



# The Road to Optimizing California's Public Sector Labor Market

Key Workforce Management Recommendations May 2024

Authors: Carlos Hilal, Ashley Peterson, Chris Compton, Maura Keith, Rachel Sederberg Ph.D.



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# **Executive Summary & Key Insights**

California's public sector' plays a crucial role in the state's economy, yet its employers encounter difficulties in securing the necessary talent. This paradox becomes particularly noteworthy when considering that Californians represent the most underutilized workforce among all US states. This incongruity prompts an inquiry into the reasons behind employers grappling with labor shortages, despite the evident presence of sizable pools of willing workers in a seemingly restricted job market.



# California's state & local public sector is the second biggest industry in employment in the state (9% of total employment).

The public sector holds significance throughout all areas of the state, with a workforce exceeding 2.3 million individuals, including over 750,000 employed solely in the Greater Los Angeles region. The sector is especially important for rural areas of the state where employment concentration is very high, making the public sector an anchor employer in these areas.



**Public sector demand outpaces supply, leading to labor shortages across many occupational fields.** The public sector in California has faced challenges in restoring employment to pre-pandemic levels when compared to the broader labor market. Nonetheless, demand in the public sector is growing at an accelerating rate, signaling a tightening labor market for this particular industry.



# A wide variety of opportunities are available in the public sector for talent of all different education, experience and career backgrounds.

In the previous 12 months, the sector experienced high demand for mid-level and entry-level jobs in healthcare, administrative roles, IT, education and public safety.

Through an in-depth analysis of California's public sector, Lighcast has pinpointed key challenges that must be addressed in order to stay resilient and competitive:

1. Need for a Future-Ready Workforce – Talent shortages are prevalent in almost every industry and region. Stakeholders in the public sector, including employers and educators, must gain a clear understanding of the evolving trends in the industry. It is crucial to align on future roles, responsibilities, and skills to optimize the labor market effectively.

2. Talent Supply Gaps – California's public sector suffers from severe supply stress; 31% of occupations have fewer than one local person available to fill a job for these roles.

3. Hiring Processes and Inefficiencies – A common theme of Lightcast's interviews with public sector employers were concerns with the hurdles that exist for workers at each step of the hiring process (from job posting to requirements to evaluations and candidate processing), making the hiring process less accessible and more prone to applicant demotivation.

4. Underutilization – California has the highest labor underutilization rate in the United States, and people of color are underutilized at a higher rate than the state average. While there are many reasons why individuals may be underutilized, education is often a key factor. These underutilized individuals in California represent an opportunity to fill jobs in the public sector, contingent on employers lowering educational requirements.

\*\* All mentions of "Public Sector" in this report excludes federal agencies and only include state and local public entities within California.



### **Key Recommendations**

Through right-sizing job requirements and shifting to skills-based hiring, public sector employers can widen their talent pool and increase equity.

• When conducting data analysis of California's labor market in the Current Population Survey, Lightcast finds that only 2 out of 10 workers have a level of education below the education level that their current occupation typically requires. We find that this dynamic may come from hiring biases, since talent pools with less-than-typical education required tend to have at least 50% overlapping skills for 30% of the industry's demanded occupations (Example occupations are shown below).

- Community Health Workers
- Information Security Analysts
- Community and Social Service Specialists, All Other
- Urban and Regional Planners
- Political Scientists
- Management Analysts
- Education Administrators, Postsecondary

• Public sector employers can develop their workforce management models and collaborate more seamlessly with educators and communities to leverage the advantages that come from the underutilized, students, and current workers alike. By adopting a skills-based approach, institutions like Calbright can empower students with future-ready skills and offer efficient training for adult learners or current workers in the rapidly changing labor market.

 California has already made some steps in the direction of reassessing and right-sizing job requirements through the Governor's Executive Order N-11-23, which directs the California Human Resources Department to evaluate whether a college degree is needed for a particular position whenever its classification is reviewed. This report sheds light on the importance of the Executive Order; however, there is still more work to be done. The California Human Resources Department and other public sector employers in the state should work with Calbright College to connect learners from all backgrounds with job opportunities in the public sector. Lightcast data can also help support future initiatives related to ensuring talent supply aligns with employer demand in California.

# Introduction

A robust and productive labor market is crucial for economic success. It's essential to ensure the right people with the right capabilities are in the right places to meet the demands of our complex and dynamic society.

One major problem affecting labor market stakeholders is a lack of clarity and direction related to correctly leveraging true market potential. This causes workforce de-optimization by creating labor imbalances, such as employers lacking the talent they need, workers facing underutilization and barriers to employment opportunities, and educators graduating student pools with gaps in future-ready skills. Labor market optimization is especially important to the public sector, which is the base that drives and safeguards a society's dynamics. Having a qualified public sector workforce helps improve welfare promotion, policy and decision making, economic regulation, public safety, and the quality of public education provided.

Calbright College, a public community college in California committed to increasing economic mobility and closing equity gaps in higher education, has partnered with Lightcast, a global leader in labor market analytics to conduct a comprehensive research assessment on the current state, policies, and challenges of California's public sector labor market. The goal is to identify key focus areas and recommendations that optimize interactions between employers, educators, and communities, ultimately fostering economic mobility and closing equity gaps.

In order to shed light on key focus areas and recommendations, Lightcast conducted extensive research combining quantitative and qualitative methods through descriptive analysis, the application of in-house built econometric models, and focus group interviews with subject matter experts such as public sector employers; all resulting in a rigorous framework that are presented in 3 phases in this report:

- 1. Visualization of the current state of California's public sector labor market.
- 2. Identification of current and future challenges that are of crucial importance.
- 3. Provision of key recommendations to each of California's public sector labor market stakeholders.



