

Central Mother Lode Regional Consortium



Central/Mother Lode Regional Consortium Strong Workforce Program Regional Plan – Update 2019

DRAFT- JANUARY 22, 2019



**Career
Education**
COLLEGE YOUR WAY



California
Community
Colleges
CAREER EDUCATION

For more information about the Central/Mother
Lode Regional Consortium, visit
<http://crconsortium.com/>

Foreword

Impacting students and economies through innovation and ingenuity!

The Central/Mother Lode Regional Consortium (CRC) SWP Regional Plan Update is dynamic, fluid and regularly updated in order to respond to labor market demands and new educational initiatives that positively impact student success and regional economies. The CRC *modus operandi* (MO) is that the road to success is achieved with **intentional planning** and **deliberate collaboration** to prepare our students to enter the workforce educated for tomorrow's jobs in **pathways supported by labor market data in the CRC's industry sectors** that offer living wage and higher paying, middle-skill jobs.

The CRC is the regional entity working with the 14 community college within the region to advance initiatives including of the Vision for Success, the Strong Workforce Programs (SWP), Guided Pathways and Doing What Matters for Jobs & the Economy (DWM) on behalf of the California Community Colleges Chancellor's Office (CCCCO) by supporting regional economic growth and student success through improve Career Education (CTE) offerings to meet the needs of local industries; and serving as a connection between the colleges, and our region's industries, adult education, workforce development, K-12 and community stakeholders to develop a skilled workforce.

The CRC serves to facilitate and promote effective regional educational initiatives for its member colleges and key stakeholders through support of local, regional, and statewide workforce development efforts. We leverage employer, community, and educational resources to create and maintain a highly skilled workforce that meets regional needs. The goals of the Central/Mother Lode Regional Consortium are to strengthen communication, coordination, and timely decision-making in regional workforce training and education efforts, while enhancing participation in career pathways development and implementation; reinforce regional leadership and operational partnerships among community college, industry, labor, and other workforce and economic development entities to improve the delivery of CTE; align college programs with regional and industry needs; create a sustained public outreach campaign for industry, high school students, counselors, parents, faculty, staff; and the community to promote career development; and reinforce the value of career and technical education programs.

CRC meetings are open to anyone interested in supporting region's MO to positively impact students and economies through innovation and ingenuity!

To learn more about the CRC and region's community colleges, please go to our websites: crconsortium.com and FindItBelt.org.

CRC Community College Districts & Colleges

Kern CCD

*Bakersfield College
Cerro Coso College
Porterville College*

Merced CCD

Merced College

San Joaquin Delta CCD

*San Joaquin Delta
College*

Sequoias CCD

College of the Sequoias

State Center CCD

*Clovis Community
College*

Fresno City College

Reedley College

West Hills CCD

West Hills Coalinga

West Hills Lemoore

West Kern CCD

Taft College

Yosemite CCD

Columbia College

Modesto Junior College



Central/Mother Lode Regional Consortium

Strong Workforce Program Regional Plan, Update 2019

Table of Contents

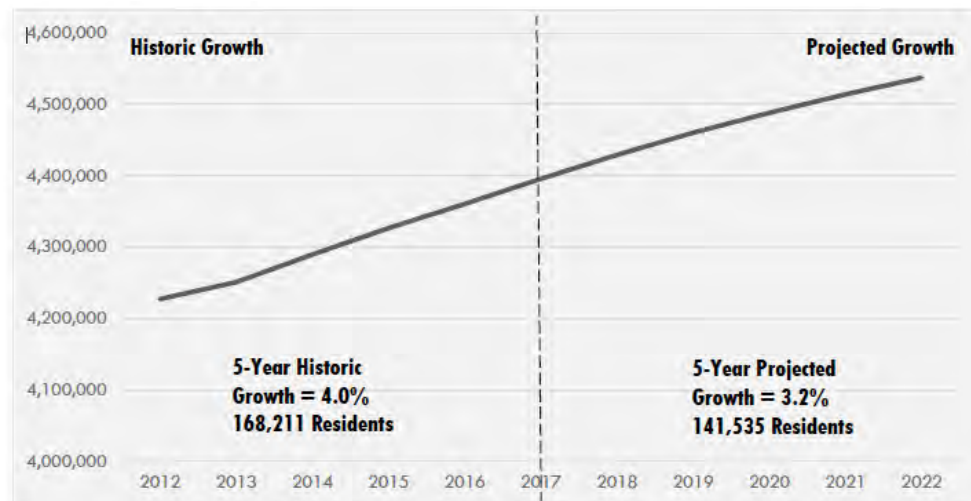
I. The Central/Mother Lode Region	1
A. CTE Enrollment and Student Demographics.....	3
II. Mission.....	6
III. Central/Mother Lode Regional Consortium.....	8
A. Organization	8
B. Governance	9
C. Collaboration and Engagement.....	11
D. Stakeholders and Initiatives	12
IV. Sector Priorities	14
A. Alignment with WDB Priority Sectors and K-12 Sectors	14
V. Priority Sector Data.....	13
A. Advanced Manufacturing	20
B. Agriculture, Water, and Environmental Technologies.....	22
C. Business and Entrepreneurship	24
D. Energy, Construction, and Utilities	26
E. Education.....	28
F. Global Trade	30
G. Health	32
H. Information & Communications Technology (ICT) / Digital Media.....	34
I. Life Sciences/Biotech.....	37
J. Public Safety.....	39
K. Retail, Hospitality and Tourism.....	41
L. Transportation and Logistics	44
VI. Goals, Strategies and Recommended Tactics	46
VII. Current SWP Investments	47
A. Funded Projects (Strong Workforce Funding, Rounds 1 through 3).....	47
VIII. Strong Workforce Metrics.....	49
A. Enrollment.....	49
B. Persistence	50
C. Completion and Transfer.....	51
D. Employment.....	52
E. Wages and Quality of Life	53
IX. Challenges and Opportunities.....	56
Appendix A: Funded SWP Regional Priorities, SWP Program Years 16/17-18/19 (Rounds 1-3).....	57

I. The Central/Mother Lode Region

At over 56,000 square miles, the Central/Mother Lode Region is one of the largest geographic regions in California. As of 2017, the fifteen counties that make up the Central/Mother Lode Region (Alpine, Amador, Calaveras, Fresno, Inyo, Kern, Kings, Madera, Mariposa, Merced, Mono, San Joaquin, Stanislaus, Tulare and Tuolumne Counties) had a combined population of more than 4.4 million residents. By 2022, the region is projected to add more than 141,535 new residents. If the Central/Mother Lode Region were a state, it would be the 23rd largest by area and the 27th largest by population¹.

Over the last five years, the region grew by 4%, somewhat slower than the state's growth of 4.7%. The projected growth rate of 3% is also slower than in the previous five years and nearly matches the state's projected growth rate of 3.1%. Each year, the region is expected to add from 23,000 to 30,700 new residents, with the most rapid growth occurring between 2019 and 2020.

Exhibit 1: Population Estimates & Projections in the Region (Source: Center of Excellence)



In 2018, the Center of Excellence conducted a labor market analysis focusing on the Central/Mother Lode Region in an effort to drive informed decision making related to the Strong Workforce Programs. Eleven sectors and one occupational grouping were analyzed, and their workforce demand was compared with community college supply. The twelve areas (Exhibit 2) studied employ more than 1.7 million workers and are projected to offer more than 128,000 new jobs by 2022.

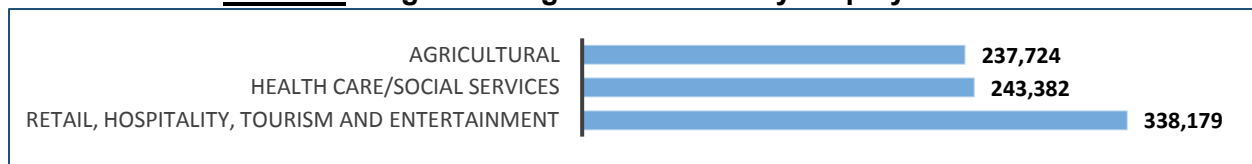
Exhibit 2: Central/Mother Lode Region Analysis of Eleven Sectors and One Occupational Grouping

- | | |
|---|--|
| • Advanced Manufacturing | • Health Care |
| • Agriculture, Water & Environmental Technologies | • ICT/Digital Media |
| • Business and Entrepreneurship | • Logistics |
| • Energy, Construction and utilities (ECU) | • Mechanics and Welding |
| • Education | • Protective Services |
| • Global Trade | • Retail, Hospitality, Tourism and Entertainment |

¹ American Fact Finder, 2017, 1-year series, U.S. Census

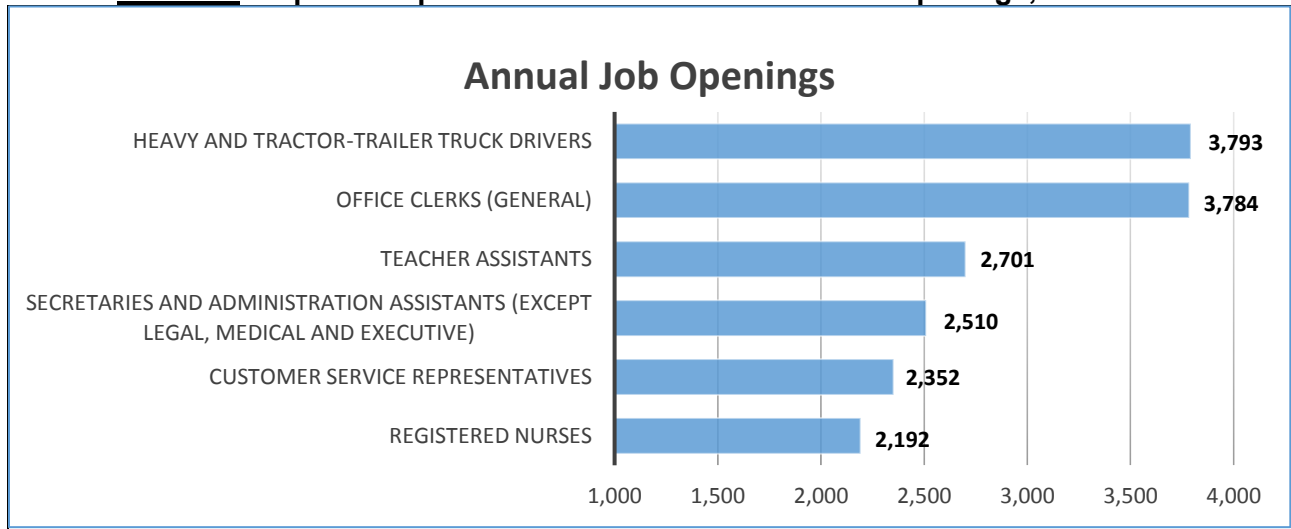
By employment size the region's largest industries are retail, hospitality, tourism and entertainment with 338,179 jobs, followed by health care/social services, 243,382 jobs, and agriculture, 237,724 jobs. The health care industry is also projecting the largest overall expansion of 16% followed by logistics at 14%.

Exhibit 3: Region's Largest Industries by Employment Size



Where will the jobs 1.7 million jobs be? Analysis of middle-skill job growth shows the business sector has the largest number of annual job openings of 24,410 followed by retail, hospitality, tourism and entertainment with 12,709; and health care with 12,459. Exhibit 4 identifies the top six occupations with the most projected, annual job openings.

Exhibit 4: Top 6 Occupations with the Most Annual Job Openings, 2018-2022



Where are the largest supply gaps? The largest undersupply of middle-skill workers is in the business sector with an annual shortage of 22,869 workers, followed by retail, hospitality, tourism and entertainment with 12,366 workers. The third largest shortage is in energy, construction and utilities with 10,056 workers. Health care is fourth with a projected gap of 9,783 workers annually.

Regional strategic planning by the community colleges is imperative to address the annual gaps in all sectors in order to better prepare our community college students for the workforce and high demand jobs.

Since 2012, the labor force in the Central/Mother Lode Region has grown by nearly 20,000 workers. Total employment increased by 136,320 workers (Exhibit 5). In 2012, more than 278,000 individuals were unemployed. By 2017, this number had declined by 136,320. Because total employment increased more than the labor force, the unemployment rate decreased from 15% in 2012 (compared to 10.4% statewide) to 8% in 2016 (compared to 4.8% statewide).

Exhibit 5: Labor force size, employment and unemployment in the Central/Mother Lode Region, 2012-2017

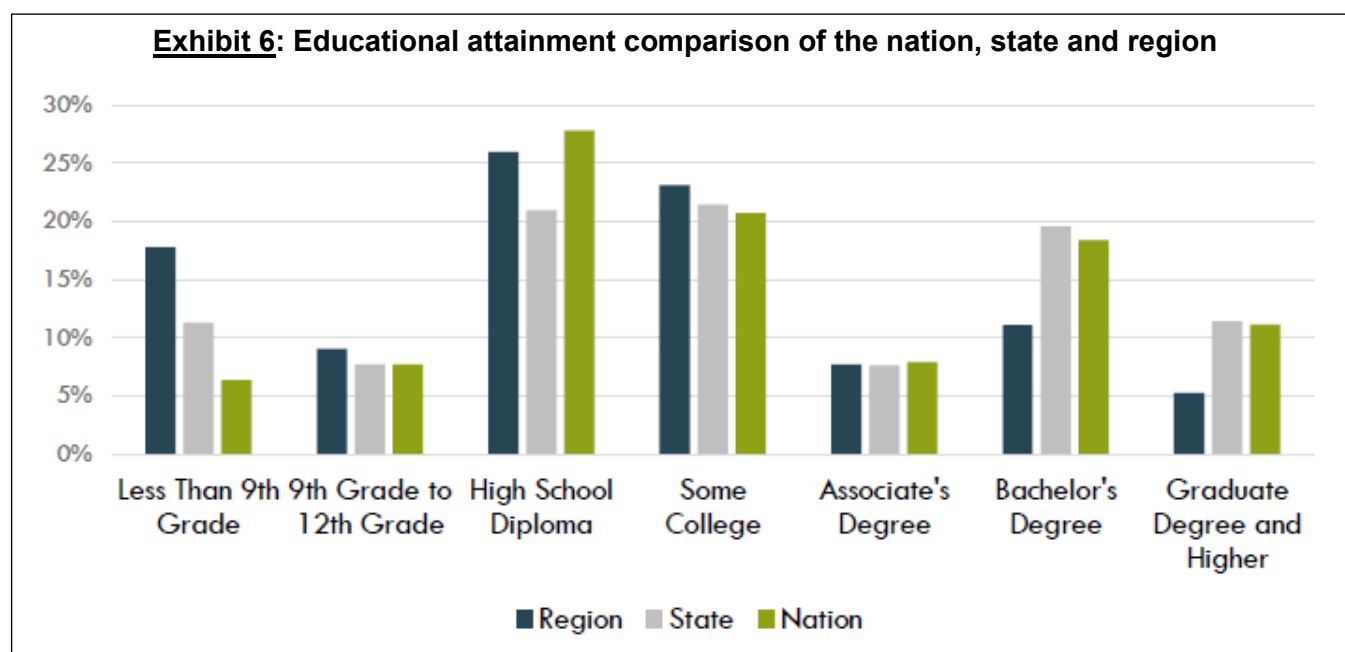
METRIC	2012	2017	5-YEAR CHANGE
Labor Force	1,907,370	1,926,600	19,230
Employment	1,629,450	1,765,770	136,320
Unemployment	278,020	160,620	(117,400)
Unemployment Rate	15%	8%	(6%)

The median household income of residents of the Central/Mother Lode Region was \$33,623². In 2016, the percentage of the population that lived in poverty averaged 18.3% with some counties being as high as 28.3%.³

A. CTE Enrollment and Student Demographics

With few exceptions, most companies in the San Joaquin Valley are small and midsize. They generally do not have the internal resources to effectively advocate for their industry nor participate in a range of CTE opportunities which are needed to form effective partnerships which inform and support the CTE ecosystem. Business leaders have described the region's economy as being subject to a rapid acceleration of change due to technological advances which has created a cycle that has left an education skills gap in the incoming workforce. As an ever-changing, increasingly competitive global marketplace with a workforce that is still not prepared for technological advances and is lacking in soft skills, community colleges with their stakeholder partners are uniquely positioned in the region to keep curriculums current and be able to prepare a workforce ready to meet the demands of employers.

The region trails both the nation and the state for bachelor's and graduate degree attainment, with only 11% of the adult population holding a bachelor's degree, compared to 20% statewide and 18% nationwide



² Sources: Central Valley/Mother Lode Center of Excellence; State of California Franchise Tax Board 2015 (most current year)

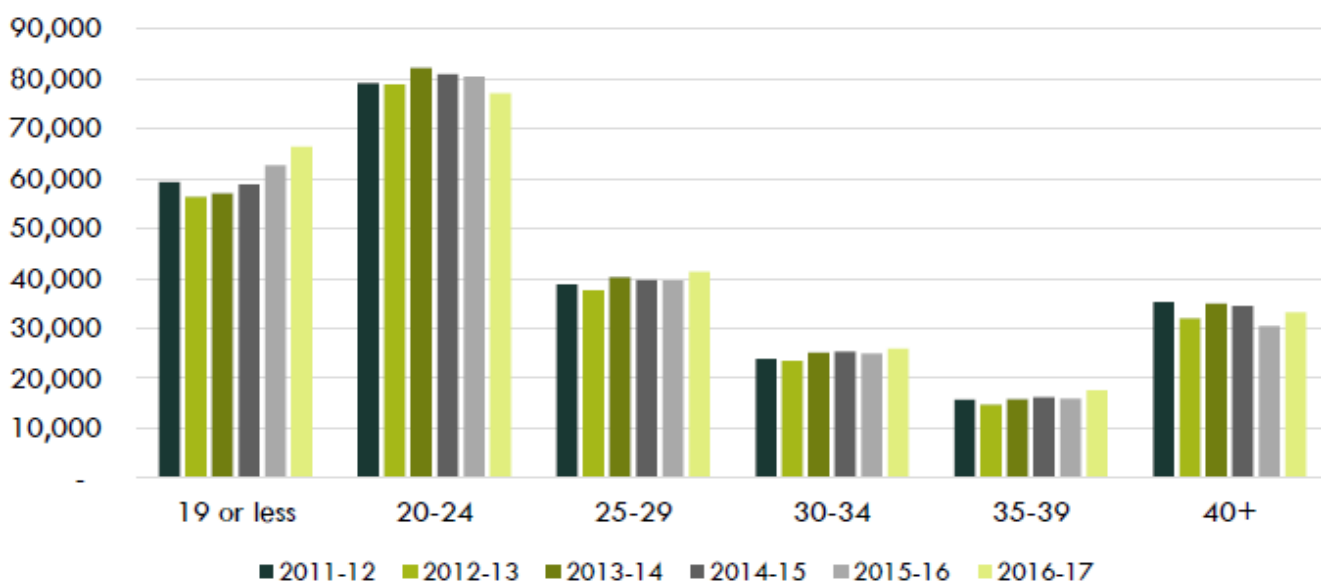
³ Sources: Central Valley/Mother Lode Center of Excellence; American Fact Finder Community Survey 2016 (most current year)

(Exhibit 6). Regarding associate degree attainment, the region, state and nation are the same, 8%. The region slightly leads the state in the percent of population that has completed some college or a high school diploma. In the Central/Mother Lode Region, 23% of the population has completed some college, compared to 21% of the state. In the region, 26% of the population has obtained a high school diploma, which is greater than the state at 21% of the population. Compared to the state, a higher proportion of residents 25 years of age or older in the region have completed less than a 9th grade education and less than a 12th grade education, which indicates a greater need for adult education in the region.

As the primary system for delivering career technical education and workforce training, the 14 community colleges in the Central/Mother Lode Region had a combined enrollment of over 206,000 students in 2016-17; 14% attended full-time and 14,453 completed either an associate degree or college certificate of achievement; and 8,564 of those were in CTE programs. The region's community colleges are striving to annually increase the numbers of students annually who acquire associates degrees, credentials, certificates, or specific skill sets that prepare them for an in-demand job.

