



Occupation Report

Biological Technicians

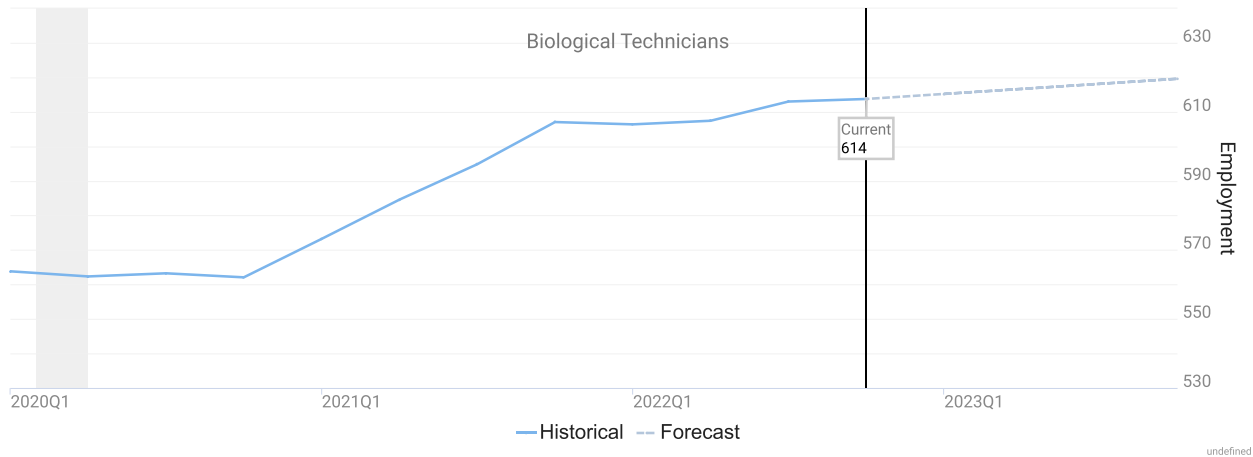
Sacramento-Roseville-Folsom, CA MSA



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Occupation Snapshot



6-Digit Occupation	Empl	Avg Mean Wages	LQ	3-Year Empl Change	Annual Demand	Forecast Ann Growth
Biological Technicians	614	\$54,000	1.09	49	88	1.0%
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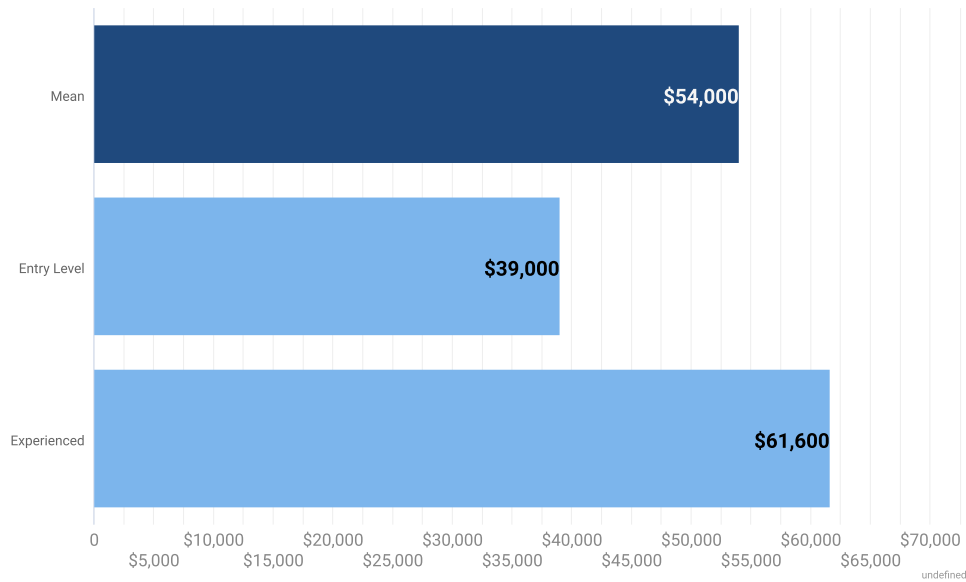
- 💡 “Annual Demand” is the projected need for new entrants into an occupation. New entrants are needed due to expected growth and to replace workers who left the occupation due to factors such as retirement or switching careers.
- 💡 “Forecast Ann Growth” is the expected change in jobs due to national, 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
Scientific Research and Development Services	37.1%	228	316	33	349
Colleges, Universities, and Professional Schools	18.0%	110	152	14	165
General Medical and Surgical Hospitals	8.6%	53	70	3	74
Executive, Legislative, and Other General Government Support	7.3%	45	58	0	57
Administration of Human Resource Programs	4.4%	27	35	0	35
Administration of Environmental Quality Programs	4.3%	27	34	0	34
Administration of Economic Programs	4.0%	24	32	0	31
Justice, Public Order, and Safety Activities	3.7%	23	30	0	30
Pharmaceutical and Medicine Manufacturing	2.4%	15	20	2	23
Architectural, Engineering, and Related Services	2.4%	15	20	1	21
Management, Scientific, and Technical Consulting Services	1.1%	7	10	1	11
Medical and Diagnostic Laboratories	1.0%	6	9	1	10
Outpatient Care Centers	1.0%	6	9	1	10
Other Ambulatory Health Care Services	0.9%	5	8	1	9
Employment Services	0.8%	5	7	0	7
National Security and International Affairs	0.5%	3	4	0	4
All Others	2.6%	16	22	2	24

