



2018-22

Economic Workforce Development Program Legislative Report

California Community Colleges Chancellor's Office | Sonya Christian, Chancellor



California
Community
Colleges

SONYA CHRISTIAN
Chancellor

October 11, 2023

The Honorable Gavin Newsom
Governor of California
State Capitol
Sacramento, CA 95814

RE: Report on California Community Colleges Economic Workforce Development Program Fiscal Years 2018-22

Dear Gov. Newsom:

Pursuant to California Education Code section 88650, the California Community Colleges Chancellor's Office (Chancellor's Office) and the Board of Governors for California Community Colleges (Board of Governors) is pleased to release the Fiscal Years 2018-22 Economic Workforce Development Program Legislative Report.

If you have any further questions on this report, please contact Executive Vice Chancellor, Dr. Aisha Lowe at ALowe@CCCCO.edu.

Sincerely,

A handwritten signature in black ink that reads "Sonya Christian".

Sonya Christian
Chancellor

Enclosure: Report

2018-22 ECONOMIC WORKFORCE DEVELOPMENT PROGRAM LEGISLATIVE REPORTS

Prepared By

California Community Colleges Chancellor's Office

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
Background.	1
Investment	1
Outcomes	1
INTRODUCTION	2
Legislation and Intent	2
Regional Approach	2
Reporting Mechanisms	4
THE EWD PROGRAM IN ACTION	4
EWD ALLOCATIONS FOR 2018-19	7
EWD Allocation by Initiative	7
EWD Allocation by Region	8
EWD Allocation by Industry Sector	9
EWD ALLOCATIONS FOR 2019-20	10
EWD Allocation by Initiative	10
EWD Allocation by Region	10
EWD Allocation by Industry Sector	11
THE EWD PROGRAM: ACCOUNTABILITY MEASURES & METRICS	12
CERTIFICATES AND DEGREE COMPLETIONS	12
Proportion of Completers and Skill Builders who Attained a Living Wage	12
THE EWD PROGRAM	13
Strategic Alignment of Programs.	13

The Vision for Success . . . . .	.13
Strong Workforce Program . . . . .	.14
Diversity, Equity and Inclusion (DEI) . . . . .	.14
New Strategies . . . . .	.15
Future Opportunities . . . . .	.18
CONCLUSION. . . . .	.18
APPENDIX A – STRONG WORKFORCE PROGRAM (SWP) . . . . .	.19
APPENDIX B – EMPLOYMENT OUTLOOK OF EACH REGION AND SECTOR. . . . .	.20
Industry Employment in Priority Sectors . . . . .	.20
Occupational Employment Outlook in California (2017-2022) . . . . .	.21
Non-Traditional Priority Sector: Global Trade & Logistics . . . . .	.27
Regional Profiles. . . . .	.27
San Diego-Imperial Region . . . . .	.27
Los Angeles & Orange County Region. . . . .	.29
Inland Empire/Desert Region . . . . .	.30
South Central Coast Region . . . . .	.31
Central Valley/Mother Lode Region . . . . .	.32
Bay Region. . . . .	.33
North/Far North Region . . . . .	.34
COVID-19 Implications on Employment Data and Projection Modeling . . . . .	.35

EXECUTIVE SUMMARY

BACKGROUND

The California Community Colleges is the primary vehicle for delivering career technical education (CTE) and workforce training to Californians, preparing individuals for skilled jobs in an ever-changing labor market. The California Community Colleges Chancellor's Office (Chancellor's Office) includes the Workforce and Economic Development Division (WEDD), which implements the Economic and Workforce Development (EWD) program and allocates state funds to the 73 community college districts comprising 116 California community colleges through a regional structure.

The EWD Program connects students and employers by generating career opportunities in industries with the greatest need. This vital effort serves the unique economic and workforce needs of regions throughout California by continually responding to dynamic economic and workforce trends and needs, including those resulting from the COVID-19 pandemic and technological advancement. By leveraging state investments, EWD supports community colleges to develop and implement training and curriculum in 10 key strategic industry sectors, create jobs and career pathways for students, train incumbent workers, and engage employers to understand their training needs while reducing the gap between labor-market demand and existing or future worker availability.

INVESTMENT

In 2018-19, the EWD program awarded 115 grants totaling \$20.3 million to five categories of grantees, including industry sector experts and professionals in technical support areas. These allocations were braided with an estimated \$14 million in funding from other programs, such as the Strong Workforce Program (SWP)¹, as well as in-kind contributions from employer partners. This braided funding bolsters the ability of the EWD program to affect change in vastly ramped-up employer engagement and entrepreneurship aimed to ensure student success. In 2019-20, the EWD program awarded 82 grants totaling \$18.6 million to four categories of grantees, including industry sector experts and professionals in technical support areas. The 2019-20 allocations were braided with \$11.5 million. This annual report to the Legislature describes accountability metrics and measures to examine the return on investment of these EWD funds.

OUTCOMES

Due to the interconnected nature of economic development (such as EWD) and workforce development programs such as Strong Workforce Program (SWP), the best measure of outcomes for the EWD program is the progress made by career technical education (CTE) students systemwide. In Fiscal Years 2018-19 and 2019-20, we have seen increases in the number of systemwide CTE student completers, the proportion of CTE students obtaining a living wage and the proportion of students who gain employment in their field of study. However, the EWD program, which has existed since 1991 and is the only economic development program in the California Community Colleges, is being re-imagined in

1 See Appendix A – Strong Workforce Program for an in-depth program outline.

anticipation of its upcoming reauthorization in Fiscal Year 2024-25. As a result, we are taking action to track new measures that will allow the program to report specifically on the impact of the funding the program provides and the measures that are most significant to economic development and, in turn, affecting workforce development through their common thread of providing enhanced employment opportunities for California community college students.

INTRODUCTION

LEGISLATION AND INTENT

Codified in 1991, the EWD program formalized earlier efforts to coordinate statewide economic development through colleges connected all over the state to their local communities and employers, as well as to provide technical training and programs for local small businesses. The program has been amended at least three times since 1991 to clarify program goals and to better align the program with California and federal needs.

The EWD program advances California's economic growth and global competitiveness through education and services. This effort contributes to continuous workforce improvement, technology deployment and business development, consistent with the current needs of the state's regional economies. Local colleges and business stakeholders form consortia to identify regional workforce needs and priorities while they aid small businesses in the region through collaboration with local workforce development boards to train workers according to regional employer needs. These partnerships enable colleges to develop curricula to address the training needs of local industry.

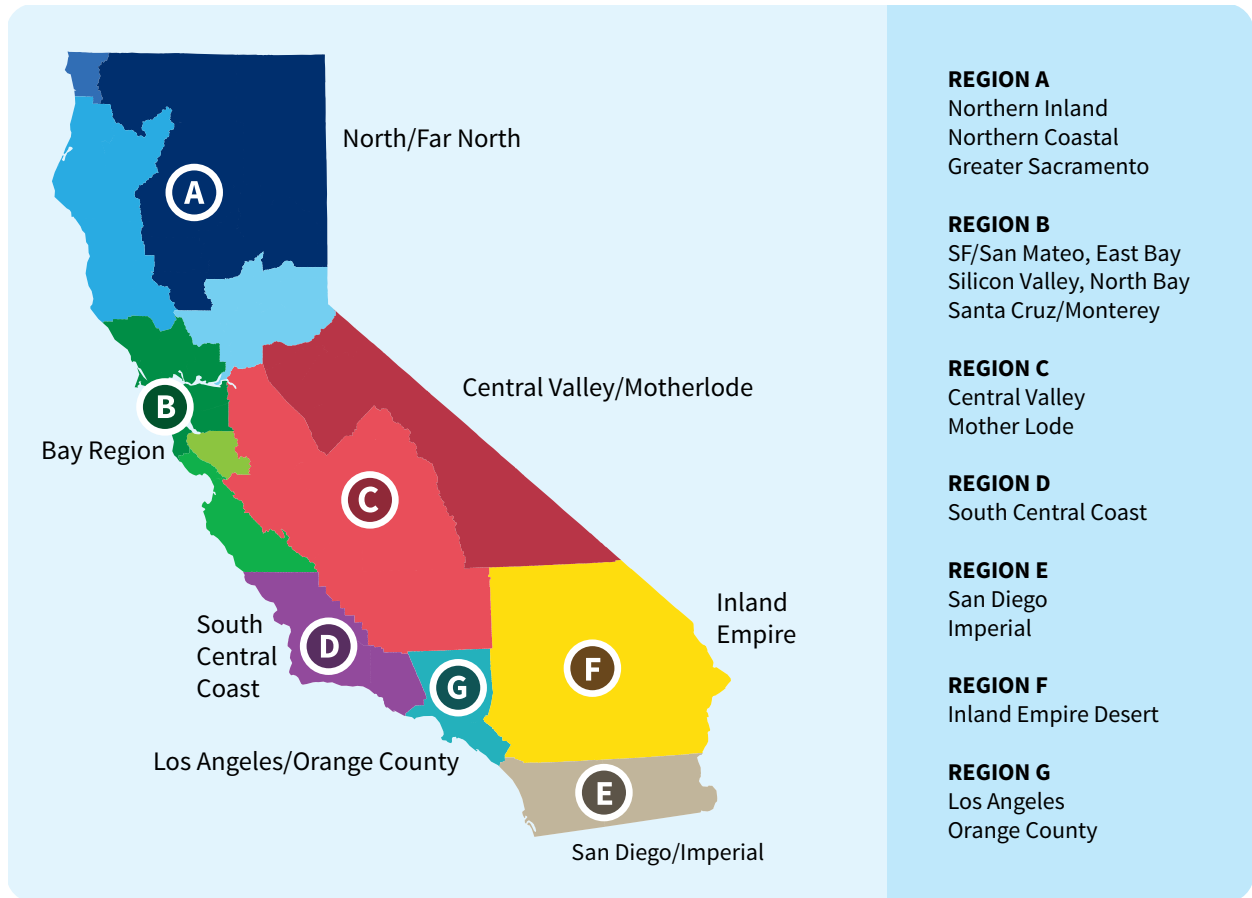
REGIONAL APPROACH

The Economic and Workforce Development Advisory Committee (EWDAC), composed of college presidents as well as major industry employers in California and faculty representatives, advises the Chancellor's Office on EWD development, recommends resource deployment and develops inventive or novel strategies to achieve program goals and objectives.

The EWD program also provides grants to a network of colleges with economic and workforce development programs throughout the state. We utilize a regional approach coupled with sector strategies to achieve its goals. College grantees serve in a variety of roles including centers of excellence (COEs), regional consortia (RCs), statewide directors of employer engagement (previously referred to as sector navigators), regional directors of employer engagement (previously referred to as deputy sector navigators) and technical assistance providers (TAPs). These partners are organized regionally to address the specific needs of their regional economy and then statewide by their industry to bring cutting-edge innovation from national and statewide trends in their industry to their region.

In this structure, the RCs serve as a regional framework to communicate, coordinate, collaborate, promote and plan CTE and workforce and economic development in colleges within their region.

Regional Structure



There are 10 industry sectors:

1. Advanced Manufacturing
2. Advanced Transportation and Logistics
3. Agriculture, Water and Environmental Technologies
4. Business and Entrepreneurship
5. Energy, Construction and Utilities
6. Global Trade
7. Health
8. Information and Communication Tech/Digital Media
9. Retail, Hospitality and Tourism
10. Life Sciences/Biotechnology

REPORTING MECHANISMS

We utilize the NOVA system to manage our grants. This program serves two primary functions: 1) provide data analyses at the state level (for Chancellor's Office programs and fiscal monitors), and 2) at regional, district and local levels, allow the California Community Colleges to plan, finance and track investments. NOVA is an example of how technology can be applied to change government workflow in ways to maximize efficiency and increase transparency. Today, NOVA has more than 9,000 users and integrates the management of more than \$2.6 billion in public funding.

