



College of Marin

Economic and Workforce Development Program

ANNUAL REPORT 2018

California Community Colleges Chancellor's Office | Eloy Ortiz Oakley, Chancellor
Workforce and Economic Development Division | Van Ton-Quinlivan, Executive Vice Chancellor



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March 1, 2018

The Honorable Edmund G. Brown, Jr.

Governor of California

State Capitol

Sacramento, CA 95814

Dear Governor Brown,

Tremendous efforts are underway to build a strong workforce to power the California economy. Those efforts, being carried out through extensive regional collaborations, are laid out in the following California Community Colleges 2018 Economic and Workforce Development Program Annual Report.

The college system's Economic and Workforce Development program invests in developing and delivering programs that provide the skills Californians need to enter the workforce equipped to succeed and prepared to meet the needs of employers, specifically in 10 targeted economic sectors and industries. By merging the assets of local academia, industry and other workforce development stakeholders, the program creates opportunities that put Californians on a path to social mobility. The program is able to achieve a wider reach due to the efficiencies created by braiding Economic and Workforce Development funds with other state and federal funding sources.

This report highlights how stakeholders in our state's seven macroeconomic regions are working together to build a strong workforce. If you have any questions regarding this annual report, please contact Executive Vice Chancellor for Workforce & Digital Futures Van Ton-Quinlivan at 916-327-5492 or vtquinlivan@cccoc.edu.

Thank you for your interest in the California Community Colleges Economic and Workforce Development Program.

Sincerely,

Eloy Ortiz Oakley
Chancellor



By merging the assets of local academia, industry and other workforce development stakeholders, the Economic and Workforce Development Program creates opportunities that put Californians on a path to social mobility.



EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

To create equity and access while fueling economic growth benefiting the Golden State’s workers and employers, the California Community Colleges strengthens the state through strategic investments via the Economic and Workforce Development Program (EWD) programs and training. Because of increased funding for workforce development in the past year, EWD has served significantly more students, employees and businesses and boosted the number of students enrolled in work-based learning. Indeed, the most notable increase was in the number of students served, which rose by approximately 85 percent.

These outcomes are achieved only through extensive collaborative efforts between the system’s 114 colleges with industry partners and other workforce development stakeholders in their respective regions. Together, colleges and industry partners spur growth for the state by working together to develop and deliver cutting-edge career education (also known as career technical education, or CTE) to equip California workers with the skills to move into living-wage jobs, provide for their families and enjoy social mobility. The training also benefits employers because they can hire work-ready, skilled employees, giving them the human capital needed to compete on a global scale.

At the heart of these cooperative efforts are “intrapreneurs” – forward-thinking, calculated risk-takers within large organizations – whose role is to better connect industry and local workforce development agencies to the world’s largest skills development system, the California Community Colleges.

This report describes efforts to align with the Doing What MATTERS for Jobs and the Economy framework (DWM), a four-pronged strategic approach to close California’s skills gap.

INVESTMENT

In 2016-17, EWD awarded \$29.2 million to fund 85 grants statewide, compared with the \$24.8 million in 2015-16 for 95 grants. Funding distribution is noted in **Exhibit 1**.

These initiatives strengthened regional collaboration and supported alignment between career education programs at the community colleges and the needs of industry sectors. Ten industry sectors received priority based on current and emerging labor-market needs and opportunities to prepare students to compete in a global economy.

OUTCOMES

The DWM strategy of increasing outreach to employers within regions and priority industry sectors has contributed to continuing momentum in EWD’s program, student and employer outcomes. Likewise, EWD investments, when combined with funds from other sources, such as the federal Carl D. Perkins Career and Technical Education Act and the state Career Technical Education Pathways Act (SB1070, 2012), have yielded impressive results, including:

- **112,677** students served, up **84.5** percent
- **21,349** businesses served, up **75.6** percent
- **5,001** students enrolled in work-based learning (i.e., internships and apprenticeships), up **60.6 percent**
- **28,843** employees served, up **47 percent**
- **80,792** total people trained, up **45.5 percent**
- **25,395** completions of workshops and training, up **32 percent**



STRONG WORKFORCE PROGRAM

In 2017, the Chancellor's Office secured \$200 million in additional annual funding for career education programs as part of the Strong Workforce Program (SWP), which aims to create 1 million more middle-skilled workers for California employers through increased career education offerings at the state's community colleges.

Grouped into seven areas targeting student success, career pathways, workforce data and outcomes, curriculum, CTE faculty, regional coordination and funding, this leading-edge state economic development program is driven by "more and better" career education. The "more" pertains to increasing the number of students enrolled in programs leading to high-demand, high-wage jobs. The "better" aligns with strategies to improve program quality, as evidenced by students completing or transferring programs, becoming employed or improving their earnings.

WIOA STATE PLAN

Guiding the work taking place at the regional and state levels is the Workforce Innovation and Opportunity Act (WIOA) State Plan, which provides strategies to develop multi-agency metrics and to create a cross-agency data system that fosters regional collaboration and alignment of workforce and educational systems. Regions are driving most of this work, but the state also has key roles to play, including working with the regions to forge a shared vision, as well as coordinating the activities of state institutions to support that vision and removing barriers to implementation. Elements within the Strong Workforce Program build from this existing body of work.

In conclusion, EWD's role as an incubator of educational and workforce innovation, with its strategic initiatives and partnerships, continues to yield measurable benefits to students, employers and California's economy.

EXHIBIT 1: EWD INVESTMENTS

Grantees & Functions	Number of Grants	Amount Awarded
Deputy sector navigators , local experts in their respective industries, improved contacts between businesses and community colleges in each of the seven macroeconomic regions, enhancing alignment between career pathways and employer needs.	64	\$ 13,050,000
Strong Workforce Program focuses on increasing both the amount and quality of career training through program offerings, curricular improvement, equipment upgrades, work-based learning and more.	1	\$10,000,000
Sector navigators , statewide experts in their respective industries, fostered collaborative partnerships within each of the 10 priority industry sectors and the California Community Colleges.	10	\$4,151,920
Centers of Excellence provided expert consultation on occupational and economic trends and supported data collection.	7	\$ 1,525,000
Capacity building, training & support technical assistance providers provided expertise in various areas of specialization.	3	\$ 513,475
Grand Total	85	\$ 29,240,395

Source: EWD Quarterly and Final Expenditure Reporting System



BACKGROUND AND STRUCTURE

INDUSTRY SECTORS

In 2013-14, each economic region identified industry sectors with maximum economic impact and demand for a skilled workforce. Each is served by a statewide Sector Navigator and regional Deputy Sector Navigators.



Small Business



Retail/Hospitality/Tourism
"Learn and Earn"



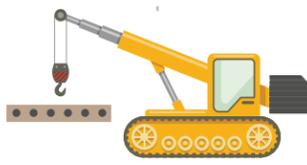
Life Sciences/
Biotechnology



Information & Communications
Technology/Digital Media



Advanced Transportation
& Renewable Energy



Energy, Construction
& Utilities



Health Workforce
Initiative



Global Trade
& Logistics



Agriculture, Water &
Environmental Technologies



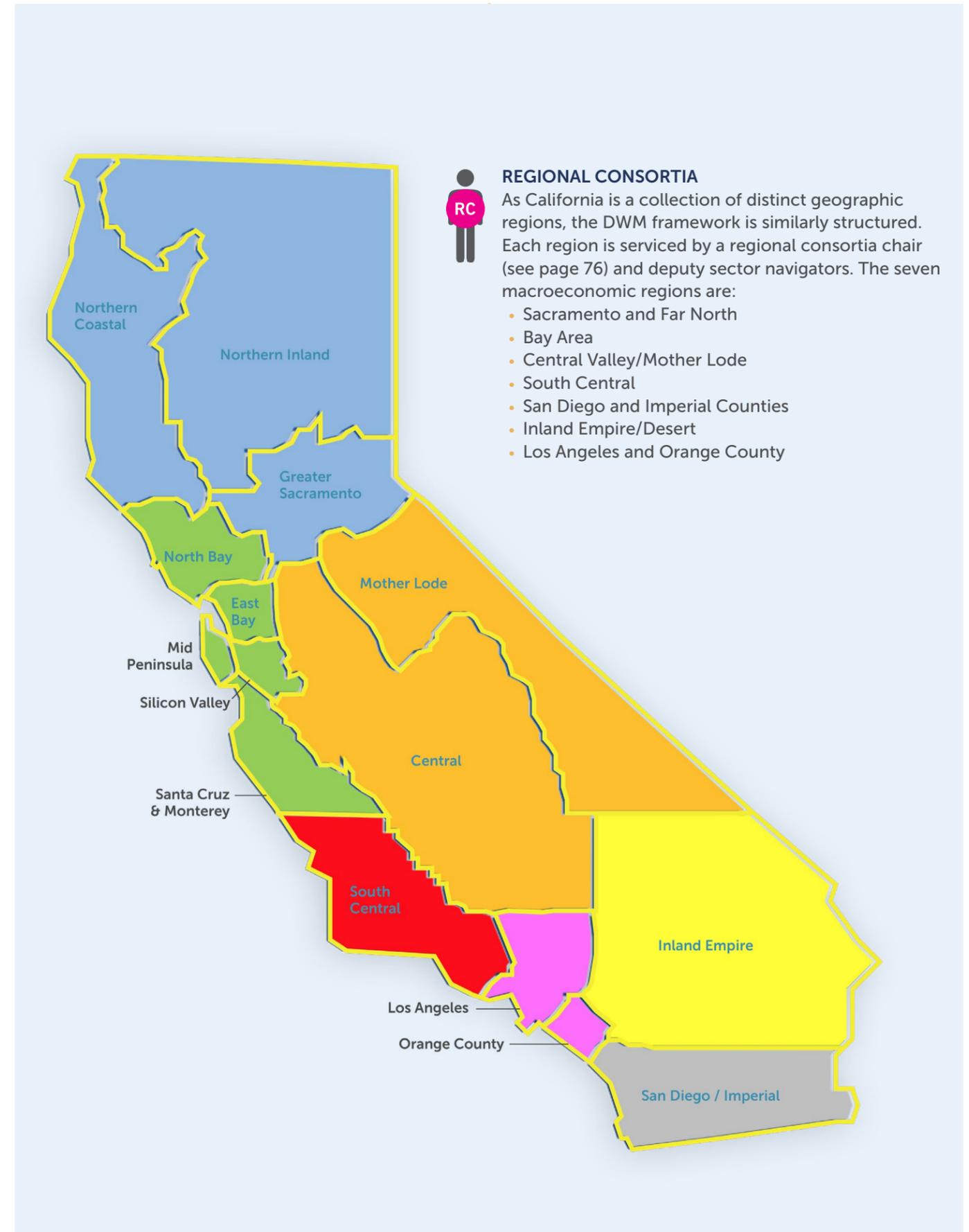
Advanced Manufacturing
& Advanced Technology



REGIONAL CONSORTIA

As California is a collection of distinct geographic regions, the DWM framework is similarly structured. Each region is serviced by a regional consortia chair (see page 76) and deputy sector navigators. The seven macroeconomic regions are:

- Sacramento and Far North
- Bay Area
- Central Valley/Mother Lode
- South Central
- San Diego and Imperial Counties
- Inland Empire/Desert
- Los Angeles and Orange County



ECONOMIC AND WORKFORCE DEVELOPMENT PROGRAM (EWD)

The intent of the program is to:

- Maintain its core mission to advance California's economic growth and global competitiveness.
- Strengthen linkages between EWD programs and other state workforce and economic development systems and programs in order to train and educate a highly skilled workforce for the mutual benefit of industry, workers and students.
- Support the regional alignment between the California Community Colleges' career education programs and the needs of California's competitive and emerging industry sectors.
- Ensure that EWD programs are being developed, tracked and evaluated based on data-driven analyses and common metrics.