# **California's Public Sector Labor Market Overview**

### **Organizational Structure Summary**

#### **Organizational Levels:**

California's government is made up of various departments having jurisdiction over certain geographical level(s), and sector type(s), which mostly operate at the privilege of separate and independent status.

District-Level institutions are usually a conglomerate of aggregated counties, municipalities, or unincorporated areas; they are most prevalent in the school system for public education, but can also be found in other sectors such as healthcare, etc.



Main Sectors:

**Public Education** 

Utilities

Local Government

**Environmental Protection** 

Healthcare

Law Enforcement

Water & Waste Management

**Recreational Facilities** 

**Executive Agencies** 

**Public Transportation** 

**Consumer Protection** 

**Public Infrastructure** 

State Government

**Emergency Services** 



### **State-Level Findings**

1. California's public sector has struggled to return to its pre-pandemic employment levels, an experience not shared by the rest of the California labor market.



#### -1% Public Sector Employment Growth Rate 2019 to Present

Figure 1:

This figure represents the total number of employed (Full and part-timers) individuals in California's public sector for a given year, and compares that volume to its pre-pandemic 2019-year value.

Data Source(s):

Lightcast's Core LMI (Labor Market Information) Database Lightcast Calculations

2. Since pandemic shutdowns, public sector demand for labor has increased at a faster year-over-year rate than the rest of California, suggesting a potentially tight market for government employers.

## 11%

Public Sector Average YoY Demand Growth Rate 2020 to Present

Vs.

### -2%

Rest of Labor Market, Average YoY Demand Growth Rate 2020 to Present



# 5%

### Rest of Labor Market Employment Growth Rate 2019 to Present

Figure 2:

This figure represents the total number of employed (Full and part-timers) individuals in California's private sector for a given year, and compares that volume to its pre-pandemic 2019-year value.

Data Source(s):

Lightcast's Core LMI (Labor Market Information) Database Lightcast Calculations



#### Figure 3:

This figure compares the YoY online job postings demand growth rate between the public sector and the rest of the labor market. Value for full December 2023 was estimated using a forecasting method that factors in monthly variations and seasonality. Data Source(s): Lightcast's Job Posting Analytics Database Lightcast Calculations

### **Regional-Level Findings**

#### Defining California's Regions:

Calbright and Lightcast organized California regions for regional analyses by assigning counties to respective regional areas. This resulted in the formation of seven regions, each uniquely associated with specific counties. However, a few counties (listed below) are assigned to both their specific locales and are also considered as parts of the rural areas of California.

- Capital & Rural: Alpine County, CA Colusa County, CA El Dorado County, CA Glenn
   County, CA Placer County, CA Sutter County, CA Yolo County, CA Yuba County, CA
- South Bay & Rural: Imperial County, CA
- San Joaquin & Rural: Inyo County, CA Kings County, CA Madera County, CA Merced County - Mono County, CA - Tulare County, CA
- Bay Area & Rural: Napa County, CA Solano County, CA Sonoma County, CA
- Greater Los Angeles & Rural: Santa Barbara County, CA



#### Figure 4:

This figure shows color coded demarcations of the different regions (As defined by Calbright and Lightcast) that make up the state of California. Each region is made up of several counties that pertain to it.

Note: Counties that are assigned to their region as well as the "Rural" label region, are only represented in this figure by their non-rural region name. Data Source(s):

Calbright & Lightcast Definitions

#### 1. California's public sector labor market boasts opportunities across all regions

Region	Job Postings (Pre- vious 12 Months of Available Data)	Percent of CA Public Sector Postings	Employment	Percent of CA Public Sector Employment
Greater Los Angeles	44,905	24%	752,775	29%
Bay Area	38,715	21%	442,994	17%
Rural	31,827	17%	400,938	16%
San Joaquin	14,223	8%	264,843	10%
Capital	26,758	14%	251,531	10%
Inland Empire	13,327	7%	234,696	9%
South Bay	17,879	10%	211,932	8%

#### Demand and Employment by California Region

Table 1:

The following table represents the seven previously defined California regions, their total number of public sector online job postings in the latest 12 months of data availability (Dec-22 through Nov-23), and their percentage share from the total number of public sector online job postings by region. The table also contains the total number of public sector employees as of 2023 per region, as well as its employment percentage coverage from total public sector employment in California.

Data Source(s): Lightcast's Job Posting Analytics Database | Lightcast's Core LMI (Labor Market Information) Database | Lightcast Calculations

Regions with substantial populations, like the Greater Los Angeles region, exhibit the highest counts of online job postings and employment percentages within the public sector. Over the last 12 months, the Inland Empire had the lowest government demand. Conversely, South Bay had the fewest public sector employees, although it, along with the Capital and Bay Area regions, had a higher allocation of demand distribution compared to its employment.

#### 2. Counties with larger working age population volumes have higher public sector employment levels

#### Top Counties by Public Sector Employment Level & Concentration

County	Employment Count	Employment Concentration
Los Angeles, CA	536,645	8%
San Diego, CA	195,210	9%
Sacramento, CA	170,878	17%
Orange, CA	146,519	7%
Yolo, CA	36,681	25%
Lassen, CA	3,831	28%
Inyo, CA	2,783	26%
Alpine, CA	247	31%

Table 2:

This table shows employment numbers and concentration for a few counties that stand-out as having considerably high employment figures, and / or large employment concentration values.