THE EWD PROGRAM IN ACTION

In 2018-19, the EWD program awarded 82 grants totaling \$18,985,000 to five categories of industry sector experts and professionals in technical support areas. In 2019-20, the program awarded 83 grants, totaling \$18,558,000.

1. Statewide Directors for Employer Engagement (SDs or formerly sector navigators)

Statewide directors for employer engagement (SDs), formerly called sector navigators, are the first contacts for employers from the community college system to a given industry sector and act as sector experts, staying current within their industry workforce development needs, trends and funding opportunities.

Purpose:

- Developing an advisory structure for their industry sector across the state and regions, to coordinate work plans and communications among their sector's regional directors (see below).
- Collaborating with the regional consortia and technical assistance providers for contract education to align community college and other workforce development resources with the needs of the industry.
- Tracking industry sector trends and assisting the community college system in connecting to industry associations and major employers.
- Facilitating the spread of information by identifying and disseminating curriculum models and effective practices, while alerting and mobilizing the regional consortia to pursue contract and grant opportunities.
- Coordinating and sharing best practices across regions and among regional directors within their respective industry sectors.

Allocation:

- 2018-19 – 10 grants totaling \$4,370,000
- 2019-20 – 10 grants totaling \$3,720,000

2. Regional Directors for Employer Engagement (RDs or formerly deputy sector navigators)

Regional directors of employer engagement, formerly called deputy sector navigators, are intra-regional contacts for their industry sector and must coordinate their regional activities within their industry sector with that region's regional consortium.

Purpose:

- Working with regional colleges and employers to create alignment with workforce training and career pathways.
- Collaborating with their industry SD and fellow RDs to comprise a statewide, industry-focused network, thus facilitating work plan alignment, exchange of effective practices and fielding of logistics questions from colleges and employers.
- Introducing colleges to new employers to create new job opportunities for students.
- Allocation:
 - 2018-19 – 63 grants totaling \$12,600,000
 - 2019-20 – 64 grants totaling \$12,800,000

3. Centers of Excellence (COEs)

The Centers of Excellence for Labor Market Research are labor market and data resource centers for education and industry stakeholders.

Purpose:

- Providing real-time and forecasted, industry-validated, regional labor market research to region-based consortia and sector-base initiatives.
- Providing assurance that decisions and directives are evidence-based, by conducting market research to identify opportunities and trends in high growth, emerging and economically critical industries and occupations.
- Providing data that ensures colleges are reducing the gap between labor-market demand and existing or future worker availability.

Allocation:

- 2018-19 – 7 grants totaling \$775,000
- 2019-20 – 7 grants totaling \$1,500,000

4. Technical Assistance Providers (TAPs)

The TAPs support the California community colleges in the area of the economy and workforce by providing subject-matter expertise and technical assistance in specific high-need areas while helping to execute EWD objectives.

Purpose:

- Internships, Externships and Apprenticeships: Through the California Apprenticeship Initiative (CAI) Apprenticeship Support Network, developing tools, materials, events and workshops to assist CAI grantees in creating robust and sustainable apprenticeship programs.
- Contract education: Providing community college contract education and economic development professionals with skills and tools to develop and deliver in-demand solutions businesses need to meet the workforce development challenges affecting their economic success.
- Data and accountability: Creating data tools and supporting the development of accountability systems to highlight the effectiveness of and support improvements within career education programs.
- Internship back-end payroll services: With the Foundation for California Community Colleges acting as the employer of record for students placed in internships as well as handling back-office tasks including recruitment, record-keeping, payroll, workers compensation and administrative functions.
- Labor market research: With the COEs for labor-market research, working with colleges, regions and the sector networks to identify opportunities and trends in high-growth, emerging and economically critical industries and occupations. The centers also help estimate the gap between labor-market demand, available training against existing or future workers and help regions respond to workforce needs by providing them quality, timely information for decision-making.
- Science, Technology, Engineering, Arts, and Mathematics (STEM)/(STEAM): These coordinated programs integrate didactic and experiential training in science, technology, engineering, art and math. A network of California community colleges are building their own makerspace communities under the California Community Colleges Maker initiative, creating local innovation efforts to turn out the number of STEM fields, fueling job readiness and strengthening regional economies.
- Communications: Temporary communications-bridge used to feature the EWD program opportunities, goals and services.

Allocation:

- 2018-19 – \$1,240,000
- 2019-20 – \$538,000

In 2018-19, the EWD program awarded 33 grants totaling \$1,310,000 to fund industry specific projects in common (ISPIC), projects that do not fall under the normal role one of the entities listed above and that involve multiple entities throughout the state. ISPIC projects make it easier for colleges (or regional consortia of colleges) to deliver ‘more and better career education’ in areas of labor market demand. For example, bringing to scale in multiple regions curriculum developed to train a specific employer’s existing workforce.

EWD ALLOCATIONS FOR 2018-19

EWD ALLOCATION BY INITIATIVE

In 2018-19, EWD awarded 115 grants across five initiatives, totaling \$20.3 million, as described in **Table 1 below**.

Table 1. 2018-19 EWD Allocation by Initiative

Initiative	Number of Grants Awarded	Value of Awards	Number of Grants Completed	Total Amount Expended	Initiative Percent of Annual Funding
Statewide Directors	10	\$4,370,000	9	\$3,632,408	22%
Regional Directors	63	\$12,600,000	58	\$11,300,231	62%
Centers of Excellence	7	\$775,000	7	\$774,934	4%
TAPs	2	\$1,240,000	2	\$238,000	6%
Industry Sector Projects in Common	33	\$1,310,000	16	\$694,427	6%
TOTAL	115	\$20,295,000	92	\$16,640,000	100%

EWD ALLOCATION BY REGION

Of the 115 grants and \$20.3 million awarded, 63 grants totaling \$12.6 million were dedicated to specific regions as detailed in **Table 2 below**.

Table 2. 2018-19 EWD Allocation by Region

Region	Number of Grants Awarded	Value of Awards	Number of Grants Completed	Total Amount Expended	Region Percent of Regional Funding
Bay Area	13	\$2,600,000	10	\$1,930,836	20%
Central/ Mother Lode	7	\$1,400,000	6	\$1,124,716	11%
Inland Empire/ Desert	6	\$1,200,000	5	\$920,970	10%
Los Angeles	7	\$1,400,000	7	\$1,381,573	11%
North/Far North	11	\$2,200,000	11	\$2,188,869	17%
Orange County	6	\$1,200,000	6	\$1,178,007	10%
San Diego/ Imperial	7	\$1,400,000	7	\$1,386,445	11%
South Central Coast	6	\$1,200,000	6	\$1,188,992	10%
TOTAL	63	\$12,600,000	58	\$11,300,408	100%

EWD ALLOCATION BY INDUSTRY SECTOR

Of the 115 grants and \$20.3 million awarded, 73 grants equaling \$17 million were allocated to specific industries as illustrated in **Table 3 below**.

Table 3. EWD Allocation by Industry Sector (2018/2019)

Industry Sector	Number of Grants Awarded	Value of Awards	Number of Grants Completed	Total Amount Expended	Industry Percent of Industry Funding
Advanced Manufacturing	8	\$1,772,000	7	\$1,473,087	11%
Advanced Transportation and Logistics	6	\$1,472,000	5	\$1,172,000	9%
Agriculture, Water and Environmental Technologies	5	\$1,172,000	5	\$1,160,910	7%
Business and Entrepreneurship	10	\$2,172,000	10	\$2,137,782	13%
Energy, Construction and Utilities	6	\$1,372,000	6	\$1,268,578	9%
Life Sciences/ Biotech	3	\$772,000	3	\$772,000	5%
Global Trade	6	\$1,922,000	6	\$1,285,585	9%
Health	12	\$2,572,000	11	\$2,350,824	15%
Information and Communication Tech/Digital Media	12	\$2,572,000	10	\$2,157,695	15%
Retail, Hospitality and Tourism 'Learn and Earn'	5	\$1,172,000	5	\$1,154,178	7%
TOTAL	73	\$16,970,000	68	\$14,932,639	100%

EWD ALLOCATIONS FOR 2019-20

EWD ALLOCATION BY INITIATIVE

In 2019-20, EWD awarded 83 grants across four initiatives, totaling \$18.6 million, as described in **Table 4 below**.

Table 4. 2019-20 EWD Allocation by Initiative

Initiative	Number of Grants Awarded	Value of Awards	Number of Grants Completed	Total Amount Expended	Initiative Percent of Annual Funding
Statewide Directors	10	\$3,720,000	9	\$3,099,968	20%
Regional Directors	64	\$12,800,000	58	\$11,014,578	68%
Centers of Excellence	7	\$538,000	7	\$1,500,000	9%
TAPs	2	\$538,000	2	\$538,000	3%
TOTAL	83	\$18,558,000	76	\$16,152,546	100%

EWD ALLOCATION BY REGION

Of the 83 grants and \$18.6 million awarded, 64 grants totaling \$12.8 million were dedicated to specific regions as detailed in **Table 5 below**.

Table 5. 2019-20 EWD Allocation by Region

Region	Number of Grants Awarded	Value of Awards	Number of Grants Completed	Total Amount Expended	Region Percent of Regional Funding
Bay Area	14	\$2,800,000	13	\$2,336,174	22%
Central/Mother Lode	8	\$1,600,000	7	\$1,371,819	13%
Inland Empire/Desert	5	\$1,000,000	4	\$735,625	8%
Los Angeles	7	\$1,400,000	7	\$1,335,006	11%
North/Far North	12	\$2,400,000	9	\$1,730,470	19%
Orange County	6	\$1,200,000	6	\$1,126,296	9%
San Diego/Imperial	6	\$1,200,000	6	\$1,179,188	9%
South Central Coast	6	\$1,200,000	6	\$1,200,000	9%
TOTAL	64	\$12,800,000	58	\$11,014,578	100%

EWD ALLOCATION BY INDUSTRY SECTOR

Of the 83 grants and \$18.6 million awarded, 74 grants equaling \$16.5 million were allocated to specific industries as illustrated in **Table 6 below**.