-  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

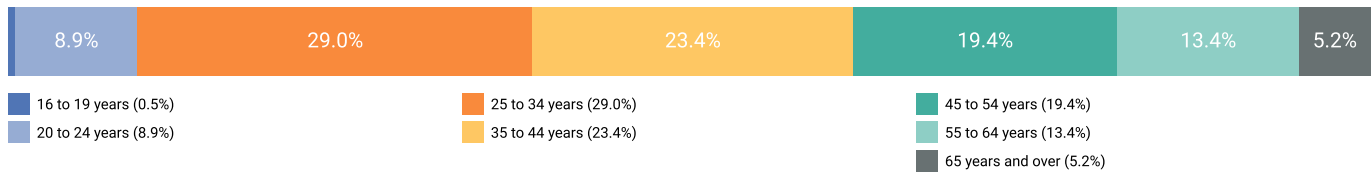


Occupation	Mean	Median	Entry Level	Experienced
Biological Technicians	\$54,000	\$50,300	\$39,000	\$61,600

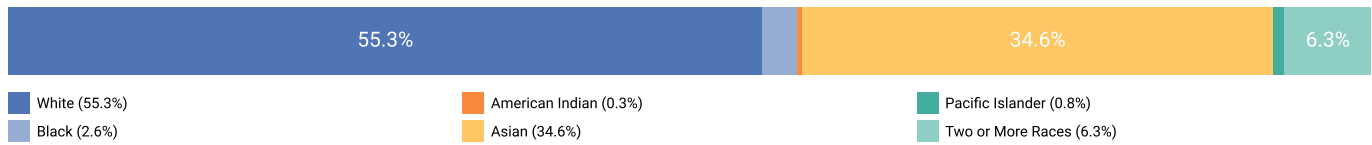
- 💡 Occupation wages here utilize BLS OEWS data, imputed and brought forward by Chmura.
- 💡 When this report is run for an occupation group, the table above displays up to the top ten detailed occupations which have the highest average wages within the occupation group.