Data Source(s):

Lightcast's Core LMI (Labor Market Information) Database Lightcast Calculations



3. However, most rural counties boast higher percentages of state & local government employees relative to the working age population, cementing the public sector as an anchor employer in these rural areas





4. Similar trends arise on the demand side of the labor market, with higher online job posting volumes for counties with larger working age populations, but higher demand concentration rates for most rural counties

County	Demand Count	Demand Concentration
Los Angeles, CA	25,457	0.4%
San Diego, CA	17,373	0.8%
Sacramento, CA	14,967	1.5%
Orange, CA	13,753	0.7%
Yolo, CA	9,910	6.7%
Santa Cruz, CA	3,477	2.0%
Tuolumne, CA	646	2.2%
Alpine, CA	35	4.3%

Top Counties by Public Sector Demand Level & Concentration

Table 3:

This table supports the heat maps by showing demand numbers (Dec-22 to Nov-23) and concentration for a few counties that stand-out as having considerably high postings figures, and / or large demand concentration values.

Data Source(s):

Lightcast's Job Posting Analytics Database

Lightcast Calculations









### **Occupational & Skills-Level Findings**

# 1. The public sector occupational scene in California is one of great diversity, with available opportunities for talent of all education, experience, and career backgrounds.

Calbright and Lightcast organized California regions for regional analyses by assigning counties to respective regional areas. This resulted in the formation of seven regions, each uniquely associated with specific counties. However, a few counties (listed below) are assigned to both their specific locales and are also considered as parts of the rural areas of California.

- The California public sector consistently experiences a strong demand for education-related occupations across all regions, particularly those requiring advanced experience. Notable occupations include:
  - Postsecondary Teachers
  - Education Administrators, Postsecondary
  - Teachers and Instructors, All Other
- When it comes to entry-level demand, the public sector market has numerous vacancies related to healthcare and community welfare positions; specific occupations include:
  - Registered Nurses
  - Social Workers, All Other
- The sector also has very high demand across all job levels for managerial positions; specific occupations include:
  - Managers, All Other
  - Medical and Health Services Managers
  - Financial Managers
  - Public Relations Managers

# 2. Public sector demand is largely driven by entry- to mid-level demand, with a strict bachelor's degree requirement dynamic across all different seniority levels.

Demand in California's public sector is concentrated around entry- to mid-level demand; reliance on the need to have a bachelor's degree is positively correlated with years of experience required, which signals that workers face a career mobility barrier when they possess below a bachelor's degree.



#### Figure 9:

This figure represents the total number of online job postings within 3 different experience level brackets ("Entry Level" requiring 0 to 2 years of work experience, "Mid-Level" 3 to 5 years of experience, and "Advanced Level" 6+ years) and the percentage distribution of minimum education required (With education grouped into 3 brackets of "Sub-BA" denoting any degree below a bachelor's degree, "Bachelor's Degree", and "Advanced Degree" denoting any degree above a bachelor's degree) within each experience bucket for public sector online job postings in California during the latest 12 months of available data (Dec-22 to Nov-23) Data Source(s):

Lightcast's Job Posting Analytics Database | Lightcast Calculations

#### Top Occupations within Experience and Education Levels by Number of Job Postings

Typical Experi- ence Level	Typical Education Level	Occupation Name	Number of Online Job Postings (Previous 12 Months)
Entry Level	Sub-BA	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	4,055
Entry Level	Sub-BA	Office Clerks, General	1,685
Entry Level	Sub-BA	Maintenance and Repair Workers, General	1,676
Entry Level	Sub-BA	Police and Sheriff's Patrol Officers	1,620
Entry Level	Sub-BA	Medical Assistants	1,605
Entry Level	Bachelor's Degree	Registered Nurses	5,434
Entry Level	Bachelor's Degree	Social Workers, All Other	867
Entry Level	Advanced Degree	Healthcare Social Workers	647
Mid-Level	Sub-BA	First-Line Supervisors of Office and Administrative Support Workers	1,060
Mid-Level	Sub-BA	Computer User Support Specialists	949
Mid-Level	Sub-BA	First-Line Supervisors of Mechanics, Installers, and Repairers	936
Mid-Level	Sub-BA	Industrial Engineering Technologists and Technicians	901
Mid-Level	Sub-BA	Medical Records Specialists	879
Mid-Level	Bachelor's Degree	Managers, All Other	4,859
Mid-Level	Bachelor's Degree	Medical and Health Service Managers	3,250
Mid-Level	Bachelor's Degree	Human Resources Specialists	2,786
Mid-Level	Bachelor's Degree	Teachers and Instructors, All Other	2,434
Mid-Level	Bachelor's Degree	Operations Research Analysts	2,238
Advanced Level	Bachelor's Degree	Computer Occupations, All Other	1,420
Advanced Level	Bachelor's Degree	Information Security Analyst	297

Table 7:

This table shows a subset of occupations with the highest numbers of public sector online job postings (Dec-22 to Nov-23) within different required experience and education level pairs. Data Source(s):

Lightcast's Job Posting Analytics Database | Lightcast Calculations



# 3. Demand growth in California's public sector is present across a wide range of occupations, within various educational, experience, and career brackets, creating employment opportunities for all.

A large number of public sector occupations have grown steadily in demand from 2019 to date. Although the COVID-19 pandemic forced slower growth or slight dips in postings from 2020 to 2021; this had less of an impact in the face of the rapidly growing public sector talent needs across a wide array of occupations. This signals opportunities for entry of workers of all types; including blue collar, entry-level, scientific, academic, managerial, professional and many more available job categories.



Figure 10:

Each bucket represents a specific occupation, with the bars representing the number of online job postings for the assigned year; blue belonging to 2019, orange to 2020, yellow to 2021, cream to 2022, and gray to 2023.

Values for full December 2023 were estimated using a forecasting method that factors in monthly variations and seasonality.

Data Source(s):

Lightcast Job Postings Analytics Database



4. While the public sector has a strong presence across the state, each region has its own unique occupational makeup and talent needs, as reflected in each region's most common occupation demanded below.