Table 6. 2019-20 EWD Allocation by Industry Sector

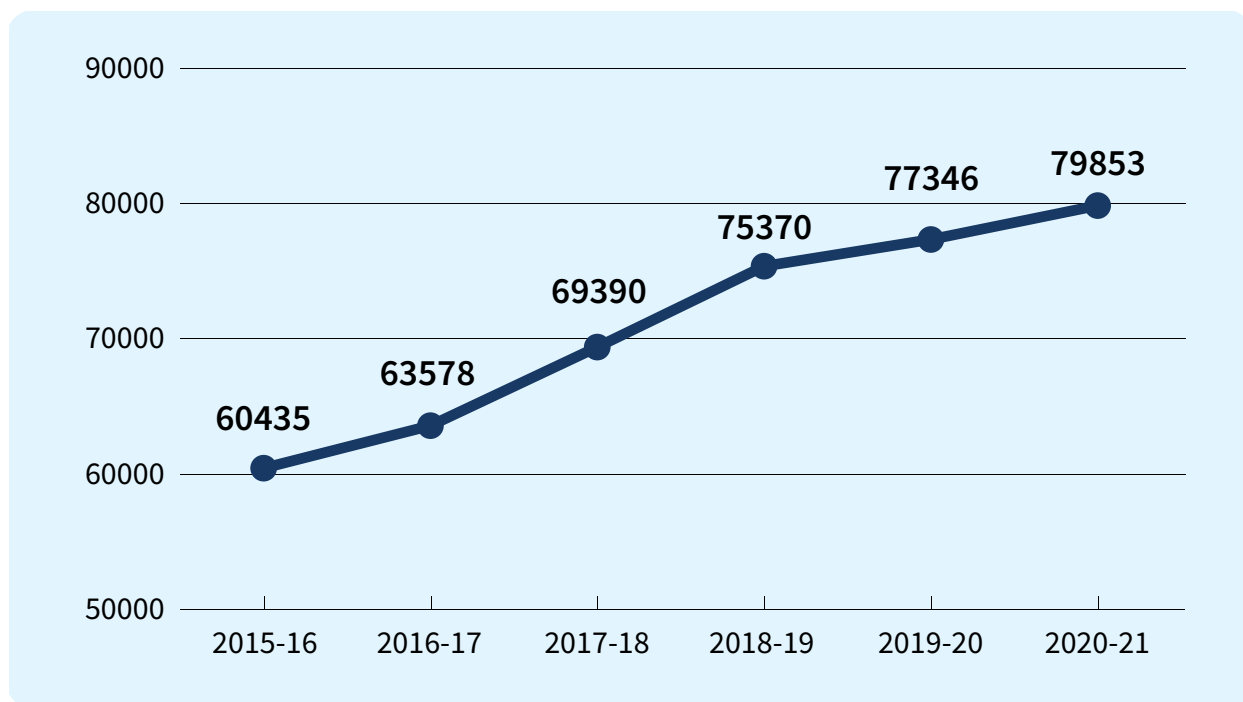
Industry Sector	Number of Grants Awarded	Value of Awards	Number of Grants Completed	Total Amount Expended	Industry Percent of Industry Funding
Advanced Manufacturing	8	\$1,772,000	8	\$1,463,242	10%
Advanced Transportation and Logistics	7	\$1,572,000	6	\$1,364,801	9%
Agriculture, Water and Environmental Technologies	5	\$1,172,000	5	\$1,166,331	7%
Business and Entrepreneurship	10	\$2,172,000	10	\$2,171,707	13%
Energy, Construction and Utilities	6	\$1,372,000	5	\$1,151,268	8%
Life Sciences/ Biotech	3	\$772,000	3	\$765,363	5%
Global Trade	7	\$1,572,000	6	\$1,103,521	9%
Health	11	\$2,372,000	11	\$2,327,588	16%
Information and Communication Tech/Digital Media	12	\$2,572,000	9	\$1,630,391	16%
Retail, Hospitality and Tourism 'Learn and Earn'	5	\$1,172,000	4	\$970,334	7%
TOTAL	74	\$16,520,000	67	\$14,114,546	100%

THE EWD PROGRAM: ACCOUNTABILITY MEASURES & METRICS¹

CERTIFICATES AND DEGREE COMPLETIONS

Through the EWD investments, California community colleges are able to support certificate and degree completion by enriching students' educational experiences through interactions with employers related to their fields of study, called work-based learning experiences. Although the primary goal of work-based learning experiences is to provide students with skills that will adequately prepare them for the workforce, these experiences also enrich the education that students receive in classes by connecting the theoretical content of the classroom to practical work experiences. As of academic year 2020-21, the number of CTE students obtaining degrees, certificates or apprenticeship journey status has grown by more than 32% in the last six years and by more than 15% in the last three years.

Figure 8. The Annual Number of Systemwide CTE Students Who Obtained a Certificate, Degree or Attained Journey Level Status



PROPORTION OF COMPLETERS AND SKILL BUILDERS² WHO ATTAINED A LIVING WAGE

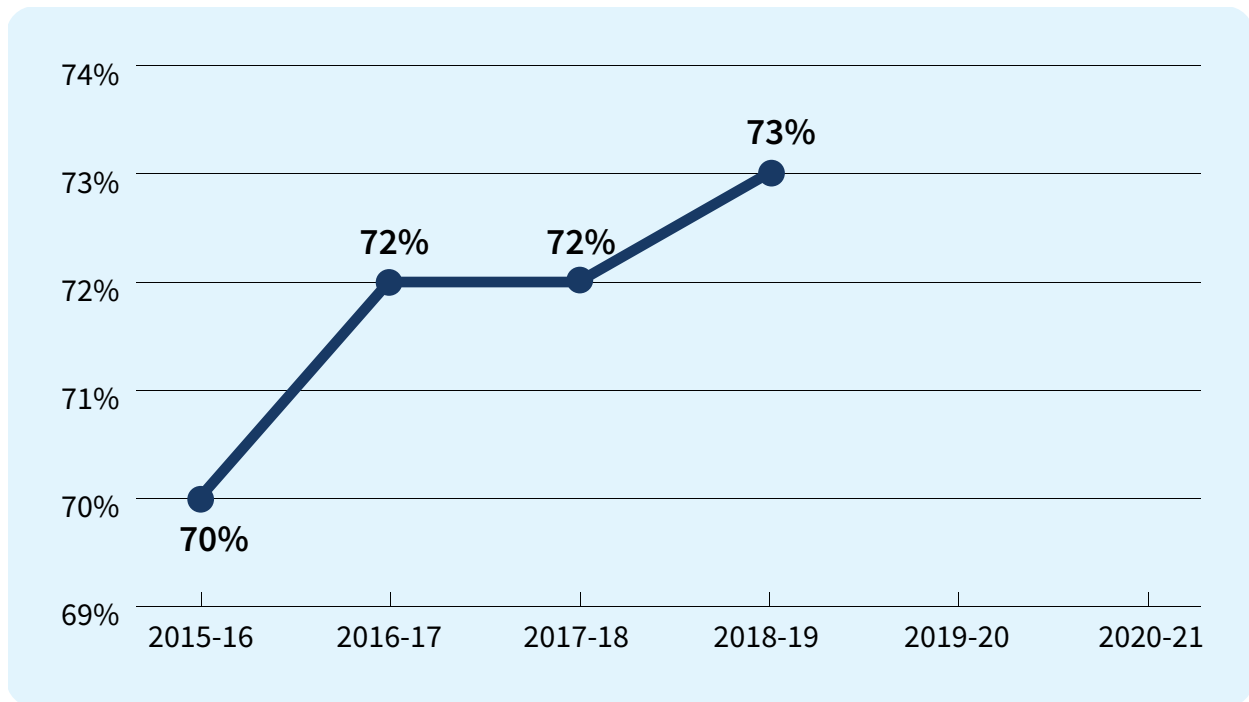
Figure 10 describes the proportion of completers and trainees employed in their field of study. Due to the complex nature of collecting the data for this measure, there is a three-year delay in its availability. Consequently, the below table includes data through academic year 2018-19.

1 We use the academic year 2015-16 as a base line year for our evaluation as it was the school year prior to the implementation of the Vision for Success.

2 A skills builder is an individual who: 1) Has taken one or more CTE course; 2) Has passed all those courses; 3) Has not received a locally-issued certificate or Chancellor's Office-issued degree or certificate; and, 4) Did not enroll in any community college or transfer to a four-year institution the following year.

Note that nearly 3-in-4 students are obtaining work in a field related to their field of study. This demonstrates the value of the educational experiences and credentials students are pursuing and receiving. Also note that this metric has increased by 3% over the last four years, indicating that the value of those experiences and credentials is increasing.

Figure 10. The Percentage of Systemwide CTE Students Who Reported Being Employed in Their Field of Study



Data Sources

In the production of this report, data was collected from numerous online reporting portals: LaunchBoard (<https://www.calpassplus.org/public/launchboard/swp.aspx>).

THE EWD PROGRAM: IMPROVEMENTS, UPDATES & ALIGNMENTS FOR ACCOUNTABILITY MEASURES AND METRICS

STRATEGIC ALIGNMENT OF PROGRAMS

The Vision for Success

The 2017 strategic vision for California community colleges, established by our Board of Governors —called the Vision for Success - is to ensure students from all backgrounds succeed in reaching their goals while improving their families and communities as achievement gaps are eliminated. For the last three years, California community colleges united around bold goals to improve student outcomes. The core belief of the Vision for Success is that colleges should simplify paths to educational goals and help students stay on those paths until completion. This vision is the framework for making the Chancellor’s Office and the California community colleges, together as a whole, truly student-ready. The EWD program operates in support of the Vision for Success goals.

Vision for Success Guiding Goals

1. Increase degree & certificate attainment
2. Increase transfers to four-year institutions
3. Secure gainful employment
4. Reduce excess unit accumulation
5. Close equity gaps
6. Close regional achievement gaps

The EWD program is the only economic development program of the California Community Colleges and its end goal to increase job opportunity for students supports several of the Vision for Success goals. Most directly, the EWD program supports the Vision for Success Goal #3 by connecting colleges with employers to increase job opportunities for students. However, to meet emerging labor market needs and provide student employment opportunities, EWD also seeks to increase certificate attainment (supporting Vision for Success Goal #1) to place students into employment quicker and reduce excess unit accumulation (supporting Vision for Success Goal #4). Moreover, coming out of the recent recession spurred by the pandemic's impact over the last year, EWD shares a "Recovery with Equity" focus found in Vision for Success Goals #5 and #6 as it has directed its grantees to prioritize those outcomes.

Note: In 2023, the Board of Governors of the California Community Colleges adopted [Vision 2030](#), a new framework that builds upon the foundation set by the Vision for Success to meet the needs of today's students and California's future learners. Moving forward, efforts will be aligned with Vision 2030.

Strong Workforce Program

The EWD program works hand in hand with is the Strong Workforce Program (SWP), created by the Legislature in 2016. The SWP's primary focus is to develop more workforce opportunities for California community college students and lift low-wage workers into living-wage, middle-skill jobs. This program is an annual recurring investment of \$248 million to increase CTE programs in the nation's largest workforce development system of 116 colleges. The EWD Program, which encourages colleges to leverage and braid its funding with SWP dollars, seeks to support these three Vision for Success guiding goals while aligning its employment end goal with SWP outcome trends by focusing on workforce development

Diversity, Equity and Inclusion (DEI)

The [Vision for Success Diversity, Equity and Inclusion Task Force Summary Report](#) (February 2020) summarizes three recommendations to increase the racial and ethnic diversity of the faculty and staff workforce in the California Community Colleges. The report illustrates the systematic approach the Chancellor's Office is taking in partnership with key stakeholder groups to collectively achieve these goals.

The EWD program is acting to support these goals by adjusting its operational structure to better ensure its resources are focused equitably and inclusively to meet the needs of students. As discussed earlier, the EWD program is shifting its structure to ensure its resources are aligned with regional needs and equity gaps identified under the SWP program’s strategic planning. Further, the EWD program is acting to integrate diversity accountability measures and metrics into the Fiscal Year 2021-22 Requests for Applications (RFA) for EWD grant competition.

THE EWD PROGRAM: NEW STRATEGIES AND COLLABORATIONS

The EWD program is committed to developing students and individuals with skills for 21st century jobs and careers. Consequently, we are continuously responsive to dynamic economic and workforce trends and needs. Powerful economic and industry influences such as the COVID-19 pandemic and social unrest have forced the EWD program to reimagine and respond to prepare to help lead the way out of the recession to an equitable recovery lifting those segments of society hardest hit by the pandemic. The narrative below details how the EWD Program is pivoting to address the new post pandemic economy by implanting an entrepreneurial mindset into all students to assure economic mobility and global competitiveness.

NEW STRATEGIES

Sector Clusters

The current industry sectors were based on labor market indices from 2010, and they have been updated periodically as needed. Industries, and therefore employee duties, are becoming more multidisciplinary. Consequently, the EWD program is moving from focused industry sectors like agriculture to multi-disciplinary sector clusters like environmental technology, which integrates a broader skillset and value chain. The 21st century economy of California is moving from more singularly focused industry sectors to broad-based, converging and multidisciplinary industry clusters.