Overall, the Central/Mother Lode Region's CTE enrollment has increased over the last five years from 252,533 students in the 2011-12 academic year to 262,021 students in 2016-17. Enrollment dipped in 2015-16 to 254,244 but recovered the following year. An analysis of student age shows that CTE enrollment has increased for the 19-or-less age range over the last five years, from 59,324 students in 2011-12 to 66,381 in 2016-17 (Exhibit 7). Enrollment also slightly increased for the 25-29 age range, from 38,853 in 2011-12 to 41,297 in 2016-17, and for the 30-34 age range and 35-39 age range, in each case by about 2,000 students. Enrollment declined by nearly 2,000 students from 35,222 in 2011-12 to 33,245 in 2016-17 for the 40+ age range. A similar trend occurred for the 20-24 age range, a decline of 1,965 students during the same time period.

Exhibit 7: CTE Enrollment by age group in the region, 2011-12 through 2016-17 academic years



The gender breakdown of CTE enrollment is almost evenly split between male and female students (Exhibit 8). Male students comprise 50% of total enrollment, compared to female students, 48%. Students who identify as Hispanic account for the largest percentage of CTE students, nearly 53% (Exhibit 9). The second largest demographic is students who identify as white, 29%.

Exhibit 8: CTE Gender Comparison

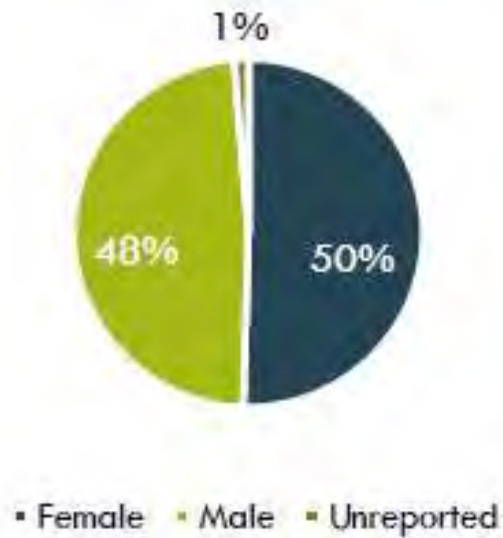
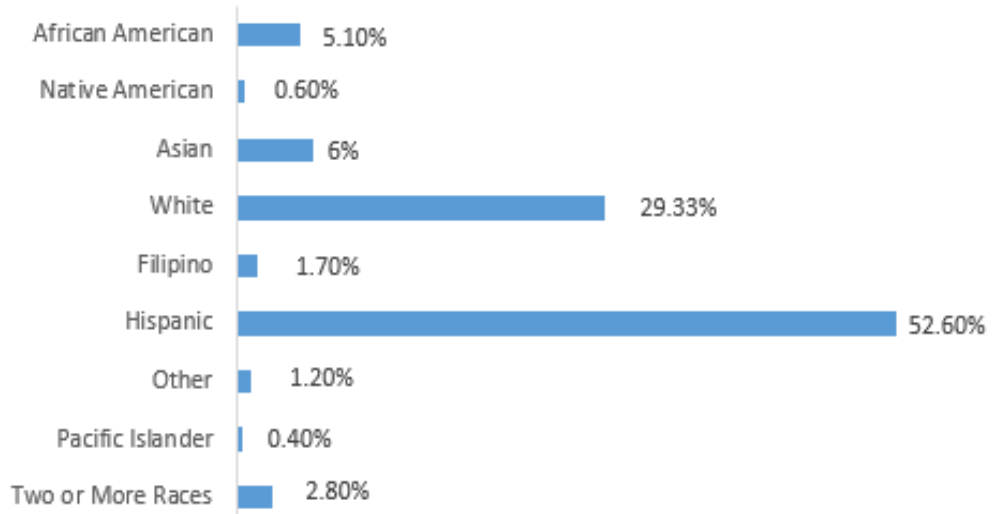


Exhibit 9: Race/Ethnicity of CTE Students






II. Mission

Educators play a key role in economic vitality and prosperity by preparing residents for positions and careers that pay a living wage. The Central/Mother Lode Regional Consortium (CRC) stakeholder partners are committed to working together to provide the region with workforce development programs that address real needs and contribute to economic prosperity.

The CRC's Strategic Pillars (Communication and Leadership; Curriculum, Programs and Pathways; CTE Student Support Services; Research and Data; and Regional Planning) provide the regional compass which directs the emphasis on the following strategic priorities is essential in order to accomplish our Strong Workforce mission.

- Assist colleges in achieving the **Vision for Success (VFS)**
- Support the pillars of **Guided Pathways**
- Implement the recommendations of the **Board of Governor's Taskforce on Workforce**
- Leverage **Doing What Matters for Jobs and the Economy** framework to support the region's priority sectors
- Seek active employer engagement
- Facilitate progression from secondary to postsecondary education and transition into employment
- Focus on achieving measurable outcomes (metrics)

<p>VISION FOR SUCCESS</p>  <p>The success of California's broader system of higher education and workforce development stands or falls with the community colleges.</p> <p>To meet California's needs, the California Community College (CCC) system will strive to achieve the following GOALS by 2022:</p> <ol style="list-style-type: none"> 1) Increase the number of students who obtain associates degrees, credentials, certificates, or specific skill sets that prepare them for in-demand jobs. 2) Increase the number of students who transfer. 3) Decrease the number of units students accumulate as they pursue their educational goals. 4) Increase the percent of exiting CTE students employed in their field of study. 5) Reduce equity gaps. 6) Reduce regional achievement gaps. <p>CORE COMMITMENTS for Student Success to achieve the VFS GOALS:</p> <ol style="list-style-type: none"> 1) Focus relentlessly on students' end goals. 2) Always design and decide with the student in mind. 3) Pair high expectations with high support. 4) Foster the use of data, inquiry, and evidence. 5) Take ownership of goals and performance. 6) Enable action and thoughtful innovation. 7) Lead the work of partnering across systems. 	<p>TASKFORCE ON WORKFORCE</p> <p>Far too many Californians Do not possess the right skills and education to obtain a good job. Employers in key industries have difficulty filling job openings because the workers with the skills and aptitudes required are in short supply. The Board of Governor's Taskforce on Workforce made 25 recommendations categorized around these themes:</p> <ul style="list-style-type: none"> Student Success Career Pathways Workforce and Data Outcomes Curriculum CTE Faculty Regional Coordination Funding 	<p>GUIDED PATHWAYS</p> <p>FOUR PILLARS OF GUIDED PATHWAYS</p>  <p>The Guided Pathways framework creates a highly structured approach to student success that provides all students with a set of clear course-taking patterns, which promote better enrollment decisions and prepare students for future success. The Guided Pathways framework also integrates support services in ways that make it easier for students to get the help they need during every step of their community college experience. The pillars of Guided Pathways are:</p> <ul style="list-style-type: none"> Clarify the Path Enter the Path Stay on the Path Ensure Learning 	<p>DOING WHAT MATTERS FOR JOBS & THE ECONOMY</p> <p>The strategy for Doing What MATTERS for Jobs and the Economy is a four-pronged framework to respond to the call of our nation, state, and regions to close the skills gap. The four prongs are:</p> <ol style="list-style-type: none"> 1) Give Priority for Jobs and the Economy 2) Make Room for Jobs and the Economy 3) Promote Student Success 4) Innovate for Jobs and the Economy  <p>Doing What MATTERS FOR JOBS AND THE ECONOMY</p>
---	--	---	---

Furthermore, the emphasis that CRC places on strategic priorities is underscored with **intentional planning** and **deliberate collaboration** to prepare students to enter the workforce educated for tomorrow's jobs in pathways supported by labor market data in the CRC's industry sectors that offer living wage and higher paying, middle-skill jobs. Regional actions are dovetailed with Industry Sector, LMI-driven SWP K12 & SWP Regional Proposals, Projects, Programming, Pathway Improvements and Pathways to Achieve Positive Outcomes and in alignment with VFS's Core Commitment for Student Success, Student Success Metrics and CRC Strategic Pillars:

- Targeted Areas Addressing Supply & Demand Gaps
- Better and Living Wage Jobs
- Equity
- More and Better CTE
- Intersection with Guided Pathways & Other Initiatives
- Work Based Learning
- Experiential Learning: Internships & Externships
- CTE Instructor Pipeline
- Pathway Aligned Dual-enrollment

²Living Wage Calculator, Massachusetts Institute of Technology, <http://livingwage.mit.edu/metros/40140>. See Appendix B for a snapshot of the region's living wage table.

³Principles to Support K-14+ Pathways: <https://www.cde.ca.gov/ci/ct/gi/guidingpps.asp>

III. Central/Mother Lode Regional Consortium

A. Organization

Within the CRC there are eight community college districts comprised of 14 community colleges. The CRC serves as a regional framework to communicate, coordinate, collaborate, promote and plan career and technical education and workforce and economic development in the Central/Mother Lode Region.

Bakersfield College	Cerro Coso College	Clovis Community College	College of the Sequoias	Columbia College	Fresno City College	Merced College
Modesto Junior College	Porterville College	Reedley College	San Joaquin Delta College	Taft College	West Hills College Coalinga	West Hills College Lemoore

In addition to the region's community colleges, there are 15 county offices of education, over 230 public school districts, 11 regional occupational centers/programs, and more than 150 charter schools. For the purposes of K-12 Strong Workforce, local educational agencies (LEAs) generate more than 386,000 average daily attendance of students in grades 7-12.

CRC is home to four public universities – University of California, Merced; California State University, Bakersfield; California State University, Fresno and California State University, Stanislaus.

Additional stakeholders include the region's 10 Workforce Development agencies (Alpine, Fresno, Kern-Inyo-Mono, Kings, Madera, Merced, Mother Lode, San Joaquin, Stanislaus and Tulare); nine Adult Education Consortia (Capital, Delta Sierra, Kern, Merced Gateway, Sequoias, Stanislaus Mother Lode, State Center, West Hills and West Kern); and multiple, regional and local Economic Councils, Partnerships, Chambers of Commerce and Industry.



B. Governance

The CRC's Governance Structure has four layers.

Regional Community College CEOs:

Community college presidents, also referred to as CEOs, approve the distribution formula for Strong Workforce regional funds and regional plans; have the final approval of regional plans; resolve disputes; and appoint a CTE Dean as a college representative to the CRC Steering Committee and Program Review Committee. The CEOs are convened in partnership with the Central Valley Higher Education Consortium (CVHEC) on an annual basis, and as needed.

Decision making and day-to-day responsibility is delegated to the following:

CRC Steering Committee:

The voting members of the Steering Committee (SC) are the 14 CEO-appointed CTE Deans. The ex-officio members include the CRC Regional Chair, Center of Excellence Director, Key Talent (i.e. Deputy Sector Navigators/DSNs and Technical Assistance Providers/TAPs). The SC reviews and approves regional project proposals, annual SWP plans and project budgets; making funding and region-wide projects recommendations to the CEOs; developing and championing regional projects; evaluates SWP project performance; and approves the region's priority and emerging sectors for Doing What Matters.

Appointed SC members are also committed to act in the best interest of the region; provide leadership and support for regional efforts; promote regional collaboration; seek input from constituents and experts in order to make informed decisions; promote open communication and transparency between the committee, colleges and stakeholders; attend SC meetings; and act as a liaison to their college leadership, faculty and staff.

In addition, the SC along with Programmatic Partners establishes the CRC's Strategic Pillars and Strategic Priorities for the investment of regional SWP funds.

CRC Governance Structure

Committed to Transparency and Informed Decision Making



The Steering Committee meets face-to-face six times per year; as well as electronically or virtually as needed.

2018-19 STEERING COMMITTEE	
CRC Steering Committee CTE Deans	
Bakersfield College	Anthony Cordova
Cerro Coso College	Maura Murabito
Clovis Community College	Robbie Kunkel
College of the Sequoias	Thad Russell
Columbia College	Klaus Tenbergen
Fresno City College	Becky Barabe
Merced College	Toni Pirtle
Modesto Junior College	Pedro Mendez
Porterville College	Kailani Knutsen
Reedley College	David Clark
San Joaquin Delta College	Salvador Vargas
Taft College	Jessica Grimes
West Hills College Coalinga	Brian Boomer
West Hills College Lemoore	Kris Costa

CRC Office:

Day-to-day operation of the organization is managed by the CRC Chair, CRC Project Specialist, and various support staff.

Workgroups and Committees:

Currently, there are three standing committees and various SWP regional workgroups. The standing committees are:

1. **Program Review:** Primary responsibility is to review and recommend new CTE program proposals to the Chancellor's Office. There is one voting member from each of the region's 14 colleges. Programs are reviewed on a rolling basis as they are submitted.
2. **Ad-Hoc Marketing Committee:** Meets regularly with the region's marketing consultant to provide direction and input on the internal and external marketing campaign.
3. **Key Talent:** Comprised of individuals holding full-time positions, funded by either state DWM grants or regional SWP projects, to provide services, coordination or project management on a regional basis. Key Talent meet twice a month; attend the SC meetings; meet annually for work plan collaboration; and formally and informally for additional regional projects.
4. **K-12 Selection Committee:** The structure and make up of this committee is yet TBD. The K-12 Strong Workforce Selection Committee will make decisions relating to the distribution of fiscal resources for the K-12 component of SWP. The frequency of meetings is yet TBD.

Programmatic Partners:

All stakeholders including college and district administration, faculty and staff; DWM Key Talent; Industry; WDB/WIBs; K-12 Ed; Adult Ed; EDCs; and other interested parties.

C. Collaboration and Engagement

In addition to the regular SC meetings held five times per year, the CRC annual conference where key stakeholders, including CEO and SC leadership, community college partners, key talent, Adult Education, K-12, Workforce Development and other partners, discuss CTE and workforce related topics, as well as provide input on the Strong Workforce Regional Plan and projects. The primary goal of regional planning is to engage required stakeholders in discussion and assessment of regional labor market gaps and to develop strategies to address those gaps. Ongoing dialogue between partners and continuous assessment of the regional labor market and SWP metrics informs the development of projects in which regional SWP funds are invested.

Integrated into this updated plan are regional strategies that ensure alignment of pathways between K-12 and community college and on into employment. In collaboration with the CCCCCO, CRC also convened two K-12 Engagement Meetings and intends to convene similar meetings in the future.

The CRC has also begun collaborative efforts with the Fresno Business Council to hold a workshop in the fall for regional business owners on how to implement internships and externships. The CRC was also the host of the 4th Annual CRC Counselor Conference and a major sponsor of the 2nd Annual South Valley Industrial Summit.

“The Central/Mother Lode Regional Consortium is the place to bring important stakeholders together who are passionate about solving key workforce issues.”

John Hernandez // CEO, Central Sierra Economic Development



D. Stakeholders and Initiatives

Community colleges are strategically positioned to become essential catalysts to California's economic recovery and job creation efforts at the local, regional and state levels. To that end, the region is involved in a variety of state and federal community college grants and initiatives that support the workforce mission of the Central/Mother Lode Regional Consortium, including the following:

- AB 705 (Student Success Act – Assessment & Placement)
- Basic Skills Initiative (BSI)
- CTE Transitions
- Doing What Matters for Jobs and the Economy (DWM)
- EOPS / CARE / NextUp
- Perkins
- Guided Pathways
- Student Success and Support Program (SSSP)
- Strong Workforce
- Vision for Success

Additionally, members of the consortium regularly engage a variety of external stakeholders and initiatives whose work aligns with or complements the broad strategic priorities of the CRC and the Strong Workforce Program. An assessment of major initiatives related to education, jobs and the economy are identified below in Exhibit 10: Regional Stakeholder Networks and Initiatives. This is not an exhaustive list and will be updated to include additional initiatives, as applicable. The region will continue to engage with these initiatives and others to leverage resources and expand regional capacity to do “more” and “better” CTE and to achieve the VFS.

Exhibit 10: Regional Stakeholder Networks and Initiatives

Regional Stakeholder Networks and Initiatives	K-Adult	Community College	University	Community	WDD	Employers
Adult Education	✓	✓				
AJCC (America's Job Centers of California)					✓	
Apprenticeship and Pre-apprenticeship Grants	✓	✓				
CCPT (Leads: Kern, West Hills, Yosemite CCDs, Tulare COE; Visalia, Fresno, Clovis, Tehachapi USDs; Wonderful)	✓	✓	✓	✓	✓	✓
California Partnership for the San Joaquin Valley	✓	✓	✓	✓	✓	✓
CTE Incentive Grants (CTEIG)	✓					
CTE Innovation	✓					
CalWORKS		✓			✓	
Central Valley AgPLUS Food and Beverage Manufacturing Consortium		✓	✓	✓		✓
Central Valley Community Foundation (CVCF) (frmlly Fresno Reg. Foundation)						
Central Valley Higher Education Consortium (CVHEC)		✓	✓			
CVHEC: Central Valley Goal 2025-Lumina Foundation		✓	✓	✓		
CVHEC: Complete College America-College Futures Foundation		✓	✓	✓		
Chambers of Commerce				✓		
Community Based Organizations				✓		
Cradle to Career	✓	✓	✓	✓	✓	✓
Doing What Matters (DWM)	✓	✓		✓	✓	
DWM: Priority /Emerging Sectors		✓			✓	
DWM: Regional Consortium		✓				
DWM: SB1070	✓	✓		✓	✓	

Economic Development Organizations				✓	✓	✓
Employment Training Panel					✓	✓
Foster Youth Programs and Services	✓	✓	✓	✓	✓	
Fresno Business Council	✓	✓	✓	✓	✓	✓
Global Cities Initiative, Financial Institutions-JP Morgan Chase	✓	✓	✓	✓	✓	
Governor's Innovation Award (GIA)	✓	✓	✓	✓		
K-12, County Offices, Charter Schools	✓					
Linked Learning	✓	✓	✓			
Perkins	✓	✓				
Perkins: CTE Transitions	✓	✓				
Prop 39	✓	✓				✓
Public and Private Universities			✓			
Re-entry / Justice Involved		✓			✓	✓
Regional Occupational Programs	✓					
San Joaquin Valley Manufacturing Alliance	✓	✓	✓	✓	✓	✓
The James Irvine Foundation, various	✓	✓	✓	✓	✓	✓
Tulare-Kings College and Career Collaborative	✓	✓	✓	✓	✓	✓
Slingshot, Central Valley (Surrounding Valley)	✓	✓	✓	✓	✓	✓
WIOA / WDBs					✓	✓



“The CRC has been an invaluable help in shortening our learning curve about community colleges and the essential role they play in local and regional prosperity and inclusion. As our relationship continues to deepen, we will see transformational change in the San Joaquin Valley as economic indicators rise and social indicators lessen. We appreciate your leadership, commitment and partnership.”

Deborah Nankivell // CEO, Fresno Business Council

IV. Sector Priorities

Sector priorities were initially identified for the region as part of the Doing What Matters (DWM) efforts. As the CRC's regional plan is dynamic, the Center of Excellence (COE) continually reviews labor market data and information (LMI) to support informed, relevant decision making and program investments. In June 2018, the COE prepared a Sector Profile⁴ report for all DWM sectors – the CRC's eight priority and emerging industry sectors, as well as the two additional DWM industry sectors and the addition of Public Safety. The sectors are identified below.