EWD: A FOCUS ON COLLABORATION TO IMPROVE THE WORKFORCE

EWD supports education, training and other services to advance the economic growth and global competitiveness of California and its regional economies. Through grant awards, the program provides financial support to meet the workforce development needs of employers, workers and students. The majority of the grantees are deputy sector navigators who work at the local level to initiate and strengthen community college collaboration with other public institutions to align resources, foster cooperation across workforce education and service delivery systems as well as to build well-articulated career pathways. Grantees also ensure industry involvement in community college programs by developing strong partnerships with the private sector.

Together, these efforts contribute to continuous workforce improvement, technology deployment and business development.



EWD AND DOING WHAT MATTERS FOR JOBS AND THE ECONOMY

EWD is one of the main programs supporting work under Doing What MATTERS for Jobs and the Economy (DWM), a unifying and strategic planning framework for intrapreneurship and innovations at scale. DWM provides structure for a system of service to community colleges, employers, workers and students aimed at supporting the growth of California's regional

economies. An important feature of the framework is that it encourages the state's community colleges to work together to prepare students for the workforce, rather than compete against each other for funding.

To best serve as a conduit to connect academia, industry and other stakeholders, the DWM structure is segmented by industry sector and geographic region, as shown on pages 14 and 15.

DOING WHAT MATTERS FOR JOBS AND THE ECONOMY



DWM: THE INTRAPRENEURS

DWM is focused on inspiring multiple stakeholders within and beyond academia to engage in education and workforce development. To accomplish this, DWM is staffed with a venture capital model of “intrapreneurs” – forward-thinking, calculated risk-takers within large organizations – empowered and charged to develop workforce development solutions collectively and innovatively. These grantees are experts in their industry sectors, regions and technical specialties.

The five groups of intrapreneurs are:

1 Sector navigators are the first contacts for employers from the community college system to a given priority sector. These statewide professionals:

- Develop an advisory structure for their sector and work statewide, or across regions, to coordinate work plans and communications between their industry’s deputy sector navigators.
- Partner with regional consortia and technical assistance providers to align community college and other workforce development resources with the needs of industry.
- Track industry trends with workforce development implications and assist the community college system in connecting to industry associations and major employers.
- Facilitate the spread of information by identifying and disseminating curriculum models and effective practices while alerting and mobilizing regional consortia to pursue contract and grant opportunities.

2 Deputy sector navigators are in-region

contacts for a given sector. These regionalized industry-specific professionals:

- Work with their region’s colleges and employers to create alignment with workforce training and career pathways.
- Operate within the seven macroeconomic regions designated under the DWM framework. Within each macroeconomic region there are between five and seven deputy sector navigators, each serving a different priority or emergent industry sector.
- Collaborate with their sector navigator and fellow deputy sector navigators working in the same sector to comprise a statewide, industry-focused network that normalizes work plans, provides for exchange of effective practices and fields “how-to” questions from colleges and employers.

3 Centers of Excellence for labor-market research are labor market and data resource centers for education and industry stakeholders. As part of the DWM framework, these centers provide real-time and forecasted, industry-validated, regional labor-market research to region-based consortia and sector-based initiatives to inform decision-making.

4 Industry-Driven Regional Collaboratives are short-term, grant-funded networks of regional public, private and other community-based organizations. They support efforts of community colleges to meet training and education needs of regional industries. Local autonomy and flexibility in decision-making allow these collaboratives maximum opportunity for localized responsiveness to training and employment needs.

Examples of services are:

- Providing professional development on new curriculum and industry-current instructional modes to community college faculty.
- Providing counseling and training to businesses.
- Developing model curriculum/instructional packages, creating new courses and instituting up-to-date instructional methodologies and technologies needed to train students and incumbent workers on new technologies.
- Offering instruction through new programs/ courses, work-based learning opportunities and performance improvement training.
- Purchasing equipment necessary to support eligible activities.

5 Technical assistance providers (TAPs) support DWM by providing subject-matter expertise and technical assistance to the field while helping to execute on the DWM objectives.

DWM TAPs are designated in the following areas:

- **Apprenticeship:** 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.
- **Communications:** Providing direct support to the executive vice chancellor for Workforce & Digital Futures to elevate and manage the DWM brand and Strong Workforce Program communications.

- **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.
- **Employability skills:** With the New World of Work, working collaboratively with statewide project directors and key talent to develop and implement effective initiatives to foster work-readiness skills in students.
- **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 Centers of Excellence 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.



- Leadership and coordination support: Serving as the primary point of contact for the Workforce and Economic Development Performance Advisory Committee (WEDPAC) and the Economic Development Program Advisory Committee (EDPAC), the California Community Colleges Chancellor's Office, sector navigators and regional consortia chairs and performing an array of tasks to support and facilitate communication among these groups.
- STEM/STEAM: With a network of California community colleges building their own makerspace communities under the California Community Colleges Maker initiative. With a goal of closing California's middle-skills gap, a successful makerspace model equips students with 21st-century skills and introduces them to growing STEM/STEAM (science, technology, engineering, art and math) fields, thereby fueling job readiness and strengthening regional economies.
- Teacher-Prep Pipeline (TPP): With the TPP STEM/CTE Collaborative engaging colleges in developing successful teacher preparation programs by facilitating access to strategies, tools and resources that can boost the number and diversity of students entering the education field, particularly in science, technology, engineering and math and career education.
- Strong Workforce Program Implementation: A team overseeing implementation of 25 Strong Workforce Task Force recommendations and charged with diverse tasks related to program implementation.



STRONG WORKFORCE PROGRAM

Projections indicate that by 2025, **30 percent** of all job openings in California (a total of **1.9 million** jobs) will require middle-skills training – more than a high school diploma but less than a four-year degree. The state is expected to fall short by 1 million middle-skilled workers of this workforce need.

To help fill the gaps, the California Community Colleges Board of Governors asked and received in 2017 from the governor and Legislature **\$200 million** in annual, recurring funds to spur “more” and “better” career education among the system’s **114 community colleges**. Covering all of California’s rural and urban communities, this vast training and workforce development network operates as the primary engine driving social and economic mobility in our state. Moreover, the Strong Workforce Program complements the work of the EWD program.

The Strong Workforce Program aims to:

- Remove barriers to education completion.
- Position industry at the forefront of career pathway development.
- Commit to continuous program improvement.
- Streamline the curriculum-approval process.
- Increase the pool of qualified career education faculty.
- Enable regional coordination.
- Establish a dedicated and sustainable funding source.

Community college districts directly receive **60 percent** of the Strong Workforce Program funding. The remaining **40 percent** is awarded to regional consortia to determine which projects to invest in for the greatest regional impact on the economy and local workforce needs.

STRONG WORKFORCE STARS

To recognize and celebrate career education programs achieving Strong Workforce Program goals, the 114-college system launched Strong Workforce Stars in 2017. These are the state’s top five career education programs in 12 industry sectors. Students in these programs showed significant gains in factors important for advancing social mobility: a substantial increase in earnings, attainment of a living wage and a job closely matched with the field of study. To learn more about the Strong Workforce Stars, visit www.dwmshowcase.com.

The system also plans to expand the program to draw attention to those career education programs with promising potential.

STRONG WORKFORCE CHAMPIONS

To shine a light on industry partners helping to move the needle on workforce development in our state, DWM launched Strong Workforce Champions.

Strong Workforce Champions are individuals and organizations demonstrating the essential components of the Strong Workforce Program. Specifically, they:

- Advance work-based learning opportunities, including internships and apprenticeships.
- Collaborate with career education faculty to develop programs and curricula with the skills currently in demand.
- Support development of quality career education faculty.
- Support general career education efforts.
- Support sustainable funding for career education programs.

Fifteen Strong Workforce Champions were named in 2017. To learn more, visit www.dwmshowcase.com.



Contra Costa College

EDPAC & WEDPAC



College of the Canyons

The Economic Development Program Advisory Committee (EDPAC) is an advisory body established to fulfill the statutory requirements of SB 1402, which is the California law creating the EWD program. The Workforce and Economic Development Performance Advisory Committee (WEDPAC) complements EDPAC by incorporating partners outside the state's community college system. Combined, these two advisory boards promote discussion between industry, labor, economic development, policy advocacy, related state agencies, as well as community college faculty, classified staff, administrators, students and district trustees.

WORKFORCE INNOVATION AND OPPORTUNITY ACT (WIOA)

State law requires the California Workforce Development Board to collaborate with the chancellor of the California Community Colleges, the California Department of Education, other appropriate state agencies and local workforce development boards to develop a comprehensive state plan as a framework for the public policy, fiscal investment and operation of all state labor exchanges, workforce education and training programs. State law specifically directs the board to develop a plan building regional alliances between workforce and education professionals as well as employers to meet industry's workforce needs.

State planning requirements anticipate, and are consistent with, the policy direction prescribed in the federal Workforce Innovation and Opportunity Act. This state plan coordinates training services and investment to align with industry needs by organizing efforts around career pathways and regional labor-market trends. By doing so, this state plan meets both state and federal planning requirements while also providing a comprehensive framework for partnership between private industry and the state's publicly funded workforce and education systems.



College of the Desert



OPPORTUNITIES, INVESTMENTS AND RESULTS

THE OPPORTUNITY FOR SOCIAL MOBILITY: PROJECTED INDUSTRY EMPLOYMENT IN PRIORITY SECTORS

Together, Doing What MATTERS for Jobs and the Economy (DWM) key talent and partners are working to prepare Californians for well-paying jobs in priority sectors. The ultimate goal is to give workers the opportunity for social mobility as well as provide employers the benefit of skilled workers to serve as the foundation for thriving, globally competitive businesses.

Labor-market data show there will continue to be jobs to fill in DWM priority sectors. Projected job openings for the three-year period ending in 2020 indicate an increase in demand for skilled workers in all priority sectors except advanced manufacturing. Even in this sector, jobs are only expected to decline by 1 percent. By contrast, the percentage of new healthcare jobs and new jobs in information and communications technology or digital media are expected to increase by 9 percent, followed by life sciences/biotechnology jobs with an 8 percent increase.

The current number of jobs for eight of the 10 priority sectors, the projected number of future jobs and the most recent average annual earning per worker are shown in **Exhibit 2**. It is important to note that these projections do not include the estimated need for replacement workers, which is an important measure of demand for assessing occupational training programs.

Select examples of occupations related to the DWM priority sectors and have established community college application are profiled for the 2015-18 period in **Appendix A**. Although chosen for their relevance to one priority sector, the Appendix A data represent employment estimates, projections and wages for each occupation across all sectors.