Industry Clusters	
Global Trade and Commerce	Ecommerce, Advanced Transportation, Logistitcs
Advanced Technologies	Information and Communication Tech, Digital Media, Advanced Manufacturing, Agriculture
Health	Health and Biotechnology

Employer Engagement

Workforce education and training cannot occur in a vacuum. Curricula and training must be designed to address the true and market-current needs of employers. Moreover, this instruction must provide students with opportunities to learn not only in classrooms but also critical is workplace learning in the form of internships, work based/ experiential learning and apprenticeships. More meaningful engagement with employers will create better and more relevant curricula, an increased number of experiential work-based learning opportunities, and students gaining employment after leaving the system.

Effective employer engagement should result in colleges serving employers on a repeat basis, colleges serving a high proportion of employers in their locale, and students staying in the positions they gain after meeting their career education goals. What is most critical in achieving these goals is understanding the needs of employers and addressing those needs.

The Entrepreneurial Mindset

An entrepreneurial mindset is a set of skills drawing on creativity to enable an individual to identify and make the most of opportunities, overcome and learn from setbacks, and succeed in a variety of settings. According to a draft report summary released by the California Future of Work Commission in November 2020, it is critical that the state promote entrepreneurship to ensure enough jobs in the year 2030 to employ every Californian who wants to work.

The World Economic Forum argued that entrepreneurial education is essential for developing the human capital necessary for the society and the work of the future. Furthermore, it is not enough to add entrepreneurship on the perimeter but instead must be incorporated into the core of how education operates. This mindset approach will likely be a major characteristic of skilled labor as humans are able to rely more and more on automation to complete repetitive work.

New Competency-Based Education Regulations

The California Community Colleges Board of Governors recently adopted Competency-Based Education (CBE) Regulations. The Direct Assessment Competency-Based Education is designed to better serve the diversity of the California Community Colleges student population and ensure equal access to educational pathways and career opportunities. Through this systemwide implementation, CBE is a clear next step in the evolution of teaching and learning.

Integrating essential learner, employer and workforce needs, contemporary CBE moves beyond seat-time, focusing on mastery of competencies through learning activities and experiences aligned to clearly defined programmatic outcomes. Within CBE programs, the hours students spend may vary, but the learning is fixed. Direct assessment CBE programs:

- Are not based on academic terms or credit hours;
- Base both the evaluation of student achievement and the award of a degree or credential solely on the demonstration of competencies;
- Allow students to proceed at their own pace rather than progressing through courses offered in a traditional academic term;

- Do not necessarily assign conventional grades;
- Expect students to demonstrate competency at a high level of achievement; and,
- Establish “credit-hour equivalencies” for the student learning outcomes.

Contract Education

California contract education training units or programs reside within a community college, their offerings can be credit, non-credit and not for credit. They provide responsive, short-term, customized workplace education and training to businesses, municipalities and government agencies. Through outreach, partnerships and ongoing industry involvement, contract education staff engage with local businesses to gain a thorough understanding of their most pressing workforce training and education needs.

Among California’s 116 community colleges, there are approximately 36 community colleges in California with contract education programs offering responsive in-demand training programs for both future and current workers. Strategic development of curriculum requires extensive employer engagement, to ensure incumbent worker training, retraining and upskilling in relevant workforce abilities. Many customized, not-for-credit training programs developed partnerships with industry have become pilot programs for credit-bearing classes.

High Road Training Partnership Initiative

EWD is working closely with the governor’s High Road Training Partnerships (HRTPs) initiative. This program aims to create economically resilient communities by focusing foremost on equity and job quality. Workers, labor and other worker organizations, and employers are recognized as industry experts to work alongside community-based organizations and training institutions in development of new solutions. The key goal of these career pathways is to provide quality jobs for all Californians, especially the most disadvantaged communities.

HRTPs are creating a comprehensive infrastructure of support for industries, employers, labor and workers to collaboratively negotiate industry needs in real time and prepare for the future of work. The H RTP initiative, which started out as a \$10M demonstration project designed to model partnership strategies for the state, received increased support in the Governor’s FY21-22 state budget. Ranging from transportation to health care to hospitality, the H RTP model embodies the sector approach. These industry partnerships focus on equity, sustainability and job quality.

The primary purpose of EWD is engaging with employers to develop learning and employment opportunities for program participants. During the 2019-20 school year, the EWD program evaluated how well the grants it funded aligned with the workforce development efforts funded through the regional consortia infrastructure and determined the grants it funded did not always align with the regional strategies of the program. The EWD program determined this misalignment was a result of the program’s deputy sector navigators (later named regional directors of employer engagement) not reporting to their corresponding regional consortia, which are the regional committees responsible for coordinating all regional investments in the state. Consequently, in FY 2021-22, the EWD program decided to fund its grants through the regional consortia, who then coordinated employer engagement efforts aligning with their respective regional economies and local Strong Workforce Program strategies.

FUTURE OPPORTUNITIES

Entrepreneurship

Entrepreneurship is at the forefront of the EWD program. According to our statewide employment data, nearly 20% of jobs were created in firms with 20 or fewer employees. Not only does this mean that workers who fill positions in these firms will need to embody the mindset of an entrepreneur, acting as a self-starter and likely fill several roles in the organization, but that the EWD program needs to inspire increasing numbers of entrepreneurs to start more small firms that will then hire greater numbers of employees. The EWD program plans to make promoting entrepreneurialism its primary function in years to come.

Better Alignment of Funds

As the EWD program continues, it strives to ensure that the initiatives it funds make the best use of their available resources. One way the program is acting to ensure initiatives make the best use of their resources is by realigning its funding allocation method in 2021-22 to be dispersed through the regional consortia rather than regional directors of employer engagement. By doing so, regional decision makers will gain better insight over how the workforce development funds directed to their regions are being used and ensure that the funds are directly aligned to regional strategies. Within this new structure, the EWD program will provide technical assistance to regional decision makers to assist in ensuring that initiatives are funded with the most appropriate resources.

Gaining Better Insights

Having identified operational weaknesses in the data that the EWD program collects and taken action to improve the data it collects, the EWD program has the opportunity to gain better insights once it has collected its first year of improved data. The new data will allow the program to evaluate whether the initiatives it funds equitably improve the condition of students in line with the system's Vision for Success. With the improved knowledge, the program has the ability to make future funding decisions that will provide increasingly better outcomes for students and the State of California as a whole.

CONCLUSION

The future of California's workforce requires us to place a greater emphasis on strengthening the skills supporting an entrepreneurial mindset among its participants. The EWD program contributed to improvements in student outcomes year-to-year since academic year 2015-16 and the onset of the Vision for Success. There is improvement in the outcome measures that current statute requires the EWD program to report on, such as the proportion of participants finding employment after exiting the system, increases in the earnings participants receive after exiting the system, and a greater proportion of participants having exited the system with a credential or diploma. Furthermore, there was progress on outcome measures aligning with the system's Vision for Success, such as the proportion of participants transferring to four-year institutions or the proportion of participants exiting the system and earning an amount equal to or greater than their district county living wage

Through EWD strategies and investments, the Chancellor’s Office has repositioned the program for the 21st century to meet the economic and workforce development needs of the students in the California Community Colleges as they pursue their educational goals and seek employment in their field of study in living wage jobs. Those strategies are:

- 1. Entrepreneurship** – Support curriculum development for a model cross-discipline program that can be brought to scale for all 116 colleges to teach entrepreneurial skills and mindset as part of any program of study in the California Community Colleges.
- 2. Employer Engagement** – Direct grant funding toward the regional consortia and hold them accountable to develop successful employment engagement strategies. The strategies are intended to produce deep relationships with regional employers across industry respective to each regional economy and to produce large-scale work-based learning opportunities for all 116 colleges and their students.
- 3. Competency-Based Education** – Direct grant and braided funding support for training that ensures a skill attainment, using third-party industry-recognized certifications.
- 4. Recovery with Equity** – Support for initiatives to ensure that the economic recovery from the pandemic’s impact occur equitably and inclusively across all races and ethnicities, as well for the LGBTQ+ and veteran communities.

APPENDIX A – STRONG WORKFORCE PROGRAM (SWP)

To develop more workforce opportunity and lift low-wage workers into living-wage jobs, California took a bold step in 2016 to create 1 million more middle-skill workers to address a cavernous anticipated multi-million worker shortfall by 2025. At the recommendation of the Board of Governors, the Governor and Legislature approved the Strong Workforce Program, adding an annual recurring investment of \$248 million to spur career education.

Grouped into seven areas targeting student success, career pathways, workforce data and outcomes, curriculum, Career Technical Education (CTE) faculty, regional coordination and funding, this leading-edge state economic development program is driven by “more and better” career education. The “more” is increasing the number of students enrolled in programs leading to high-demand, high-wage jobs. The “better” is improving program quality, as evidenced by more students completing or transferring programs, getting employed or improving their earnings.

The SWP focuses on data-driven outcomes rather than activities, along with an emphasis on innovation and risk-taking. In this way, colleges can be more responsive to labor-market conditions and student outcomes.

The ongoing funding is structured as a 60% Local Share allocation for each community college district and a 40% Regional Share allocated to each regional economy in the state. Distribution of the regional share is determined by a regional consortium of colleges in each of the state’s seven macroeconomic regions. Both the local and regional shares require local stakeholders to collaborate, including industry and local workforce development boards. As much as possible, this program builds upon existing regional partnerships formed

in conjunction with the federal Workforce Innovation and Opportunity Act, state Adult Education funding of over \$500 million per year (which is allocated to California’s 71 adult education regional consortia) and public-school career education programs.

Beginning in 2018-2019, Education Code §§ 88827 established the kindergarten-through-12th grade component of the SWP, appropriating \$164,000,000 in annual ongoing career education funding to strengthen the pathways for students from secondary to postsecondary education.

APPENDIX B – EMPLOYMENT OUTLOOK OF EACH REGION AND SECTOR

INDUSTRY EMPLOYMENT IN PRIORITY SECTORS

In the table below, industry employment data details the current number of jobs in the state for eight of the 10 sectors as well as the growth or decline in jobs in the past five years (2017 through 2022). Sectors are sorted in descending order by net change in jobs over the period. All priority sectors, except one experienced net growth. The only sector to record net loss was retail, hospitality and tourism; this is more than likely attributable to the labor shock of the COVID-19 pandemic.¹

Also shown are the most recent total earnings per worker – an estimate of annual average earnings across the industry groupings – as well as the same estimates adjusted for cost of living in California and the estimated numbers of establishments (firms) in 2022.²

For community college planning, it is important to remember that industry employment data, such as that below, while an important measure of size and strength in a region or state economy, reflects job growth or decline across all jobs in the industry. As such, it is not as relevant as occupation-specific employment data which estimates job change overall as well as replacement needs (an estimate of the number of current workers who will vacate an occupation annually). These are more comparable for assessing the need for occupational training programs.

1 All employment data in this report provided by Lightcast International (formerly EMSI), 2023.2 – QCEW Employees, Non-QCEW Employees, and Self-Employed. Totals are not representative of all industry employment or firms in California. Lightcast’s 2023.2 count of firms reflects Quarterly Census of Employment and Wages (QCEW) totals for the first three quarters of 2022.

2 Lightcast’s 2023.2 count of firms reflects Quarterly Census of Employment and Wages (QCEW) totals for the first three quarters of 2022.

