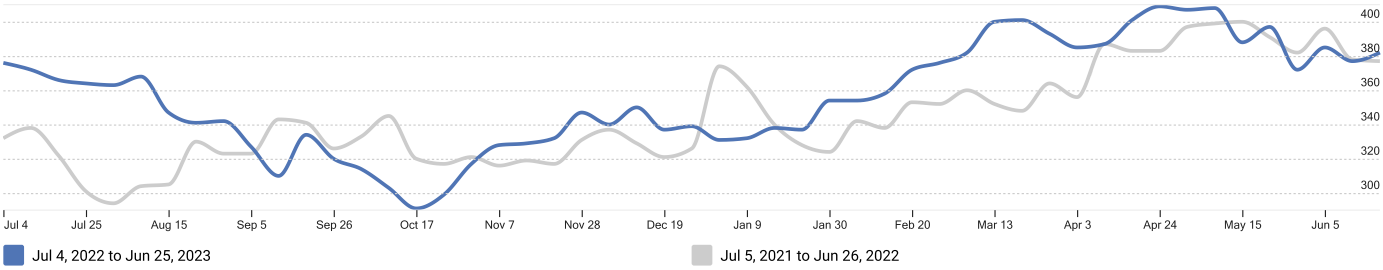
The number of graduates from postsecondary programs in the region identifies the pipeline of future workers as well as the training capacity to support industry demand.

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

Source: JobsEQ®, http://www.chmuraecon.com/jobseq
Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

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	
11-9041.00	Architectural and Engineering Managers	2,158	

Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

Locations

Location	Active Job Ads
Sacramento, California	702
Folsom, California	76
Roseville, California	67
95814	50
Sacramento, CA 95828	47
Rancho Cordova, California	39
Sacramento County, California	36
University of California Davis	36
West Sacramento, California	36
Sacramento, CA 95814	29

Employers

Employer Name	Active Job Ads
Siemens	68
Cybercoders	63
gpac	54
Jobot	50
Jacobs	36
Sacramento, California	28
AECOM	27
Vanir Construction Management Inc.	26
Stantec	24
Pacific Gas And Electric Company	17

Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

Hard Skills

Skill Name	Active Job Ads
Microsoft Excel	389
Microsoft Office	367
Microsoft Project	263
Autodesk AutoCAD	218
Microsoft PowerPoint	159
Microsoft Word	145
Microsoft Outlook	141
Manufacturing	118
Autodesk Revit	115
Computer Aided Design Software (CAD Software)	103

Job Titles

Job Title	Active Job Ads
Project Manager	112
Project Engineer	66
Stationary Engineer	21
Electrical Project Manager	20
Senior Project Engineer	14
Senior Project Manager	13
Assistant Project Manager	11
Engineering Intern	11
Job Captain	11
Project Engineer - Transportation	11

Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

Education Levels

Minimum Education Level	Active Job Ads
Bachelor's degree	1,330
High school diploma or equivalent	86
Master's degree	39
Associate's degree	35
Doctoral or professional degree	5
Unspecified/other	663

Programs

Program Name	Active Job Ads
Engineering	496
Civil Engineering	263
Construction Management	223
Architecture	143
Mechanical Engineering	135
Electrical Engineering	89
Business	62
Science	61
Business Administration	55
Computer Science	50

Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

Top Skill and Certification Gaps

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

Name	Candidates	Openings	Gap
Microsoft Office	9	21	-12
Microsoft Project	9	13	-4
Linux	1	5	-4
Field Programmable Gate Array (FPGA)	1	4	-3
Project Management Software	1	3	-2
Autodesk Revit	4	6	-2
Scheduling Software	0	2	-2
Google Sketchup	0	2	-2
Salesforce	1	3	-2
Information Security	2	4	-2

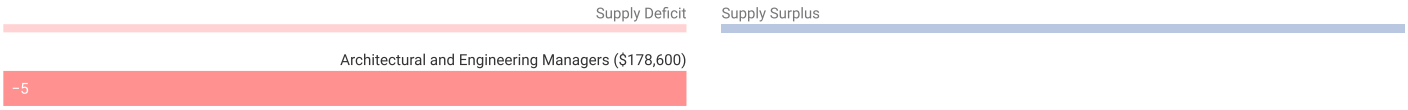
Top 10 Certification Gaps in Sacramento-Roseville-Folsom, CA MSA

Name	Candidates	Openings	Gap
Certified Construction Manager (CCM)	1	1	0
Engineer in Training (EIT)	2	1	1
Project Management Professional (PMP)	8	7	2
Secret Clearance	3	0	3

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.