CENTRAL VALLEY

PRIORITY INDUSTRIES:

- Advanced Manufacturing
- Agriculture
- Health
- Retail, Hospitality and Tourism
- Business and Entrepreneurship

EMERGING INDUSTRIES:

- Energy, Construction and Utilities
- Global Trade & Logistics (logistics/supply chain)

MOTHER LODGE

PRIORITY INDUSTRIES:

- Retail, Hospitality and Tourism
- Business and Entrepreneurship
- Information & Communication Technologies (ICT)/ Digital Media

EMERGING INDUSTRIES:

- Health
- Advance Manufacturing

Additionally, while not identified as priority sectors or supported by Doing What Matters funded deputy sector navigators, the region recognizes three auxiliary sectors, which are: 1) economic priorities sub-regionally, 2) are in high demand, and/or 3) offer employment that pays a living wage. These auxiliary sectors are:

1. Life Sciences/Biotech
2. Retail, Hospitality and Tourism
3. Public Safety

A. Alignment with WDB Priority Sectors and K-12 Sectors

The CRC's sector priorities, as well as its Strong Workforce regionally funded projects, are "informed by, aligned with, and expand upon the activities of existing workforce and education regional partnerships." They align with sectors, pathways and strategies identified by the region's Workforce Development Boards, the multiple regional adult education consortia; and various regional workforce and education partnerships. Specifically, the following sectors continue to be identified by San Joaquin Valley and Associated Counties WIOA Regional Planning Unit (RPU) (Fresno, Kern-Inyo Mono, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare County Economic and Workforce Development Boards (WDBs)) and the Mother Lode RPU (Amador, Calaveras, Mariposa, and Tuolumne WDBs) as WIOA priority sectors for high-demand living-wage jobs. Many of these WDB sectors overlap with sectors included in the CRC SWP plan:

- Agriculture, Value-added
- Construction
- Energy
- Healthcare
- Manufacturing*
- Transportation & Logistics

**Manufacturing is also a WDB Slingshot sector. The CRC DWM sector navigator will work closely with Slingshot's dedicated regional sector navigators.*

⁴ CRC Center of Excellence, Sector Profile Report, June 2018 <http://coeccc.net/Search.aspx?id=1889> or <http://crconsortium.com/resources/>

The region's SWP sectors and proposed projects also align with pathways and strategies identified by multiple regional adult education consortia in their three year plans (2015-2018); K-12 educational pathways and initiatives, such as California Partnership Academies (CPAs), Linked Learning initiatives, and multiple local and regional California Career Pathways Trust grants (CCPT); and regional workforce and education partnerships, such as Tulare-Kings College and Career Collaborative, Central California Workforce Collaborative, Collaborative Partnership (AE), Central Valley Higher Education Consortium, California Partnership for the San Joaquin Valley, Fresno Business Council, San Joaquin Valley Manufacturing Alliance; and Central Valley AgPLUS Food and Beverage Manufacturing Consortium.

Exhibit 11: Industry Sector Crosswalk

The table below shows industry sector alignment between the California Department of Education (CDE), the California Community Colleges Doing What MATTERS for Jobs and the Economy (DWM), the U.S. Department of Education (USDOE) and the U.S. Department of Labor (USDOL). Workforce Boards in the Central Valley (SJVRPU (WDB)) and Motherlode Regions (ML RPE (WDB)). DWM Sector Names indicated with an (*) are CRC Priority and Emerging Sectors.

Agriculture Sector Alignment		Education Sector Alignment		Information and Communication Technologies Sector Alignment	
Org.	Sector Name	Org.	Sector Name	Org.	Sector Name
CDE	Agriculture and Natural Resources	CDE	Education, Child Development, & Family Services	CDE	Information and Communication Technologies
DWM	Agriculture, Water & Environmental Technologies*	CCCCC	Education & Human Development	CDE	Arts, Media, and Entertainment
USDOE	Agriculture, Food & Natural Resources	USDOE	Education & Training	DWM	Information & Communication Technologies (ICT) / Digital Media*
USDO	Farming, Fishery, & Forestry	USDO	Education, Training & Library	USDOE	Information Technology; Arts, A/V Technology & Communications
SJVRPU (WDB)	Agriculture, Value Added; Mfg/Water Technology	ML RPU (WDB)	Education & Health Services	USDO	Computer & Mathematical Science; Arts, Design, Entertainment, Sports, & Media
ML RPU (WDB)	Agriculture & Forestry	Health Sector Alignment		Manufacturing Sector Alignment	
Business Sector Alignment		Org.	Sector Name	Org.	Sector Name
Org.	Sector Name	CDE	Health Science and Medical Technology	CDE	Manufacturing and Product Development
CDE	Business and Finance	DWM	Health*	DWM	Advanced Manufacturing*
CDE	Marketing, Sales, and Service	DWM	Life Sciences/Biotech	USDOE	Manufacturing
DWM	Business & Entrepreneurship*	USDOE	Health Science	USDO	Production
DWM	Global Trade*	USDO	Life, Physical Science & Social Science; Health Support; Health Practitioners & Technical	SJVRPU (WDB)	Manufacturing & Food Processing
USDOE	Business Management & Administration	SJVRPU (WDB)	Healthcare	Public Services Sector Alignment	
USDOE	Finance	ML RPU (WDB)	Education & Health Services	Org.	Sector Name
USDO	Management; Office & Administrative Support; Business & Financial Operations Managers	Hospitality Sector Alignment		CDE	Public Services
ML RPU (WDB)	Professional & Business Services; Trade, Transportation & Utilities	Org.	Sector Name	CCCCC	Public Safety Career Cluster
Construction Sector Alignment		CDE	Fashion and Interior Design	USDOE	Law, Public Safety, Corrections & Security; Government & Public Administration; Human Services
Org.	Sector Name	CDE	Hospitality, Tourism, and Recreation	USDO	Community & Social Service; Legal; Protective Service; Military Service
CDE	Building and Construction Trades	DWM	Retail/Hospitality/Tourism 'Learn and Earn**	Transportation Sector Alignment	
CDE	Energy, Environment, and Utilities	USDOE	Marketing; Hospitality & Tourism	Org.	Sector Name
CDE	Engineering and Architecture	USDO	Food Preparation & Serving; Sales; Personal Care & Service	CDE	Transportation
DWM	Energy, Construction & Utilities*	ML RPU (WDB)	Leisure & Hospitality	DWM	Advanced Transportation & Logistics
USDOE	Architecture & Construction; Science, Technology, Engineering & Mathematics			USDOE	Transportation, Distribution & Logistics
USDO	Architecture & Engineering; Construction & Extraction; Installation, Maintenance & Repair; Building & Grounds Cleaning Maintenance			USDO	Transportation & Material Moving
SJVRPU (WDB)	Construction/Public Sector Infrastructure; Energy/Green Industry			SJVRPU (WDB)	Transportation & Logistics
ML RPU (WDB)	Trade, Transportation & Utilities			ML RPU (WDB)	Trade, Transportation & Utilities

V. Priority Sector Data

In June 2018, the Center of Excellence prepared a regional Sector Profile Report⁵ for the ten DWM sectors along with the Public Safety sector. The occupations included in the report are those most relevant to the skills trained in community colleges. All occupations listed typically require some college or associate degree or apprenticeship.

Each sector profile presented information on:

- Demand (average annual openings 2017-20)
- Supply (number of students who earned a community college award)
- Employment outcomes for program exiters in 2015-16
- Colleges offering relevant programs
- Occupational data (3-year total openings, wage range, typical entry level education and training required, top skills found in job postings, and percent of current workers age 55+)
- Student demographics

The occupations included in the report are those most relevant to the skills and training provided by a community college education. Community college programs and courses are organized into the Taxonomy of Programs (TOP) system. The same occupation may exist across a variety of TOP code programs; for example, administrative services managers, included in both TOP 0506.00 – Business Management and TOP 0506.30 – Management Development and Supervision due to the inherent overlap of the two programs with the Standard Occupational Classification (SOC) system. Occupations were selected for each TOP code based primarily upon the Center of Excellence's TOP-SOC Crosswalk.

Matches were determined based on the overlap between TOP program objectives and occupational skills, focusing predominantly on middle-skill occupations, which must meet at least one of the following criteria for inclusion:

- All occupations listed as having some college or associate degree education requirement or requiring an apprenticeship
- All occupations with a bachelor's degree with more than 1/3 of workers having completed some college to an associate degree
- All occupations requiring a high school diploma or equivalent or no formal education with long-term, on-the-job training
- All supervisory occupations (skills-builder qualified)
- Exceptions were made for occupations requiring a high school diploma or equivalent or no formal education with short- or moderate-term, on-the-job training where multiple community colleges have existing programs

⁵ CRC Center of Excellence, Sector Profile Report, June 2018 <http://coeccc.net/Search.aspx?id=1889> or <http://crconsortium.com/resources/>

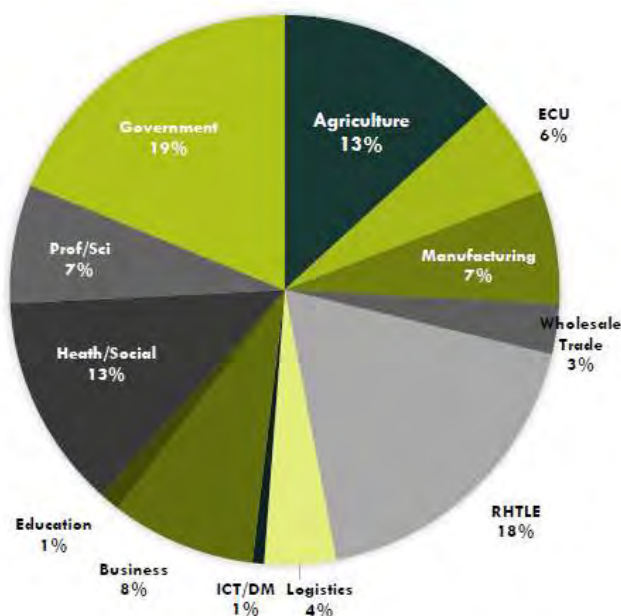
Employment Composition

According to 2017 industry data, there were 1.7 million workers in the Central Valley/Mother Lode region. The 12 industries of focus for this report employed roughly 1.3 million. The remaining 440,364 workers are distributed between the professional and science industry and government.

Exhibit 12 shows how employment is distributed among the government and the remaining major industry groupings. The largest share of employment is attributed to government (320,718 jobs). In decreasing order, remaining employment is distributed among:

- Retail, hospitality and tourism (311,192);
- Agriculture (225,966);
- Health care/social services (214,931);
- Business (145,514);
- Professional and science (119,646);
- Manufacturing (114,569);
- Energy, construction and utilities (100,966);
- Logistics (71,643);
- Global trade, which is represented in the chart by wholesale trade (50,040);
- Education (20,802); and
- ICT/digital media (11,674).

Exhibit 12: Share of government employment compared to employment in the 12 industries studied in this report



Because government is such a dominant yet diverse industry, an analysis of its staffing patterns by occupation was conducted. Government occupations were reclassified by industry sector type. The government occupational data was then redistributed across the region's sectors to better understand demand-and-supply needs.

Exhibit 13 shows the original 2017 job counts along with occupational projections alongside the new counts after the redistribution of the government data. This resulted in retail, hospitality and tourism

becoming the largest sector by employment (338,179 jobs) with one-fifth of the total number of jobs in 2017. Following second is health care/social services (243,382 jobs) and agriculture (237,724 jobs). Mechanics and welding jobs were summed and equally distributed across the three main sectors that can claim them: agriculture; energy, construction and utilities; and manufacturing.

Exhibit 13: Redistribution to the government sector into the 12 industries-sectors

SECTOR	2017 JOBS	5-YEAR CHANGE	2017 JOBS (GOV'T REDISTRIB.)	5-YEAR CHANGE
Government	320,718	24,864	7,154	(33)
RHTE	311,192	21,658	338,179	23,825
Agriculture	225,966	9,562	237,724	10,232
Health/Social	214,931	36,450	243,382	38,940
Business	145,514	7,381	214,308	10,579
Prof/Sci	119,646	6,072	121,182	6,166
Manufacturing	114,569	3,102	120,330	3,423
ECU	100,966	3,136	112,314	4,095
Logistics	71,643	10,656	79,441	11,180
Wholesale Trade (Global Trade)	50,040	3,076	51,779	3,165
Education	20,802	1,793	130,687	13,224
ICT/DM	11,674	485	17,625	1,071
PS	-	-	33,557	2,367
TOTAL	1,707,661	128,235	1,707,661	128,235

The redistribution of government jobs shows that most new jobs will be created in the health care/social services sector, nearly 35,000 new jobs over five years, followed by the retail, hospitality, tourism and entertainment sector, nearly 24,000 new jobs.

Exhibit 14 provides a visual depiction of the redistributed data. The chart shows that when government jobs are redistributed across the 12 industry sectors, the retail-hospitality-tourism-and-entertainment sector represents the largest share of employment, followed by the agriculture sector and the health care/social services sector. The smallest sectors are ICT/digital media, protective services and wholesale trade.

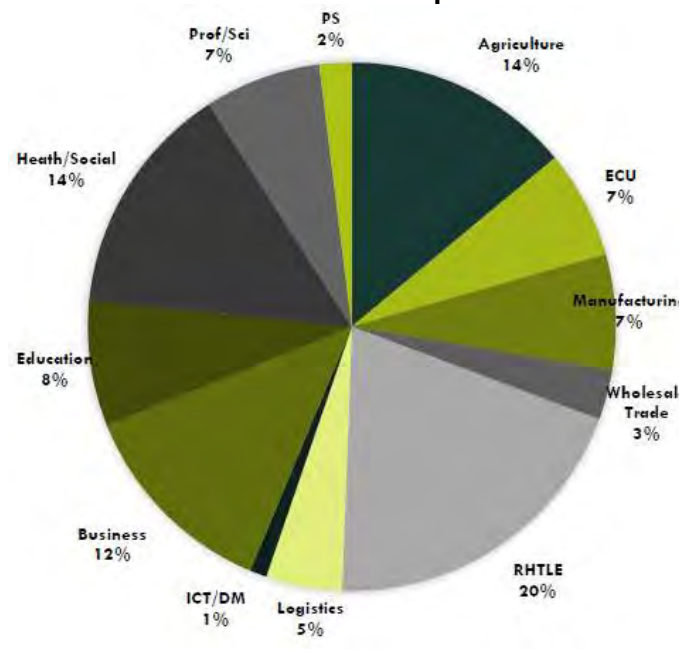
Middle-skill Employment Composition

To get an idea of the job growth that is community college relevant by sector over the next five years, annual openings for middle-skill occupations were analyzed.

Business has the largest number of middle-skill annual job openings in the region, 24,410. This is followed by retail, hospitality, tourism and entertainment (RHTE), 12,709, and health care, 12,459 (Exhibit 15). Sectors with the smallest number of annual openings include public safety, mechanics and welding, and ICT/digital media.

Although the agriculture, water and environmental technologies industry is one of the largest industries in the region by employment, the number of annual openings for middle-skill occupations is substantially

Exhibit 14: Share of employment when government occupations are distributed across the 12 industry sectors studied for the Sector Report



lower than some of the other large industry sectors, such as business, RHTE and health care. However, it is important to note that agriculture is the primary industry in the region; therefore, it will benefit both workers and employers if business students receive some level of agriculture related content based training.

Exhibit 15: Number of new middle-skill jobs by sector in the region

INDUSTRY	ANNUAL OPENINGS
Agriculture, Water and Environmental Technologies	4,956
Advanced Manufacturing	5,738
Business	24,410
Energy, Construction and Utilities	10,262
Education	7,173
Global Trade	1,097
Health care	12,459
Information and Communication Technologies/Digital Media	1,159
Logistics	8,808
Mechanics and Welding	3,403
Public Safety	3,485
Retail, Hospitality, Tourism, Recreation and Entertainment	12,709
TOTAL	95,660

Gap Analysis

The largest identified gap or undersupply of middle-skill workers is in the business sector with an annual shortage of 22,869 workers. This again is followed by retail, hospitality, tourism and entertainment for (a combined) total of 12,366; however, the third largest shortage of workers is in energy, construction and utilities, 10,056 (Exhibit 16). Health care is fourth with a projected need of 9,783 workers annually.

Exhibit 16: Gap analysis by sector in the region

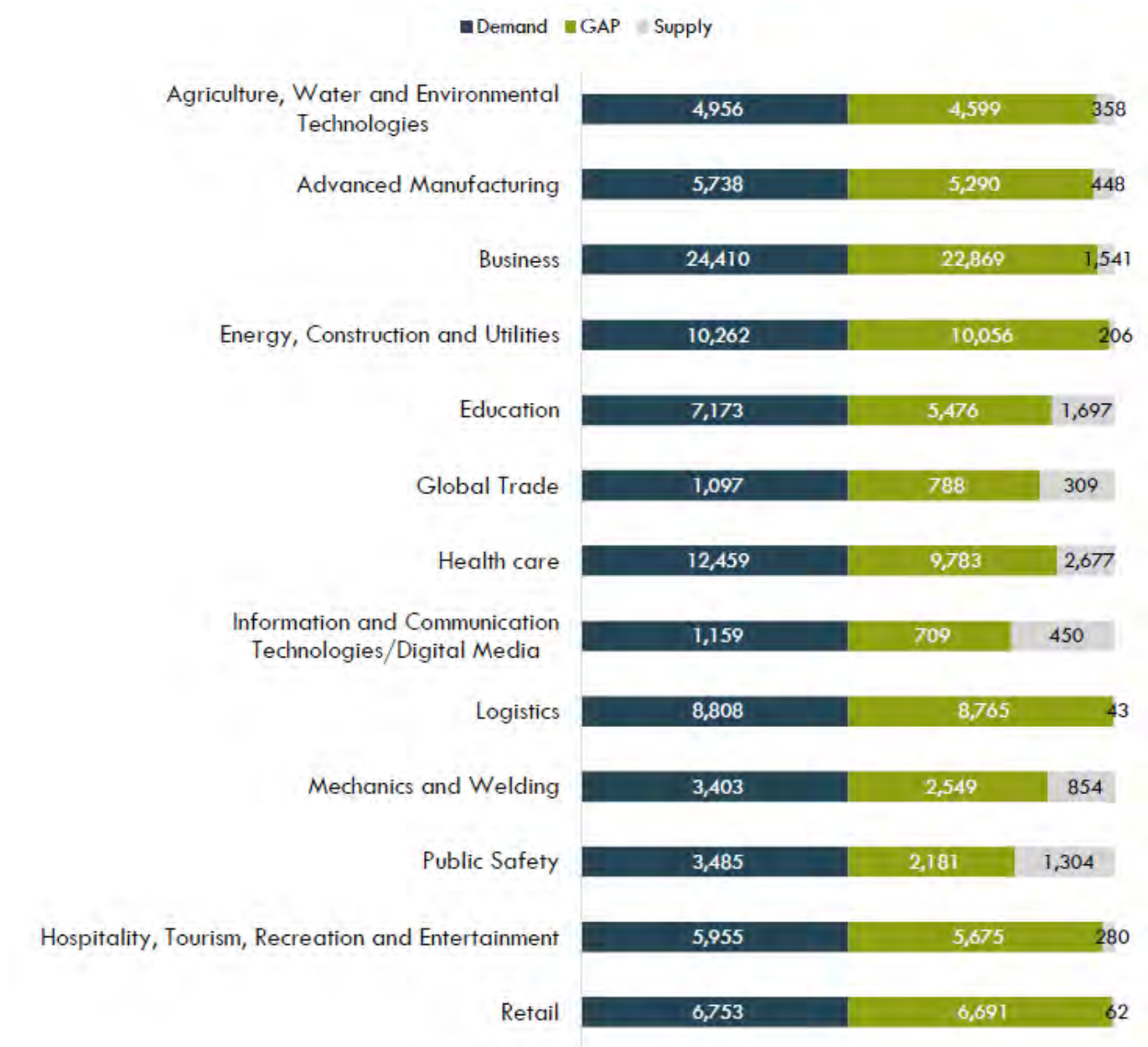
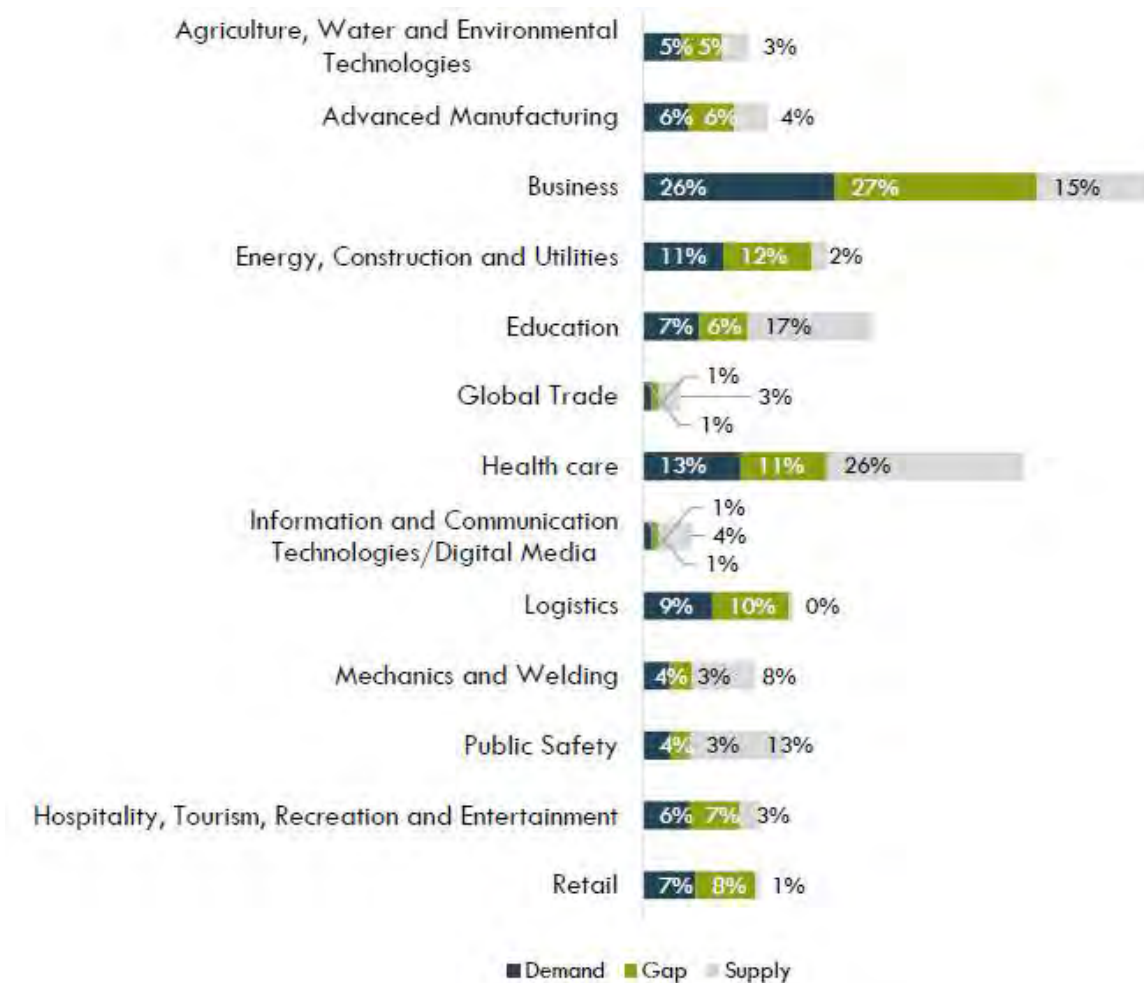