Occupation Demographics

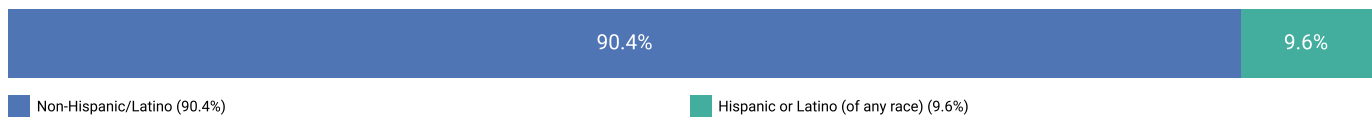
Age



Race



Ethnicity



Gender

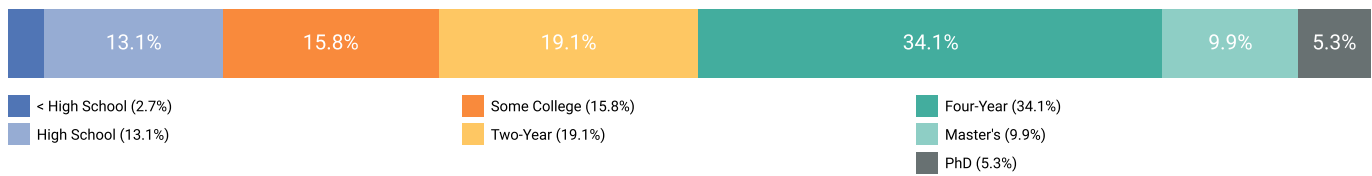


Education and Training Requirements



Education Profile

Educational Attainment



Occupation	Typical Entry-Level Education	Previous Work Experience	Typical On-the-Job Training
Biological Technicians	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 Biological Technicians

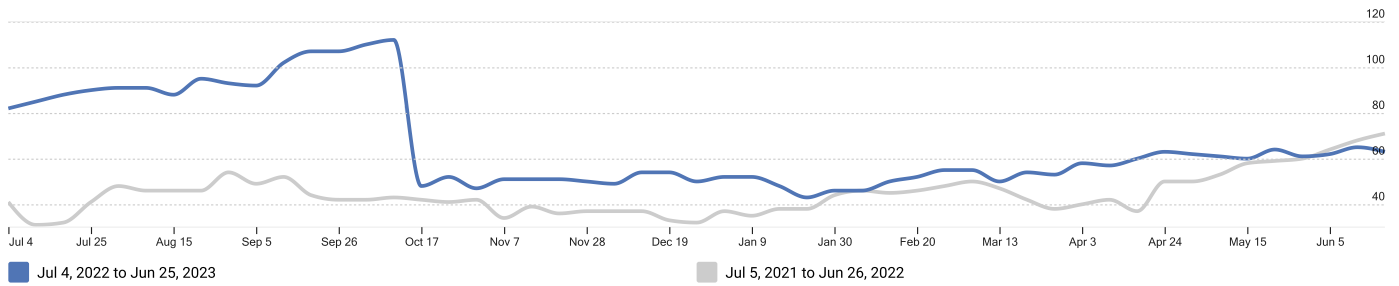
Program	Awards
California State University-Sacramento	
Biochemistry	30
Biology/Biological Sciences, General	278
Cosumnes River College	
Biology/Biological Sciences, General	47
Sacramento City College	
Biology/Biological Sciences, General	59
Sierra College	
Biology/Biological Sciences, General	102
University of California-Davis	
Biology/Biological Sciences, General	364
Biotechnology	50
Genetics, General	110
Microbiology, General	78
Zoology/Animal Biology	75

 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 Biological Technicians. 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
19-4021.00	Biological Technicians	391

Locations

Location	Active Job Ads	
University of California Davis	172	
Sacramento County, California	53	
Sacramento, California	49	
Davis, California	23	
West Sacramento, California	11	
NA-CA-Georgetown, Georgetown, ON, L7C 1X1	8	
Woodland, California 95695	5	
Davis, CA 95618 (Downtown Core area)	4	
4200 82nd Street Suite C, Sacramento, CA, US 95826	3	
Davis, CA, 95618	3	



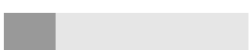

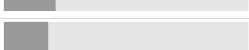
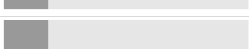
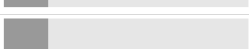
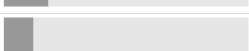
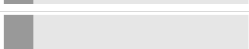
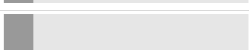
Employers

Employer Name	Active Job Ads	
Davis, California	164	
University of California, Davis	25	
CA DEPARTMENT OF JUSTICE	17	
State of California Department of Consumer Affairs	11	
Sacramento, California	9	
CALIFORNIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT	8	
Corteva	8	
State of California Department of Food & Agriculture	8	
Actalent	5	
State of California Department of Fish and Wildlife	5	