EXHIBIT 2: JOB OPENINGS IN PRIORITY SECTORS, 2017

Sector ¹	Number of Jobs in 2017	Projected New Jobs 2017-2020	Annual Change ²	% Change 2017-20	2016 Average Annual Earnings	# of Firms in 2017	Job Change 2016-17
Advanced Manufacturing	1,336,342	-12,309	-4,103	-1%	\$106,638	41,407	1.64%
Advanced Transportation & Renewable Energy	659,154	34,387	11,462	5%	\$62,231	37,067	14.62%
Agriculture, Water & Environmental Technologies	607,405	18,866	6,289	3%	\$46,508	27,943	-0.40%
Energy, Utility & Construction	1,380,490	51,656	17,219	4%	\$93,526	86,173	26.93%
Health	1,674,363	154,560	51,520	9%	\$82,025	88,461	0.08%
Information & Communications Technologies/Digital Media	1,042,331	92,335	30,778	9%	\$158,617	45,153	2.57%
Life Sciences/Biotechnology	844,679	68,622	22,874	8%	\$111,428	19,090	-5.93%
Retail, Hospitality & Tourism	3,413,816	169,437	56,479	5%	\$34,351	180,253	0.08%
All Industries in California	18,466,147	19,414,367	948,220	5%	\$74,522	525,547	74.45%

¹All employment data in this report provided by Economic Modeling Specialists International (EMSI) - QCEW Employees, Non-QCEW Employees, and Self-Employed. Totals are not representative of all industry employment in California. Industry sub-sectors overlap between sectors causing duplication while other non-related subsectors were not included.

²Annual change is the average yearly change for the projected period (2017-20).

³Average annual earnings per worker are on a gross basis and do not reflect wages by occupation. All regular employee wages in the industry sector are included in the average – part-time and full-time workers, as well as all paid positions, from security guard to CEO, for example. These data include variable factors, such as premium pay for overtime and late-shift work and changes in output of employees paid on an incentive plan.

THE INVESTMENT IN CALIFORNIA'S ECONOMY AND WORKFORCE: PROGRAM FUNDING

The following section explains the distribution of funds to bolster California's economy and workforce.

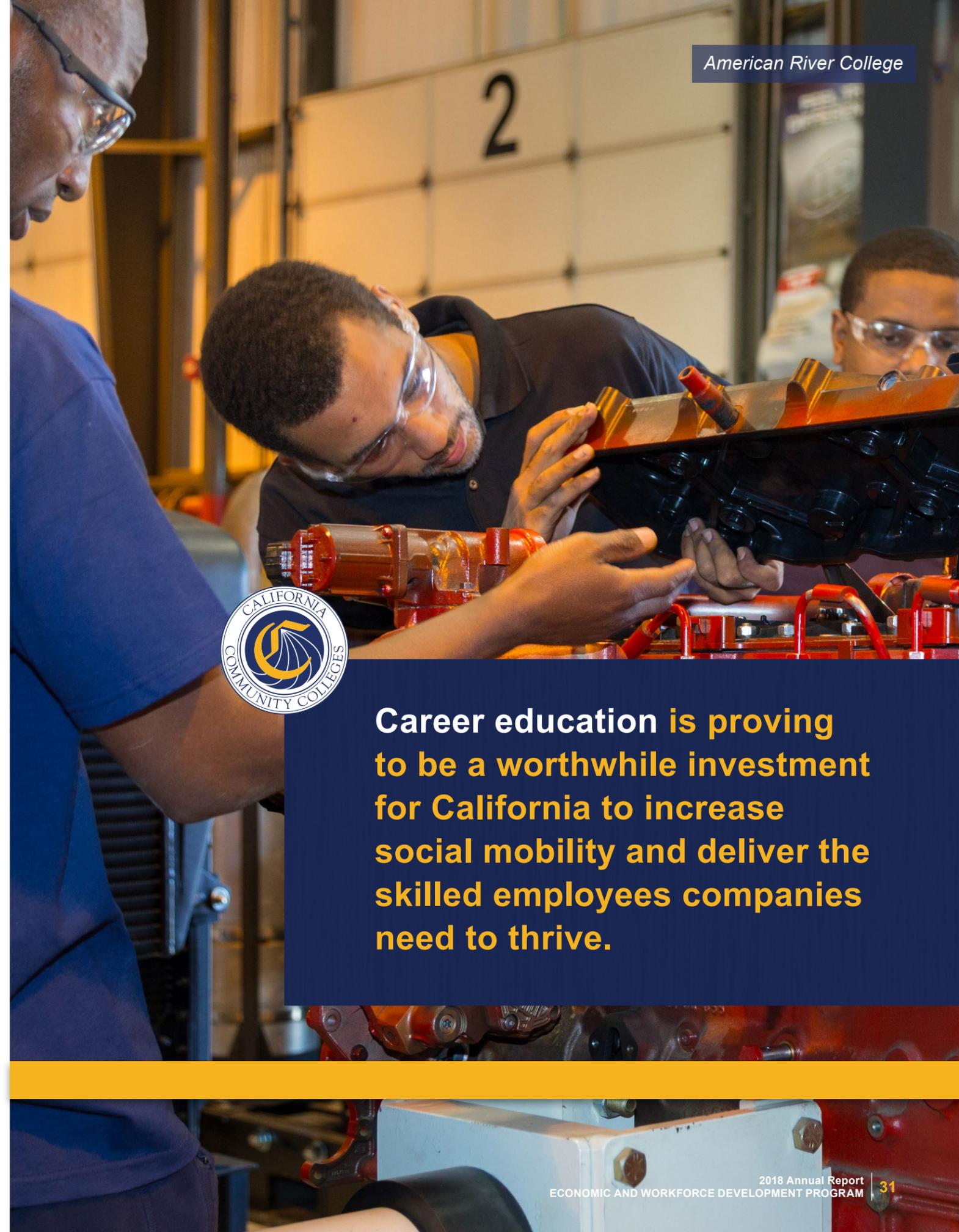
INVESTMENT BY GRANT INITIATIVE

In 2016-17, EWD funded 85 grants across five major initiatives, totaling **\$29.2 million**, as shown below in **Exhibit 3**. Deputy sector navigators, those on the front lines of workforce development, received the lion's share of funding at **\$13.1 million**.

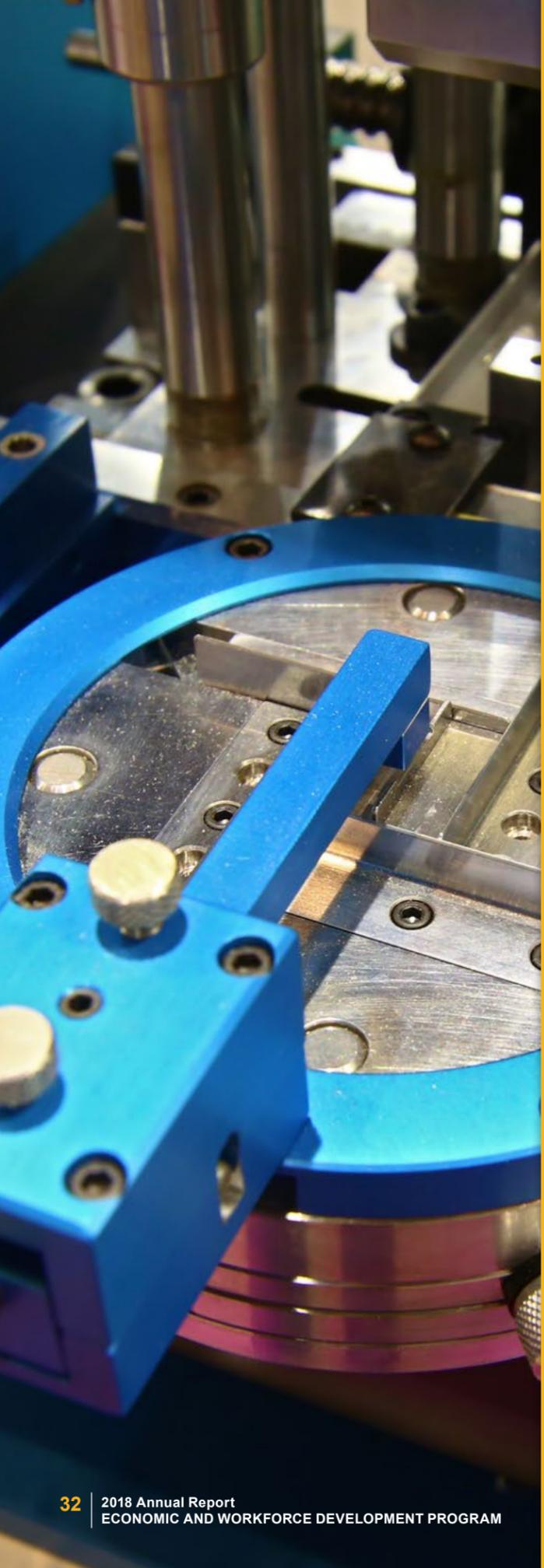
EXHIBIT 3: 2016-2017 FUNDING BY EWD GRANT INITIATIVE

Grantees & Functions	# of Grants	Value of Awards	Percentage of Total	Regional Contribution (match)
Deputy sector navigators	64	\$ 13,050,000	45%	\$9,637,968
Strong Workforce	1	\$ 10,000,000	34%	N/A
Sector navigators	10	\$ 4,151,920	14%	\$2,010,579
Centers of Excellence	7	\$ 1,525,000	5%	\$612,813
Capacity building, training & support technical assistance providers	3	\$ 513,475	2%	N/A
Grand Total	85	\$ 29,240,395	100%	

Source: EWD Quarterly and Final Expenditure Reporting System



Career education is proving to be a worthwhile investment for California to increase social mobility and deliver the skilled employees companies need to thrive.



INVESTMENT BY PRIORITY SECTOR

DWM supports 10 priority industry sectors statewide, with each of California's seven macroeconomic regions supporting one or more of the sectors, though not all 10. Macroeconomic regions, or macro-regions, select the sectors most relevant and impactful to their regional economies. The five sectors most frequently selected among regions are:

- Global Trade and Logistics
- Information and Communications Technologies (ICT)/Digital Media
- Small Business
- Health
- Advanced Manufacturing

The amount of funding allocated to a given sector is correlated to the number of regions selecting the sector as a priority area, as shown in **Exhibit 4**.

EXHIBIT 4: 2016-17 FUNDING BY PRIORITY SECTOR

Presented as a percentage of overall funding for priority sectors.

Priority Sectors	Percent	# of Grants	Awards
Advanced Manufacturing	13.8%	9	\$ 1,800,000
Advanced Transportation & Renewable Energy	6.1%	4	\$ 800,000
Agriculture, Water & Environmental Technology	7.7%	5	\$ 1,000,000
Energy, Construction & Utilities	4.6%	3	\$ 600,000
Global Trade & Logistics	15.3%	10	\$ 2,000,000
Health	14.2%	9	\$ 1,850,000
ICT/Digital Media	15.3%	9	\$ 2,000,000
Life Sciences/Biotechnology	3.1%	2	\$ 400,000
Retail/Hospitality/Tourism	4.6%	3	\$ 600,000
Small Business	15.3%	10	\$ 2,000,000
Total	100.0%	64	\$ 13,050,000

Source: EWD Quarterly and Final Expenditure Reporting System



INVESTMENT BY REGION

Similar to investment by priority sector, EWD investment by region corresponds to the number of priority industry sectors identified as important for the region. Investments by region are shown in **Exhibit 5**. Each region received a minimum of seven grants and \$1.5 million in funding.