Table 10. Industry Employment and Earnings by Priority Sector

EWD Sector	Current Employment (2022)	Historical Chang (2017-2022)	5-yr % Change	Earning per worker¹	COL Earnings per worker²	Firms
Health	1,835,325	183,362	18%	\$101,857	\$75,338	66,306
Information and Communications Technology/ Digital Media	1,206,065	118,164	10%	\$226,583	\$167,591	62,630
Energy, Utility and Construction	1,626,016	105,643	7%	\$127,465	\$94,279	112,958
Advanced Transportation & Logistics	1,208,589	81,481	8%	\$79,388	\$58,719	55,795
Life Sciences/ Biotechnology	971,975	75,638	8%	\$140,038	\$103,579	24,738
Advanced Manufacturing	1,372,841	20,725	2%	\$140,404	\$103,849	45,239
Agriculture, Water and Environmental Technologies	655,003	11,533	2%	\$64,187	\$47,476	32,170
Retail, Hospitality & Tourism	3,767,468	(129,372)	(3%)	\$49,754	\$36,800	230,446

OCCUPATIONAL EMPLOYMENT OUTLOOK IN CALIFORNIA (2017-2022): SELECT OCCUPATIONS BY SECTOR

In the section to follow, **select occupations** are profiled for the 2017-2022 period – these are examples of occupations generally associated with the priority sectors and that have established community college application. Occupations are arranged by sector, then in descending order by annual openings. Although chosen for their relevance to one sector, the following data represents employment and wages for the occupation across all industries.

1 Also called “Wages Salaries & Proprietor Earnings”, average annual earnings is the result of total pre-tax industry earnings divided by same-year industry employment. Earnings are defined as labor-related personal income—that is, income from work. Income from stock dividends or interest, rents, Social Security and other non-work sources are not included.

2 Lightcast’s total earnings, adjusted by the C2ER Cost of Living Index (COLI). The Cost of Living index is based on a 100 base scale, so to adjust the earnings, Lightcast first divides their total earnings estimate by the COLI and then multiplies the result by 100.

Table 11. Agriculture, Water & Environmental Technologies

Occupation	2017 Jobs	5-yr Total Openings	Avg. Annual Openings	Median Annual Wages ¹
Veterinary Technologists and Technicians	9,255	7,079	1,416	\$45,420
Environmental Science and Protection Technicians, Including Health	5,924	4,755	951	\$48,731
Agricultural Technicians	2,266	3,170	634	\$42,565
Agricultural Inspectors†	2,539	2,669	534	\$47,709
Environmental Engineering Technologists and Technicians	2,936	1,728	346	\$64,652

†The typical entry level education needed for this occupation is a bachelor's degree. Other pathways are always possible; however, a large proportion of workers in the occupation over the age of 25 report having attained a bachelor's degree or higher.

Table 12. Advanced Transportation & Logistics

Occupation	2017 Jobs	5-yr Total Openings	Avg. Annual Openings	Median Annual Wages
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	44,865	51,303	10,261	\$59,082
Automotive Service Technicians and Mechanics	81,675	49,520	9,904	\$47,658
First-Line Supervisors of Mechanics, Installers, and Repairers	42,091	30,882	6,176	\$78,351
Logisticians†	20,684	22,350	4,470	\$81,165
Bus and Truck Mechanics and Diesel Engine Specialists	24,731	14,687	2,937	\$59,453

†The typical entry level education needed for this occupation is a Bachelor's degree. Other pathways are always possible; however, a large proportion of workers in the occupation over the age of 25 report having attained a bachelor's degree or higher.

¹ Occupational wage data come from the BLS's OES dataset. It is collected from the employer's perspective, meaning earnings data is pre-tax (individual employees' tax withholdings will vary, so earnings are reported pre-tax). Occupation earnings include the following: base rate, commissions, cost of living allowances, deadheading pay, guaranteed pay, hazard pay, incentive pay, longevity pay, over-the-road pay, piece rates, portal-to-portal rates, production bonuses and tips.

Table 13. Business & Entrepreneurship

Occupation	2017 Jobs	5-yr Total Openings	Avg. Annual Openings	Median Annual Wages
Customer Service Representatives	216,255	180,420	36,084	\$38,767
Bookkeeping, Accounting, and Auditing Clerks	207,647	141,067	28,213	\$47,914
First-Line Supervisors of Office and Administrative Support Workers	175,842	103,736	20,747	\$62,064
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	137,831	90,731	18,146	\$62,710
Sales Managers†	79,250	58,971	11,794	\$126,838
Payroll and Timekeeping Clerks	24,218	15,111	3,022	\$56,389

†The typical entry level education needed for this occupation is a bachelor's degree. Other pathways are always possible; however, a large proportion of workers in the occupation over the age of 25 report having attained a bachelor's degree or higher.

Table 14. Life Sciences/Biotechnology

Occupation	2017 Jobs	5-yr Total Openings	Avg. Annual Openings	Median Annual Wages
Environmental Engineering Technologists and Technicians	2,936	1,728	346	\$64,652
Clinical Laboratory Technologists and Technicians	29,709	12,826	2,565	\$61,709
Life, Physical, and Social Science Technicians, All Other	8,874	10,673	2,135	\$56,290
Biological Technicians†	11,329	8,733	1,747	\$50,149
Chemical Technicians	6,747	6,361	1,272	\$48,131

†The typical entry level education needed for this occupation is a bachelor's degree. Other pathways are always possible; however, a large proportion of workers in the occupation over the age of 25 report having attained a bachelor's degree or higher.

Table 15. Energy Efficiency, Utilities & Construction – Example Occupations

Occupation	2017 Jobs	5-yr Total Openings	Avg. Annual Openings	Median Annual Wages
Carpenters	149,693	85,575	17,115	\$56,555
Electricians	78,747	54,701	10,940	\$68,562
Construction Managers†	52,515	37,459	7,492	\$86,331
Plumbers, Pipefitters, and Steamfitters	55,032	31,988	6,398	\$60,364
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	31,770	28,002	5,600	\$58,458

†The typical entry level education needed for these occupations is a bachelor’s degree. Other pathways are always possible; however, a large proportion of workers currently in the occupation over the age of 25 report having attained a bachelor’s degree or higher.

Table 16. Global Trade and Logistics*

Occupation	2017 Jobs	5-yr Total Openings	Avg. Annual Openings	Median Annual Wages
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	167,740	89,886	17,977	\$62,779
Market Research Analysts and Marketing Specialists†	100,293	81,277	16,255	\$76,442
Project Management Specialists†	55,746	68,316	13,663	\$99,611
Shipping, Receiving, and Inventory Clerks	87,627	62,023	12,405	\$37,788
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products†	47,065	26,037	5,207	\$102,844

†The typical entry level education needed for these occupations is a bachelor’s degree. Other pathways are always possible; however, a large proportion of workers currently in the occupation over the age of 25 report having attained a bachelor’s degree or higher.

*Within traditional occupations, some portion of each may support global trade or require global trade expertise. Related job titles found within these occupations include accounting analysts, import clerks, public relations specialists, social media specialists, financial analysts, e-commerce managers, customs brokers, social media managers and international banking specialists.

Table 17. Health

Occupation	2017 Jobs	5-yr Total Openings	Avg. Annual Openings	Median Annual Wages
Registered Nurses	301,311	137,726	27,545	\$124,984
Nursing Assistants	116,462	89,054	17,811	\$37,352
Medical Assistants	92,841	81,372	16,274	\$38,765
Dental Assistants	53,462	42,903	8,581	\$47,110
Licensed Practical and Licensed Vocational Nurses	73,035	37,975	7,595	\$61,492
Radiologic Technologists and Technicians	17,966	7,769	1,554	\$95,887

Table 18. Information and Communications Technology/Digital Media

Occupation	2017 Jobs	5-yr Total Openings	Avg. Annual Openings	Median Annual Wages
Office Clerks, General	351,743	235,903	47,181	\$38,723
Computer User Support Specialists	80,131	43,253	8,651	\$62,688
Information Security Analysts†	9,184	18,284	3,657	\$128,833
Network and Computer Systems Administrators†	41,537	14,164	2,833	\$99,677
Web Developers†	13,639	10,386	2,077	\$78,914
Web and Digital Interface Designers†	12,643	9,612	1,922	\$90,602
Computer Network Support Specialists	18,609	7,901	1,580	\$69,780

†The typical entry level education needed for these occupations is a bachelor's degree. Other pathways are always possible; however, a large proportion of workers currently in the occupation over the age of 25 report having attained a bachelor's degree or higher.

Table 19. Manufacturing

Occupation	2017 Jobs	5-yr Total Openings	Avg. Annual Openings	Median Annual Wages
Welders, Cutters, Solderers and Brazers	30,689	25,484	5,097	\$48,221
Machinists	36,601	22,060	4,412	\$47,733
Industrial Machinery Mechanics	25,702	16,226	3,245	\$60,925
Electrical and Electronics Repairers, Commercial and Industrial Equipment	6,761	3,704	741	\$70,658
Industrial Engineering Technologists and Technicians	4,192	2,836	567	\$61,500
Calibration Technologists and Technicians	549	621	124	\$61,657

Table 20. Retail, Hospitality & Tourism

Occupation	2017 Jobs	5-yr Total Openings	Avg. Annual Openings	Median Annual Wages
General and Operations Managers†	258,676	203,513	40,703	\$107,315
First-Line Supervisors of Retail Sales Workers	163,845	98,405	19,681	\$44,183
Human Resources Specialists†	70,783	69,650	13,930	\$76,320
Food Service Managers	48,627	54,811	10,962	\$55,523
Buyers and Purchasing Agents†	51,687	30,467	6,093	\$71,350
Meeting, Convention and Event Planners†	17,679	14,394	2,879	\$60,619

†The typical entry level education needed for these occupations is a bachelor's degree. Other pathways are always possible; however, a large proportion of workers currently in the occupation over the age of 25 report having attained a bachelor's degree or higher.

NON-TRADITIONAL PRIORITY SECTOR: GLOBAL TRADE & LOGISTICS¹

California exports to more than 227 foreign markets. California's top five export markets in 2022 were Mexico, Canada, China, Japan and South Korea. In 2022, California ranked second among U.S. states and territories in total exports – valued at \$185.5 billion, an increase of 6% from 2021.

- In 2022, California exports accounted for 9% of the U.S. total.
- California accounted for 17.8% of U.S. exports of computer and electronic product manufacturing.
- The top six export industries in California accounted for 68% of all export trade value – computer and electronic products, machinery, chemical, transportation equipment, miscellaneous and crop production.

California is the country's largest agricultural exporting state, shipping \$22.5 billion in domestic agricultural exports abroad in 2021 (latest year available) – an increase of more than 20% since 2012. Top valued agricultural exports are almonds, dairy, pistachios and wine.

NON-TRADITIONAL PRIORITY SECTOR: BUSINESS & ENTREPRENEURSHIP

In the third quarter of 2022, there were more than 1.7 million non-farm businesses in California, supporting close to 18 million employees.

- Of these, 91% or about 1.5 million reported employing fewer than 20 employees. In total, firms with fewer than 20 employees accounted for approximately 4.5 million jobs and supported about 18% of all payrolls generated in California.

In the smallest firm category (fewer than five employees), 1.2 million businesses represented about 1.6 million jobs throughout the state.

REGIONAL PROFILES

In the section to follow, employment data for the eight EWD sectors are detailed for the seven macro-regions.

San Diego-Imperial Region

In the San Diego-Imperial region, the eight National Association Insurance Commissioners (NAICS)-defined EWD sectors account for approximately 57% of all jobs in the two counties.² To compare these eight sectors, the bubble chart below shows each in relationship to three measures:

- Number of existing jobs or size of current employment (2022) is displayed as the size of each bubble.