Hard Skills

Skill Name	Active Job Ads	
Polymerase Chain Reaction (PCR)	93	
Molecular Biology	71	
Microsoft Excel	66	
Data Analysis	57	
Cell Culture	41	
Electrophoresis	36	
Physiology	35	
Microsoft Word	33	
Microsoft Office	31	
DNA	30	

Job Titles

Job Title	Active Job Ads	
PROGRAM TECHNICIAN III	33	
Student Assistant	11	
Manufacturing Technician (SRA 3) - SOM: MED:STEM CELL RESEARCH PROGRAM - Sacramento Campus	7	
Supervising Program Technician III	7	
Biological Scientist	6	
Lab Technician	6	
OFFICE TECHNICIAN (TYPING)	6	
Junior Specialist/Ronald lab	4	
Lab Assistant	4	
Lab Supervisor 1 - SOM: Stem Cell Research Program - Sacramento Campus	4	

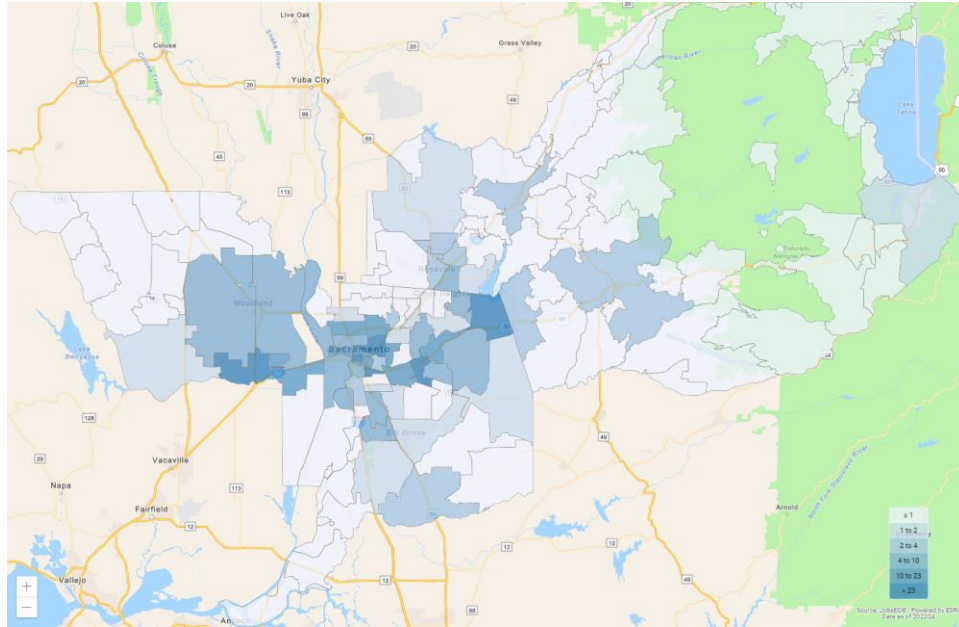
Education Levels

Minimum Education Level	Active Job Ads	
Bachelor's degree	112	
Master's degree	18	
High school diploma or equivalent	10	
Associate's degree	6	
Doctoral or professional degree	5	
Unspecified/other	240	