Separately, Strong Workforce fund allocations are determined by the Chancellor's Office according to:

- The local unemployment rate.
- The region's proportion of career education (also known as career technical education, or CTE) full-time equivalent students.
- Proportion of projected job openings.

EXHIBIT 5: REGIONAL INVESTMENT OF EWD

Macro Region	# of EWD Grants	EWD Award	% EWD
A - Sacramento & Far North	15	\$ 3,252,500	11.1%
B - Bay Area	15	\$ 13,192,500	45.1%
C - Central	9	\$ 2,337,500	8%
D - South Central	8	\$ 1,475,950	5.1%
E - San Diego/Imperial	8	\$ 2,145,000	7.3%
F - Inland Empire/Desert	10	\$ 2,375,000	8.1%
G - Los Angeles & Orange County	19	\$ 4,461,945	15.3%
Total	84	\$ 29,240,395	100%

Source: EWD Quarterly and Final Expenditure Reporting System

THE RESULTS OF INVESTING IN CAREER EDUCATION

With the generation of **1,513 jobs**, **121 new products** and services with **\$86.9 million** in business revenue, career education is proving to be a worthwhile investment for California to increase social mobility and deliver the skilled employees companies need to thrive. The numbers in **Exhibits 6-9** illustrate the benefits.

EXHIBIT 6: IMPACT ON BUSINESS

Impact on Business	2016-17	2015-16	% Change
Jobs created	1513	1584	-4.5%
Employees retained	8758	9414	-7.0%
Business revenue generated	\$86,892,790	\$33,669,637	158.1%
Sales increased	\$110,632,410	\$67,866,769	63.0%
New products developed	56	65	-13.8%
New services created	78	84	-7.1%

Source: EWD Quarterly and Final Expenditure Reporting System



EXHIBIT 7: IMPACT ON EMPLOYERS, EMPLOYEES AND STUDENTS

Impact on Employers, Employees and Students	2016-17	2015-16	% Change
Businesses served	21,349	12,159	75.6%
Students served	112,677	61,056	84.5%
Employees served	28,843	19,624	47.0%
Programs completed	25,395	19,233	32.0%
Contract education hours delivered	56,142	67,831	-17.2%
Performance improvement training hours delivered	80,792	55,521	45.5%
Instruction hours delivered	112,390	102,872	9.3%
Students placed in jobs	1,378	1,433	-3.8%
Students in work-based learning, internships & apprenticeship	5,001	3,114	60.6%

Source: EWD Quarterly and Final Expenditure Reporting System

EXHIBIT 8: SERVICES PROVIDED TO COLLEGES

Service to Colleges	2016-17	2015-16	% Change
Curricula developed	190	212	-10.4%
Curricula aligned with third party	134	140	-4.3%
Programs of study developed	145	154	-5.8%
Curricula for career pathways developed	144	140	2.9%
Professional development delivered	232	226	2.7%
Connections to business and industry	267	311	-14.1%
Research studies published	114	147	-22.4%

Source: EWD Quarterly and Final Expenditure Reporting System

EXHIBIT 9: SERVICES PROVIDED TO BUSINESSES

Services Provided to Businesses	2016-17	2015-16	% Change
Curricula developed	123	123	0.0%
Alignment of sectors with education	190	209	-9.1%
Business assessments	153	159	-3.8%
Small businesses created	50	53	-5.7%
Professional development for workers delivered	161	168	-4.2%
Connection with college and education	247	252	-2.0%
Research studies published	56	82	-31.7%

Source: EWD Quarterly and Final Expenditure Reporting System



CONCLUSION

A greater investment in the EWD program in 2016-17 led to a greater reach, with more students, businesses and employees being served than the previous year. The program continues to strengthen regional collaboration and support alignment between career and technical programs at the colleges to meet industry needs.

The many initiatives underway and practices in place enable the California Community Colleges to advance social mobility for more Californians by providing opportunities to attain the in-demand skills employers require for well-paying jobs. Employers, in turn, have the skilled talent necessary to give their organizations market distinction for competing on a global scale.

In **Appendix A** of this report are innovative practices to prepare students and existing workers for jobs in the 10 priority sectors. These practices demonstrate how colleges are partnering with employers and with each other to provide solutions to employer challenges.

Collaboration is at the heart of California's workforce development efforts. Significant change to better position the state to thrive

economically and withstand the impact of a future recession cannot occur without combining the knowledge and resources of all workforce development stakeholders with extensive collaboration occurring on a regular basis. Success requires full input of the unique assets and perspectives from all stakeholders: the entire community college system, education and workforce partners, business and industry and state policymakers.

EWD, through the DWM framework and its ecosystem of intrapreneurs, enables and nurtures effective collaboration, provides a structured support system and spurs workforce innovation to deliver the more than 1 million industry-recognized middle-skill credentials needed over the next decade in California's fast-evolving and globally connected economy.

METHODOLOGY

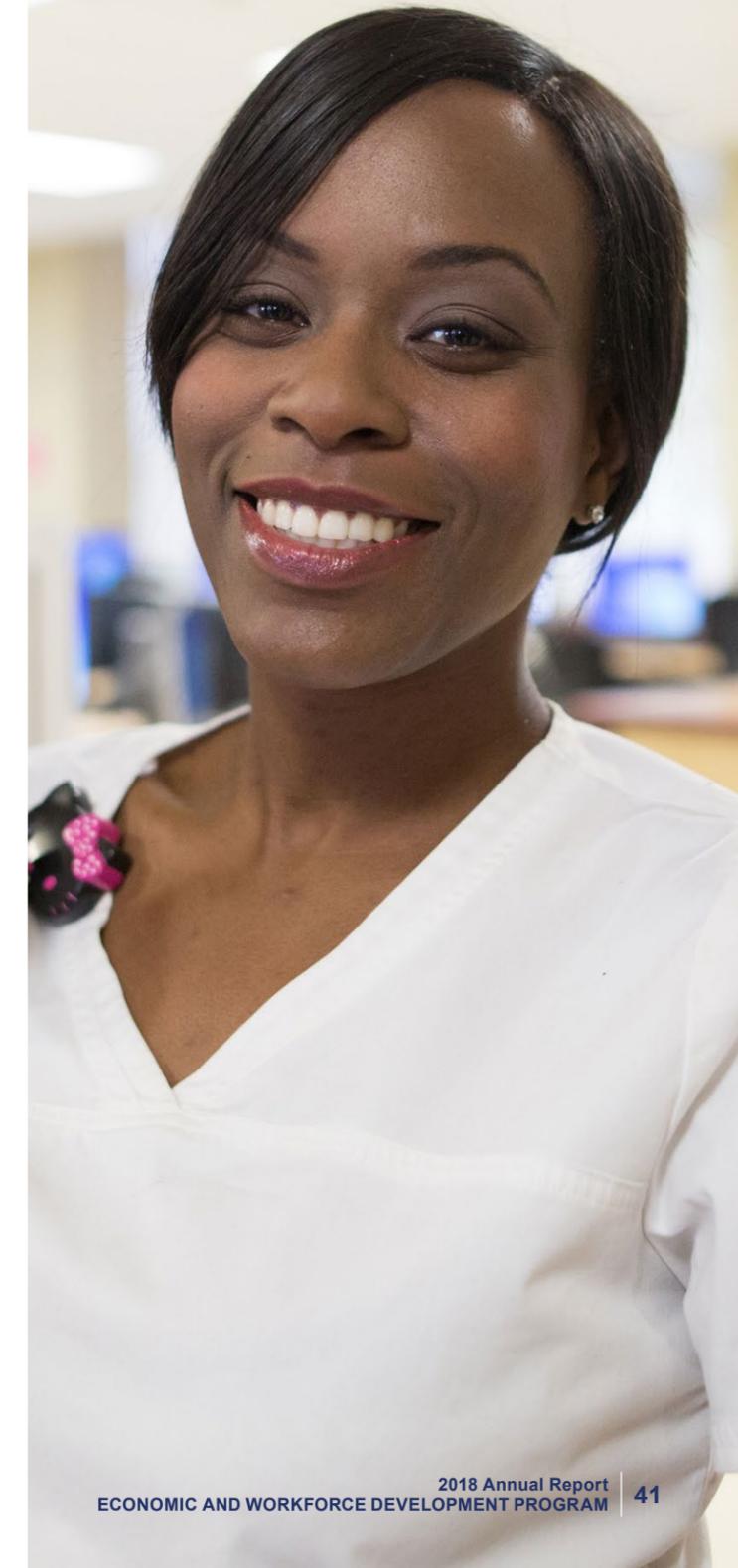
The data for this report were collected through quantitative and qualitative methods. Financial data and select performance information were collected through online grant reporting systems. Qualitative data, such as success stories, were collected through the sector navigators. The data presented in this report covers the grantee term fiscal year 2016-17.

QUANTITATIVE REPORTING

With oversight by their EWD grant monitors in the Chancellor's Office, project directors and chief business officers report and certify their grants' budget and expenditures quarterly in the EWD Online Expenditure System. Before grants are closed, a report of their required match and any additional resources leveraged is also collected. Project directors, including sector navigators and deputy sector navigators, also provide a quarterly summary of performance information – a list of activities conducted and a report on outcomes achieved.

QUALITATIVE REPORTING

Qualitative reporting provides rich detail about the achievements of EWD grantees that cannot be obtained through quantitative data alone. Each of the 10 sector navigator grantees provided illustrative success stories, available in **Appendix A**.





Economic and Workforce Development Program // ANNUAL REPORT 2018

APPENDICES



APPENDIX A

ADVANCED MANUFACTURING & ADVANCED TECHNOLOGY

Occupation	2017 Jobs	Projected New Jobs	Replacement Needs	Total Openings	Annual Openings	Median Annual Wages
Supervisors of Production & Operating Workers	58,821	571	17,005	17,576	6,134	\$55,854
Electrical & Electronics Repairers, Commercial/Industrial Equipment	6,976	182	1,817	1,999	669	\$61,485
Semiconductor Processors	4,321	(84)	1,441	1,441	510	\$36,735
Industrial Engineering Technicians	4,397	177	1,137	1,314	439	\$63,354
Mechanical Engineering Technicians	4,182	99	1,075	1,174	410	\$61,965

Source: Centers of Excellence

The Advanced Manufacturing and Advanced Technology sector’s continuous and rapid evolution creates the need for workers who possess up-to-the-minute skills.

The Centers for Applied Competitive Technologies is an advanced manufacturing initiative that helps California manufacturers compete successfully in changing markets and the global economy. The occupational trends in this sector project an increase in all but one of five select occupations – semiconductor processor jobs are expected to decline slightly – with median annual wages ranging between **\$36,735** and **\$63,354**.

Through technology education, manufacturing training and services that contribute to continuous workforce development, the

Centers for Applied Competitive Technologies provides expertise in technology deployment and business development. The Centers for Applied Competitive Technologies also provides industry-specific reports on manufacturing, emerging industries/technologies, strategies for addressing specialized economic/workforce issues, promotes science, technology, engineering and mathematics education through school presentations, the development of recruitment tools and strategic partnerships, and provides many other resources to help industry, educators and students succeed in California. Among its efforts, the sector has come together to form the San Joaquin Valley Manufacturing Alliance, an employer-led organization spearheading new programs and opportunities for students in this field.