Exhibit 17 displays the same data as in Exhibit 16 in a chart format to assist with visualization.

Exhibit 17: Percentage distribution of new jobs by sector in the region

SECTOR	DEMAND	GAP	SUPPLY
Agriculture, Water and Environmental Technologies	5%	5%	3%
Advanced Manufacturing	6%	6%	4%
Business	26%	27%	15%
Energy, Construction and Utilities	11%	12%	2%
Education	7%	6%	17%
Global Trade	1%	1%	3%
Health care	13%	11%	26%
Information and Communication Technologies/ Digital Media	1%	1%	4%
Logistics	9%	10%	0%
Mechanics and Welding	4%	3%	8%
Public Safety	4%	3%	13%
Hospitality, Tourism, Recreation and Entertainment	6%	7%	3%
Retail	7%	8%	1%

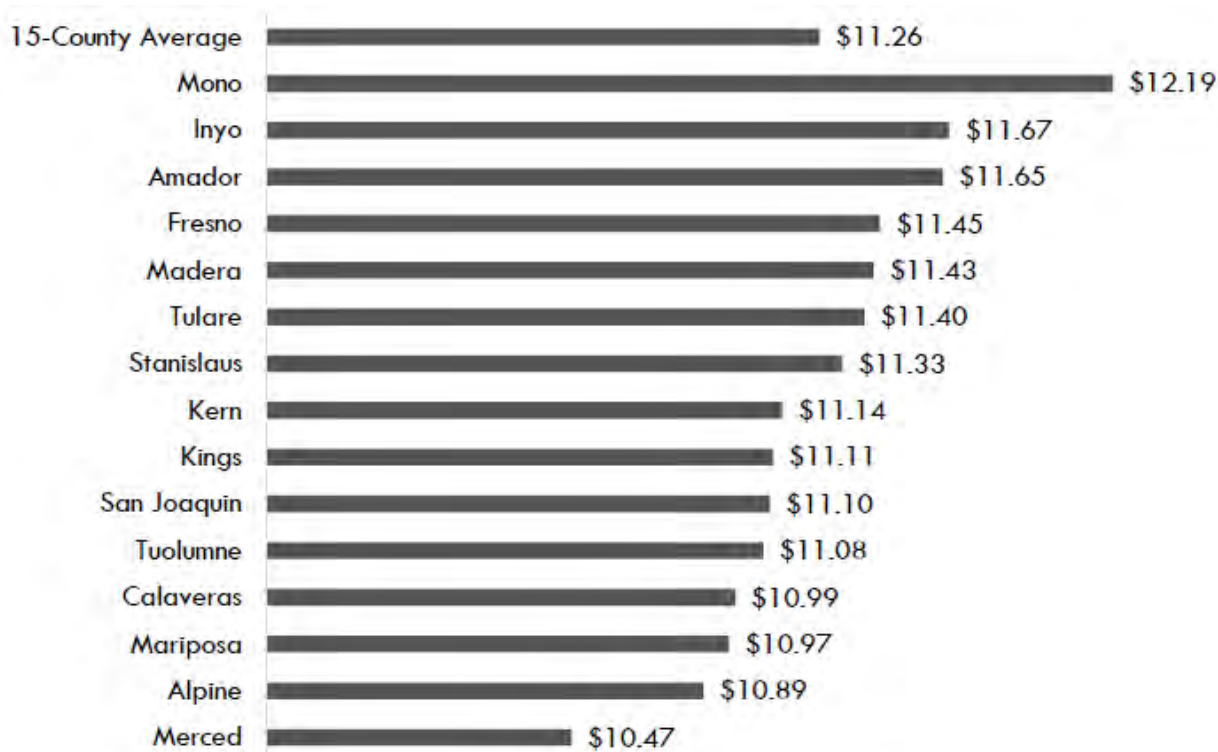
Exhibit 18: Percentage distribution of new jobs by sector in the region



Living Wage Data

Exhibit 19 shows living wages for the region and by county. The average living wage for the region is \$11.26/hour for one adult. The highest living wage is attributed to Mono County, \$12.19/hour, while the lowest is Merced County, \$10.47/hour.

Exhibit 19: Living wages for the Central Valley/Mother Lode region by county



A. Advanced Manufacturing

Advanced manufacturing represents 7.5% of the US economy and over the next decade, nearly 2.4 million manufacturing jobs will likely need to be filled over the next decade. To compete and succeed globally, manufacturers in the United States require a high-quality, highly skilled workforce. However, only 35 percent of parents say they would encourage their children to pursue careers in manufacturing, despite the advanced skills and high pay that are characteristic of work in today's advanced manufacturing industry. This is due to a perception of manufacturing that existed a generation ago but does not represent the current reality of the industry.

Manufacturers in California account for 10.9 percent of the total output in the state, employing 7.7 percent of the workforce. Total output from manufacturing was \$300.35 billion in 2017. Source: National Association of Manufacturers: California Manufacturing Facts, Oct. 2018. <https://www.nam.org/Data-and-Reports/State-Manufacturing-Data/State-Manufacturing-Data/January-2018/Manufacturing-Facts--California/>

Today's manufacturing is about advanced technologies, state of the art facilities, and fast-paced work environments. Manufacturing uses technology and robotics; and the manufacturing jobs are all about being innovative and creative to meet consumer needs. Manufacturing careers include design, engineering, and even the business side of the industry. There are opportunities for all interests. Manufacturing also offers high pay and opportunity for career advancement. Teaching students that they can have jobs where they make things with their hands, gives many students hope for their future.

California added over 16,000 new manufacturing positions in 2017-2018. Apprenticeships are increasing in popularity as a proven means for more companies, educators, policy makers and non-profit groups to come together to reduce the skills deficit.

In 2017, the average manufacturing worker in the United States earned \$84,832 annually, including pay and benefits. The average worker in all nonfarm industries earned \$66,847. Looking specifically at wages, the average manufacturing worker earned more than \$27 per hour, according to the latest figures, not including benefits. (Source: Bureau of Economic Analysis and Bureau of Labor Statistics).

The largest occupation in the region's advanced manufacturing sector is packaging and filling machine operators and tenders, with 9,865 workers in 2017, followed by first-line supervisors of production and operating workers, nearly 6,000 workers. These two occupations are projected to undergo modest growth and will offer 1,242 and 654 annual openings, respectively. The highest paid occupations are industrial production managers, \$45.05/hour median, and electrical and electronics engineering technicians, \$36.62/hour median. On average each year, community colleges in the region confer 280 certificates, 132 degrees, 32 non-credit awards and four other-credit awards related to advanced manufacturing. The gap analysis reveals a shortage of nearly 5,300 workers in the region.

Advanced Manufacturing	
CRC Community College Program Areas by TOPS	Top 10 Occupations in this Sector
0924.00 - Engineering Technology, General (req. Trigonometry)	1. 49-9071 Maintenance and Repair Workers, General
0934.00 – Electronics and Electric Technology	2. 51-1011 First-Line Supervisors of Production and Operating Workers
0934.10 – Computer Electronics	3. 51-9061 Inspectors, Testers, Sorters, Samplers, and Weighers
0934.20 – Industrial Electronics	4. 49-9041 Industrial Machinery Mechanics
0936.00 – Printing and Lithography	5. 51-4041 Machinists
0943.00 – Instrumentation Technology	6. 51-4011 Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic
0945.00 – Industrial Systems Technology and Maintenance	7. 49-2094 Electrical and Electronics Repairers, Commercial & Industrial Equipment
0950.00 – Aeronautical and Aviation Technology	8. 17-3026 Industrial Engineering Technicians
0953.40 – Mechanical Drafting	9. 51-4011 Computer-Controlled Machine Tool Operators, Metal and Plastic
0956.00 – Manufacturing and Industrial Technology	10. 17-3027 Mechanical Engineering Technicians
0956.30 – Machining and Machine Tools	
0956.50 – Welding Technology	
0956.70 – Industrial and Occupational Safety and Health	
1303.30 – Fashion Production	

Employment & Occupational Demand

Exhibit 20: Advanced manufacturing employment and occupational projections

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017- 2022 OPENINGS	ANNUAL OPENINGS
Packaging and Filling Machine Operators and Tenders	9,865	10,302	437	4%	6,212	1,242
First-Line Supervisors of Production and Operating Workers	5,918	6,261	343	6%	3,272	654
Inspectors, Testers, Sorters, Samplers, and Weighers	4,985	5,064	79	2%	3,084	617
Industrial Machinery Mechanics	5,656	6,078	422	7%	2,915	583
Production, Planning, and Expediting Clerks	2,769	3,011	242	9%	1,687	337
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	1,814	1,897	83	5%	1,072	214
Mixing and Blending Machine Setters, Operators, and Tenders	1,607	1,668	61	4%	980	196
Maintenance Workers, Machinery	1,441	1,533	92	6%	836	167
Industrial Production Managers	1,572	1,644	72	5%	628	126
Electrical and Electronics Engineering Technicians	1,288	1,298	10	1%	588	118
Sawing Machine Setters, Operators, and Tenders, Wood	715	774	59	8%	485	97
Engineering Technicians, Except Drafters, All Other	990	1,005	15	2%	446	89
Woodworking Machine Setters, Operators, and Tenders, Except Sawing	596	651	55	9%	393	79
Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	514	542	28	5%	344	69
Computer-Controlled Machine Tool Operators, Metal and Plastic	542	578	36	7%	312	62
Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	515	508	(7)	(1%)	290	58
Conveyor Operators and Tenders	326	367	41	13%	271	54
Molders, Shapers, and Casters, Except Metal and Plastic	488	489	1	0%	260	52
Chemical Equipment Operators and Tenders	396	415	19	5%	237	47
Petroleum Pump System Operators, Refinery Operators, and Gaugers	405	404	(1)	(0%)	215	43

Gap Analysis

Exhibit 21: Advanced manufacturing annual demand and supply in the region

■ Demand (job openings) ■ Gap (need) ■ Supply (completions)



B. Agriculture, Water, and Environmental Technologies

Most people think agriculture is farming or ranching. However, modern agriculture and agricultural sciences touch every aspect of American society from the individual consumer's health and safety to the nation's welfare, security, and environmental sustainability. Agricultural activities are broken down into four specific clusters within the sector, as follows:

- **Agriculture Support:** activities related to agriculture including: veterinary services, equipment operators/mechanics, forest & conservation workers, and pest control.
- **Agriculture Production:** production processes are specific to the commodity, but include crop, vegetable and animal farming, poultry & egg production, and aquaculture.
- **Agriculture Wholesale Trade:** all activities related to the sale, administration, operation, management, production, and support of wholesale endeavors within the agriculture sector.
- **Agriculture Water and Environmental Services:** services related to water treatment and environmental planning including: irrigation, hazardous materials workers, septic servicers/cleaners, inspectors, and environmental science and protection technicians.

Agriculture is the world's largest economic sector and the second largest single industry in the Central Valley/Mother Lode Region. On a worldwide basis, more people are involved in agriculture than in all other occupations combined. Agriculture in California is an essential part of the state's economy. In addition to the direct impacts, agricultural research is fueling innovation in many parts of the economy not generally associated with agriculture, such as energy, electronics, plastics, and pharmaceuticals. Each year, billions of dollars in products are created in California alone. Combining the necessity of agriculture and the growth in innovation within the sector, including potentially harnessing biofuels, agriculture will continue to play an increasingly integral part of California's economy.

Occupations with the greatest agriculture employment in the region include farmers, ranchers and other agricultural managers; agricultural equipment operators; and first-line supervisors of farming, fishing and forestry workers. Occupations with strong projected growth include compliance officers; veterinary assistants and laboratory animal caretakers; and veterinary technologists and technicians. Compliance officers earn the highest wages, \$31.27/hour median, followed by water and wastewater treatment plant and system operators, \$27.35/hour median. On average each year, community colleges in the region confer 125 certificates and 233 degrees related to agriculture, water and environmental technologies. The gap analysis reveals a shortage of nearly 4,600 workers in the region.

Agriculture, Water, and Environmental Technologies	
CRC Community College Program Areas by TOPS	Top 10 Occupations in this Sector
0101.00 – Agriculture Technology and Sciences, General	1. 45-1011 First-Line Supervisors of Farming, Fishing, and Forestry Workers
0102.00 – Animal Science	2. 49-3042 Mobile Heavy Equipment Mechanics, Except Engines
0102.10 – Veterinary Technician (Licensed)	3. 49-3041 Farm Equipment Mechanics and Service Technicians
0102.20 – Artificial Inseminator (Licensed)	4. 13-1041 Compliance Officers
0102.30 – Dairy Science	5. 19-4093 Forest and Conservation Technicians
0102.40 – Equine Science	6. 45-2011 Agricultural Inspectors
0103.00 – Plant Science	7. 37-3012 Pesticide Handlers, Sprayers, and Applicators, Vegetation
0103.10 – Agricultural Pest Control Adviser and Operator	8. 19-4011 Agricultural and Food Science Technicians
0104.00 – Viticulture, Enology, and Wine Business	9. 19-4099 Life, Physical and Social Science Technicians, All Others
0109.00 – Horticulture	10. 19-1012 Food Scientists and Technologies
0109.10 – Landscape Design and Maintenance	
0109.20 – Floriculture / Floristry	
0109.30 – Nursery Technology	
0109.40 – Turfgrass Technology	
0112.00 – Agriculture Business, Sales and Service	
0113.00 – Food Processing and Related Technologies	
0114.00 – Forestry	
0115.00 – Natural Resources	
0115.10 – Parks and Outdoor Recreation	
0116.00 – Agricultural Power Equipment Technology	
0199.00 – Other Agriculture and Natural Resources	

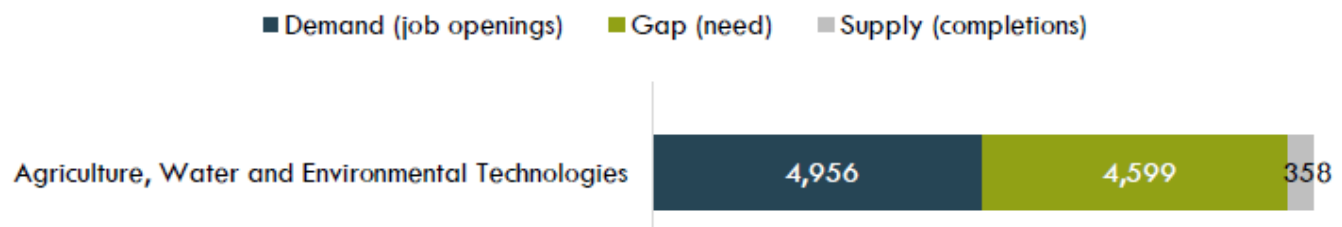
Employment & Occupational Demand

Exhibit 22: Agriculture, water and environmental technologies employment & occupational projections

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017-2022 OPENINGS	ANNUAL OPENINGS
Farmers, Ranchers, and Other Agricultural Managers	16,954	16,514	(440)	(3%)	6,406	1,281
Agricultural Equipment Operators	7,085	7,546	461	7%	6,033	1,207
First-Line Supervisors of Farming, Fishing, and Forestry Workers	5,445	5,788	343	6%	4,043	809
Compliance Officers	1,827	2,029	202	11%	952	190
Pest Control Workers	1,227	1,290	63	5%	912	182
Forest and Conservation Technicians	1,341	1,327	(14)	(1%)	804	161
Veterinary Assistants and Laboratory Animal Caretakers	834	946	112	13%	781	156
Agricultural Inspectors	1,035	1,068	33	3%	733	147
Water and Wastewater Treatment Plant and System Operators	1,661	1,666	5	0%	705	141
Pesticide Handlers, Sprayers, and Applicators, Vegetation	754	816	62	8%	527	105
Veterinary Technologists and Technicians	898	1,023	125	14%	494	99
Animal Trainers	834	825	(9)	(1%)	475	95
Agricultural and Food Science Technicians	878	903	25	3%	472	94
Forest and Conservation Workers	387	389	2	1%	312	62
Life, Physical, and Social Science Technicians, All Other	350	391	41	12%	254	51
Logging Equipment Operators	351	370	19	5%	252	50
Food Scientists and Technologists	404	411	7	2%	212	42
Animal Breeders	248	241	(7)	(3%)	192	38

Gap Analysis

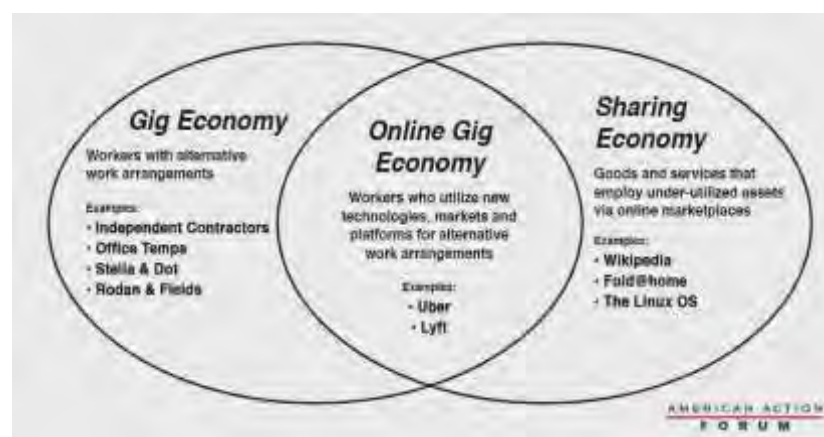
Exhibit 23: Agriculture, water and environmental technologies annual demand and supply in the region



C. Business and Entrepreneurship

The Business and Entrepreneurship sector strives to improve and expand the region's opportunities that span across all occupational sectors represented. Careers in this segment consist of everything from small business functions, such as accounting, management, and human resources, to owning your own business in any trade, including new and emerging industries. Mentors and industry partners afford a wealth of knowledge in classes, makerspaces, and incubators to share best practices in business development and to cultivate entrepreneurial leaders to ensure California's economic growth and global competitiveness.