1 California Employment Development Department, Labor Market Information Division's Size of Business Data for California, Third Quarter, 2019. Online at: http://www.labormarketinfo.edd.ca.gov/LMID/Size_of_Business_Data.html/

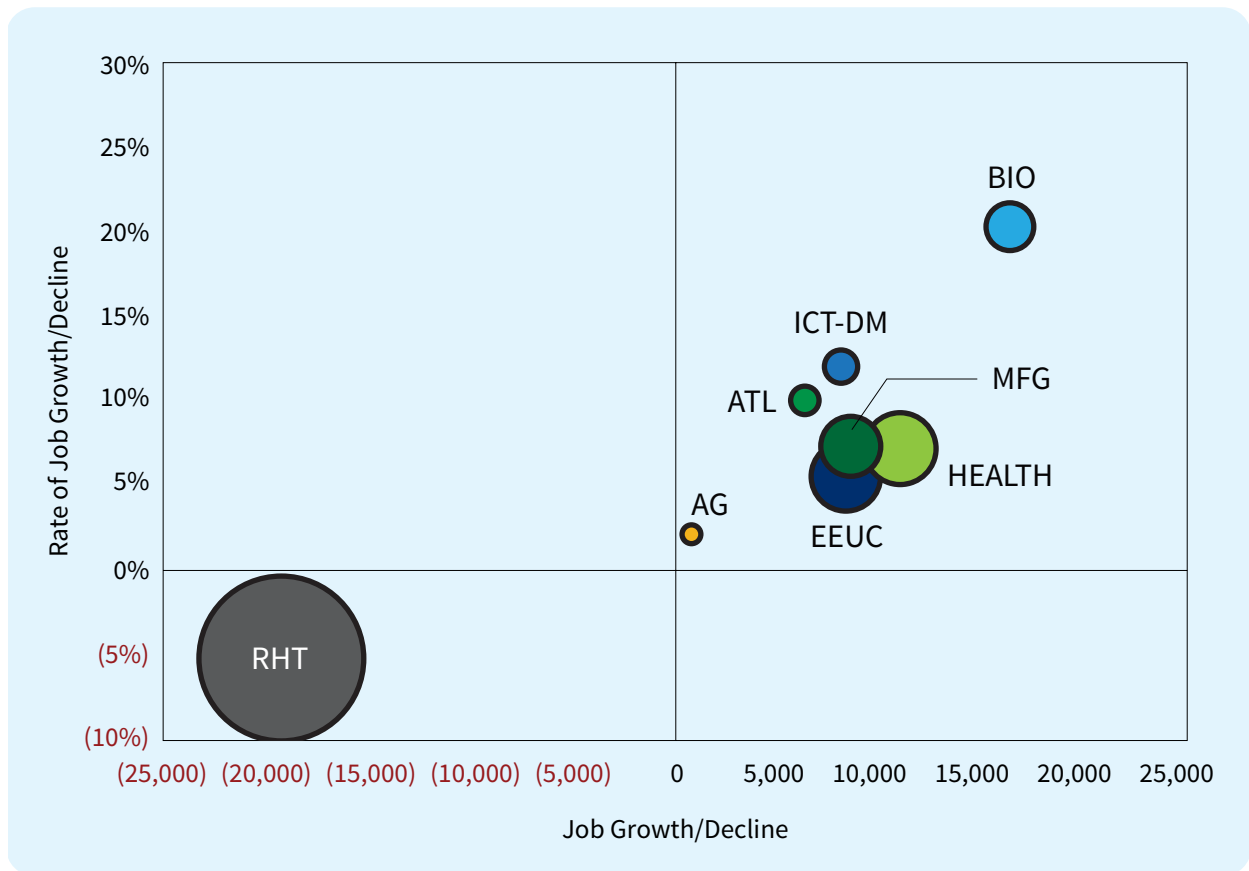
2 All employment data in this report provided by Lightcast International (EMSI), 2023.2– QCEW Employees, Non-QCEW Employees, and Self-Employed. Totals are not representative of all industry employment in California. Health and Life Science/Biotech sectors overlap causing duplication in the counts and other industry categories are not included in the eight EWD sector definitions.

- Rate of job growth or decline from 2017-2022 is shown on the vertical axis.
- Size of job growth or decline for the same period is mapped on the horizontal axis.

In San Diego-Imperial, the data isolate the retail, hospitality and tourism sector (RHT) from the other seven EWD sectors. This is a result of the impact of the pandemic on employment and employment outlook, which has disproportionately affected this sector. Although it remains the largest employer of the sector groups, RHT employment is still 5% (or 19,260 jobs) below where it was in 2017.

The remaining EWD sectors all showed growth in employment through 2022, ranging from 2% (Agriculture, Water and Environmental Technologies) to 20% (BIO).¹ The most job growth occurred in Life Sciences/Biotech (up 16,350 jobs), followed by Health (10,960 jobs) and Manufacturing (8,430 jobs).

Exhibit A: SDI Employment by EWD Sectors, 2017-2022



¹ See previous footnote re: overlap in count of jobs between Life Science/Biotech and Health sectors.

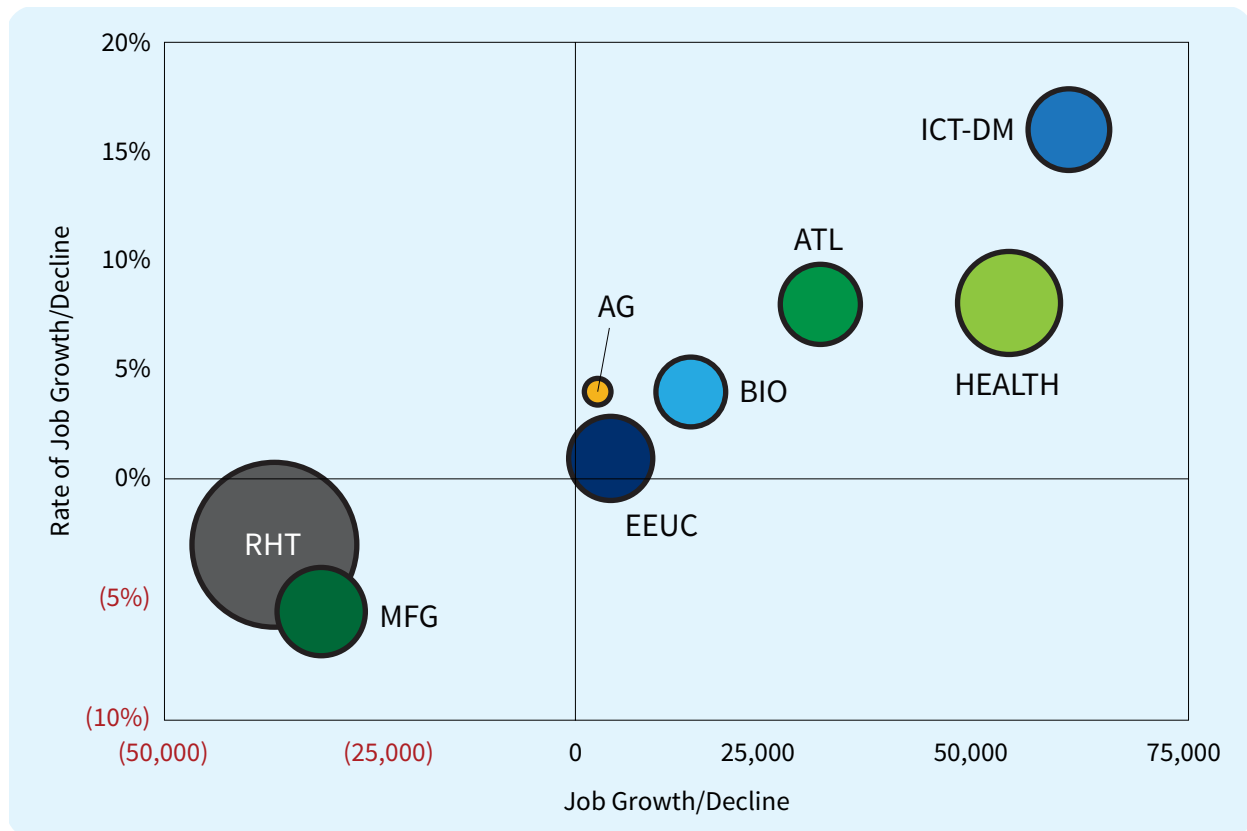
Los Angeles & Orange County Region

In the Los Angeles & Orange County region (LAOC), the eight NAICS-defined EWD sectors account for approximately 58% of all jobs in the region.¹ To compare these eight sectors, the bubble chart below shows each in relationship to three measures:

- Number of existing jobs or size of current employment (2022) is displayed as the size of each bubble.
- Rate of job growth or decline from 2017-2022 is shown on the vertical axis.
- Size of job growth or decline for the same period is mapped on the horizontal axis.

In LAOC, the data isolate retail, hospitality and tourism (RHT) and manufacturing (MFG) sectors from the other EWD sectors. In RHT, this is a result of the impact of the pandemic on employment and employment outlook, which has disproportionately affected this sector. Although RHT is the largest employer of the sector groups, the sector is still 3% or about 37,000 jobs behind its 2017 position. Manufacturing employment also declined over the period – a contraction of about 31,000 jobs or -6%. The remaining EWD sectors experienced growth through 2022, ranging from 1% Environment, Energy and Utilities (EEUC) to 16% Information Communications Technologies – Digital Media (ICT-DM). The most job growth occurred in ICT-DM (up 60,330 jobs since 2017).

Exhibit A: LAOC Employment by EWD Sectors, 2017-2022



¹ All employment data in this report provided by Lightcast International (EMSI), 2023.2– Quarterly Census of Employment Wages (QCEW), Employees, Non-QCEW Employees, and Self-Employed. Totals are not representative of all industry employment in California. Health and LS/Biotech sectors overlap causing duplication in the counts and other industry categories are not included in the eight EWD sector definitions.

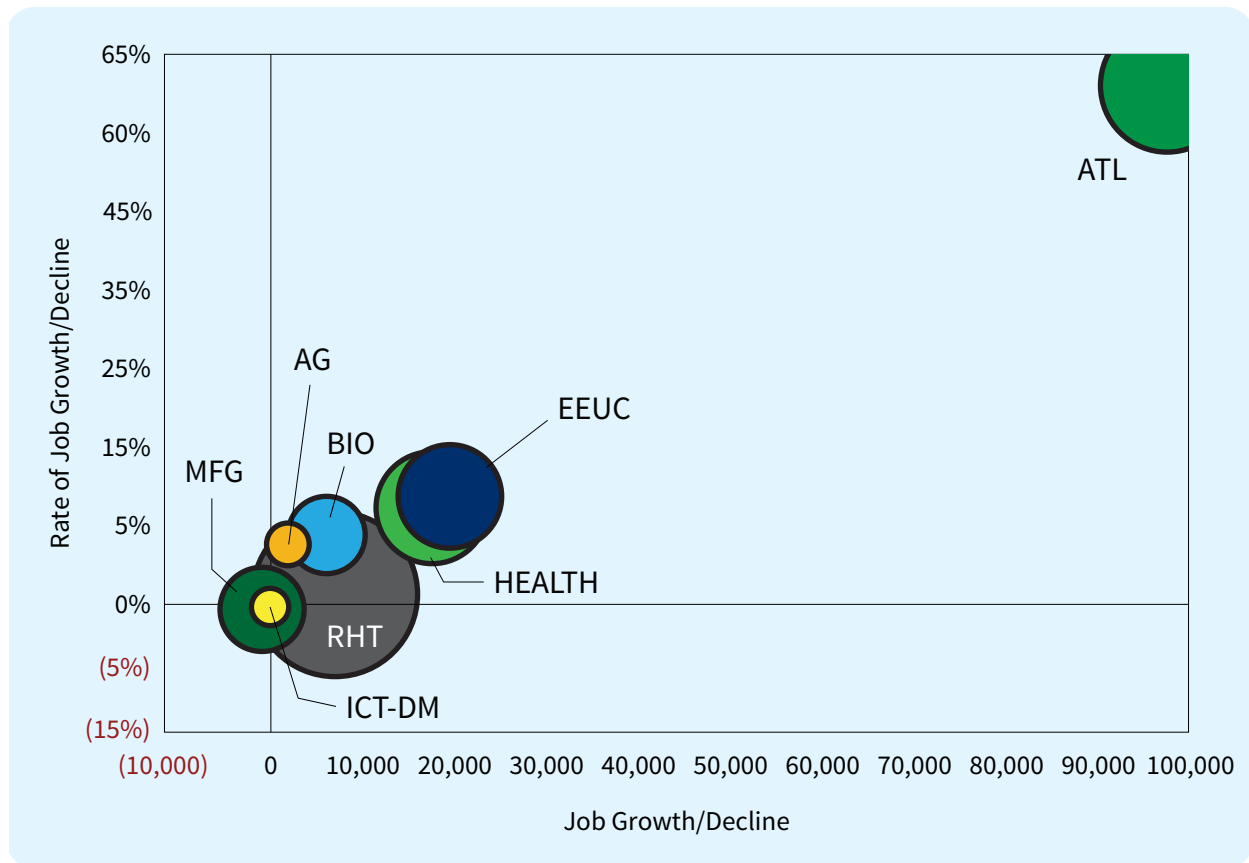
Inland Empire/Desert Region

In the Inland Empire/Desert region (IE/Desert), the eight NAICS-defined EWD sectors account for approximately 65% of all jobs in the region.¹ To compare these eight sectors, the bubble chart below shows each in relationship to three measures:

- Number of existing jobs or size of current employment (2022) is displayed as the size of each bubble.
- Rate of job growth or decline from 2017-2022 is shown on the vertical axis.
- Size of job growth or decline for the same period is mapped on the horizontal axis.