BEST PRACTICE Transforming the San Joaquin Valley Manufacturing Ecosystem

Gurminder Sangha, deputy sector navigator for Advanced Manufacturing, played a vital role in the manufacturing cluster of the state’s Regional Industry Cluster Initiative (RICI), created in 2005. In 2014, Sangha joined Mike Betts, CEO of Betts Company, to transform the cluster into a vibrant, employer-led organization called the San Joaquin Valley Manufacturing Alliance (SJVMA) and managed to achieve that within two years.

Serving on the SJVMA’s board in the first year, Sangha brought his education and industry connections, as well as a deep understanding of the industry’s needs, to begin building this unprecedented organization committed to transforming the San Joaquin Valley into a globally competitive location for manufacturing.

Since its inception, SJVMA has worked with regional education partners to develop several career education programs, including a one-of-a-kind heavy truck program certified by the National Automotive Technicians Education Foundation and the nation’s first all-electric flight science program. The alliance played a leading role in starting a Career Technical Education Charter School focusing on advanced construction and advanced manufacturing programs, with courses dually enrolled with local community colleges.

Sangha’s association with SJVMA has helped him collaborate with industry to put programs in place that address the Valley’s workforce needs, such as the metal fabricator internship program for students at the College of the Sequoias. US Farm Systems (a waste-water equipment manufacturer located in Tulare) started the internship program and made it a priority by committing itself to providing internships to students each semester.

The partnership between US Farm Systems, College of the Sequoias and Sangha has resulted in the following outcomes:

- 22 internships with US Farm systems, with 10 interns being offered full-time employment.
- Upskilling of the incumbent workers by providing technical and workplace essential trainings delivered in collaboration with the Training Resource Center and the Tulare County Workforce Development Board.
- Improved quality of work and scrap rate for US Farm Systems.
- The expansion of the internship program to other local manufacturers.

AGRICULTURE, WATER & ENVIRONMENTAL TECHNOLOGIES

Occupation	2017 Jobs	Projected New Jobs	Replacement Needs	Total Openings	Annual Openings	Median Annual Wages
Environmental Scientists & Specialists	15,565	517	4,254	4,771	1,610	\$78,732
Veterinary Technologists & Technicians	9,842	1,191	2,374	3,566	1,189	\$38,185
Environmental Science & Protection Technicians	4,816	141	1,679	1,820	619	\$51,332
Agricultural Inspectors	3,196	77	1,268	1,345	452	\$40,040
Agricultural & Food Science Technicians	3,521	126	1,060	1,186	396	\$38,750

Source: Centers of Excellence

The Agriculture, Water and Environmental Technology initiative works to ensure the economic viability of California’s agriculture and natural resources industry, while maintaining the state’s environmental integrity, especially in the area of water – the most precious resource. The occupational trends in this sector project increases in each of five select occupations, with median annual wages ranging between **\$38,185** and **\$78,732**.

Through environmental training centers, water and wastewater technology programs and agriculture and natural resources programs, the work of this sector team supports the growth and development of several industry clusters, including agriculture support; agriculture production; agriculture wholesale trade; and agriculture water, forestry, natural resources and environmental services.

The initiative creates a pipeline of educated and skilled individuals, starting in high school with agricultural programs, continuing with postsecondary education and culminating in a viable career, through a variety of strategies with its partners, including a partnership with E&J Gallo Winery to develop wine-industry workers through an apprenticeship program.

BEST PRACTICE Gallo Apprenticeship Partnership to Develop an Employee Pipeline

In an effort to develop a pipeline of potential employees with knowledge and skills in wine-grape growing and oenology, the Modesto-based E&J Gallo Winery developed an apprenticeship program. In partnership with San Joaquin County high school agricultural programs and Modesto Junior College, this opportunity provides high school graduates with a job at the winery and coursework in agricultural mechanics, irrigation or plant science at the college.

The program includes three strands from which students can choose: Irrigation Apprentice, Ag Mechanic Apprentice and Vineyard Management Apprentice. Each area puts students on track to earn an associate’s degree and to enter a full-time job at the conclusion of the three-

year apprenticeship. Through the program, irrigation apprentices can test to become a certified agriculture irrigation specialist through the Irrigation Association and earn a degree in Irrigation Technology at the end of the three years. Ag mechanic apprentices can earn an associate’s degree in agricultural mechanics, giving them welding skills and the knowledge to troubleshoot and fix an array of equipment and machinery. Vineyard management apprentices also can earn an associate’s degree at the end of the apprenticeship.

Gallo is working to expand the apprenticeship program, moving to Madera County and working with the Reedley College Madera Center and the agriculture program at Madera South High School.



West Hills College

ADVANCED TRANSPORTATION & RENEWABLE ENERGY

Occupation	2017 Jobs	Projected New Jobs	Replacement Needs	Total Openings	Annual Openings	Median Annual Wages
Automotive Service Technicians & Mechanics	85,210	2,524	23,770	26,294	8,781	\$37,481
Supervisors of Mechanics, Installers & Repairers	42,563	2,195	10,927	13,122	4,374	\$71,506
Bus/Truck Mechanics & Diesel Engine Specialists	23,961	1,721	6,488	8,209	2,737	\$50,162
Aircraft Mechanics & Service Technicians	13,640	1,028	3,156	4,184	1,409	\$63,718
Solar Photovoltaic Installers	4,066	358	1,310	1,668	557	\$41,416
Avionics Technicians	1,953	123	462	585	196	\$66,643

Source: Centers of Excellence

The Advanced Transportation and Renewable Energy sector represents an array of clean-energy technologies, including solar, geothermal, wind and bioenergy comprising a critical part of California’s strategy to reduce its climate change impact and grow a robust green economy. The occupational trends in this sector project increases in each of six select occupations, especially for automotive service technicians and mechanics, as well as supervisors of mechanics, installers and repairers, with median annual wages ranging between **\$37,481** and **\$71,506**.

To help advance California’s competitiveness, the sector is helping to develop a superior workforce to respond to rapidly changing technologies through electric, hybrid and

hydrogen fuel cell programs; gaseous fuel programs for heavy-duty vehicles; gaseous fuel programs for light-duty vehicles; intelligent transportation systems programs; railroad operation programs; aeronautics and flight-technology programs; motorcycle maintenance programs; automotive clean air car, emissions programs; and photovoltaic, concentrated solar, geothermal and wind technology renewable energy programs.

Sector efforts are diverse, among them developing a community of practice, collaborating to enhance alternative fuel and vehicle training programs and hosting outreach events to spark interest among high school students.

BEST PRACTICE

Advancing the Sector via Communities of Practice, Multiregional Collaborations and Outreach Events

Community of Practice Among Automotive Programs

- Using grant funding from the Industry-Driven Regional Collaborative, Pam Gutman, deputy sector navigator for the San Francisco Bay Area region, developed a New World of Work community of practice for a dozen college automotive programs. The programs collaborated with automotive-industry employers to receive feedback about the technical skills and soft skills essential for workplace success. With the feedback, faculty improved the alternative fuels and electric vehicle curriculum at the participating colleges – and because employers expressed concern about the lack of critical soft skills among students, faculty worked with them to prioritize soft skills. Then the New World of Work 21st-Century Skills curriculum was embedded in the auto curriculum of the participating colleges and faculty training was provided. Now, more than 20 soft skills modules are available to students online, thanks to the community of learning, which also has resulted in increased networking opportunities for automotive faculty.

- Multiregional collaboration to improve fuel, vehicle programs
- With grant funding from the Clean Energy Commission, the Advanced Transportation & Renewal Energy sector has awarded \$2.6 million since 2016 to support student training, curriculum creation, equipment purchases and faculty development at 15 colleges working to enhance their alternative fuel and vehicle technical training programs. The boost to these programs helps to address regional workforce technical training needs for workers employed by fleets, dealerships, independent shops and similar organizations. In addition, the funding has allowed the sector to amplify efforts to recruit high school students and adult learners, resulting in an enrollment increase.
- Outreach events pique interest.
- The deputy sector navigator, participating colleges and the Prime Motivation marketing team worked together to deliver a series of half-day Advanced Transportation outreach events. These experiences generated interest to share new information about automotive careers with high school students in the Inland Empire/Desert region. Seven events were hosted within the span of eight months, featuring high school and community college automotive programs, as well as industry career pathways. In addition to guest speakers who discussed career opportunities and how to transition to automotive studies at the postsecondary level, the events featured a fun, sometimes loud, car-show atmosphere during lunch breaks and counselors from the nearby community colleges were on-hand to answer questions and explain the enrollment process.

ENERGY, CONSTRUCTION & UTILITIES

Occupation	2017 Jobs	Projected New Jobs	Replacement Needs	Total Openings	Annual Openings	Median Annual Wages
Carpenters	142,104	2,443	38,606	41,049	14,155	\$39,060
Electricians	71,227	6,039	23,999	30,038	10,073	\$59,393
Plumbers, Pipefitters & Steamfitters	51,971	4,486	16,566	21,052	7,074	\$49,641
Heating, Air Conditioning, and Refrigeration Mechanics/ Installers	31,260	3,213	9,240	12,453	4,174	\$46,688
Construction Managers	49,797	-130	10,001	10,001	3,716	\$71,326

Source: Centers of Excellence

California's advanced energy industry needs an additional 15,000 highly skilled workers every year. To help meet that need, the Energy, Construction and Utilities sector engages education and industry to deliver to students the knowledge, skills and abilities needed for rapid technological advances. The occupational trends in this sector project increases in all but one of five select occupations – construction manager jobs are expected to decline slightly – with median annual wages ranging between **\$39,060** and **\$71,326**.

Key initiatives for the Energy, Construction and Utilities sector include HVACR technicians, advanced lighting controls, building operators, control systems, building science, facility

management and energy analytics. Key initiatives train students to design, analyze, measure, operate, maintain and increase energy efficiency measures in non-residential buildings by addressing approximately 70 percent of current energy consumption through HVACR, lighting, control systems and building envelope.

Among efforts underway, this sector is collaborating to align student-learning outcomes to ensure that Energy, Construction and Utilities sector students across community colleges are able to demonstrate the same knowledge and skills.

BEST PRACTICE

Multiple Initiatives in the Energy, Construction and Utilities Sector

- **Heating, Ventilation, Air-Conditioning and Refrigeration (HVACR):** The Energy, Construction and Utilities team partnered with 12 colleges statewide to align student-learning outcomes with competencies in an “employment-ready” credential. License agreements with a virtual reality systems provider now enable cost-effective lab enhancements at these colleges.
- **Facility Management:** Agreements with the International Facility Management Association are bridging a supply/demand gap of approximately 6,000 workers across California. Degree programs at Chaffey and DeAnza colleges were launched in 2017, with expansion to colleges statewide now in progress.
- **Building Energy and Systems Professional:** A pilot program at College of the Desert integrates Guided Pathways across 12 certificate and degree programs in the sector, multiplying flexibility for student success. In the Inland Empire, Strong Workforce Program funding will permit program expansion to six other colleges in 2018-19.
- **Multi-sector Automation:** Driven by the Energy, Construction and Utilities sector, Orange County colleges with programs in HVAC, mechatronics, robotics and industrial process control are collaborating on core student learning outcomes to create regional transferability. Regional Strong Workforce Program investment supports this initiative.