It has been predicted that by 2020, 40% of the United States workforce will be freelancers or independent contractors, and for those with full-time employment, so-called "side hustles" are becoming more and more common as people seek to bolster financial security. The rise of freelancers is changing the way business is done in the 21st century; there is a disruption of the system with the emergent gig economy. According to Larry Alton, in Forbes, "The gig economy refers to the increased tendency for businesses to hire independent contractors and short-term workers, and the increased availability of workers for these short-term arrangements. Due in part to the popularity of the internet and in part due to the nature of new apps like Uber and Airbnb, the gig economy has flourished in recent years."



The largest business occupations include office clerks (general) with nearly 30,000 workers in 2017, and secretaries and administration assistants (except legal, medical and executive) with more than 22,500 workers in the region. These occupations will offer a substantial number of annual openings in coming years in the region. Most business-related occupations are projected to undergo modest to moderate growth; however, tellers are projected to decline by 9%, a loss of 367 jobs over five years, as are executive

secretaries and executive administrative assistants, a 3% drop representing a loss of 106 jobs. General and operations managers earn the highest wages in the region, \$42.81/hour median. On average each year, community colleges in the region confer 383 certificates, 1,139 degrees and 19 non-credit awards related to business. The gap analysis reveals a shortage of 22,869 workers in the region.

Business and Entrepreneurship	
CRC Community College Program Areas by TOPS	Top 10 Occupations in this Sector
0501.00 Business and Commerce, General 0502.00 Accounting 0502.10 Tax Studies 0504.00 Banking and Finance 0505.00 Business Administration 0506.00 Business Management 0506.30 Management Development and Supervision 0506.40 Small Business and Entrepreneurship 0509.00 Marketing and Distribution 0511.00 Real Estate 0514.10 Legal Office Technology 0599.00 Other Business and Management 3007.00 Cosmetology and Barbering	1. 43-3031 Bookkeeping, Accounting, and Auditing Clerks 2. 13-1199 Business Operations Specialists, All Other 3. 11-1021 General and Operations Managers 4. 43-3051 Payroll and Timekeeping Clerks 5. 13-1051 Cost Estimators 6. 11-3011 Administrative Services Managers 7. 11-3051 Industrial Production Managers 8. 13-2081 Tax Examiners and Collectors, and Revenue Agents 9. 13-2082 Tax Preparers 10. 43-4011 Brokerage Clerks

Employment & Occupational Demand

Exhibit 24: Business employment and occupational projections

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017- 2022 OPENINGS	ANNUAL OPENINGS
Office Clerks, General	29,824	31,041	1,217	4%	18,920	3,784
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	22,560	22,918	358	2%	12,550	2,510
Bookkeeping, Accounting, and Auditing Clerks	17,143	17,418	275	2%	9,819	1,964
General and Operations Managers	17,818	19,335	1,517	9%	8,937	1,787
First-Line Supervisors of Office and Administrative Support Workers	13,775	14,604	829	6%	7,710	1,542
Receptionists and Information Clerks	8,956	9,756	800	9%	6,830	1,366
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	10,708	11,433	725	7%	6,281	1,256
Sales Representatives, Services, All Other	6,826	7,485	659	10%	4,873	975
Business Operations Specialists, All Other	8,761	9,420	659	8%	4,696	939
Insurance Sales Agents	6,293	6,821	528	8%	3,689	738
Billing and Posting Clerks	5,277	5,753	476	9%	3,171	634
Office and Administrative Support Workers, All Other	3,783	3,994	211	6%	2,298	460
Tellers	3,943	3,576	(367)	(9%)	2,170	434
Executive Secretaries and Executive Administrative Assistants	3,971	3,865	(106)	(3%)	2,126	425
Insurance Claims and Policy Processing Clerks	3,490	3,628	138	4%	1,917	383
Eligibility Interviewers, Government Programs	3,555	3,840	285	8%	1,891	378
Information and Record Clerks, All Other	2,905	3,038	133	5%	1,784	357
Real Estate Sales Agents	3,499	3,491	(8)	(0%)	1,643	329
First-Line Supervisors of Non-Retail Sales Workers	2,913	3,050	137	5%	1,469	294
Payroll and Timekeeping Clerks	2,698	2,719	21	1%	1,365	273

Gap Analysis

Exhibit 25: Business annual demand and supply in the region



D. Energy, Construction, and Utilities

The Energy, Construction and Utilities Sector is a collection of three industry clusters engaged in deploying and managing technologies related to the generation, distribution, storage and efficient use of energy in line with the state's legislation, which is requiring more alternative energy sources. The sector represents a mix of three industry clusters:

- Power utilities that are primarily focused on generating, transmitting, and delivering electric power, and act as a link between the other two clusters.
- Energy efficiency that encompasses firms engaged in energy planning and management with the purpose of making new and existing buildings more energy efficient.
- Renewable energy that combines activities aimed at developing, introducing and installing the technologies, which harness renewable sources of energy, such as solar, wind, geothermal, and biomass.

California's Energy, Construction and Utilities Sector covers a vast workplace, with occupations spanning from the generating plant to the wall socket. This sector creates thousands of jobs every year, driving expectations for educators to meet the continual workforce demand. However, many jobs go unfilled because of a lack of qualified workers - an increasingly difficult industry problem as the retirement rate for baby boomers increases. Meeting this workforce demand requires a systematic approach to preparing adequate numbers of students with relevant skills and knowledge across electrical, mechanical, construction, architectural, and engineering disciplines.

The largest occupation is maintenance and repair workers (general) with more than 15,000 workers in the region in 2017. This occupation is projected to undergo moderate growth, 8%, and offer 1,746 annual openings. The second largest occupation is carpenters, with 9,655 workers in 2017; while this occupation is not projected to grow, it will still offer the second highest number of openings in the industry, 935 each year. Occupations earning the highest wages include electricians, \$29.26/hour median, and operating engineers and other construction equipment operators, \$24.37/hour median. On average each year, community colleges in the region confer 169 certificates and 37 degrees related to energy, construction and utilities. The gap analysis reveals a shortage of 10,056 workers in the region.

Energy, Construction and Utilities	
CRC Community College Program Areas by TOPS	Top 10 Occupations in this Sector
0201.00 Architecture and Architectural Technology	1. 47-2111 Electricians
0934.40 Electrical Systems and Power Transmission	2. 47-1011 First-Line Supervisors of Construction Trades and Extraction Workers
0935.00 Electro-Mechanical Technology	3. 49-1011 First-Line Supervisors of Mechanics, Installers, and Repairers
0946.00 Environmental Control Technology (HVAC)	4. 49-9021 Heating, Air Conditioning, and Refrigeration
0952.00 Construction Crafts Technology	5. 47-2211 Sheet Metal Workers
0952.10 Carpentry	6. 49-9051 Electrical Power-Line Installers and Repairers
0952.20 Electrical	7. 47-2221 Structural Iron and Steel Workers
0952.30 Plumbing, Pipefitting and Steamfitting	8. 47-2171 Reinforcing Iron and Rebar Workers
0952.50 Mill and Cabinet Work	9. 47-2152 Plumbers, Pipefitters and Steamfitters
0953.00 Drafting Technology	10. 17-3011 Architectural and Civil Drafters
0953.10 Architectural Drafting	
0956.40 Sheet Metal and Structural Metal (p.60)	
0957.00 Civil and Construction Management Technology	
0957.20 Construction Inspection	
0958.00 Water and Wastewater Technology	

Employment & Occupational Demand

Exhibit 26: Energy, construction and utilities employment and occupational projections

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017- 2022 OPENINGS	ANNUAL OPENINGS
Maintenance and Repair Workers, General	15,105	16,301	1,196	8%	8,728	1,746
Carpenters	9,655	9,693	38	0%	4,676	935
Electricians	5,747	5,927	180	3%	3,418	684
First-Line Supervisors of Construction Trades and Extraction Workers	5,837	5,970	133	2%	3,148	630
Plumbers, Pipefitters, and Steamfitters	3,892	4,485	593	15%	2,757	551
Operating Engineers and Other Construction Equipment Operators	3,539	3,759	220	6%	2,234	447
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	3,211	3,652	441	14%	2,080	416
Painters, Construction and Maintenance	4,387	4,357	(30)	(1%)	1,970	394
Telecommunications Equipment Installers and Repairers, Except Line Installers	2,709	2,837	128	5%	1,572	314
Cement Masons and Concrete Finishers	2,516	2,583	67	3%	1,460	292
Construction Managers	3,658	3,619	(39)	(1%)	1,381	276
Installation, Maintenance, and Repair Workers, All Other	2,401	2,523	122	5%	1,279	256
Roofers	1,884	1,969	85	5%	1,076	215
Drywall and Ceiling Tile Installers	2,443	2,224	(219)	(9%)	1,067	213
Sheet Metal Workers	1,245	1,373	128	10%	802	160
Service Unit Operators, Oil, Gas, and Mining	1,154	1,030	(124)	(11%)	655	131
Solar Photovoltaic Installers	516	769	253	49%	578	116
Cabinetmakers and Bench Carpenters	955	998	43	5%	556	111
Telecommunications Line Installers and Repairers	938	992	54	6%	551	110
Plasterers and Stucco Masons	1,090	1,078	(12)	(1%)	542	108

Gap Analysis

Exhibit 27: Energy, construction and utilities annual demand and supply in the region

■ Demand (job openings) ■ Gap (need) ■ Supply (completions)

Energy, Construction and Utilities

10,262

10,056

206

E. Education

The region has high need for teachers; and a special need for teachers of math, science, CTE, and special education. The region commonly experiences “brain drain” when college graduates move away after matriculation. In an attempt to increase the number of teachers regionally, the CCCCO developed the Teacher Preparation Pipeline (TPP) STEM/CTE Collaborative, endorses STEAM/STEM TPP as a Strong Workforce Program (SWP) Projects in Common, and directs the Education Futures TPP to further scale efforts of community colleges across the state to grow the teacher workforce.

Education and Training careers involve planning, managing and providing education and training services, and related learning support services. Teacher assistants are projected to have the highest number of job openings through 2022, behind elementary school teachers.

Teacher assistants comprise the largest education occupation in the region, with more than 21,700 workers in 2017, followed by childcare workers, with more than 14,300 workers. There are projected to be 2,700 annual openings for teacher assistants, resulting from a 9% growth rate. Childcare workers is expected to decline by 7% over the next five years, although it will still offer 2,020 annual openings. The highest paid occupation is career/technical education teachers (secondary school), \$36.03/hour median. Kindergarten teachers (except special education) earn \$33.01/hour median. On average each year, community colleges in the region confer 1,184 certificates and 513 degrees related to education. The gap analysis reveals a shortage of 5,476 workers in the region.

Education	
CRC Community College Program Areas by TOPS	Top 10 Occupations in this Sector
0801.00 Education, General	1. 25-2032 Career/Technical Education Teachers, Secondary School
0802.00 Educational Aide (Teacher Assistant)	2. 25-2052 Kindergarten Teachers, Except Special Education
1602.00 Library Technician (Aide)	3. 25-2051 Special Education Teachers, Preschool
0835.00 Physical Education	4. 13-1151 Training and Development Specialists
0809.00 Special Education	5. 25-4031 Library Technicians
1305.80 Child Development Administration and Mgmt.	6. 25-3021 Self-Enrichment Education Teachers
1305.00 Child Development/Early Care and Education	7. 11-9031 Education Administrators, Preschool and Childcare Center/Program
1305.20 Children with Special Needs	8. 19-4061 Social Science Research Assistants
1301.00 Family and Consumer Sciences, General	9. 25-9041 Teacher Assistants
1305.70 Foster and Kinship Care	10. 25-2011 Preschool Teachers, Except Special Education
1305.90 Infants and Toddlers	
1399.00 Other Family and Consumer Sciences	
1305.60 Parenting and Family Education	
1305.40 Preschool Age Children	
1305.50 The School Age Child	

Employment & Occupational Demand

Exhibit 28: Education employment and occupational projections

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017- 2022 OPENINGS	ANNUAL OPENINGS
Teacher Assistants	21,727	23,765	2,038	9%	13,507	2,701
Childcare Workers	14,314	13,350	(964)	(7%)	10,099	2,020
Preschool Teachers, Except Special Education	4,857	5,022	165	3%	2,644	529
Self-Enrichment Education Teachers	2,664	2,901	237	9%	1,745	349
Kindergarten Teachers, Except Special Education	2,177	2,394	217	10%	1,312	262
Training and Development Specialists	1,761	1,963	202	11%	1,088	218
Library Technicians	1,230	1,326	96	8%	925	185
Library Assistants, Clerical	687	760	73	11%	577	115
Career/Technical Education Teachers, Secondary School	623	721	98	16%	326	65
Education Administrators, Preschool and Childcare Center/Program	683	688	5	1%	284	57
Special Education Teachers, Preschool	204	246	42	21%	120	24
Social Science Research Assistants	146	162	16	11%	105	21

Gap Analysis

Exhibit 29: Education annual demand and supply in the region



F. Global Trade

The Global Trade sector is heavily involved in international trade, which involves the exchange of capital, goods, and services across international borders. Supply chain activities create important support systems and linkages for international trade to take place.

A supply chain is a system of organizations, activities, technologies, and resources that help move a product or service from supplier to customer. According to the Council of Supply Chain Management Professionals, supply chain involves sourcing, procurement, conversion, and all logistics related activities. It also includes coordination and collaboration among channel partners, such as suppliers, intermediaries, third-party service providers, and customers. Supply chain functions can be performed by third-party providers, such as independent logistics companies, as well as internally within the firms as part of business operations. Hence, supply chain related employment can be found across a variety of sectors, including manufacturing, retail, agriculture, wholesale, and others. International trade involves exchange of capital, goods, and services across international borders. Supply chain activities create important support systems and linkages for international trade to take place.



Three occupations make up the bulk of employment in the region's global trade industry—buyers and purchasing agents, 3,475 workers in 2017, cost estimators, 2,490 and administrative services managers, 2,619. The buyers and purchasing agents occupation is projected to experience only a 1% growth rate and offer 340 annual openings. Cost estimators is expected to increase by 6% with 273 annual openings. Only one occupation is expected to decline, brokerage clerks at 3%, which represents a loss of eight jobs through 2022. Administrative services managers earn the highest median wages, \$42.85/hour, followed by cost estimators at \$34.52/hour. On average each year, community colleges in the region confer 52 certificates and 242 degrees related to global trade. The gap analysis reveals a shortage of 788 workers in the region.

Global Trade	
CRC Community College Program Areas by TOPS	Top 10 Occupations in this Sector
<p>0508.00 – International Business and Trade</p> <p>The following TOP codes are detailed in this sector, but are technically claimed by the Business and Entrepreneurship Sector:</p> <ul style="list-style-type: none"> • 0501.00 – Business and Commerce, General • 0506.00 – Business Management • 0509.00 – Marketing and Distribution 	<ol style="list-style-type: none"> 1. 11-1021 General and Operation Managers 2. 41-4012 Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products 3. 11-2022 Sales Manager 4. 13-1161 Market Research Analyst and Marketing Specialists 5. 11-9151 Social and Community Service Managers 6. 11-9021 Construction Managers 7. 13-1051 Cost Estimators 8. 11-3011 Administrative Service Managers 9. 13-1023 Purchasing Agents, Except Wholesale, Retail, and Farm Products 10. 11-3051 Industrial Production Managers

Employment & Occupational Demand

Exhibit 30: Global trade employment and occupational projections

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017- 2022 OPENINGS	ANNUAL OPENINGS
Buyers and Purchasing Agents	3,475	3,510	35	1%	1,702	340
Cost Estimators	2,490	2,627	137	6%	1,364	273
Administrative Services Managers	2,619	2,830	211	8%	1,286	257
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	1,768	1,857	89	5%	1,013	203
Brokerage Clerks	235	227	(8)	(3%)	120	24

Gap Analysis

Exhibit 31: Global trade annual demand and supply in the region



G. Health

Healthcare continues to be one of the largest and fastest growing industries in California and faces unprecedented challenges to its delivery systems. The California Community College Chancellor's Office and its Economic and Workforce Development Program have established the California Community College Health Care Initiative to provide education and training programs to meet these emerging demands for health care delivery. According to the Bureau of Labor Statistics, the healthcare sector combines medical technology and the human touch to diagnose, treat, and administer care to the general population. The healthcare sector is typically comprised of three subsectors – Ambulatory Health Care Services; Nursing and Residential Care Facilities; and Hospitals.

Health Workforce Initiative

The purpose of the CCCCCO Health Workforce Initiative is to provide education and training programs to meet emerging demands for health care industry workers; to determine **health care workforce** needs, facilitate development of innovative solutions, and to locate resources to implement planned responses, and to evaluate and initialize health-related educational programs.

The health care industry's rapid growth has amplified the need for more and better trained professionals. Careers in healthcare allow self-sustaining wages that improve not only the community but also the individual's quality of life.

The top three largest health care occupations are registered nurses, nearly 28,000 workers in 2017; nursing assistants, 10,444 workers; and medical assistants, more than 9,800 workers. These occupations are projected to undergo 13% to 16% growth and offer substantial annual openings. One notable occupation is home health aides which is expected to grow by 81%, with 591 annual openings; however, this occupation pays the lowest median wage in the industry in the region, \$11.97/hour. Dental hygienists earn the highest median wage, \$44.81/hour. On average each year, community colleges in the region confer 1,088 certificates, 1,521 degrees and 67 other-credit awards related to health care. The gap analysis reveals a shortage of 9,783 workers in the region.