In IE/Desert, the data isolates the manufacturing (MFG) from the other eight EWD sectors. The sector declined slightly over the five years (-1% or 600 jobs). ICT-DM employment is also negatively forecast over the period – contraction of about 4,790 jobs or -5%. The remaining EWD sectors recorded job growth over the period, ranging from 2% (RHT) to 60% (AT&L). The most job growth occurred in AT&L (up 97,620 jobs).

Exhibit A: IE/Desert Employment by EWD Sectors, 2017-2022



1 All employment data in this report provided by Lightcast International (EMSI), 2023.2– QCEW Employees, Non-QCEW Employees, and Self-Employed. Totals are not representative of all industry employment in California. Health and LS/Biotech sectors overlap causing duplication in the counts and other industry categories are not included in the eight EWD sector definitions.

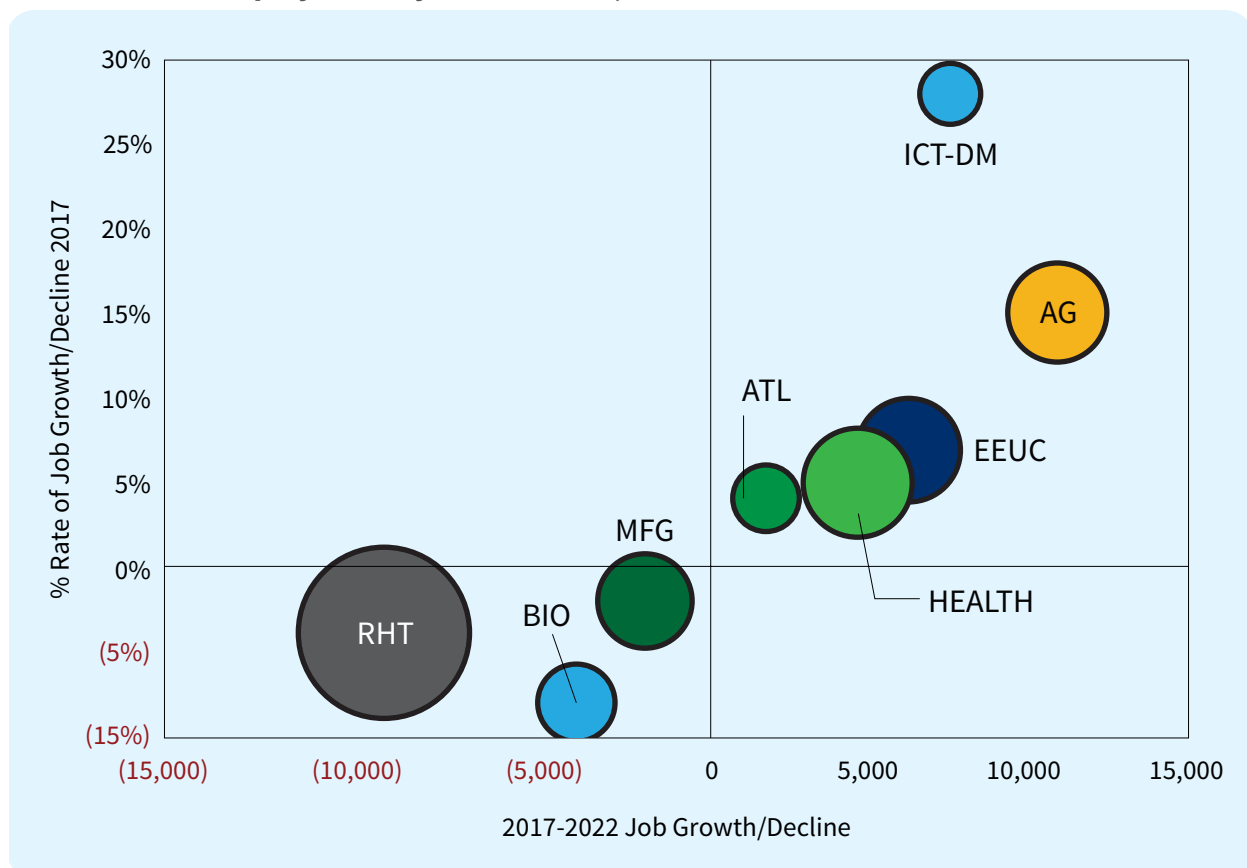
South Central Coast Region

In the South-Central Coast region (SCC), the eight NAICS-defined EWD sectors account for approximately 66% of all jobs in the region.¹ To compare these sectors, the bubble chart below shows each in relationship to three measures:

- Number of existing jobs or size of current employment (2022) is displayed as the size of each bubble.
- Rate of job growth or decline from 2017-2022 is shown on the vertical axis.
- Size of job growth or decline for the same period is mapped on the horizontal axis.

In SCC, the data highlight recent losses in the retail, hospitality and tourism (RHT), life science/biotechnology (BIO), and manufacturing sectors (MFG). Although still responsible for the largest concentration of jobs across the eight sectors, RHT employment in 2022 is 4% below where it was in 2017. BIO dropped about 8% or 3,800 jobs during the same period and MFG contracted by 1,800 jobs or -2%. The remaining five sectors posted growth in jobs through 2022, ranging from 4% Advanced Transformation Logistics (ATL) to 28% (ICT-DM). The most net job growth is projected for Agriculture (AG) (up 9,876 jobs).

Exhibit A: SCC Employment by EWD Sectors, 2017-2022



¹ All employment data in this report provided by Lightcast International (EMSI), 2023.2- QCEW Employees, Non-QCEW Employees, and Self-Employed. Totals are not representative of all industry employment in California. Health and LS/Biotech sectors overlap causing duplication in the counts and other industry categories are not included in the eight EWD sector definitions.

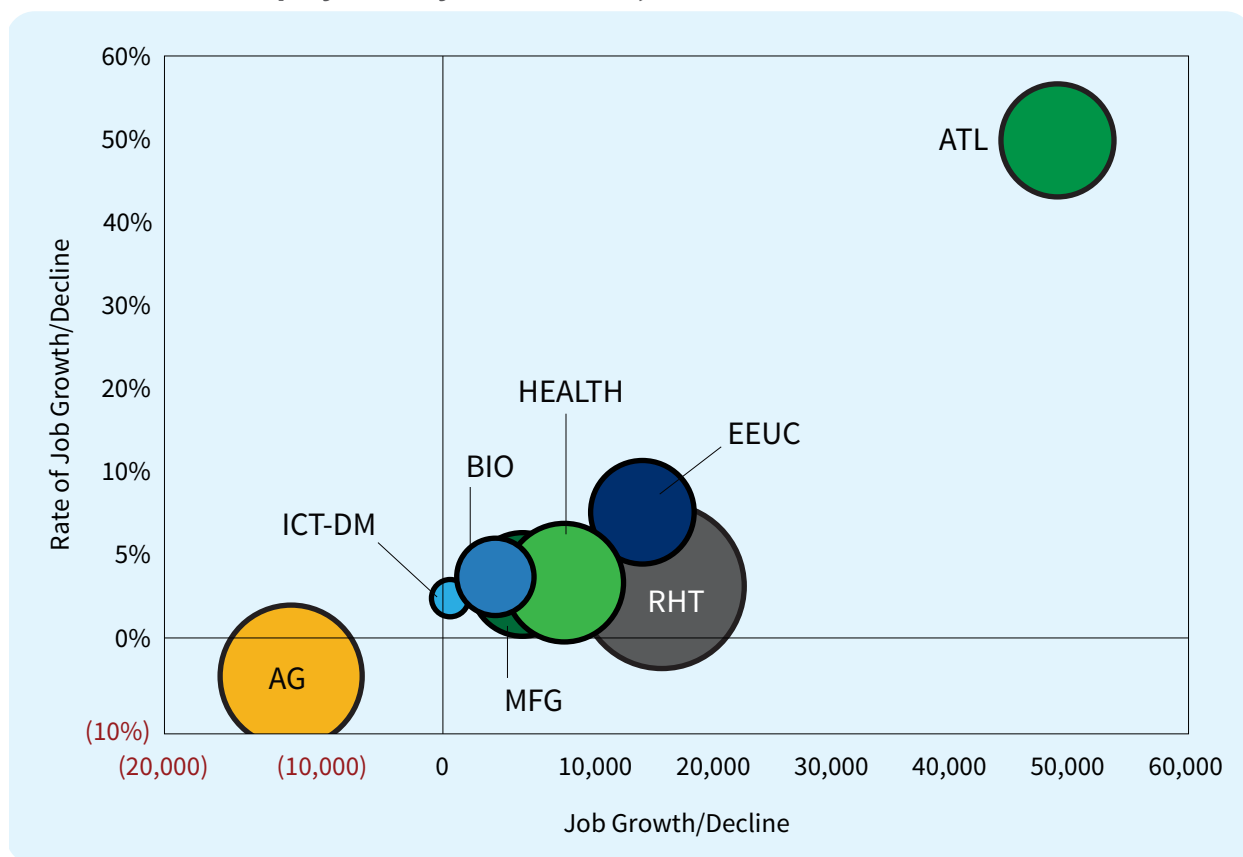
Central Valley/Mother Lode Region

In the Central Valley/Mother Lode region (CVML), the eight NAICS-defined EWD sectors account for approximately 69% of all jobs in the region.¹ To compare these eight sectors, the bubble chart below shows each in relationship to three measures:

- Number of existing jobs or size of current employment (2022) is displayed as the size of each bubble.
- Rate of job growth or decline from 2017-2022 is shown on the vertical axis.
- Size of job growth or decline for the same period is mapped on the horizontal axis.

In CVML, the data highlight the second-largest employer in the region - agriculture, water and environmental technologies sector (AG) - as it contracted by about 4% or 11,200 jobs since 2017. The remaining seven sectors all posted growth during the period, ranging from 4% (ICT-DM) to 51% (ATL). The most net job growth is projected for ATL (up 49,700 jobs), followed by RHT (5% growth or 16,215 jobs).

Exhibit A: CVML Employment by EWD Sectors, 2017-2022



1 All employment data in this report provided by Lightcast International (EMSI), 2023.2- QCEW Employees, Non-QCEW Employees, and Self-Employed. Totals are not representative of all industry employment in California. Health and LS/Biotech sectors overlap causing duplication in the counts and other industry categories are not included in the eight EWD sector definitions.