Region	Occupation	Job Postings (Previous 12 Months)
Bay Area	Operations Research Analysts	816
Capital	Software Developers	588
Greater Los Angeles	Clinical Laboratory Technologists and Technicians	643
Inland Empire	Police and Sheriff's Patrol Officers	217
Rural	Office Clerks, General	526
San Joaquin	Bookkeeping, Accounting, and Auditing Clerks	174
South Bay	Human Resources Specialists	222

Top Occupations Demanded, Unique to Region

Table 5:

This table shows the specific occupations that are demanded (During Dec-22 to Nov-22) in considerably larger volumes in one region as compared to all other regions

Data Source(s):

Lightcast Job Posting Analytics Database

Lightcast Calculations

Northern non-rural regions such as the Capital and Bay Area tend to have a more specific concentration of computer, software, and data-centric occupational composition in recent demand compared to all regions, while the Greater Los Angeles region stands out with significantly higher demand for healthcare related jobs. Finally, San Joaquin, rural, and border areas tend to be more concentrated in administrative or pure public service roles.

# 5. Reflecting occupational demand, the top skills demanded in the latest 12 months in California's public sector spans various skills; with project management topping the list at around 15,000 postings, paired with a high demand for finance related skills, as well as nursing and data analysis.

Project management is highly demanded across all occupation types in California's public sector, from managerial roles to individual contributors. Data analysis has become a universal skill sought after in various market roles, and this trend extends to the public sector. Notably, there is a significant number of job postings in the public sector, including those for education administrators and secretaries, that emphasize the importance of data analysis skills. This trend highlights the increasing influence of leveraging data for insights in public education and administration. It also underscores the need for colleges to implement relevant coursework to address this growing demand for data-related skills.



Figure 11: The y-axis represents the top skills in California's public sector labor market demand in the latest 12 month of data availability (Dec-22 through Nov-23). The x-axis represents the number of online job postings during the specified time-period.

Data Source(s):

Lightcast's Job Posting Analytics Database



# 6. Top skills within each experience level are largely driven by the top occupations within that experience level.

In alignment with occupational insights, entry-level demand in California's public sector is primarily focused on healthcare and community welfare occupations. This underscores the prevailing dominance of these occupations and associated skills in the last 12 months.

Managerial roles are predominantly situated at the mid-career level, explaining the heightened demand for project management skills within that experience group.

Roles that require high degrees of specialization, such as university administration and government-specific positions (e.g., Legislators) are concentrated on the more advanced side of required or expected experience. This observation reflects the evolving dynamics of skills demanded at more advanced job levels.

Experience Level	Skill Name	Job Postings (Latest 12 Months)
Entry Level	Nursing	4,699
	Psychology	2,946
	Social Work	2,817
Mid-Level	Project Management	4,622
	Accounting	3,559
	Finance	3,046
Advanced Level	Student Learning Outcomes	300
	Agriculture	287
	Property Rights	137

Table 6:

This table shows the highest number of public sector online job postings (Dec-22 to Nov-23) for specialized (Technical) skills requested, grouped by experience level

Data Source(s):

Lightcast Job Posting Analytics Database



# **Focus Areas and Challenges**

Lightcast's quantitative analysis, rooted in labor market data, has pinpointed trends in the workforce demands of the public sector. Integrated with the quantitative data, the primary research conversations with public sector employers have provided a qualitative layer, enriching our understanding of the challenges faced on the ground in California. The convergence of these methodologies led us to four key focus areas, each with associated challenges, that California's public sector employers, educators and policymakers need to align on and address in order to stay resilient, competitive, and to maximize the talent pool in the state.

- 1. Need for a Future-Ready Workforce
- 2. Talent Supply Gaps
- 3. Hiring Process and Policy Inefficiencies
- 4. Underutilization of Workers in California

### 1. The Need for a Future-Ready Workforce

In an era of rapid technological advancement and evolving industry landscapes, having a workforce that is equipped with "futureready" skills is critical. Clarity over what the future of the public sector holds in terms of shifts in roles, responsibilities, and skills will help employers stay ahead of competition to drive innovation and adapt quickly to emerging trends. This data also serves to align employers, educators and communities on what the public sector needs for long-term success.

#### **Occupation & Skill Indices:**

One of the main barriers to building a future-ready workforce comes from the lack of concrete clarity on how to achieve this feat, or a de-prioritization coming from employers. Even when strategies are implemented to construct a robust future-proof talent structure, there tends to be noise from which indicators are truly the most important or accurate in predicting future needs to align with technological change, market competition, and internal goals. The main challenge is the ability to solve the multidimensionality of the variables at play, and how they tend to interact with each other. One very simple example to shed light on the matter could be the existence of an occupation that is growing at an alarmingly positive rate, but with a small number of companies that are asking for it in the market; an organization can then wonder if this role or certain skills are worth investing in. Sometimes, the discrepancy in data is easy to visually assess; however, when it comes to relationships between numerous determinants, matters can get more complicated in extracting true value.

In order to tackle these limitations, and to provide public sector employers with a clear vision for the future of its workforce trends and needs; Lightcast developed an occupation index and a skill index that combine key factors determining importance, growth, and sustainability in the labor market. These indices aim at optimizing the extraction of important labor market signals while minimizing trade-offs between variables, which ultimately helps us in recommending key sector specific focus occupations and skills.

#### Occupation Index:

The occupation index combines 6 input variables to determine future-ready public sector occupations:

- Demand: Number of California public sector online job postings in the latest 12 months.
- Employment: Current estimated number of California public sector workers.
- Sector Importance: The sector importance metric aims at measuring the uniqueness or relative importance of an
  occupation by comparing demand volumes and trends within an occupation in one sector vs the other; one example could

be a "Police Officer", which would have a perfect public sector importance because it is the only sector compared to others where this role is asked for. This metric becomes more interesting for jobs that are found within multiple industries because it could reveal insights on how different sectors can place more importance on specific occupations or skills that are usually universal.