Health	
CRC Community College Program Areas by TOPS	Top 10 Occupations in this Sector
0514.20 Medical Office Technology	1. 29-1141 Registered Nurses
1201.00 Health Occupations, General	2. 31-1014 Certified Nursing Assistants
1208.00 Medical Assisting	3. 29-2061 Licensed Practical and Licensed Vocational Nurses
1208.10 Clinical Medical Assisting	4. 31-9091 Dental Hygienists
1208.20 Administrative Medical Assisting	5. 29-2034 Radiologic Technologists
1210.00 Respiratory Care/Therapy	6. 29-1126 Respiratory Therapists
1220.00 Speech/Language Pathology and Audiology	7. 31-2022 Physical Therapist Assistants
1222.00 Physical Therapist Assistant	8. 31-9091 Dental Assistants
1223.00 Health Information Technology	9. 31-2011 Occupational Therapy Assistants
1223.10 Health Information Coding	10. 31-9092 Medical Assistants
1225.00 Radiologic Technology	
1227.00 Diagnostic Medical Sonography	
1228.00 Athletic Training and Sports Medicine	
1230.10 Registered Nursing	
1230.20 Licensed Vocational Nursing	
1230.30 Certified Nurse Assistant	
1239.00 Psychiatric Technician	
1240.10 Dental Assistant	
1240.20 Dental Hygienist	
1250.00 Emergency Medical Services	
1251.00 Paramedic	
1306.00 Nutrition, Foods, and Culinary Arts	
1306.20 Dietetic Services and Management	
2104.40 Alcohol and Controlled Substances	

Employment & Occupational Demand

Exhibit 32: Health care employment and occupational projections

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017-2022 OPENINGS	ANNUAL OPENINGS
Registered Nurses	27,987	31,518	3,531	13%	10,960	2,192
Nursing Assistants	10,444	11,874	1,430	14%	7,608	1,522
Medical Assistants	9,873	11,406	1,533	16%	7,084	1,417
Medical Secretaries	6,650	7,553	903	14%	4,659	932
Social and Human Service Assistants	5,201	6,060	859	17%	4,129	826
Dental Assistants	4,876	5,392	516	11%	3,274	655
Licensed Practical and Licensed Vocational Nurses	6,789	7,495	706	10%	3,208	642
Home Health Aides	1,865	3,382	1,517	81%	2,957	591
Pharmacy Technicians	4,140	4,479	339	8%	1,993	399
Emergency Medical Technicians and Paramedics	2,293	2,549	256	11%	1,047	209
Psychiatric Technicians	2,013	2,037	24	1%	941	188
Medical Records and Health Information Technicians	2,021	2,234	213	11%	840	168
Phlebotomists	1,182	1,364	182	15%	822	164
Dental Hygienists	1,820	2,067	247	14%	817	163
Radiologic Technologists	1,931	2,159	228	12%	750	150
Pharmacy Aides	1,094	1,074	(20)	(2%)	733	147
Surgical Technologists	1,020	1,165	145	14%	565	113
Physical Therapist Aides	698	813	115	16%	559	112
Respiratory Therapists	1,413	1,616	203	14%	551	110
Physical Therapist Assistants	501	632	131	26%	464	93

Gap Analysis

Exhibit 33: Health care annual demand and supply in the region

■ Demand (job openings) ■ Gap (need) ■ Supply (completions)



H. Information & Communications Technology (ICT) / Digital Media

Information Communications Technologies (ICT) and Digital Media are now integrated into almost every technology, industry and job. ICT is an umbrella term, used widely outside the U.S. and by the United Nations, to encompass all rapidly emerging, evolving and converging computer, software, networking, telecommunications, Internet, programming and information systems technologies.

The sector represents a mix of three industry clusters:

- **Hardware** – firms that create, manufacture and/or distribute computer, peripheral, networking & related equipment.
- **Software** – firms that create, manufacture and/or distribute computer operating systems and applications.
- **Services** – firms that bundle hardware, software and other services to deliver solutions to business and consumer customers.



Information and Communications Technologies (ICT)

ICT encompasses all rapidly emerging, evolving, and converging computer, software, networking, telecommunications, Internet, programming, information systems and digital media technologies. It is an umbrella or superset term that includes many different competing subset terminologies. ICT is a comprehensive framework for organizing these inter-related, interdependent, and rapidly changing technologies and high-tech fields and for organizing the ICT workforce, which spans across organizations of all sizes - in all industries. The ICT term and framework are widely used outside the U.S., by institutions including the United Nations, European Union, World Bank, International Telecommunications Union, and others. ICT is recognized in many global economies as a strategically important industry and employment sector that is a major driver of economic growth.

Careers in ICT are no longer limited to an individual industry sector but are prevalent in every sector. The sooner an individual enters the IT business, the sooner they could become an IT professional. In as few as two semesters, an individual can gain marketable skills to get hired, and then advance in their career as they continue their education, earn industry-recognized credentials and gain skills. The IT Technician and IT Technician cyber pathways are easy to follow phases that help guide students as they build skills and work to advance in their career. Get training, get certified and get a job.

Digital Media

Digital media provides many opportunities for students to pursue careers in sub sector areas such as TV/Film, audio video technology, photography, gaming, animation, web design, and video production. Students pursuing these pathways are strongly encouraged to balance their creativity and technical art skills with strong business management and interpersonal skills. Students with a strong foundation in business management, marketing, and communication skills will be able to enter the field easier than an individual who lacks these skills. The branded Business Information Worker (BIW) pathway provides students with strong entry level skills to get the job, with a solid foundation in Microsoft Windows and Office as well as strong digital and web literacy skills. The Business Information Worker brings efficiency and productivity to the workplace and helps students to be more successful in gaining skills and employment. Students who complete BIW I, BIW II and BIW Specialist will be well positioned for high-level administrative positions. As digital literacy becomes more prevalent in all office environments, individuals will be able to pursue an administrative path or a path more digital media focused. Either way, their skill set will allow them flexibility.

ICT/digital media is the smallest sector analyzed in the Labor Market Overview: Central Valley / Mother Lode Region (COE, November 2018) report⁶. The largest occupation is computer user support specialists. This occupation employed 3,275 workers in 2017 and is projected to increase by 10% over the next five years, offering 315 annual openings. Graphic designers, the second largest ICT/digital media occupation in the region, is projected to experience subdued growth, only 3%, but will still offer 163 annual openings. Computer network architects earn the highest median wage, \$44.28/hour. The lowest median wage is earned by computer, automated teller, and office machine repairers, \$17.98/hour. On average each year, community colleges in the region confer 222 certificates and 228 degrees related to ICT and digital media. The gap analysis reveals a shortage of 709 workers in the region.

ICT/Digital Media	
CRC Community College Program Areas by TOPS	Top 10 Occupations in this Sector
0514.00 Office Technology/Office Computer Applications	1. 15-1151 Computer User Support Specialists
0602.00 Journalism	2. 15-1121 Computer Systems Analysts
0604.00 Radio and Television	3. 15-1142 Network and Computer Systems Administrators
0604.10 Radio	4. 15-1132 Software Developers, Applications
0604.20 Television (including combined TV/Film/Video)	5. 15-1199 Computer Occupations, All Others
0614.00 Digital Media	6. 15-1152 Computer Network Support Specialists
0614.10 Multimedia	7. 15-1131 Computer Programmers
0614.30 Website Design and Development	8. 15-1134 Web Developers
0614.60 Computer Graphics and Digital Imagery	9. 15-1133 Software Developers, Systems Software
0701.00 Information Technology, General	10. 15-1141 Database Administrators
0702.00 Computer Information Systems	
0702.10 Software Applications	
0707.10 Computer Programming	
0708.00 Computer Infrastructure and Support	
0708.10 Computer Networking	
0708.20 Computer Support	
0709.00 World Wide Web Administration	
0934.30 Telecommunications Technology	
1005.00 Commercial Music	
1012.00 Applied Photography	
1013.00 Commercial Art	
1030.00 Graphic Art and Design	
2206.10 Geographic Information Systems	

⁶CRC Center of Excellence, Central Valley/Mother Lode Overview 2018-19, November 2018 <http://coeccc.net/Search.aspx?id=2009>

Employment & Occupational Demand

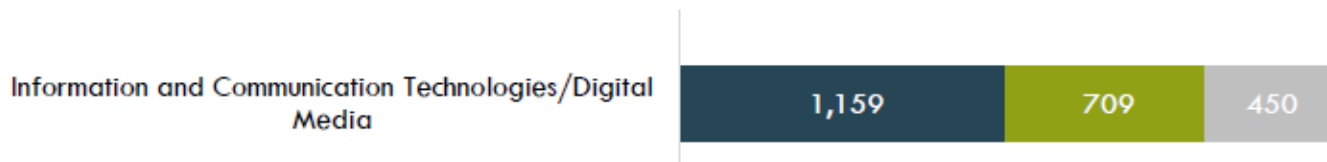
Exhibit 34: ICT/digital media employment and occupational projections

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017- 2022 OPENINGS	ANNUAL OPENINGS
Computer User Support Specialists	3,275	3,605	330	10%	1,573	315
Graphic Designers	1,626	1,671	45	3%	813	163
Computer Occupations, All Other	1,971	2,074	103	5%	774	155
Network and Computer Systems Administrators	1,772	1,912	140	8%	705	141
Computer Network Support Specialists	880	977	97	11%	432	86
Computer, Automated Teller, and Office Machine Repairers	752	759	7	1%	411	82
Web Developers	685	738	53	8%	298	60
Surveying and Mapping Technicians	446	471	25	6%	267	53
Medical Equipment Repairers	278	315	37	13%	165	33
Computer Network Architects	357	399	42	12%	162	32
Media and Communication Equipment Workers, All Other	246	248	2	1%	116	23

Gap Analysis

Exhibit 35: ICT/digital media annual demand and supply in the region

■ Demand (job openings) ■ Gap (need) ■ Supply (completions)



I. Life Sciences/Biotech

The biotechnology sector is best understood as a group of diverse industries with a common link — the application of biological scientific knowledge. Biotechnology harnesses cellular and biomolecular processes to develop technologies and products that combat debilitating and rare diseases, reduce our environmental footprint, feed the hungry, use less and cleaner energy, and have safer, cleaner and more efficient industrial manufacturing processes.

The sector represents a mix of five industry clusters: • Agricultural Feedstock & Chemicals • Drugs & Pharmaceuticals • Medical Devices & Equipment • Research Testing & Medical Laboratories • Bioscience-related Distribution

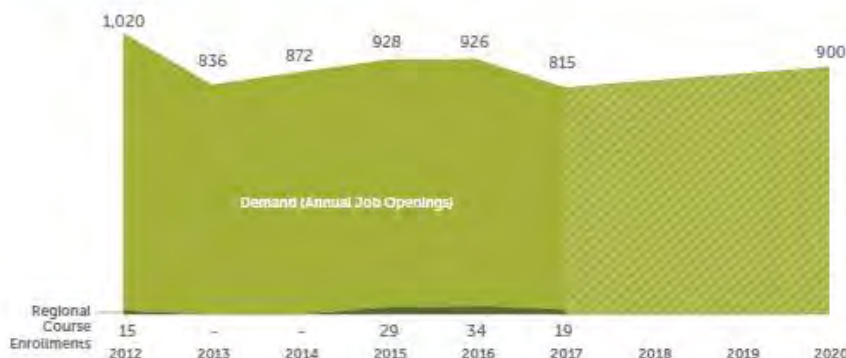
A primary reason for the resiliency of biotechnology is the diverse set of markets it serves. These markets span: biomedical drugs; diagnostics and devices; agricultural products from animal health to seeds and crop protection; and bio-based industrial products such as enzymes for industry chemical processes and bio-remediation, bio-fuels, and bio-plastics.

Life Sciences/Biotech	
CRC Community College Program Areas by TOPS	Top 7 Occupations in this Sector
0430.00 – Biotechnology and Biomedical Technology	1. 51-9061 Inspectors, Testers, Sorters, Samplers, Weighers
0934.70 – Electron Microscopy	2. 29-2012 Medical & Clinical Laboratory Technicians
0955.00 – Laboratory Science Technology	3. 19-4021 Biological Technicians
	4. 19-4031 Chemical Technicians
	5. 49-9062 Medical Equipment Repairers
	6. 51-8091 Chemical Plant and Systems Operators
	7. 17-2031 Biomedical Engineers

Exhibit 36: Supply & Demand; Strong Workforce Metrics

Biotechnology and Biomedical Technology 0430.00

Supply/Demand for Selected Occupations, 2012–20:



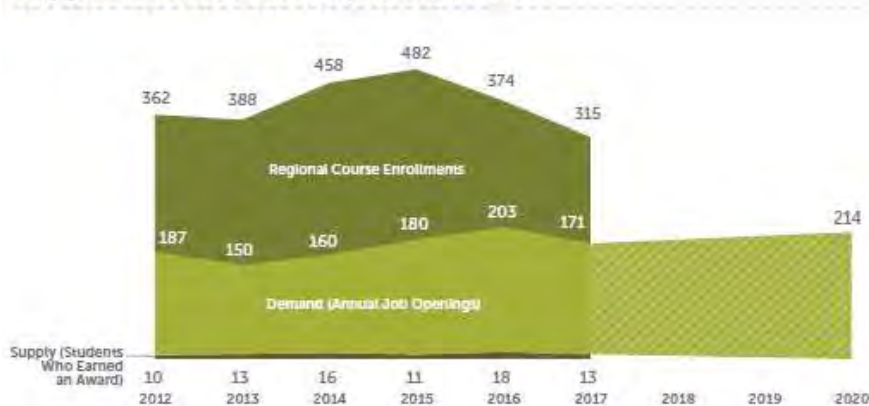
Strong Workforce Program Metrics, 2015–16:

Region	vs	California
-	Employed in the 2nd Quarter After Exit	73%
-	Job Closely Related to Field of Study (2014–15)	80%
\$5,320	Median Earnings in the 2nd Quarter After Exit	\$8,577
-	Employed in the 4th Quarter After Exit	73%
\$12,484	Median Annual Earnings	\$28,47
152%	Median Change in Annual Earnings	76%
-	Attained Living Wage	59%

Exhibit 37: Supply & Demand; Strong Workforce Metrics, continued

Electron Microscopy 0934.70

Supply/Demand for Selected Occupations, 2012–20:

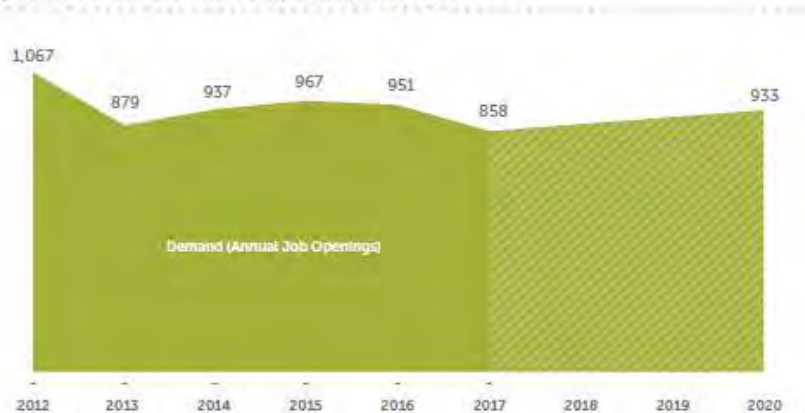


Strong Workforce Program Metrics, 2015–16:

Region	vs	California
78%	Employed in the 2nd Quarter After Exit	78%
-	Job Closely Related to Field of Study (2014–15)	-
\$7,134	Median Earnings in the 2nd Quarter After Exit	\$7,863
83%	Employed in the 4th Quarter After Exit	83%
\$26,697	Median Annual Earnings	\$28,064
168%	Median Change in Annual Earnings	125%
67%	Attained Living Wage	67%

Laboratory Science Technology 0955.00

Supply/Demand for Selected Occupations, 2012–20:



Strong Workforce Program Metrics, 2015–16:

Region	vs	California
-	Job Closely Related to Field of Study (2014–15)	100%
-	Median Earnings in the 2nd Quarter After Exit	\$7,748
-	Median Annual Earnings	\$29,639
-	Median Change in Annual Earnings	42%

J. Public Safety

Law, Public Safety, Corrections and Security careers involve planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services. More than 80 percent of jobs in this sector necessitate at least some postsecondary education, with 40 percent open to those with more than a high school diploma but less than a bachelor's degree



Correctional officers and jailers comprise the largest protective services occupation in the region, with nearly 12,800 workers in 2017. With 5% growth projected, this occupation will offer 1,195 annual openings. The second largest occupation is police and sheriff's patrol officers, which will have more robust growth, 8%, translating to 585 annual openings. The highest paid occupation is first-line supervisors of police and detectives, \$68.54/hour, followed by first-line supervisors of correctional officers, \$48.48/hour. On average each year, community colleges in the region confer 532 certificates and 771 degrees related to protective services. The gap analysis reveals a shortage of 2,181 workers in the region.

Public Safety	
CRC Community College Program Areas by TOPS	Top 6 Occupations in this Sector
2105.00 – Administration of Justice 2105.10 – Corrections 2105.40 – Forensics, Evidence, and Investigation 2105.50 – Police Academy 2133.00 – Fire Technology 2133.10 – Wildland Fire Technology 2133.50 – Fire Academy 2199.00 – Other Public and Protective Services	1. 33-3051 Police & Sheriff's Patrol Officers 2. 33-2011 Firefighters 3. 33-3021 Detectives & Criminal Investigators 4. 33-9021 Private Detectives and Investigators 5. 33-2021 Fire Inspectors & Investigators 6. 33-2022 Forest Fire Inspectors & Prevention Specialists

Employment & Occupational Demand

Exhibit 38: Protective services employment and occupational projections

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017- 2022 OPENINGS	ANNUAL OPENINGS
Correctional Officers and Jailers	12,784	13,447	663	5%	5,973	1,195
Police and Sheriff's Patrol Officers	7,119	7,702	583	8%	2,927	585
Protective Service Workers, All Other	1,933	2,109	176	9%	2,636	527
Firefighters	3,826	4,094	268	7%	1,557	311
Police, Fire, and Ambulance Dispatchers	994	1,083	89	9%	549	110
First-Line Supervisors of Correctional Officers	1,400	1,472	72	5%	547	109
Private Detectives and Investigators	661	695	34	5%	358	72
Detectives and Criminal Investigators	751	839	88	12%	334	67
First-Line Supervisors of Police and Detectives	778	863	85	11%	327	65
First-Line Supervisors of Protective Service Workers, All Other	505	546	41	8%	295	59
First-Line Supervisors of Fire Fighting and Prevention Workers	370	406	36	10%	162	32
Gaming Surveillance Officers and Gaming Investigators	204	220	16	8%	153	31
Animal Control Workers	202	215	13	6%	122	24
Forensic Science Technicians	144	171	27	19%	116	23

Gap Analysis

Exhibit 39: Protective services annual demand and supply in the region



K. Retail, Hospitality and Tourism

An analysis of the retail, hospitality, tourism and entertainment industry breaks the industry into two subsectors: retail as the first sector, and hospitality, tourism and entertainment as the second sector. The largest retail occupation is customer service representatives with 15,584 workers in 2017. This occupation is projected to increase robustly at 10%, offering 2,352 annual openings. The largest occupation in hospitality, tourism and entertainment is cooks (restaurant) with nearly 9,000 workers in 2017. With a strong growth projection of 10%, this occupation will offer 1,471 annual openings.

The highest paid retail occupation is interior designers with a median wage of \$20.97/hour. The highest paid hospitality, tourism and entertainment occupation is interpreters and translators with a median wage of \$22.11/hour.

On average each year, community colleges in the region confer 31 certificates and 31 degrees related to retail. The gap analysis reveals a shortage of 6,691 retail-related workers in the region. By comparison, community colleges in the region confer 173 certificates, 101 degrees and seven non-credit awards related to hospitality, tourism and entertainment. The gap analysis reveals a shortage of 5,673 workers for the hospitality, tourism and entertainment industry in the region.