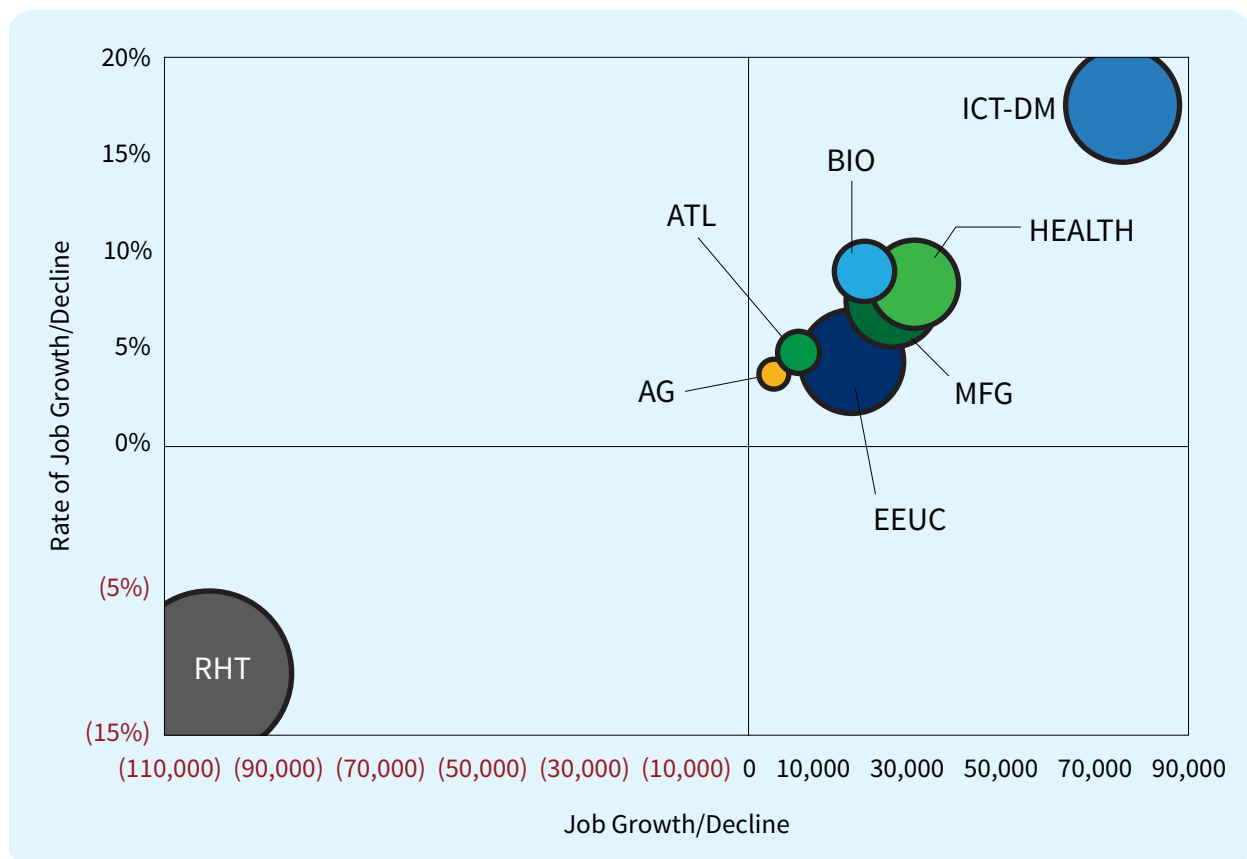
Bay Region

In the Bay Region (Bay), the eight NAICS-defined EWD sectors account for approximately 68% of all jobs in the region.¹ To compare these eight sectors, the bubble chart below shows each in relationship to three measures:

- Number of existing jobs or size of current employment (2022) is displayed as the size of each bubble.
- Rate of job growth or decline from 2017-2022 is shown on the vertical axis.
- Size of job growth or decline for the same period is mapped on the horizontal axis.

In the Bay, the data highlight the retail, hospitality and tourism sector (RHT) and the impact of the pandemic on employment and employment, which has disproportionately affected this sector. Although the largest employer of the sector groups, the sector contracted 12% during the period, remaining 101,500 jobs short of its 2017 employment level. The remaining EWD sectors posted growth through 2022, ranging from 4% (AG) to 18% (ICT-DM). The most job growth occurred in ICT-DM (up 78,400 jobs), followed by Health (8% growth or 31,230 jobs).

Exhibit A: Bay Region Employment by EWD Sectors, 2017-2022



¹ All employment data in this report provided by Lightcast International (EMSI), 2023.2– QCEW Employees, Non-QCEW Employees, and Self-Employed. Totals are not representative of all industry employment in California. Health and LS/Biotech sectors overlap causing duplication in the counts and other industry categories are not included in the eight EWD sector definitions.

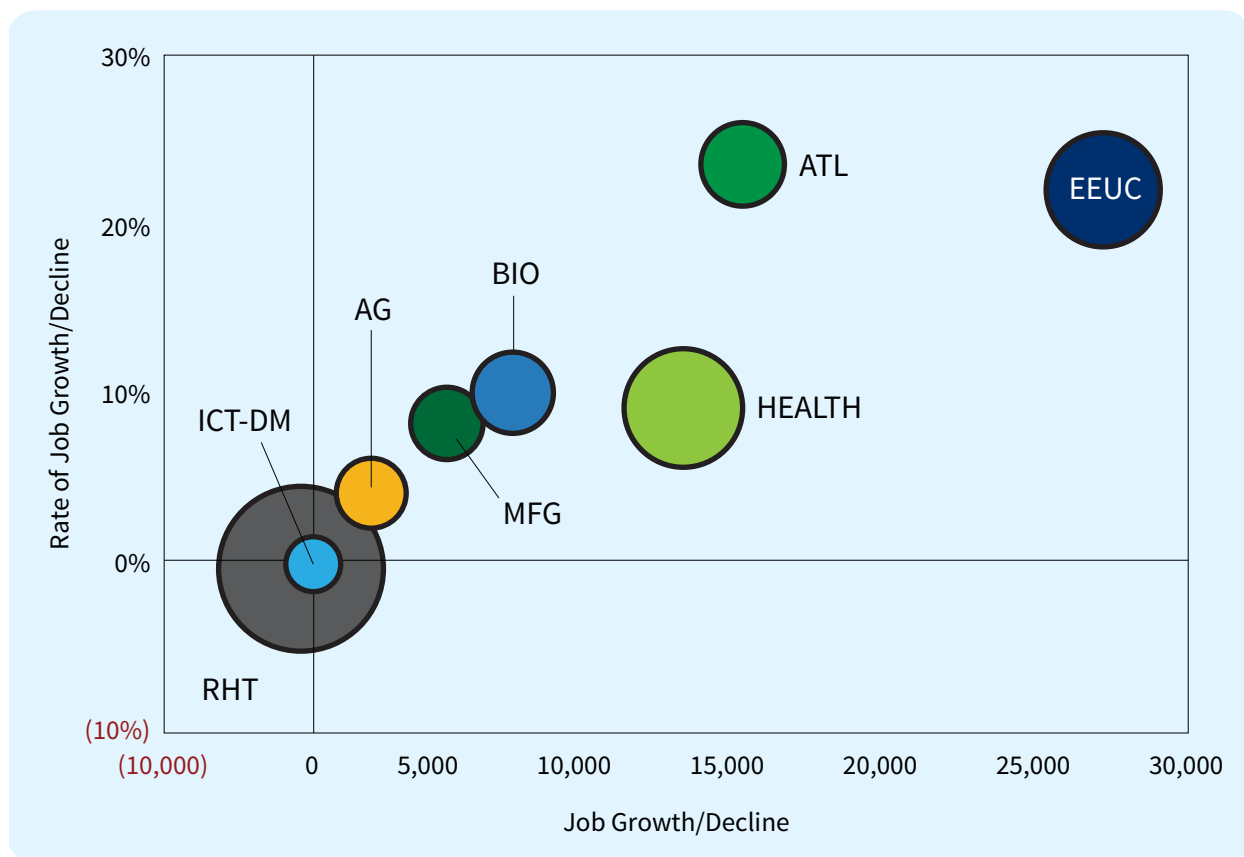
North Far North Region

In the North Far North region (NFN), the eight NAICS-defined EWD sectors account for approximately 59% of all jobs in the region.¹ To compare these eight sectors, the bubble chart below shows each in relationship to three measures:

- Number of existing jobs or size of current employment (2022) is displayed as the size of each bubble.
- Rate of job growth or decline from 2017-2022 is shown on the vertical axis.
- Size of job growth or decline for the same period is mapped on the horizontal axis.

In the NFN region, the data highlight the retail, hospitality and tourism sector (RHT). Although the largest employer of the sector groups, RHT remains slightly behind its 2017 employment levels by about 300 jobs. The remaining sectors all posted growth in jobs through 2022, ranging from 4% (AG) to 24% (ATL). The most net job growth is projected for EEUC (up 27,300 jobs), followed by ATL (24% growth or 15,370 jobs).

Exhibit A: NFN Employment by EWD Sectors, 2017-2022



1 All employment data in this report provided by Lightcast International (EMSI), 2023.2- QCEW Employees, Non-QCEW Employees, and Self-Employed. Totals are not representative of all industry employment in California. Health and LS/Biotech sectors overlap causing duplication in the counts and other industry categories are not included in the eight EWD sector definitions

COVID-19 IMPLICATIONS ON EMPLOYMENT DATA AND PROJECTION MODELING

This report includes employment estimates and projection data modeled by Lightcast International (formerly EMSI). All industry and occupational projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy during the projection period will be at approximately full employment or potential output. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, they may impact the projections.

It is important to remember that employment projections are a projection and not a forecast. The distinction emphasizes purpose and results. Projections use a set of assumptions to determine long-term underlying trends, whereas forecasts focus on predicting actual outcomes in the near term. The assumptions that underlie industry and occupational projections are designed to provide a neutral backdrop so that a focused analysis of the long-term trends can take place. Projections are forward projections of past employment trends. They do not consider any legislation, current events or nonemployment factors.

- **Do EMSI's employment projections incorporate COVID-19 effects?**

The effects of COVID-19 on all employment data and projections, including EMSI's data included here, will be introduced gradually. Changes in recorded employment will affect projections. They will only change as historical employment data reported in the BLS's Quarterly Census of Employment and Wages (QCEW) dataset changes. The effects of the coronavirus layoffs will begin appearing in QCEW 2020 Q1 data set. This data is incorporated into EMSI's 2020.4 data run used here. The effects of COVID-19 on projections will likely be initially slight but will increase over time as more quarters of 2020 QCEW data become available. As more data is collected showing job loss, each data run's projections will likely progressively decline in comparison with the prior data run's projections (e.g. an occupation with 10-year projected job growth of 100 in the 2020.3 data run may show a growth of 90 in the 2020.4 data run, 50 in the 2021.1 data run, and so on).

- **How are openings and replacements data affected by COVID-19?**

Replacement data comes from the Bureau of Labor Statistics (BLS) and is published every two years. This dataset is simply a national-level estimate of the percent of each occupation that needs to be replaced every year. EMSI multiplies job counts by these replacement rates to arrive at the number of replacement jobs. It is too soon to determine what (if anything) the BLS may do to model the effects of the COVID-19 shutdowns on replacement needs. EMSI's Openings counts are simply replacement jobs plus jobs due to growth. Openings will reflect COVID-19 changes to the extent that they will show in employment data (from QCEW, effects beginning to show in 2020.4 data run) and replacements data (possibly no effects shown; data from BLS released late 2021).

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