Source: JobsEQ®, http://www.chmuraecon.com/jobseq
Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

Occupation Gaps

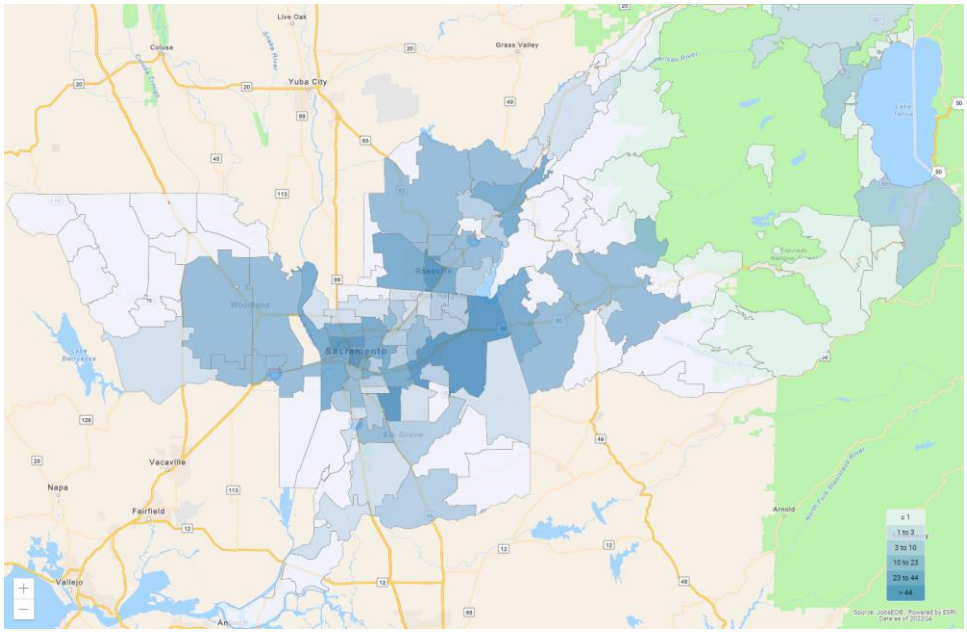


The above are the potential average annual gaps over 10 years. Many variables go into this analysis, but at its core it is based on a forecast comparing occupation demand growth to the local population growth and the projected educational attainment of those residents. When an area, for example, has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

Source: JobsEQ®, http://www.chmuraecon.com/jobseq
Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