GLOBAL TRADE & LOGISTICS

Occupation*	2017 Jobs	Projected New Jobs	Replacement Needs	Total Openings	Annual Openings	Median Annual Wages
Sales Representatives, Wholesale and Manufacturing (All Products)	208,656	6,701	63,320	70,021	23,613	\$67,051
Market Research Analysts & Marketing Specialists	100,765	7,458	29,494	36,952	12,317	\$68,577
Shipping, Receiving & Traffic Clerks	101,550	1,658	30,364	32,022	10,899	\$31,304
Web Developers**	29,795	3,071	6,399	9,470	3,157	\$62,791
Cargo & Freight Agents	13,351	1,017	3,337	4,354	1,452	\$42,390

Source: Centers of Excellence

*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

**Also listed in Information & Communications Technologies/Digital Media (ICT-DM)

California is a global trade and logistics powerhouse, with 2017 exports at \$171.9 billion to 229 foreign economies, including the top export markets of Mexico, Canada, China, Japan and Hong Kong.¹ The Center for International Trade Development invests in California’s economic growth and global competitiveness through industry-specific education, training and services contributing to a highly skilled and productive workforce. The occupational trends in this sector project increases in each of five select occupations, especially for market research analysts and marketing specialists, with median annual wages ranging between **\$31,304** and **\$68,577**.

¹CalChamber, Trade Statistics: <http://advocacy.calchamber.com/international/trade/trade-statistics/>

- The Center for International Trade Development’s key services include export and import programs to create jobs, career pathways and technical assistance, and global trade curriculum and international marketing opportunities.
- Among its efforts, the sector is collaborating with business to build an ecosystem around e-retail to create and share knowledge, support business growth and prepare students to fill the jobs resulting from growth.

BEST PRACTICE Global Trade Sector Partners with Third-Largest Internet Company in the World

The Global Trade sector is positioning the state and colleges for jobs of the future in e-retail. According to the market research company eMarketer, from 2013 to 2018, e-retailing grew at a compound annual growth rate of more than 20 percent per year, representing 12 percent of global retail sales, or approximately \$2.2 trillion U.S. dollars. Within the next three years, global e-retail is expected to eclipse \$4.5 trillion worldwide, with half of the total market in China. This tectonic shift in global retailing is dramatically changing the competitive assets needed to compete, driving demand for employees with specialized skills and knowledge.

The Global Trade sector and Centers for International Trade Development are meeting these educational and industry needs by building an ecosystem to create and share knowledge, support business growth and prepare students to fill the jobs resulting from this growth. The sector has been working with Mission College and Long Beach City College to develop not-for-credit programs for global digital marketing to train businesses, demonstrating tremendous interest from the business community. Discussions with several colleges are currently taking place to infuse content into the business curriculum.

The sector also must keep pace with industry practices in this rapidly changing market by supporting small businesses entering the global e-retail market for the first time. Working through the California State Trade Expansion Program, the sector is helping small businesses list and market their products through JD.com, the third-largest Internet company in the world, and China’s largest e-retailer. JD.com sold more than \$20 billion on “Singles Day” in China, the moniker for Nov. 11, the largest e-retailing holiday in the world.

Additionally, the sector is teaming up with IBT-Online to deliver the California Online Global Program. The program helps companies localize their websites and utilize the latest in search engine and digital marketing campaigns to reach customers around the globe. From strategic planning through content localization, design customization and technical implementation, to country-specific search engine optimization and social media marketing, the Online Global services are tailored to support small businesses’ online international strategy.

As the global e-retail market continues to swiftly expand, the Global Trade sector and Center for International Trade Development will continue to work with businesses and colleges to develop and prepare workers for the online jobs of the 21st century.

HEALTH

Occupation	2017 Jobs	Projected New Jobs	Replacement Needs	Total Openings	Annual Openings	Median Annual Wages
Registered Nurses	293,786	26,741	45,525	72,266	24,100	\$99,945
Nursing Assistants	109,044	14,416	38,048	52,464	17,496	\$30,222
Medical Assistants	87,187	7,371	28,301	35,672	11,914	\$34,678
Licensed Vocational Nurses	73,556	7,462	16,018	23,480	7,828	\$52,460
Dental Assistants	50,718	3,911	16,887	20,798	6,937	\$37,371

Source: Centers of Excellence

The Health Workforce Initiative, a program of the Workforce and Economic Development division of the California Community Colleges Chancellor’s Office, fosters communication and collaboration between the healthcare industry and education systems. The purpose of the initiative is to identify healthcare workforce needs and cultivate solutions. The occupational trends in this sector project increases in each of five select occupations, particularly for registered nurses and nursing assistants, with median annual wages ranging between **\$30,222** and **\$99,945**.

The Public Policy Institute of California estimates the state will need an additional 190,000 allied healthcare workers by 2024, including licensed vocational nurses, certified

nursing assistants, medical assistants, imaging technologists, dental hygienists and dental assistants. To develop innovative solutions for addressing the shortage, the Health Workforce Initiative sector navigator and deputy sector navigators maintain close collaborations with colleges and industry professionals. Among the efforts to increase the number of health care workers, the sector has implemented a model curriculum for healthcare information technology and is piloting a program that helps internationally trained nurses gain eligibility for licensure testing.

BEST PRACTICE Several Initiatives Helping to Move the Needle in Healthcare

• High-Touch Healthcare: Critical Six Soft Skills

In response to healthcare providers’ requests for workers whose soft skills are as strong as their technical skills, this soft-skills training program includes six competency domains: communication, workplace ethics and professionalism, team-building and collaboration, effective problem-solving, embracing diversity and demonstrating compassion. Corresponding Grab-N-Go subordinate independent training modules allow for varying degrees of implementation. Since inception, more than 60 train-the-trainer workshops have been held, with more than 500 participants representing 50 schools and businesses.

• Healthcare Information Technology Model Curriculum

This model curriculum included six courses: Medical Terminology, Exploring Computers, Structured Query Language for Healthcare Information Technology, Business Intelligence Tools, Healthcare Organizations Practices and Reporting, and the capstone course, Healthcare Information Technology. For this project, a student can “test” out of courses already taken. An example of this is medical assistants, who will not have to take Medical Terminology or Healthcare Organization Practices, as these are already part of their employment responsibilities.

• Serving Internationally Trained Nurses

A Grossmont College pilot project is helping internationally trained nurses who lack a single course to become eligible in California to take the National Council Licensure Examination, which one must pass in order to receive a state nursing license. In summer 2017, five of more than 75 highly qualified applicants were selected to be in the college’s first single-subject course, an obstetrics and pediatrics course. The California Board of Registered Nursing requires that classroom instruction and clinical practice in a healthcare setting take place concurrently. However, some internationally trained nurses fulfilled those components in consecutive semesters. The goal is to replicate this program at other community colleges to ensure that more internationally trained healthcare professionals can work at a level that matches their education and expertise.

• Health Pathways Summer Institute

This week-long event for high school teachers was first held in 2015 as a strategy to help increase entry into health careers. A collaboration among multiple partner agencies, its participants earn two college credits after completing the program. Among the program’s aims are to ensure that teachers understand effective practices to improve readiness and access of high school students to postsecondary allied health educational programs and careers. Also, the program goals include helping teachers to understand the postsecondary educational pathways for pre-med and allied health professions and resources, assessments and the enrollment process for healthcare programs within the California Community Colleges.

INFORMATION AND COMMUNICATIONS TECHNOLOGIES/DIGITAL MEDIA

Occupation	2017 Jobs	Projected New Jobs	Replacement Needs	Total Openings	Annual Openings	Median Annual Wages
Computer User Support Specialists	73,431	6,208	16,351	22,559	7,520	\$57,574
Network & Computer Systems Administrators	44,850	2,891	8,402	11,293	3,784	\$90,816
Web Developers	29,795	3,071	6,399	9,470	3,157	\$62,791
Computer Network Support Specialists	20,772	1,424	4,600	6,024	2,008	\$72,938
Multimedia Artists & Animators	14,667	802	3,503	4,305	1,449	\$64,470

Source: Centers of Excellence

California faces a continuously rapid evolution of technology, creating a tremendous need among employers for workers who have up-to-the-minute skills in computers, software, networking, telecommunications, Internet, programming and information systems technologies. These technologies cover hardware, software, digital media and services. The occupational trends in this sector project increases in each of five select occupations, especially for computer user-support specialists and network and computer systems administrators, with median annual wages ranging between **\$57,574** and **\$90,816**.

The Information and Communication Technologies/Digital Media sector identifies, verifies and promotes effective strategies

and pathways necessary to build the pipeline of information technology workers. It also contributes to accelerated student outcomes by helping colleges acquire the technology to train students remotely and providing faculty development and system support. This sector has efforts underway in computer science software development, information technology-networking/infrastructure, business information services, digital media and entertainment.

BEST PRACTICE

Various Efforts Underway or Planned for Information Communication Technologies/Digital Media

COMPUTER SCIENCE/SOFTWARE DEVELOPMENT

- Develop case for revised computer science Transfer Model Curriculum to address today's changing computer science requirements.
- Research and share the differing software training needs of each California region.

INFORMATION TECHNOLOGY-NETWORKING/INFRASTRUCTURE

- Expand the IT Technician Pathway (ITTP) to 34 community colleges.
- Develop a pathway for students to achieve a bachelor's of Applied Science in Information Technology (IT) Networking to accommodate growing demand for IT professionals.
- Establish the CyberHUB to expand successful high school CyberPatriots programs statewide to encourage underrepresented minorities to participate in IT.
- Manage NetLab+ user group and website for California Community Colleges faculty using this successful 24/7 low-cost computer-lab alternative.
- Update faculty skills with three training conferences a year.
- Develop an ITTP apprenticeship program.

BUSINESS INFORMATION SERVICES

- Expand successful Business Information Worker (BIW) 1 and 2 pathways to 80 community colleges.
- Enlist California Hispanic Chamber for pilot cohort-building project at 10 colleges.
- Established ASCC C-ID-approved curriculum for BIW pathway.
- Enlisted Lynda.com to provide mapping of Lynda.com videos to BIW pathway.

DIGITAL MEDIA

- Develop adult "retool" certification to accommodate the rapidly changing work/office environment.
- Provide faculty development training with annual Digital Media Educators Conference.

ENTERTAINMENT

- Develop entry, growth and exit pathways and share on Los Angeles regional websites for efficient search of all 28 regional colleges.

OVERALL SECTOR SUPPORT

- Review metric macro trends in student success and revise sector strategies to improve student retention for program completion, as well as increased focus of upskilling adult workers.

LIFE SCIENCES/BIOTECHNOLOGY

Occupation	2017 Jobs	Projected New Jobs	Replacement Needs	Total Openings	Annual Openings	Median Annual Wages
Sales Representatives, Wholesale/Mfg., Technical & Scientific Products	49,752	1,909	15,138	17,047	5,738	\$79,466
Medical & Clinical Laboratory Technicians	19,420	1,653	3,664	5,317	1,773	\$45,427
Biological Technicians	13,286	618	3,812	4,430	1,488	\$48,547
Medical & Clinical Laboratory Technologists	12,512	1,055	2,358	3,413	1,140	\$82,657
Chemical Technicians	7,025	222	1,962	2,184	742	\$42,266

Source: Centers of Excellence

Life Sciences/Biotechnology encompasses a group of diverse industries, including agriculture feedstock and chemicals, drugs and pharmaceuticals, medical devices and equipment, research testing and medical laboratories, and bioscience-related distribution. The common link between them is the application of biological scientific knowledge to make products that are useful to humans. The occupational trends in this sector project increases in each of five select occupations, with median annual wages ranging between **\$42,266** and **\$82,657**.