- Historical Growth Rate: Average full year-over-year growth rate in postings between 2019 and 2022
- Projected Employment Growth: Forecasted 3-years ahead employment growth rates.
- Supply Stress: A ratio for the estimated number of workers available for each job opening (Explained in more detail in the supply gaps section).



Figure 12:

This figure represents the results for the occupation importance index, and their respective top future-ready occupations Data Source(s):

Lightcast's Job Posting Analytics Database

Bureau of Labor Statistics, Occupational separations and openings, projected 2022-32

Lightcast's Core LMI Database

Lightcast Calculations



In addition, we break down the index to have customized report cards showing the relative position of each variable within each occupation:



2,206 current workers

Employment

Sector Importance

### 96<sup>th</sup> percentile Score Definition: Educational, Guidance, and Career Advise and assist students and provide educational and vocational guidance services. **Counselors and Advisors** Occupation Overview

**Employment Growth** Rate

Supply Stress Score

**Occupation Index Score:** 86% Index Breakdown 82% year-over-year growth 1,773 online job postings **Historical Growth** Demand Rate Projected 6% projected growth 23,792 current workers Employment **Employment Growth** Rate 99<sup>th</sup> percentile 72<sup>nd</sup> percentile Sector Importance **Supply Stress Score** Score



8% projected growth

92<sup>nd</sup> percentile



667 current workers

99<sup>th</sup> percentile

Employment

Sector Importance Score Projected Employment Growth

Rate

Supply Stress Score

12% projected growth

 $98^{th}$  percentile



#### Skill Index:

The skill index combines five input variables that determine future-ready public sector skills:

- Demand: Presence in California public sector online job postings in the latest 12 months.
- Sector Importance: The difference between the fraction of postings requesting a skill in the California public sector and national private sector.
- **Historical Growth Rate:** The average year-over-year growth rate between 2019 and 2022.
- Projected Demand Growth Rate: For skills, Lightcast used 3-years ahead demand forecasts rather than employment as skill data comes from job postings, and this helps in increasing forecasting accuracy.
- Salary Premium: An estimate for the extra amount employers are willing to pay workers in a certain occupation if they possess a certain skill; usually, higher values mean a skill is more scarce to find in the market, and thus more valuable when found for employers.



Figure 13:

This figure represents the results for the skill importance index, and their respective top future-ready skills Data Source(s): Lightcast Job Posting Analytics Database Lightcast Calculations We can also breakdown the index to have customized report cards showing the relative position of each variable within each skill:



Scientific Reasoning <i>Skill Overview</i>		De Mc acc pro ap kni tim	<b>Definition:</b> Models of scientific inquiry have two functions: first, to provide a descriptive account of how scientific inquiry is carried out in practice, and second, to provide an explanatory account of why scientific inquiry succeeds as well as it appears to do in arriving at genuine knowledge. The search for scientific knowledge ends far back into antiquity. At some point in the past, at least by the time of Aristotle, philosophers recognized that a fundamental distinction should	
Skill Index Score:		be an rev it it de <b>97%</b>	drawn between two kinds of scientific knowledge-roughly, knowledge that d knowledge why. It is one thing to know that each planet periodically verses the direction of its motion with respect to the background of fixed stars; s quite a different matter to know why. Knowledge of the former type is scriptive; knowledge of the latter type is explanatory. It is explanatory owledge that provides scientific understanding of the world.	
Index Breakdow	n	Historical Grov Rate	wth 111% year-over-year growth	
Demand	861 online job postings	3-Year Grow Projection	rth 65% projected growth	
Sector Importance Score	99 <sup>th</sup> percentile	Salary Premiu	um \$41,681 salary increase	







### 2. Talent Supply Gaps

Another key challenge that affects California's public sector is the presence of labor shortages in various occupations. Talent supply gaps tend to hinder productivity and slow down employer activity in their region of operations; they are of crucial importance to address and solve. Lightcast developed a "Local Supply Stress" metric that provides stakeholders with clarity on the occupations that struggle to be filled due to low workers supply. Advocating for policies that increase talent pools can help bring back the market into a state of efficiency and equilibrium.

The metric is calculated by dividing the estimated available supply for an occupation in a given year (which is comprised of people that are eligible for a certain role and that are actively searching for a job in that role (unemployed), and the people in an occupation that tend to leave their company for a position in a different company (turnover)), by the total sector demand for that occupation.

Resulting values below 1 mean that there is less than 1 worker available per job opening demanded, which means that the occupation is supply stressed, or in a labor shortage state; in contrast, values above 1 mean that there's at least 1 person available for each job posted in the market for that given occupation.

#### Methodology

Local Supply <sub>=</sub> Stress	Available Local Talent Supply for Occupation + Total Sector Demand for Occupation
Available Local Talent Supply = for Occupation	Number of employed individuals in occupation that tend to leave their company for a different position + Number of unemployed individuals ready to work in that occupation

California's public sector suffers from severe supply stress, with 31% (or 224 occupations) having less than 1 local person available to fill a job for these roles. This signals that employers are struggling to fill these jobs, and are in need of strategic guidance on solving hiring for these key openings.