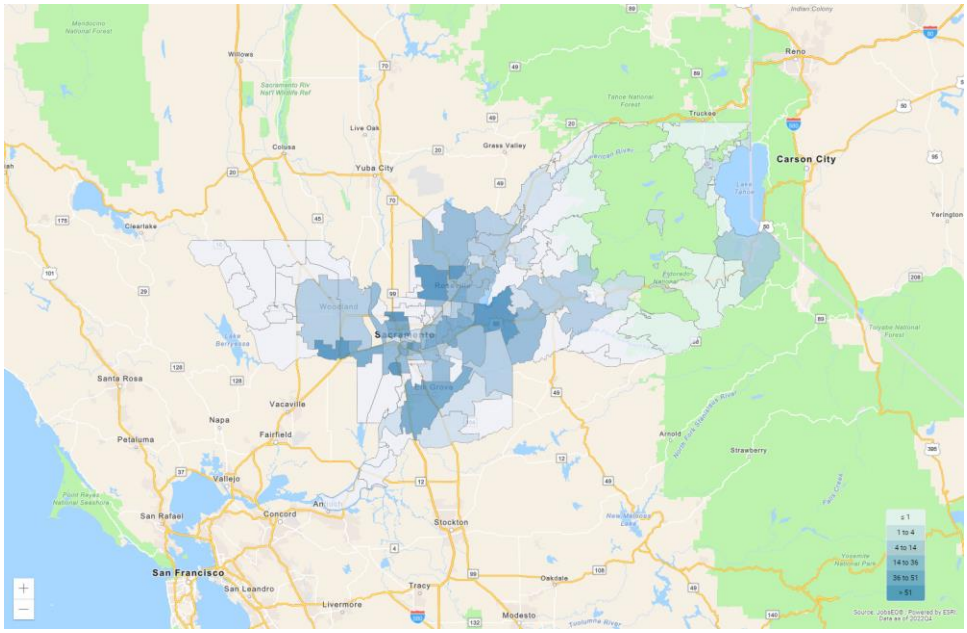
Geographic Distribution



Top ZCTAs by Place of Work for Architectural and Engineering Managers, 2022Q4

Region	Employment
ZCTA 95814	222
ZCTA 95630	140
ZCTA 95827	74
ZCTA 95670	73
ZCTA 95811	64
ZCTA 95742	58
ZCTA 95828	52
ZCTA 95833	48
ZCTA 95678	44
ZCTA 95826	43

Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.



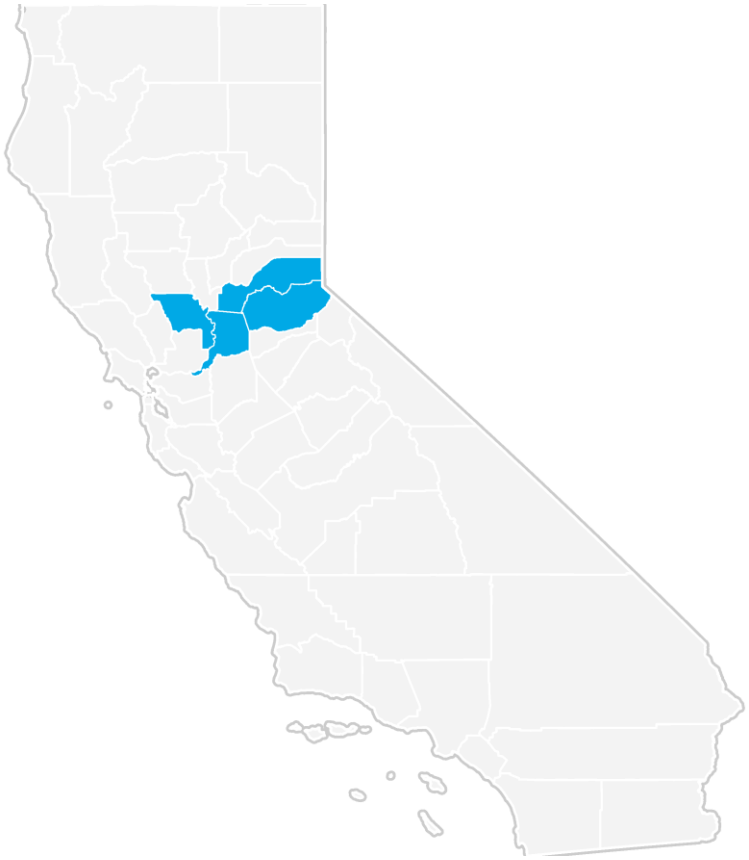
Top ZCTAs by Place of Residence for Architectural and Engineering Managers, 2022Q4

Region	Employment
ZCTA 95630	133
ZCTA 95616	79
ZCTA 95747	68
ZCTA 95835	67
ZCTA 95762	58
ZCTA 95765	57
ZCTA 95816	54
ZCTA 95831	52
ZCTA 95618 (Yolo County, CA portion)	51
ZCTA 95818	49

"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.

Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

Sacramento-Roseville-Folsom, CA MSA Regional Map



Source: JobsEQ®, http://www.chmuraecon.com/jobseq
Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

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.

Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

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

Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.

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.

Copyright © 2023 Chmura Economics & Analytics, All Rights Reserved.