Retail, Hospitality & Tourism	
CRC Community College Program Areas by TOPS	Top 10 Occupations in this Sector
0506.50 – Retail Store Operations and Management 0514.40 – Office Management 1301.00 – Family and Consumer Sciences, General 1302.00 – Interior Design and Merchandising 1303.10 – Fashion Design 1303.20 – Fashion Merchandising 1306.30 – Culinary Arts 1307.10 – Restaurant and Food Services & Management 1307.20 – Lodging Management 1307.30 – Resort and Club Management	1. 43-1011 First-Line Supervisors of Office & Admin Support Workers 2. 35-1012 First-Line Supervisors of Food Preparation & Serving Workers 3. 35-2014 Cooks, Restaurant 4. 35-2012 Cooks, Institution & Cafeteria 5. 11-9051 Food Service Managers 6. 37-1011 First-Line Supervisors of Housekeeping & Janitorial Workers 7. 11-3011 Admin Services Manager 8. 35-1011 Chefs & Head Cooks 9. 11-9081 Lodging Managers 10. 35-2019 Cooks, All Other

Employment & Occupational Demand

Exhibit 40: Retail employment and occupational projections

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017- 2022 OPENINGS	ANNUAL OPENINGS
Customer Service Representatives	15,584	17,065	1,481	10%	11,760	2,352
First-Line Supervisors of Retail Sales Workers	14,731	15,328	597	4%	8,764	1,753
Hairdressers, Hairstylists, and Cosmetologists	6,682	7,379	697	10%	4,799	960
Manicurists and Pedicurists	2,637	2,927	290	11%	1,831	366
First-Line Supervisors of Personal Service Workers	2,439	2,778	339	14%	1,583	317
Demonstrators and Product Promoters	1,272	1,314	42	3%	1,156	231
Merchandise Displayers and Window Trimmers	1,126	1,216	90	8%	629	126
Skincare Specialists	632	706	74	12%	444	89
Barbers	721	804	83	12%	428	86
Advertising Sales Agents	636	580	(56)	(9%)	385	77
Security and Fire Alarm Systems Installers	513	579	66	13%	369	74
First-Line Supervisors of Gaming Workers	421	442	21	5%	358	72
Funeral Attendants	363	379	16	4%	295	59
Interior Designers	536	554	18	3%	278	56
Floral Designers	532	510	(22)	(4%)	246	49
Home Appliance Repairers	328	359	31	9%	193	39
Locksmiths and Safe Repairers	275	280	5	2%	143	29
Morticians, Undertakers, and Funeral Directors	158	166	8	5%	109	22

Gap Analysis

Exhibit 41: Retail annual supply and demand in the region

■ Demand (job openings) ■ Gap (need) ■ Supply (completions)



Exhibit 42: Hospitality, tourism and entertainment employment and occupational projections

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017- 2022 OPENINGS	ANNUAL OPENINGS
Cooks, Restaurant	8,929	9,785	856	10%	7,356	1,471
First-Line Supervisors of Food Preparation and Serving Workers	8,137	9,057	920	11%	6,941	1,388
Cooks, Institution and Cafeteria	3,656	4,013	357	10%	3,025	605
Fitness Trainers and Aerobics Instructors	2,934	3,251	317	11%	2,868	574
Food Service Managers	3,983	4,185	202	5%	2,374	475
Bakers	1,925	2,038	113	6%	1,506	301
Butchers and Meat Cutters	2,056	2,179	123	6%	1,407	281
First-Line Supervisors of Housekeeping and Janitorial Workers	1,705	1,880	175	10%	1,169	234
Chefs and Head Cooks	1,268	1,375	107	8%	922	184
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	1,671	1,742	71	4%	868	174
Interpreters and Translators	969	1,055	86	9%	536	107
Meeting, Convention, and Event Planners	669	740	71	11%	469	94
Photographers	948	958	10	1%	436	87
Audio and Video Equipment Technicians	766	818	52	7%	408	82
Lodging Managers	577	569	(8)	(1%)	309	62
Travel Agents	250	261	11	4%	172	34
Entertainers and Performers, Sports and Related Workers, All Other	214	222	8	4%	124	25
Cooks, All Other	146	163	17	12%	124	25
Broadcast Technicians	217	231	14	6%	119	24
Radio and Television Announcers	241	222	(19)	(8%)	118	24

Gap Analysis

Exhibit 43: Hospitality, tourism and entertainment annual demand and supply in the region



L. Transportation and Logistics

California is a world leader in technology, and the movement of goods is a vital component to the economic health of our state and region. Distribution networks are critical to providing businesses with parts and materials needed for successful operations, as well as, supplying products to local consumer markets that are then retailed to satisfy its demand. Logistics is primarily engaged in maintaining a sound supply chain through transporting and warehousing goods, as well as connecting businesses and communities across the state with highways, railways, shipping, and aviation routes.

While the benefits of the Advanced Transportation and Logistics (ATL) sector are numerous, the consequences are environmental issues related to emissions, increased congestion, and external costs incurred by taxpayers to maintain public infrastructure that is heavily used by the industry. The implementation of advanced transportation technologies and systems not only reduces the negative impacts on the environment and the health of the population, but also creates sustainable employment opportunities. As federal and state regulations are enacted, more organizations and businesses are adopting higher fuel and efficiency standards, which means that workforce needs are transforming. Both incumbent workers and those just starting on a career path will need up-to-date training and education to sustain employment in advanced transportation.

Ensuring that California has a Highly Skilled Clean Transportation and Logistics Workforce, the ATL sector encourages an array of clean energy technologies that form a critical part of California's strategy for reducing its climate change impact and its dependency on foreign energy, as well as growing a robust green economy by helping California's businesses remain competitive in a global market.

Heavy and tractor-trailer truck drivers comprise the largest logistics occupation and are projected to offer the most annual openings, 3,793. The second largest occupation, industrial truck and tractor operators, is projected to expand by 11% over the next five years, offering 1,611 annual openings. Shipping, receiving and traffic clerks will also offer substantial annual openings, 931. The highest median wage is earned by airline pilots, copilots and flight engineers, \$88.02/hour. The lowest wage is earned by shipping, receiving and traffic clerks, \$15.16/hour. On average each year, community colleges in the region confer 19 certificates, four degrees and 20 non-credit awards related to logistics. The gap analysis reveals a shortage of 8,765 workers in the region.

Advanced Transportation and Logistics	
CRC Community College Program Areas by TOPS	Top 10 Occupations in this Sector
0510.00 Logistics and Materials Transportation	1. 49-3023 Automotive Service Technicians and Mechanics
0947.00 Diesel Technology	2. 53-1021 First-line Supervisors of Helpers, Laborers and Material Movers, Hand
0947.20 Heavy Equipment Maintenance	3. 43-5061 Production, Planning, and Expediting Clerks
0947.30 Heavy Equipment Operation	4. 53-1031 First-line Supervisors of Transportation and Material-Moving Machines and Vehicle Operations
0948.00 Automotive Technology	5. 49-3043 Mobile Heavy Equipment Mechanics, Except Engines
0949.00 Automotive Collision Repair	6. 49-3041 Farm Equipment Mechanics and Service Technicians
	7. 11-3071 Transportation, Storage, and Distribution Managers
	8. 11-3051 Industrial Production Managers
	9. 13-1081 Logisticians
	10. 43-5011 Cargo and Freight Agents

Employment & Occupational Demand

Exhibit 44: Logistics employment and occupational projections

OCCUPATION	2017	2022	5-YR CHANGE	5-YR % CHANGE	2017-2022 OPENINGS	ANNUAL OPENINGS
Heavy and Tractor-Trailer Truck Drivers	30,581	32,859	2,278	7%	18,967	3,793
Industrial Truck and Tractor Operators	11,575	12,889	1,314	11%	8,053	1,611
Shipping, Receiving, and Traffic Clerks	8,011	8,555	544	7%	4,654	931
First-line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	5,153	5,782	629	12%	3,390	678
Bus Drivers, School or Special Client	4,145	4,698	553	13%	3,179	636
Bus Drivers, Transit and Intercity	1,253	1,462	209	17%	1,014	203
Transportation, Storage, and Distribution Managers	1,488	1,627	139	9%	725	145
Logisticians	1,165	1,231	66	6%	639	128
Aircraft Mechanics and Service Technicians	1,363	1,382	19	1%	560	112
Painters, Transportation Equipment	690	730	40	6%	407	81
Commercial Pilots	586	643	57	10%	344	69
Transportation Attendants, Except Flight Attendants	467	489	22	5%	338	68
Cargo and Freight Agents	454	522	68	15%	266	53
Transportation Inspectors	315	342	27	9%	184	37
Railroad Conductors and Yardmasters	319	325	6	2%	159	32
Airline Pilots, Copilots, and Flight Engineers	309	312	3	1%	153	31
Rail Car Repairers	210	225	15	7%	121	24
Locomotive Engineers	276	280	4	1%	121	24
Captains, Mates, and Pilots of Water Vessels	181	202	21	12%	118	24
Sailors and Marine Oilers	140	159	19	14%	109	22

Gap Analysis

Exhibit 45: Logistics annual demand and supply in the region



VI. Goals, Strategies and Recommended Tactics

The following five pillars (or goals) support the broad strategic priorities of the CRC Strong Workforce mission.

A. Regional Leadership & Communication

- Cultivate and develop regional leadership and support structures that improve outcomes in the region's priority sectors.
- Focus relentlessly on students' end goals.
- Pair high expectations with high support.
- Take ownership of goals and performance.
- Lead the work of partnering

B. Regional Planning and C. Curriculum, Programs and Pathways

- **Intentional planning and deliberate collaboration** to prepare students to enter the workforce educated for tomorrow's jobs in pathways supported by labor market data in the CRC's industry sectors that offer living wage and higher paying, middle-skill jobs.
- Champion design and decisions with the student in mind.
 - Equity
 - More and Better CTE
- Enable action and thoughtful innovation.
- Industry Sector, LMI-driven SWP K12 & SWP Regional Proposals, Projects, Programming, Pathway Improvements and Pathways are aligned to achieve positive outcomes (fueled by SWP funding and LMI data)
- Targeted Areas Addressing Supply & Demand Gaps
- **Build and Clarify the Path**
 - Design well-articulated career education pathways that increase the likelihood of students achieving economic prosperity.
 - Ensure Better and Living Wage Jobs
 - Intersection with Guided Pathways & Other Initiatives
 - Work Based Learning
 - Identify opportunities for pathway Aligned Dual-enrollment
- Experiential Learning: Internships & Externships
- CTE Instructor Pipeline

D. CTE Student Support Services

- **Enter the Path** - Ensure that potential students are aware of career education pathways through effective career exploration, communication and outreach.
- **Stay on the Path and Ensure Learning** - Facilitate student progression and completion in career education pathways
- **Employment Preparation and Transition to Work** Provide diverse opportunities that prepare students for a seamless transition into careers or career advancement.
 - Work Based Learning
 - Experiential Learning: Internships & Externships

E. Research and Data

- Foster the use of data, inquiry, and evidence.
- Ensure that targets are being met
- Ensure new and improved programs (More & Better CTE) are supported by LMI and move the metrics necessary to achieve Vision for Success.
- Ensure targeted areas address supply & demand gaps.
- Seek out best practices, communities of practice and opportunities for leverage for student success.

VII. Current SWP Investments

A. Funded Projects (Strong Workforce Funding, Rounds 1 through 3)

The Central/Mother Lode Region invested its regional share of over \$26M Strong Workforce funds from Round 1 through Round 3 across 43 regional projects. All 14 community colleges are participating in 11 Region-Wide Projects; and anywhere from two to thirteen community colleges are participating in 32 Regional Opt-in Projects. See Appendix A for a list of all SWP projects-to-date.

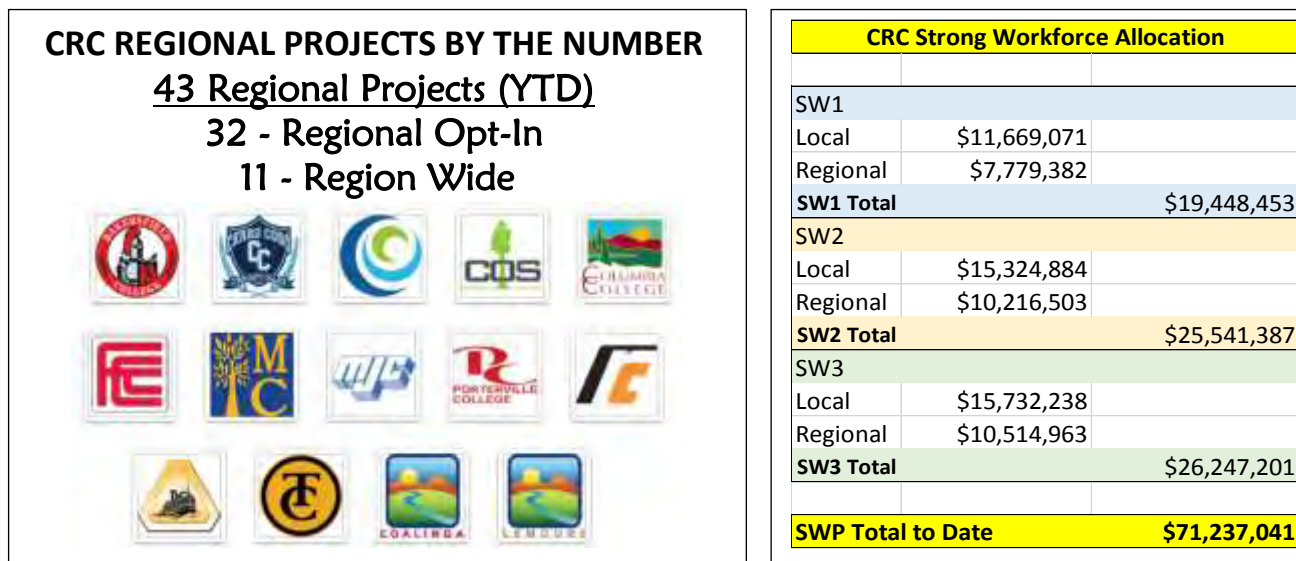


Exhibit 46: Regional SWP Investments by Sector

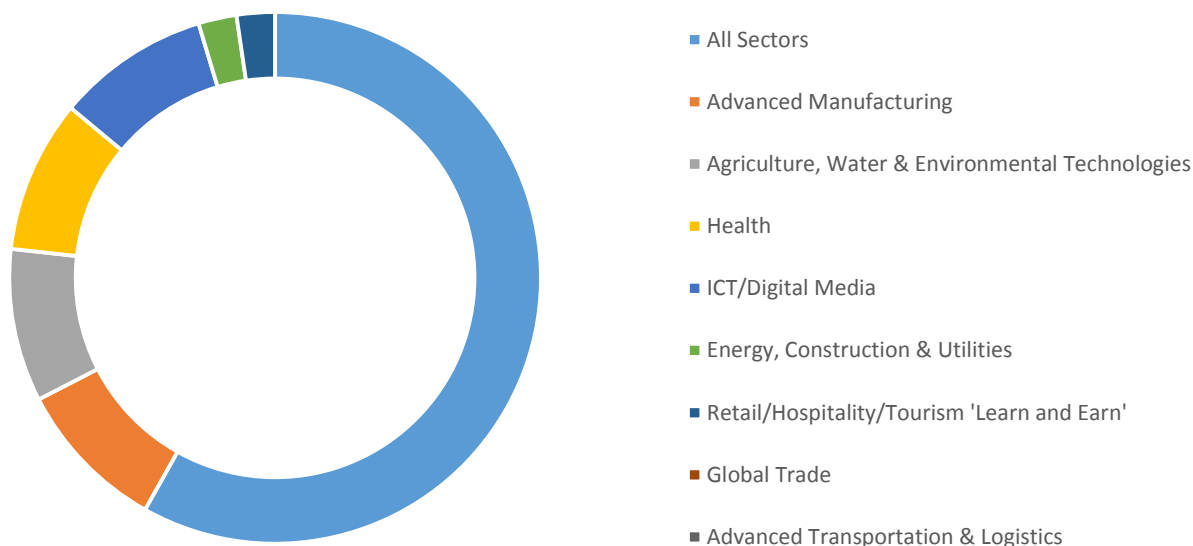
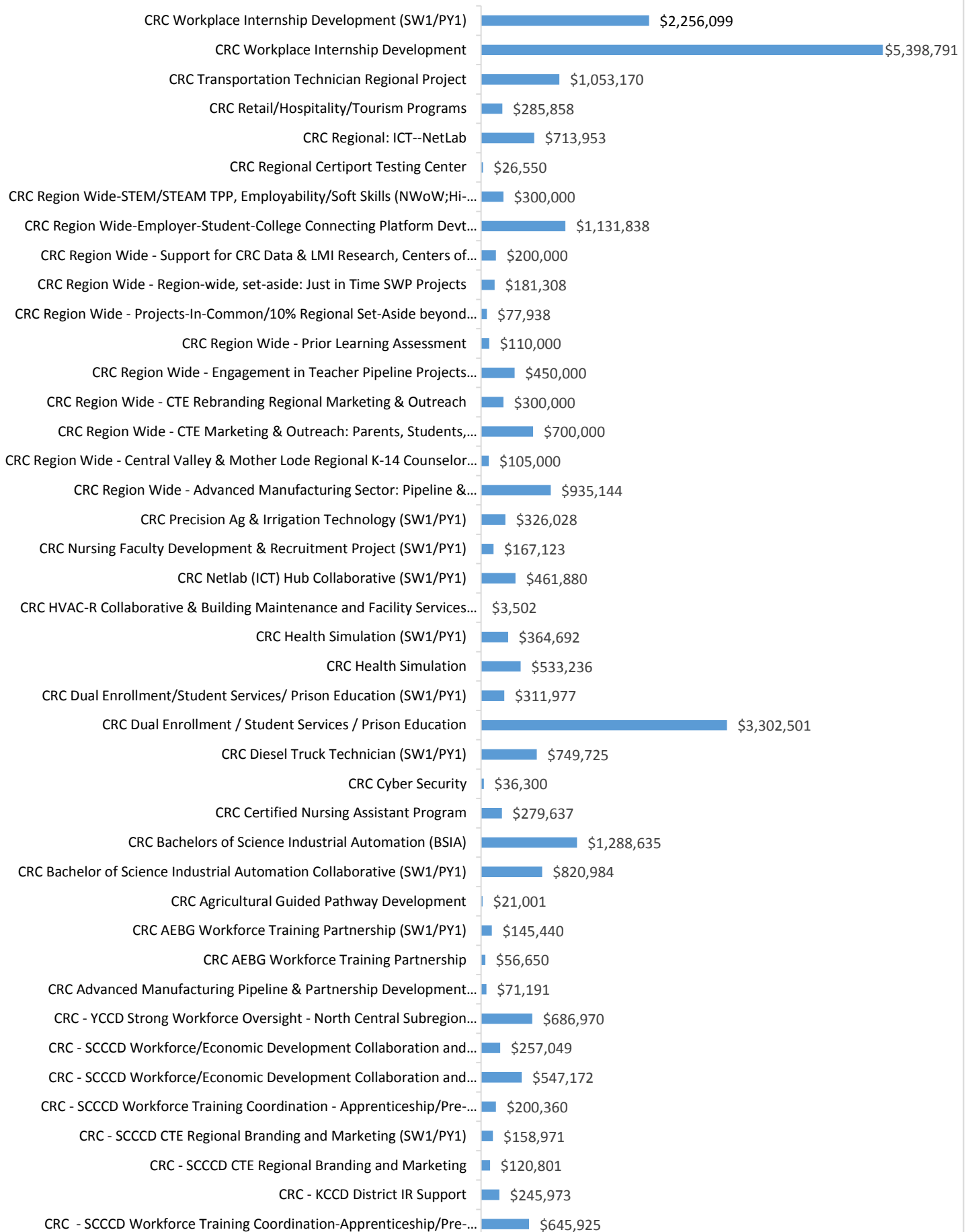


Exhibit 47: Regional SWP Investments by Project



VIII. Strong Workforce Metrics

A. Enrollment

Number of Course Enrollments						Data as of 9/26/2018
Description: The number of registrations in courses assigned to the TOP code in the selected year						
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
All Programs	891,338	878,639	910,466	932,786	947,809	907,341
CTE Programs	252,533	243,536	255,903	255,851	254,244	262,021
Advanced Manufacturing	19,952	20,666	25,267	22,256	21,589	25,562
Agriculture, Water & Environmental Tech	15,290	15,375	15,331	15,307	17,277	18,253
Business and Entrepreneurship	29,601	29,324	30,479	32,363	33,835	34,450
Energy, Construction and Utilities	6,593	5,885	5,702	5,724	5,646	5,553
Global Trade	50	60	65	-	55	49
Health	48,200	46,481	49,963	47,455	45,650	45,803
ICT / Digital Media	44,328	42,990	41,147	38,393	38,921	37,332
Retail/Hospitality/Tourism	8,580	7,797	8,168	7,991	7,721	7,036
SWP projects addressing this metric: All Projects						

How is the region investing in “more” CTE enrollment?