Recognizing the lack of licensure or industry-recognized standards for entry-level laboratory workers, the California Life Sciences and Biotech Initiative has worked with industry and

faculty statewide to create an Employability Milestone for hands-on laboratory skills. Graduates from California Community Colleges Life Sciences/Biotech Programs have completed a minimum of 200 hands-on laboratory training hours and other educational experiences to build the core technical and cultural competencies.

To meet employers' needs, colleges across the state are developing supply-chain projects and third-party credentialing in quality to serve advanced manufacturing.

BEST PRACTICE Equipping Students with Quality and Regulatory In-Demand Skills

The life science industry requires compliance with U.S. Food and Drug Administration (FDA) quality and regulatory standards, and there is a shortage of potential employees with these skills. To meet the needs of industry, colleges statewide are developing the following capacity:

- **Supply-chain projects:** Courses, modules and workshops are offered at colleges throughout the state in which the students apply industry-relevant biotechnology lab skills under regulatory conditions to manufacture consumable products, such as plates, reagent or slides, for use in biology lab courses at colleges and in biotechnology lab courses at local high schools.
- **Third-party credentialing in quality to serve Advanced Manufacturing:** Life sciences companies are part of the Advanced Manufacturing sector, which relies on third-party credentialing to attest to the qualifications and competencies of individuals to perform at levels of proficiency, as specified by a trusted third party. The Certified Quality Improvement Associate (CQIA) certification from the American Society for Quality (ASQ) is an industry-recognized third-party credential that requires two years of college or two years of work experience and successful completion of the certification exam. With assistance from the initiative, community colleges are developing the capacity to prepare students for the CQIA certification by providing training opportunities

for faculty that enables faculty to embed CQIA training in their curriculum. To date, students have benefited by taking classes from 13 qualified faculty members at 10 colleges. At least 25 more faculty members throughout the state are scheduled for CQIA training in 2018 to benefit students in all industry hubs.

The CQIA certification also prepares students for the Quality/Regulatory Registered Apprenticeship program funded through the Innovate Industry Apprenticeship Grant from the California Community Colleges Chancellor's Office Registered Apprenticeships.

- **Pre-apprenticeships:** Pre-apprenticeship pathways are being developed to improve career education programs in life sciences, food and agriculture by linking them to established apprenticeship programs.
- **Apprenticeships:** An innovative STEM Registered Apprenticeship Program with Rx Research Services Unilateral Apprenticeship Committee(Rx)(Sponsor) places students into biotechnology companies for on-the-job training. The Southern California Biotechnology Center was funded by the Chancellor's Office to develop these apprenticeships. Nine quality/regulatory occupations are CA-DAS approved, and 25 apprentices have been placed to date at host companies for on-the-job training with Rx as employer of record.

RETAIL/HOSPITALITY/TOURISM

Occupation	2017 Jobs	Projected New Jobs	Replacement Needs	Total Openings	Annual Openings	Median Annual Wages
Supervisors of Retail Sales Workers	159,347	2,493	49,986	52,479	18,342	\$34,200
Recreation Workers	52,900	4,164	26,945	31,109	10,370	\$26,355
Public Relations Specialists	27,504	1,535	8,084	9,619	3,208	\$67,457
Meeting, Convention & Event Planners	15,412	1,138	5,367	6,505	2,168	\$48,231
Lodging Managers	6,009	122	1,797	1,919	688	\$47,179

Source: Centers of Excellence

The retail, hospitality and tourism sector is vital for California, with Visit California putting travel-related spending at **\$126.3 billion** in 2016. The Retail, Hospitality, and Tourism Initiative is committed to serving the training and education needs of the three industries by developing programs that provide the most relevant, in-demand skills necessary for success in these dynamic industries. The occupational trends in this sector project increases in each of five select occupations, especially for recreation workers, with median annual wages ranging between **\$26,355** and **\$67,457**.

The sector works closely with industry advisers and community college partners to create both credit and non-credit courses, certificates

and credentials that address specific company needs. California Community Colleges supports the sector with a full complement of work-ready certificates, credentials, and associate's degrees in retail management, fashion design and merchandising, e-commerce, culinary arts, nutrition, restaurant and food services, travel services and tourism, hospitality, massage therapy, lodging management, resort operations and management, small business, entrepreneurship and more.

Efforts underway by the sector include teaming up with industry and community colleges to host culinary competitions for students and job fairs that provide valuable opportunities to connect students and employers.

BEST PRACTICES

Culinary Competitions, Job Fairs and Certifications Benefit Students, Industry and Community Colleges

To connect culinary and hospitality students, industry and faculty/instructors, the Retail, Hospitality and Tourism sector teams up with business partners to support two annual culinary competitions and job fairs. The Los Angeles Trade Tech College's Food Extravaganza and Job Fair was held at SolCalGas' Energy Resource Center in Downey in spring 2017, drawing more than 200 students, industry partners/vendors, judges, sponsors and 30 faculty representing California Community Colleges and universities. In addition to three separate culinary competitions for students, the event included a symposium during which chefs Benjamin Udave from Sysco and Chef Marin Gilligan showcased their skills. It also featured a panel of food industry representatives who highlighted what employers are looking for in new hires and a job fair that connected interested students with employers from 13 culinary or hospitality companies seeking hires. Preliminary reports revealed that more than 40 students were hired on-site by Culinary Staffing Service.



A similar event was held at Cerritos College in fall 2017 with more than 200 students, 15 employers and 13 vendor partners in attendance. At the event, the sector navigator and deputy sector navigator for the Los Angeles/Orange County region met with participating high school instructors and discussed articulation pathways through the community colleges and the California State University system, as well as the adoption of the California Restaurant Association's ProStart program for culinary education in secondary schools.

In addition to the culinary events, the deputy sector navigator for the Los Angeles/Orange County region coordinated and sponsored industry-based workshops for students of the Los Angeles and Orange County unified school districts and community colleges. Participating students received the ServSafe Food Handler's Certificate, became a Certified Guest Service Professional and received certification for the Hotel Industry Foundations and Introduction to Analytics program. Approximately 350 students have received these certifications.

SMALL BUSINESS

Occupation	2017 Jobs	Projected New Jobs	Replacement Needs	Total Openings	Annual Openings	Median Annual Wages
Office Clerks, General	338,182	14,956	119,629	134,585	44,862	\$32,964
Bookkeeping, Accounting & Auditing Clerks	207,176	451	68,494	68,945	23,478	\$43,432
Supervisors of Office & Administrative Support Workers	182,421	8,948	54,038	62,986	20,998	\$57,071
Payroll & Timekeeping Clerks	26,672	433	7,897	8,330	2,784	\$47,050
Human Resources Assistants	16,956	450	5,603	6,053	2,019	\$42,619

Source: Centers of Excellence

Small business is the backbone of California's economy, with the number of small business owners expected to continue rising as more American workers opt for freelance, contract or temp work versus a permanent position with a company. To help prepare small-business owners (defined as companies with fewer than 500 employees), this sector collaborates with industry and education to improve and expand business and entrepreneurial curriculum.

The occupational trends in this sector project increases in each of five select occupations, especially for office clerks, with median annual wages ranging between **\$32,964** and **\$57,071**.

Nearly every community college in California provides coursework or program offerings to educate entrepreneurs and/or small business owners. Since small business and entrepreneurship is not limited to one industry sector, the coursework and programs developed can cross almost every discipline. Among the efforts underway, two dozen colleges implemented a new self-employment pathway designed for freelance and contract workers.

BEST PRACTICES

Creating Self-Employment Pathways in the Gig Economy

In 2017, the California Community Colleges Small Business Sector launched a new Strong Workforce Program-funded project called Self-Employment Pathways in the Gig Economy. The definition of "Gig Economy" is an economy characterized by short-term contract work versus permanent jobs. The purpose of this project is to prepare students to become freelance workers and independent contractors in this growing economy, projected to represent more than 43 percent of the U.S. workforce by 2020.

As self-employed workers, freelance and contract workers are, in fact, business owners. As such, the project's first component is an introductory course in small business or entrepreneurship. The course covers basics such as legal structures, licensing, permits, self-employment taxes, quarterly estimated income tax requirements, insurance, intellectual property concepts and other critical self-employment topics. The program's second component covers how to participate in the gig economy using online platforms such as

Upwork, LinkedIn Gigs, Fiverr and Freelancer. The third and final component is a work-study course that pairs students one-on-one with a launch coach/mentor and provides them with credit for working on their own businesses.

As lead college on the project, College of the Canyons conducted a pre-launch project in summer 2017 to identify program needs and gaps. After the pre-launch, 24 colleges signed onto the project, which addresses Strong Workforce recommendations to:

- Broaden and enhance career exploration and planning, work-based learning opportunities and other supports for students.
- Improve the quality, accessibility and utility of student outcome and labor-market data to support students, educators, colleges, regions, employers, local workforce investment boards and the state in career education program development and improvement efforts.
- Develop, identify and disseminate effective career education practices.





APPENDIX B

ECONOMIC AND WORKFORCE DEVELOPMENT PROGRAM TEAM CHANCELLOR'S OFFICE

Role	Name	Contact Info
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INDUSTRY PRIORITY SECTORS, SECTOR NAVIGATORS AND DEPUTY SECTOR NAVIGATORS