Labor Shortages in California's Public Sector: Occupations with Low Recruitment Probability (High Supply Stress)			
Political Scientists	4%		
Surgical Assistants	13%		
Obstetricians and Gynecologists	14%		
Operations Research Analysts	16%		
Veterinarians	17%		
Private Detectives and Investigators	21%		
Surgeons, All Other	23%		
Health Technologists and Technicians, All Other	23%		
General Internal Medicine Physicians	24%		
Healthcare Diagnosing orTreating Practitioners, All Other	24%		
Magnetic Resonance Imaging Technologists	27%		
Veterinary Technologists and Technicians	28%		
Radiologists	28%		
Audiologists	29%		
Nurse Practitioners	33%		

Figure 15: This figure represents the occupations that have the highest supply stress, where the percentage values are estimates for the probability that an employer will find a worker given his demanded occupation (I.e., There's a 13% chance that a public sector employer can find a "Surgical Assistant" in California today); any value below 100 hints

towards a labor shortage for the respective occupation, and that there's less than 1 person available per job posting. Data Source(s):

Lightcast's Job Posting Analytics Database

Bureau of Labor Statistics, Occupational separations and openings, projected 2022-32 Lightcast's Core LMI Database

Lightcast Calculations

Supply gaps vary from one occupation to another, some occupations such as "Political Scientists," "Surgical Assistants," and "Obstetricians and Gynecologists" have extremely low recruitment probabilities, as there is only a 4, 13, or 14% chance respectively for public sector employers to find the talent they need for these roles from within California. This can be very problematic especially in certain career areas such as healthcare, a shortage of doctors, or nurses can cause major disruptions to the daily operations in public hospitals, which in turn could hinder public health safety.

Public sector employers should approach supply gaps with seriousness as this phenomenon can lead into a spiral of not finding the right talent, which could harm the status of daily business needs.

### 3. Hiring Process and Inefficiencies

Engagement with public sector employers in the state unveiled a number of hurdles that extend across nearly every phase of the hiring process. From identifying job opportunities to application requirements to final selection, employers illuminated various pain points in the public sector that collectively contribute to a less accessible and often demotivating experience for job seekers in California. These hurdles not only deter potential candidates but also hinder the public sector's ability to attract and retain a diverse and talented workforce. By addressing these hurdles, public sector organizations can enhance accessibility and fairness in their recruitment processes, fostering a more inclusive and diverse workforce.



#### Job Posting:

- Students and the broader population may lack awareness of or may not be adequately exposed to the wide range of public sector jobs opportunities available or where to find them.
- Government job boards can often be challenging for users to navigate, especially those who are unfamiliar with the specific terminology or application processes of the public sector.
- Some public sector roles are filled through informal channels such as networking, word of mouth, and internal connections
  rather than relying solely on traditional application processes. This hidden talent acquisition environment may result in
  qualified candidates, including those in underrepresented groups, being unaware of certain job openings or opportunities.

#### **Requirements:**

- Public sector jobs tend to have strict education and/or experience requirements, which act as barriers for individuals who
  might possess valuable skills and/or experience, but lack specific academic credentials.
- This may result in the exclusion of talented individuals, particularly those from underrepresented groups, and in turn, lead to less diversity.
- The bureaucratic nature of the public sector often leads to slow and/or inflexible processes for updating or revising job classifications and requirements, hindering the sector's ability to meet evolving industry needs.
- The focus on degrees over skills restricts the potential talent pool, preventing public sector employers from tapping into a broader range of skills and competencies that may be essential for certain roles. Public sector organizations lag the private sector when it comes to shifting to a skills-based hiring approach.

### Exams/Evaluations:

- Many public sector jobs have required exams or evaluations, which is a barrier to hiring.
- Candidates applying for entry-level roles that require less than a Bachelor's degree likely have less experience taking exams and may be discouraged from applying due to these requirements.
- Oftentimes, exams are in English, which discourages non-English speakers from applying for public sector jobs, limiting the diversity of applicants.

### **Candidate Processing:**

- The interview process for public sector roles often has requirements in place that cannot be altered, such as a certain number of interviews with various staff or departments. This can significantly increase the time to process candidates.
- In this competitive job market, the long processing time puts the public sector at a disadvantage, with the risk of losing skilled talent. Candidates may receive offers from private sector employers more quickly, prompting them to accept positions before public sector offers materialize.

### **Total Compensation:**

Employers noted that there are certain areas where the public sector is more competitive and others where it is less competitive than the private sector.

#### The public sector is *competitive* on:



#### Pensions

The public sector in California has a robust pension system, which is a selling point for many employees; however, younger generations seem to be more interested in higher pay than retirement benefits.



#### Well-defined pay schedules

Employees often appreciate the consistency and transparency of well-defined pay schedules. However, this sometimes means less flexibility for higher wages based on performance, like is seen in the private sector.



#### Community impact

Public sector roles often match the younger generation's aspirations for community involvement and making an impact.

#### The public sector is less competitive on:



#### **Baseline wages**

Many public sector organizations have tight budgets and less flexibility in increasing wages to keep up with the private sector.



#### **Remote work opportunities**

Organizations moved to remote work during the pandemic but have since returned to the office. Some organizations offer one or two days of telecommuting per week, but it has been challenging to monitor success as public sector organizations don't have the infrastructure or technology in place to do so.



### 4. Underutilization

California's overall workforce is limited in capacity by its high number and rate of underutilized workers. Underutilized workers include those who are **unemployed**, **underemployed** (involuntarily working part-time or believe they are overqualified for their role) or **marginally attached** to the workforce (out of the labor force and not actively searching for a job but would accept one if offered). California ranks last in the US in both the number of underutilized workers (1.8 million) and the rate of underutilized workers as a percent of its labor force (9.2%).

This challenge impacts the state's economy at large, as well as the public sector, specifically. The data presented in this report highlight opportunities to further engage individuals in the workforce across the state. The majority of underutilized workers in California are unemployed, but about half are either underemployed or marginally attached.

The chart below visualizes differences in the composition of underutilization in each of the seven regions of study. Notably, South Bay has the lowest underutilization rate among the seven regions, underpinned by the lowest unemployment rate and marginally attached rate of all the regions. San Joaquin has the highest percent of people who are underutilized, driven by the highest unemployment rate across all regions. Notably, Greater Los Angeles has the highest underemployment rate and the Bay Area has the highest rate of marginal attachment.