Programs

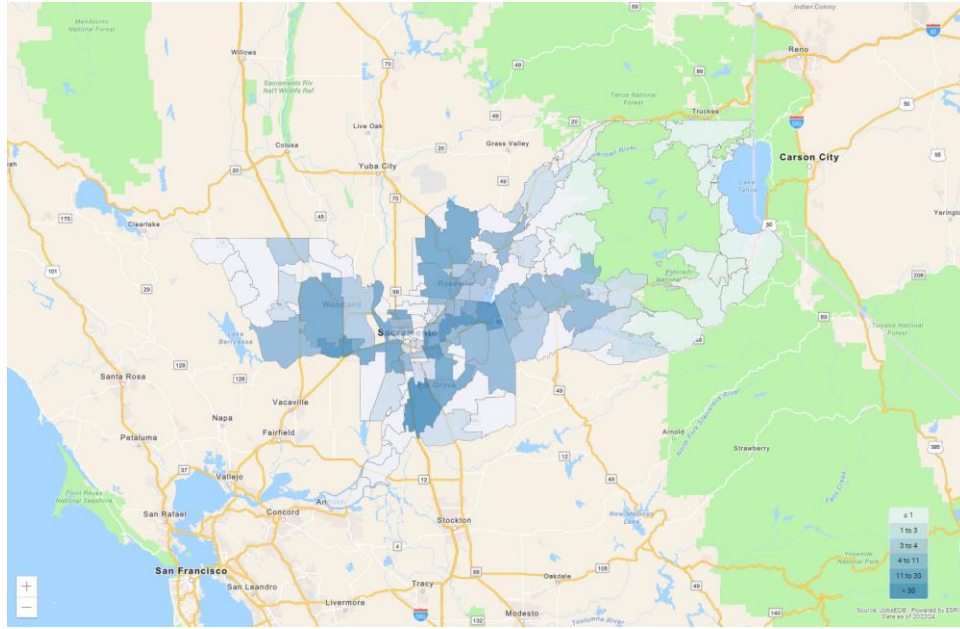
Program Name	Active Job Ads	
Biology	81	
Molecular Biology	21	
Biochemistry	20	
Microbiology	14	
Animal Science	12	
Chemistry	11	
Genetics	11	
Science	9	
Pharmacology	7	
Biological Engineering	6	

Geographic Distribution



Top ZCTAs by Place of Work for Biological Technicians, 2022Q4

Region	Employment
ZCTA 95814	97
ZCTA 95616	73
ZCTA 95827	72
ZCTA 95817	34
ZCTA 95630	32
ZCTA 95815	24
ZCTA 95826	21
ZCTA 95838	18
ZCTA 95670	17
ZCTA 95825	16

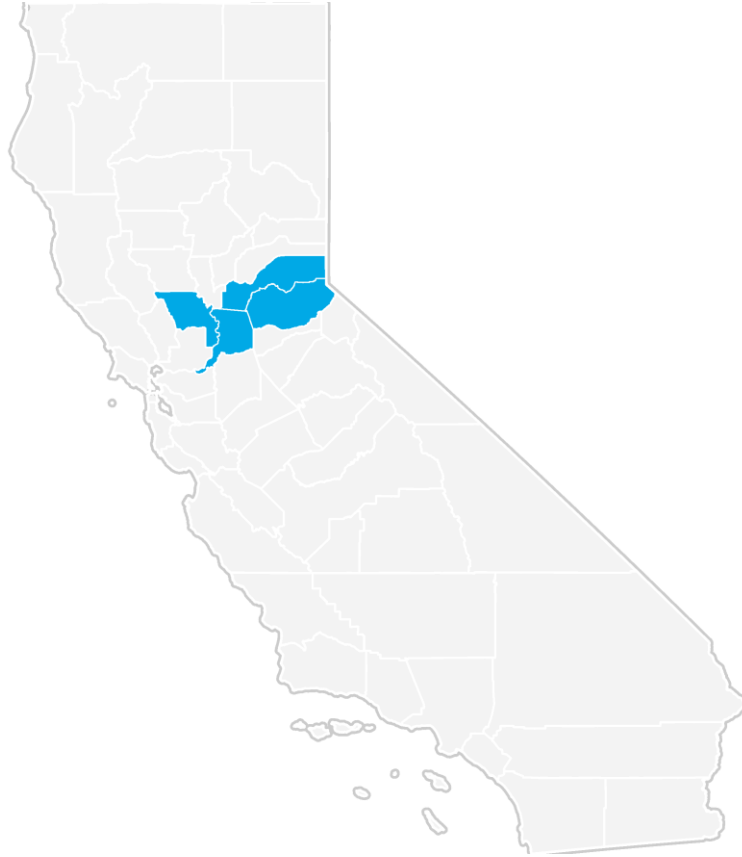


Top ZCTAs by Place of Residence for Biological Technicians, 2022Q4

Region	Employment
ZCTA 95758	52
ZCTA 95825	41
ZCTA 95630	39
ZCTA 95628	39
ZCTA 95757	34
ZCTA 95616	32
ZCTA 95826	32
ZCTA 95608	31
ZCTA 95831	27
ZCTA 95678	20

💡 “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 07/05/2023 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.