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REGIONAL CONSORTIA

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APPENDIX C

WEDPAC/EDPAC/STRONG WORKFORCE IMPLEMENTATION ADVISORY

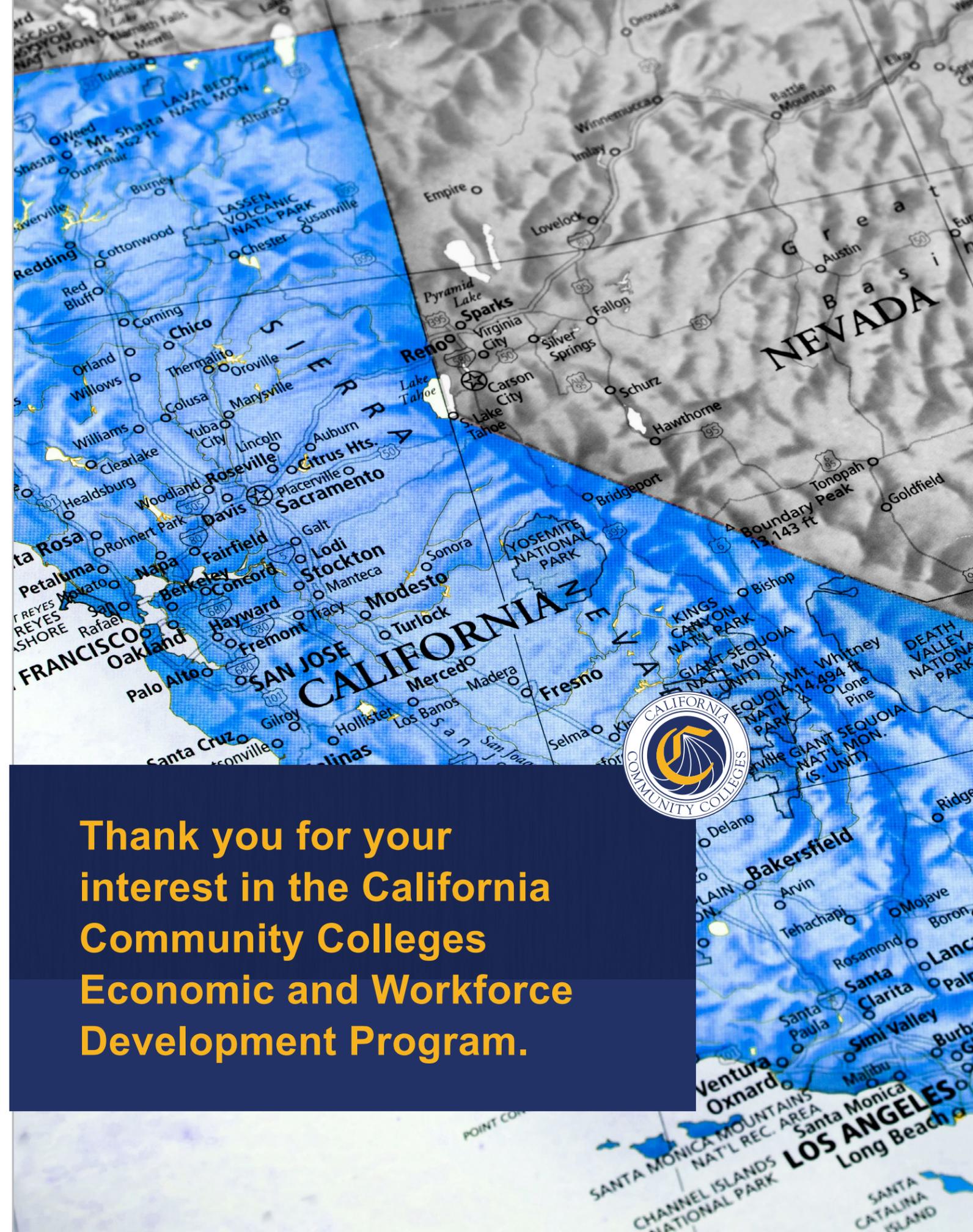
Name	Title & Organization	Representation	Membership Body (scope)
Aarti Kohli	Executive Director, Advancing Justice - Asian Law Caucus	Immigrant Integration	WEDPAC
Barbara Baran	Principal, EDGE Coalition	Policy Advocate	WEDPAC
Bernie Kotlier	Executive Director, Sustainable Energy Solutions	Industry: Energy, Construction & Utilities	EDPAC
Bill Scroggins	President & CEO, Mt. San Antonio College	Community College: CEO - Los Angeles	EDPAC
Brian McKeown	Oakland Lead, Kiva	Industry: Business & Entrepreneurship	EDPAC
Carole Goldsmith	President, West Hills College-Coalinga	Community College: CEO - Central Valley/ Mother Lode	EDPAC
Cathy Martin	Vice President of Workforce, California Hospital Association	Industry: Health	EDPAC
Chris Flask	Associate Director of Material Operations, Genentech, Vacaville	Industry: Life Science/Biotech	EDPAC

Name	Title & Organization	Representation	Membership Body (scope)
Dave Meisel	Vice President - Fleet Management, Quanta Services, Inc.	Industry: Advanced Transportation & Logistics	EDPAC
Dave Toole	Executive Chairman, Outhink/MediaMobz	Industry: Information & Communications Technology/Digital Media	EDPAC
Dianne Van Hook	Chancellor, Santa Clarita Community College District	Community College: CEO - South Central	EDPAC
Douglas Houston	Chancellor, Yuba Community College District	Community College: CEO - North Far North	EDPAC
Dylan Hendricks	Program Director, Institute for the Future	Futures Thinking	WEDPAC
Ed Knudson	CEO, Antelope Valley College	Community College: CEO - Inland Empire	EDPAC
Frank Chong	President/ Superintendent, Santa Rosa College	Community College: CEO - Bay Region, North	EDPAC
Gustavo Herrera	Western Regional Director, Young Invincibles	Policy Advocate	WEDPAC
Jack Buckhorn	Business Manager, BEW Local 551	Labor	WEDPAC

Name	Title & Organization	Representation	Membership Body (scope)
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Judy Miner	Chancellor, Foothill-DeAnza Community College District	Community College: CEO - Bay Region, South	EDPAC
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Kuldeep Kaur	Vice President, Administrative Services, American River College	Community College: Chief Business Officer	WEDPAC
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Name	Title & Organization	Representation	Membership Body (scope)
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Lynn Mohrfeld	President/CEO, California Hotel & Lodging Association	Industry: Retail, Tourism & Hospitality "Learn & Earn"	EDPAC
Mary Kimball	Executive Director, Center for Land Based Learning	Industry: Agriculture, Water & Environmental Technologies	EDPAC
Patricia de Cos	Deputy Executive Director, California Board of Education	K-12 Policy	WEDPAC
Raul Rodriguez	Chancellor, Rancho Santiago Community College District	Community College: CEO - Orange County	EDPAC
Rebecca Miller	Workforce Director, SEIU United Healthcare Workers-West	Labor	WEDPAC
Richard Swanson	Regional Director, U.S. Department of Commerce	Industry: Global Trade & Logistics	EDPAC

Name	Title & Organization	Representation	Membership Body (scope)
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Sunita Cooke	President & Superintendent, MiraCosta Community College District	Community College: CEO - San Diego	EDPAC
Susan Hackwood	Executive Director, California Council on Science and Technology	STEAM/STEM	WEDPAC
Tim Rainey	Executive Director, California Workforce Development Board	State Agencies on WIOA Implementation Committee	EDPAC
TBD	System Affairs Director, Region IV	Community College: Student Senate	EDPAC



Thank you for your interest in the California Community Colleges Economic and Workforce Development Program.



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WEBSITES

California Community Colleges
CaliforniaCommunityColleges.cccco.edu

Student Success Scorecard
scorecard.cccco.edu

Salary Surfer
salarysurfer.cccco.edu

Associate Degree for Transfer
adegreewithaguarantee.com

Priority Registration
stepforward.cccco.edu

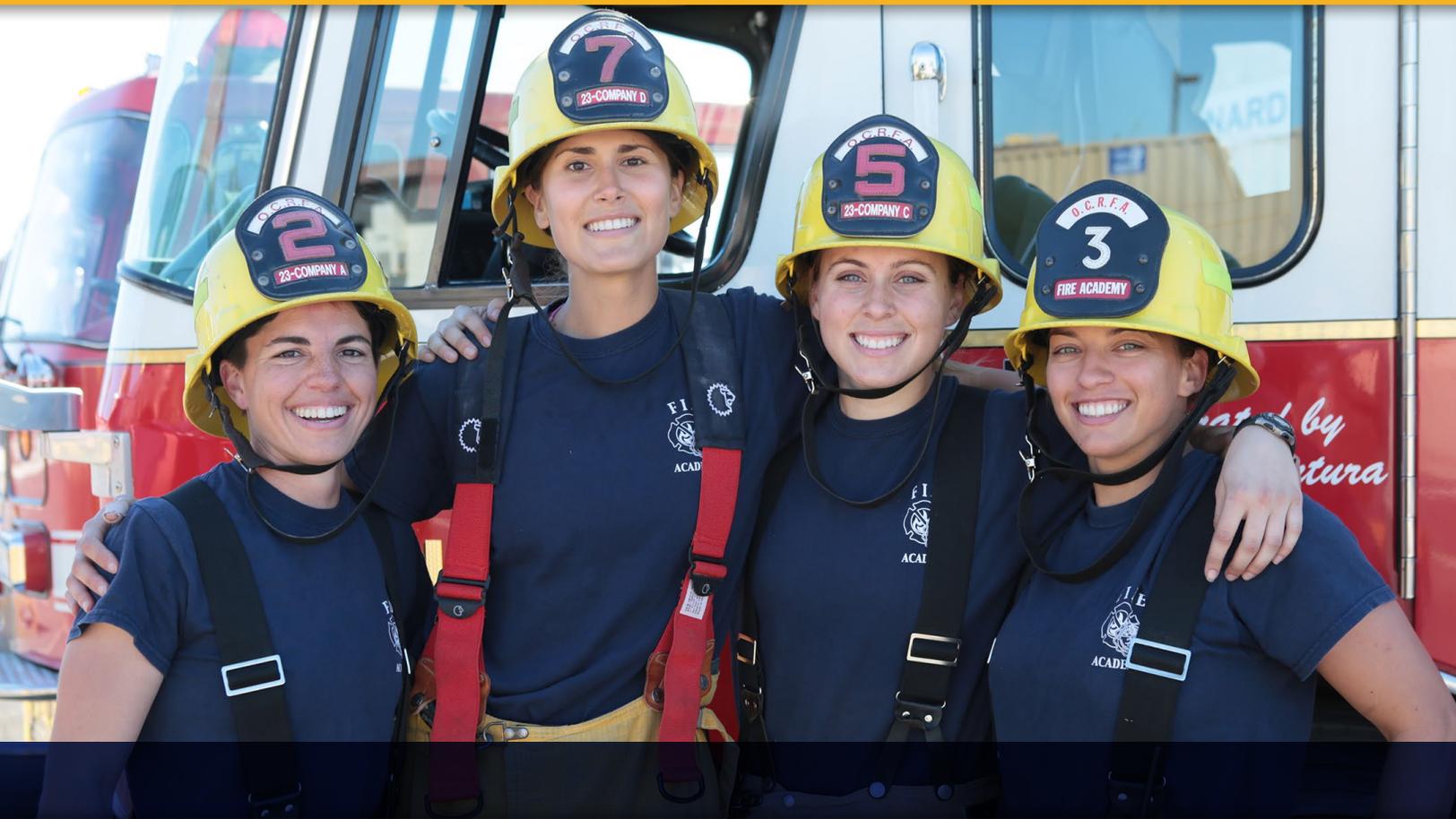
Workforce & Economic Development
doingwhatmatters.cccco.edu

Financial Aid
icanaffordcollege.com

- SOCIAL MEDIA**
- f** **California Community Colleges Facebook Page**
facebook.com/CACommColleges
 - Financial Aid Facebook Page**
facebook.com/icanaffordcollege
 - t** **California Community Colleges Twitter Feed**
twitter.com/CalCommColleges
 - Chancellor Eloy Oakley Twitter Feed**
twitter.com/EloyOakley
 - Workforce & Economic Development Twitter Feed**
twitter.com/WorkforceVan
 - Financial Aid Twitter Feed**
twitter.com/ICanAfrdCollege
 - yt** **California Community Colleges YouTube Page**
youtube.com/CACommunityColleges
 - Financial Aid YouTube Page**
youtube.com/ICANAFRDCOLLEGE
 - ig** **California Community Colleges Instagram Page**
instagram.com/CaliforniaCommunityColleges
 - Financial Aid Instagram Page**
instagram.com/icanaffordcollege



Grossmont Cuyamaca College



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