Figure 16: This figure represents a pie chart that shows the percentage distribution of the different components that make up total underutilization (Unemployment + Underemployment + Marginally Attached). Data Source(s): Current Population Survey (IPUMS Microdata)

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#### Figure 17:

This figure represents total underutilization rates by region, as well as a distribution of the disaggregated factors that make up underutilization Data Source(s):

Current Population Survey (IPUMS Microdata)

By looking at the underutilization of various demographic groups, we can further identify where there are pockets of underrepresented individuals in California's labor market.

People of color in California are underutilized at higher rates than the state average and for most race/ethnicity groups, underutilization is driven by unemployed individuals. Interestingly, for Hispanic and American Indian/Alaska Native, a higher percent of individuals are underemployed than unemployed, meaning they are either involuntarily working part-time or believe they are overqualified for their role.



Figure 18:

This figure represents total underutilization rates by race, as well as a distribution of the disaggregated reasons for being underutilized Data Source(s):

Current Population Survey (IPUMS Microdata)

While men and women in California have the same rate of underemployment, men have higher rates of marginal attachment and unemployment, and therefore, total underutilization. We also find that California's underutilization is inversely correlated with age, i.e., as workers grow older, they are less likely to be unemployed, underemployed, or marginally attached.



Figure 19:

This figure represents total underutilization rates by gender, as well as a distribution of the disaggregated reasons for being underutilized

Data Source(s): Current Population Survey (IPUMS Microdata)



Figure 20:

This figure represents total underutilization rates by age group, as well as a distribution of the disaggregated reasons for being underutilized

Data Source(s): Current Population Survey (IPUMS Microdata)

Finally, it is evident that the burden of underutilization falls disproportionately on those below Bachelor's degree education. While about 65 in 100 people in California have less than a Bachelor's degree, 73 in 100 of those underutilized in California have less than a Bachelor's degree. All other educational demographics have higher representation in the overall population than in the underutilized population.

#### Across all underutilized communities, education status has been a common employment threat.

While there may be many reasons why individuals in California are underutilized, education barriers are often a key reason. About 73 percent of underutilized Californians have less than a Bachelor's degree. There are 206,000 Californians who are unemployed and have below-typical education in their most recent occupation.



2/10 Number of Delow-typical of the workers that make it into labor market employment for a given occupation Number of below-typical education

#### Do these individuals lack the necessary skills to be hired? Or are these workers witnessing market entry barriers due to education policy requirements?

The main question one can think of when analyzing this education trend in underutilized communities is if these individuals lack the necessary and required skills to perform the responsibilities of the job being demanded.

In order to derive insights on the matter, Lightcast conducted a study to determine the capabilities of the underutilized by matching the observed typical skillsets of these individuals and then comparing them to requested skills in the public sector for given occupations, this method was mainly conducted in four steps:

- 1. Extract the top 20 skills for a given study occupation
- 2. Calculate the skill competency ratio for the lower than typical education workers for these top skills

a. With skill competency ratio defined as: How often a worker with lower education possesses a skill for their occupation as compared to the overall percentage of workers possessing that skill

> Percentage of lower education individuals with skill x under occupation y Percentage of overall workers with skill x under occupation y

3. Calculate the number of overlapping skills

a. A skill is considered overlapping if at least 50% of lower-than-typical education workers have that given skill compared to the overall percentage of workers possessing the skill

(Overlapping: When skill competency ratio > 50%

Missing: When skill competency ratio < 50%)

4. Calculate the total average skill proficiency for lowered requirement individuals for the study occupation

a. The percentage of an occupation's top 20 skills that are overlapping when educational requirements are lowered (Number of overlapping skills ÷ 20)

Lightcast found that the average percentage across all occupations of overlapping skills in below-typical education individuals for the top 20 most demanded skills by occupation starts at 33% and can go up to a staggering 100% for certain occupations such as "Political Scientists" (Which is the most supply stressed occupation, hinting that education policy changes and the need to leverage the underutilized for such a role), and "Urban and Regional Planners."

Lower-than-typical education underutilized individuals that belong to a certain profession tend to have the required skills for employment. This means that employers can leverage these talent pools to fill in key roles such as future-ready and supply-gapped occupations.





Figure 21:

This figure represents the skill proficiency (Degree of skill overlap) between lower than typical education individuals belonging to the given occupation, and the overall population for that occupation.

Data Source(s):

Lightcast's Job Postings Analytics Database Lightcast Calculations

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Employers can use various methods to fill in the missing skills these workers might have:

- Internal upskilling opportunities
- Partnerships with educational institutions



#### **Community Health Workers**









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#### What about less skilled or inexperienced underutilized workers?

Employers can also tap into the potential of underutilized entry-level or low-skilled individuals by hiring them for:

- Entry-level future-ready occupations
- Entry-level supply stressed occupations
- Entry-level disruptive skills

Underutilized workers can also equip themselves using non-traditional learning methods with specific entry-level disruptive skills they desire, in order to increase their chances of penetrating the labor market; as well as, to help increase the probability of a salary boost.

Focusing on that specific talent pool has become of paramount importance for California's future economic success and labor market stability; especially given that most of these underutilized individuals (And most of the California population) hold less than a bachelor's degree and are thus subject to larger market-entry barriers. The key to enabling these potential workers is one that requires innovation, clarity, and collaboration; with the main aim being, to connect the underutilized to employment through the right skill building journey. Employers can work with organizations similar to Lightcast and Calbright in order to shed light on workforce insights and future-ready skill profiles, to then offer facilitated and skill targeted programs that would help in creating competitive advantages for the previously less trained.

Concrete examples highlighting the importance of this strategy relate to Calbright's continual efforts in being the channel through which less skilled or financially capable individuals hone their skill sets through market informed programs; table 7 shows Calbright built credentials, which helped vast numbers of students in becoming eligible for hiring into highly demanded public sector occupations.

Calbright continues to respond to market insights and develop programs respectively (I.e., newly launched "Network Technology" credential); however, more awareness and collaboration between different stakeholders and policy-makers must be put into place to ensure that employers are getting the talent they need, while backed-up data helps link these employers to the right institutions, and the right institutions to talent pools that can benefit from skill based programs.

Occupation	Calbright Program
Computer User Support Specialists	IT Support
Computer Network Support Specialists	IT Support
Computer Occupations	IT Support
Information Security Analysts	Cybersecurity
Network and Computer Systems Administrators	CRM Platform Administration
Market Research Analysts and Marketing Specialists	Data Analysis
Operations Research Analysts	Data Analysis
Management Analyst	Data Analysis
Medical Records Specialist	Medical Coding



## Recommendations

The public sector plays a crucial role in California's economy and is essential for the well-being of its residents. Public sector employers, educators and policymakers must all contribute to ensuring that this critical sector has the workforce it needs for continued success and growth of the state's economy. Lightcast has identified the following strategies to widen the public sector talent pool in the state:

Reassess Educational Requirements - Review educational requirements for key public sector roles or organizations to assess the viability of lessening requirements or shifting to a more skills-based hiring approach that evaluates skills, capabilities and competencies relevant to each job. This can widen and diversify the available talent pool for the public sector. California has already made steps in the direction of reassessing and right-sizing job requirements through Governor's Executive Order N-11-23, which directs the California Human Resources Department to evaluate whether a college degree is needed for a particular position whenever its classification is reviewed. This report sheds light on the importance of the Executive Order; however, there is still more work to be done. The California Human Resources Department and other public sector employers in the state should work with Calbright College to connect students with job opportunities in the public sector. Lightcast data can also help support future initiatives related to ensuring talent supply aligns with employer demand in California.

Excerpt from Executive Order N-11-23: "On or before October 1, 2023, the California Department of Human Resources shall update its existing policies, as well as training materials, to require, as part of the regular job classification review process for any position for which a bachelor's degree remains a job-related educational requirement, explicit analysis of whether a bachelor's degree is necessary for successful performance in the position and, if it is determined necessary, supporting data that demonstrates the necessity."

- Leverage Work-Based Learning Models Leverage internships, apprenticeships and on-the-job training to expose students to public sector career opportunities, fill talent gaps and increase employee retention. Integrate exam preparation components into work-based learning models to ensure that participants are well-equipped to meet the assessment requirements when applying for public sector positions and can seamlessly transition into full-time opportunities.
- Increase Remote Work Opportunities Embrace flexible work arrangements, including remote work options (to the extent possible), to attract a diverse and geographically dispersed talent pool. This approach not only accommodates different work styles but also taps into talent that may be located in areas traditionally underrepresented in public sector roles. This may require public sector organizations to invest in technology infrastructure that facilitate effective and productive remote work.
- Engage Underrepresented and Underutilized Talent Pools Conduct a comprehensive assessment of barriers beyond education requirements that may prevent underrepresented talent pools from pursuing public sector career opportunities. This includes evaluating systemic biases, cultural barriers, and infrastructure issues, such as transportation and childcare. Develop targeted outreach and engagement efforts to reach underrepresented or underutilized segments of the workforce and promote public sector career opportunities.



- Ensure Wages are Competitive Total compensation seems competitive relative to the private sector; however, younger generations tend to be more interested in higher wages than pension benefits. Public sector organizations should conduct regular compensation benchmarking studies and explore flexible compensation structures to remain competitive with the private sector. Implement transparent compensation policies that clearly communicate the value of total compensation.
   Calbright College plays an important role in increasing access to education in California through its flexible and online learning model. Calbright College can further increase its impact and help bridge the gap between education and the public sector through the following strategies.
  - Forge strategic partnerships with employers in the public sector and/or other educational institutions to create hands-on I earning opportunities that align with online instruction.
  - Collaborate with employers to develop curriculum and programming that integrate industry-specific skills and competencies to ensure that programs are tailored to the current and future needs of the public sector job market.
  - Increase awareness of Calbright College as a premier training solution to individuals and students across the state. This
    may include targeted marketing campaigns, partnerships with K-12 schools, partnerships with local or regional workforce
    development boards, etc.
  - Connect educational programs to career pathways within the public sector so that students are aware of the opportunities that exist after program completion.
  - Participate in or host job fairs that focus specifically on public sector employers and the career pathways available in the public sector.
  - Develop targeted outreach programs aimed at reaching underutilized segments of the workforce, including individuals from diverse cultural backgrounds, differently-abled individuals, and those from economically disadvantaged communities.

### Conclusion

The public sector plays an important role in supporting and shaping California's state and local economies. The sector's continued success relies on having a strong, future-ready workforce. By addressing the challenges identified in this report and implementing the targeted recommendations, California's public sector can take significant strides toward fostering a diverse, skilled, and inclusive workforce.





## **About Calbright**

Calbright is a public community college established by the state of California. In that sense, they're a traditional institution: a public, non-profit college - part of the California Community Colleges system.

In every other way, Calbright is a new kind of college. With a unique education model offering an accessible, career-focused education, designed to work within the schedules of California's working-age adults.

### About Lightcast

Lightcast provides trusted global labor market data, analytics, and expert guidance that empowers communities, corporations, and learning providers to make informed decisions and navigate the increasingly complex world of work. With a database of more than one billion job postings and career profiles, our team provides best-in-class customer service with robust data, clear analysis, and expert guidance on skills, jobs, and opportunities.

Headquartered in Boston, Massachusetts, and Moscow, Idaho, Lightcast is active in more than 30 countries and has offices in the United Kingdom, Italy, New Zealand, and India. The company is backed by global private equity leader KKR. For more, visit www. lightcast.io.