Bakersfield College is using Strong Workforce money to invest in the **Bachelor of Science Industrial Automation Collaborative** Regional SWP project. The San Joaquin Valley has a large base of production and logistics facilities serving industry sectors ranging from Agricultural, Manufacturing, Transportation, to Energy. All of these industry sectors utilize automated processes requiring a workforce trained in mechatronics or industrial automation.



Industrial Automation Inspires Bakersfield College Student to End Global Poverty

Bakersfield College student Serena Kereserena moved to the United States from Africa to obtain a degree that she could use back in Africa to make to help end poverty and make food more accessible. Kereserena shares, “I thought that engineering is something that I could use everywhere. I would like to open up my own business back in Africa using automation in the agricultural field. Industrial automation teaches us to (replace human tasks) and put robots to do the job more efficiency. I’m learning how to program robots to make farming more efficient. I would say that poverty is a really a big issue back in my country and I’m thinking that (accessible, cheaper) food is really important. It’s amazing being able to get a bachelor’s at community college because it’s affordable.”

B. Persistence

Strong Workforce Program Metrics - Progress Outcomes

Completed 12+ CTE Units in One Year

Data as of 9/26/2018

Description: Number of students who earned 12 or more units in vocational for-credit courses with a passing or satisfactory grade for

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
All Programs	12,732	12,312	12,914	12,938	12,583	13,044
CTE Programs	12,731	12,312	12,914	12,938	12,583	13,044
Advanced Manufacturing	1,326	1,303	1,406	1,437	1,391	1,348
Agriculture, Water & Environmental Tech	1,517	1,621	1,633	1,531	1,685	1,648
Business and Entrepreneurship	2,553	2,504	2,675	2,598	2,647	2,611
Energy, Construction and Utilities	822	744	733	842	872	835
Global Trade	18	12	16	-	16	16
Health	4,249	4,073	4,227	3,939	3,690	3,613
ICT / Digital Media	3,441	3,267	3,302	3,143	3,080	2,981
Retail/Hospitality/Tourism	821	765	847	814	727	670

Strong Workforce Program Metrics - Progress Outcomes (continued)

Completed 48+ CTE Contact Hours in One Year

Data as of 9/26/2018

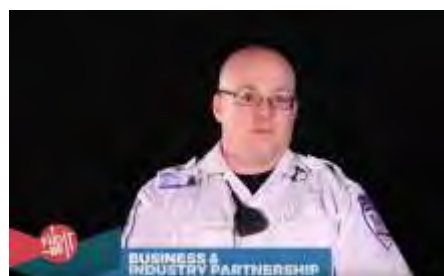
Description: Number of students who had 48 or more contact hours in vocational noncredit courses for the first time

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
All Programs	1,055	746	956	830	727	680
CTE Programs	1,055	746	956	930	727	680
Advanced Manufacturing	90	75	76	102	46	43
Agriculture, Water & Environmental Tech	33	24	23	25	22	21
Business and Entrepreneurship					58	75
Energy, Construction and Utilities	158	165	171	168	103	76
Global Trade			None			
Health	444	141	299	259	293	319
ICT / Digital Media	187	191	204	166	149	159
Retail/Hospitality/Tourism	159	129	151	124	110	94

How is the region ensuring that students persist in their career paths?

Imperial Ambulance & Porterville EMT Students Are En Route To New Careers Locally

Paramedic Supervisor Sean Roberts believes career education is a smart business investment. He works with **Porterville College** to give students real-life skill-building opportunities by taking them out on calls. Sean has hired approximately half of his paramedics from the college's Emergency Medical Technician (EMT) program and says the partnership with the college is a total win-win. "The students get to ride on calls to practice their skills while we see how they may work out as a potential employee," he said. Learn more about what makes this partnership so successful: Watch [Sean's video here](#) (or go to <https://tinyurl.com/SeanEMTPC>). Congratulations **Porterville College** for a great industry and education partnership!



C. Completion and Transfer

Strong Workforce Program Metrics - Completion Outcomes

Number of Students Who Got a Degree or Certificate Data as of 9/26/2018						
Description: Number of distinct students who earned a locally-issued certificate, Chancellor's Office approved certificate, associate						
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
All Programs	9,996	10,776	11,595	12,538	13,533	14,453
CTE Programs	5,628	6,024	6,677	7,530	7,640	8,564
Advanced Manufacturing	318	386	390	408	430	384
Agriculture, Water & Environmental Tech	237	257	347	384	363	380
Business and Entrepreneurship	830	889	1,038	1,177	1,327	1,505
Energy, Construction and Utilities	160	177	186	197	211	202
Global Trade	None					
Health	1,726	1,990	1,867	2,058	1,979	2,222
ICT / Digital Media	372	408	489	544	528	546
Retail/Hospitality/Tourism	172	195	178	187	166	174
SWP projects addressing this metric: P01, P02, P05, P06, P08, P09, P11, P12, P13, P14, P15, P17						

Number of Students Who Transferred Data as of 9/26/2018					
Description: Number of students who last took a course in the selected TOP code in the selected year, did not take a					
	2011-12	2012-13	2013-14	2014-15	2015-16
All Programs	7,630	7,972	8,631	8,938	9,917
CTE Programs	6,435	6,679	7,157	7,299	7,991
Advanced Manufacturing	256	242	279	259	228
Agriculture, Water & Environmental Tech	572	580	674	645	819
Business and Entrepreneurship	1,683	1,807	2,031	2,191	2,357
Energy, Construction and Utilities	143	127	136	110	107
Global Trade	None				
Health	1,229	1,254	1,296	1,304	1,312
ICT / Digital Media	1,772	1,899	1,940	1,875	2,183
Retail/Hospitality/Tourism	235	222	217	218	240
SWP projects addressing this metric: P14					

Are students completing?

Mental Health Worker Takes Career to New Level with Certificate Programs at San Joaquin Delta College

Meet **San Joaquin Delta College** student, Adam Wong! "I came to San Joaquin Delta College to work on my prerequisites for the program and in doing so a classmate of mine mentioned the psychiatric technician program. I looked into it and I saw that it would enhance my career as a nurse. Over my years of experience, I've been a certified nurse assistant; I've been a rehab technician in (both) a hospital setting and a skilled nursing facility setting. I just find myself always wanting to help people and see people get better. That's just my life goal to be a healer and help people. From this program I will be getting a certificate; with that certificate I'm allowed to take the NCLEX which is a state board exam which allows me to be licensed as a psychiatric technician. In my experience being at the community college, I'm able to find work after graduation a lot easier than I would as an undergraduate. Because of the certificate, it allows me to take a license and in my opinion any kind of job where you can take a licensure exam, you have an upper hand when it comes into the working field."



D. Employment

Strong Workforce Program Metrics - Workforce Outcomes

Employed in the Second Fiscal Quarter After Exit

Data as of 9/26/2018; Data Source: EDD Unemployment Insurance Dataset

Description: Among all exiting students, the percentage who were employed two quarters after exiting the community

		2011-12	2012-13	2013-14	2014-15	2015-16
All Programs	% of	69%	68%	70%	71%	72%
	Students	19,428	18,036	18,677	19,324	20,117
CTE Programs	% of	70%	69%	70%	72%	72%
	Students	18,488	17,131	17,566	18,259	18,905
Advanced Manufacturing	% of	67%	66%	64%	68%	66%
	Students	1,848	2,471	2,703	2,487	2,420
Agriculture, Water & Environmental Tech	% of	61%	62%	65%	68%	64%
	Students	1,013	1,025	1,030	1,066	1,262
Business and Entrepreneurship	% of	66%	66%	69%	69%	72%
	Students	2,119	1,805	1,976	2,068	2,349
Energy, Construction and Utilities	% of	69%	68%	69%	68%	72%
	Students	780	659	743	725	727
Global Trade	% of	None				
	Students					
Health	% of	72%	73%	73%	76%	76%
	Students	3,776	3,379	3,485	3,765	3,776
ICT / Digital Media	% of	57%	60%	64%	62%	63%
	Students	2,162	2,084	1,965	1,833	1,868
Retail/Hospitality/Tourism	% of	61%	67%	63%	64%	61%
	Students	395	347	363	348	387

SWP projects addressing this metric: P01, P06, P07, P08, P09

Employed in the Fourth Fiscal Quarter After Exit

Data as of 9/26/2018; Data Source: EDD Unemployment Insurance Dataset

system

		2011-12	2012-13	2013-14	2014-15	2015-16
All Programs	% of	69%	69%	70%	71%	71%
	Students	19,428	18,036	18,677	19,324	20,117
CTE Programs	% of	69%	69%	70%	72%	71%
	Students	18,488	17,131	17,566	18,259	18,905
Advanced Manufacturing	% of	62%	67%	62%	65%	65%
	Students	1,848	2,471	2,703	2,487	2,420
Agriculture, Water & Environmental Tech	% of	63%	63%	66%	69%	64%
	Students	1,013	1,025	1,030	1,066	1,262
Business and Entrepreneurship	% of	68%	66%	68%	68%	71%
	Students	2,119	1,805	1,976	2,068	2,349
Energy, Construction and Utilities	% of	70%	68%	67%	70%	73%
	Students	780	659	743	725	727
Global Trade	% of	None				
	Students					
Health	% of	73%	75%	75%	78%	75%
	Students	3,776	3,379	3,485	3,765	3,776
ICT / Digital Media	% of	58%	59%	64%	64%	63%
	Students	2,162	2,084	1,965	1,833	1,868
Retail/Hospitality/Tourism	% of	60%	65%	65%	64%	63%
	Students	395	347	363	348	387

SWP projects addressing this metric: P07, P08, P09

Strong Workforce Program Metrics - Workforce Outcomes (continued)

Job Closely Related to Field of Study

Data as of 9/26/2018; Data Source: Student Outcomes Survey

Description: Among students who last took a course in the selected TOP code in the selected year and did not enroll in

		2012-13	2013-14	2014-15
All Programs	% of Students	71% 58	62% 71	70% 1,889
CTE Programs	% of Students	71% 56	68% 62	78% 1,269
Advanced Manufacturing	% of Students	100% 3	60% 5	81% 101
Agriculture, Water & Environmental Tech	% of Students			85% 48
Business and Entrepreneurship	% of Students	80% 5	57% 7	81% 106
Energy, Construction and Utilities	% of Students			79% 28
Global Trade	% of Students	None		
Health	% of Students	100% 11	94% 18	89% 406
ICT / Digital Media	% of Students		60% 5	51% 86
Retail/Hospitality/Tourism	% of Students			79% 28

SWP projects addressing this metric: P01, P03, P06

Are students getting jobs?



Students Cook Up Culinary Skills & Careers at West Hills College Lemoore

West Hills College Lemoore career education student Tommy Garcia says his children call him “Chef Daddy.” That’s because he found his calling at West Hills Lemoore in the culinary program. Said Tommy, “I’ve gone from having a job to really having a career.” Don’t miss his [interview here](https://tinyurl.com/TommyWHChef) or go to <https://tinyurl.com/TommyWHChef>, where students tell others to Find It. Be It. – Career Education.

E. Wages and Quality of Life

Strong Workforce Program Metrics - Earnings Outcomes

Median Earnings in the Second Fiscal Quarter After Exit

Data as of 9/26/2018; Data Source: EDD Unemployment Insurance Dataset

college system

	2011-12	2012-13	2013-14	2014-15	2015-16
All Programs	\$ 8,251	\$ 7,786	\$ 7,713	\$ 8,666	\$ 8,175
CTE Programs	\$ 8,340	\$ 7,840	\$ 7,719	\$ 8,733	\$ 8,214
Advanced Manufacturing	\$ 8,901	\$ 9,821	\$ 7,620	\$ 8,908	\$ 7,266
Agriculture, Water & Environmental	\$ 4,676	\$ 4,988	\$ 5,178	\$ 6,226	\$ 5,967
Business and Entrepreneurship	\$ 6,456	\$ 6,334	\$ 6,812	\$ 7,384	\$ 8,079
Energy, Construction and Utilities	\$ 8,702	\$ 8,044	\$ 8,108	\$ 8,677	\$ 8,335
Global Trade	None				
Health	\$ 7,570	\$ 7,045	\$ 7,401	\$ 8,214	\$ 7,767
ICT / Digital Media	\$ 5,225	\$ 5,249	\$ 5,377	\$ 5,987	\$ 5,726
Retail/Hospitality/Tourism	\$ 4,382	\$ 4,177	\$ 4,519	\$ 4,701	\$ 4,890

Strong Workforce Program Metrics - Earnings Outcomes (continued)

Median Change in Earnings

Data as of 9/26/2018; Data Source: EDD Unemployment Insurance Dataset

Description: Among exiting students, the percentage change in earnings one year before and one year after exiting the

	2011-12	2012-13	2013-14	2014-15	2015-16
All Programs	19%	31%	43%	44%	49%
CTE Programs	19%	32%	43%	43%	48%
Advanced Manufacturing	24%	24%	31%	18%	26%
Agriculture, Water & Environmental	40%	53%	51%	85%	91%
Business and Entrepreneurship	16%	23%	23%	35%	33%
Energy, Construction and Utilities	41%	38%	46%	58%	55%
Global Trade	None				
Health	53%	67%	82%	86%	108%
ICT / Digital Media	19%	28%	37%	37%	47%
Retail/Hospitality/Tourism	33%	50%	28%	34%	97%

SWP projects addressing this metric: P01, P06

Strong Workforce Program Metrics - Earnings Outcomes (continued)

Attained a Living Wage

Data as of 9/26/2018; Data Source: EDD Unemployment Insurance Dataset

Description: Among completers and skills-builder students who last took a course in the selected TOP code in the selected year

		2011-12	2012-13	2013-14	2014-15	2015-16
All Programs	% of	52%	50%	50%	55%	54%
	Students	13,084	12,451	13,281	13,091	14,872
CTE Programs	% of	53%	52%	52%	58%	57%
	Students	12,084	11,401	11,940	12,516	13,148
Advanced Manufacturing	% of	59%	62%	51%	59%	54%
	Students	1,217	1,692	1,846	1,676	1,640
Agriculture, Water & Environmental	% of	37%	37%	43%	48%	49%
	Students	564	599	589	651	708
Business and Entrepreneurship	% of	51%	46%	52%	57%	63%
	Students	1,303	1,125	1,242	1,343	1,609
Energy, Construction and Utilities	% of	65%	59%	58%	65%	64%
	Students	482	402	474	451	470
Global Trade	% of	None				
	Students					
Health	% of	59%	59%	61%	64%	62%
	Students	2,658	2,496	2,528	2,744	2,654
ICT / Digital Media	% of	38%	39%	42%	44%	44%
	Students	1,065	1,086	1,107	1,010	1,094
Retail/Hospitality/Tourism	% of	31%	30%	28%	32%	36%
	Students	214	196	203	194	215

SWP projects addressing this metric: P06

Are students improving their quality of life and opportunities for advancement?

Columbia College's On-Site Fire Dept. Sparks Careers in Firefighting Tech

Columbia College student Tony Garcia needed his Firefighter One certificate to advance in his current career as a firefighter. Garcia is attending **Columbia College's** Fire Academy. "The Fire Program at Columbia College is amazing and you get a lot of hands-on experience, and you learn straight from the book a lot of practical skills and things you never even knew anything about. The Firefighter One certificate is also part of my Associates degree for Fire Technology, so it's also working for me. This is the best place to be at to learn about the Fire Department and Fire Industry."



IX. Challenges and Opportunities

Robust industry and advisory committee engagement; statewide purview (regional pilots) and project-in-common; student identifier and data sharing agreements; minimum qualifications and equivalency; prior learning assessments; program mapper; law and regulations for disposable consumables, internships, externships; streamline curriculum; regional marketing and outreach to students and employers.

Appendix A:
Funded SWP Regional Priorities
SWP Program Years 16/17-18/19
(Rounds 1-3)



**CRC Colleges Strong Workforce Program for SW2 & SW3 (7/2017-12/2020):
Approved Regional (opt-in) Projects & Approved CRC Region Wide Projectsⁱ**

ACROSS ALL SECTORS

1. Workplace Internship Development

Lead: Merced College

Colleges participating: Bakersfield College, Cerro Coso College, Columbia College, Fresno City College, Merced College, Modesto Junior College, Porterville College, San Joaquin Delta College, Taft College, West Hills College Coalinga, West Hills College Lemoore, Clovis Community College, College of the Sequoias

DESCRIPTION: The Workplace Internship Development Regional Project will focus on students attending community college, with a goal of earning a certificate or associate degree aimed at technical training, with a desire to enter directly into the workforce upon successful completion of their CTE program. Each Workplace Internship Development partnering college will provide services to assist in internship/job placement that is an integral part of the colleges Career Center/CTE WBL point of contact.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?

This proposal addresses the need to increase the number of program completers on jobs by the 2nd and 4th quarters after completing a CTE degree or certificate. The workplace Internship Development Office will employ a Manager/Job Developer, and secretarial support staff. The duties of the office would include: 1. Industry Partnership Internship Development Relations 2. CTE program completer Internship facilitation 3. Business mentor partnership development 4. Graduate employment follow-up data collection 5. Employability training for potential interns (Resume writing, letter of application writing, mock interview training, employment application completion, etc.) 6. Coordinate with Career Counseling upon student placement in CTE programs. 7. Coordinate services with entities such as EDD, WIB to promote enrollment of the un or under employed.

2. Dual Enrollment/Student Services/ Prison Education

Lead: Bakersfield College

Colleges participating: Bakersfield College, Fresno City College, Modesto Junior College, Columbia College, West Hills College Coalinga, Merced College, Cerro Coso Community College, Taft College

DESCRIPTION: This is a regional opt-in project that seeks to build capacity at participating colleges and builds on the work done under the prior SWP1-R project of the same name. Participating colleges define, describe, and address institution-specific needs in order to support the further development of their respective dual enrollment programs.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS? This capacity-building project will support the development of colleges' Dual Enrollment (DE) program(s). DE is a college course taught by high school teachers or college adjuncts who meet minimum qualifications for college instructors. High school students participating in dual enrollment are enrolled college students who receive College and High School credit upon completion of the course. Participating colleges will commit to: Develop and share effective models; Identify collective project data variables to track the impact of DE; and Communicate an aggregate story of how CVML colleges are doing DE. Within this framework each college will identify and develop its own scope of work and budget in order to contribute to these overall project outcomes. Bakersfield College (BC) is the project lead. BC has been a leader statewide in collaborating with its feeder high schools to implement dual enrollment courses. During the adoption of this innovative approach, BC has experienced structural and organizational needs which it expects to address through this project.

3. Strong Workforce Oversight - North Central Subregion Colleges

Lead: Modesto Junior College

Colleges participating: Modesto Junior College, Columbia College

DESCRIPTION: The Strong Workforce Oversight proposal will provide Individual college coordination and oversight of SW project implementation, budget and expenditures, and metrics reporting in the Stanislaus/Mother Lode region. Each partnering college will implement administrative oversight to ensure college SW projects are effective and meet state metrics and budget guidelines. Partnering colleges will communicate and share effective practices, processes, and structures.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS? Efforts to increase CTE enrollments and completion must be well-coordinated and communicated throughout the service region in order to be effective. Oversight of project implementation will provide support to CTE faculty, establish processes for budget expenditures and record keeping, and measure impact according to proposed metrics. Oversight will include marketing efforts, outreach to potential students, public information on initiatives, proactive board and community SW presentations, and campus wide communication.

Administrative oversight will provide overall leadership in the coordination, planning, organization, implementation, evaluation, and policy development for North Central SW programs. College organizational structures will formulate, implement, collaborate, and promote career technical education and economic development throughout the North Central sub-region and in the Central/Mother Lode Region. College SW administrative positions will serve as liaisons between the colleges and the implementation of SW initiatives. Working with staff and faculty in each college, SW administrators will lead and coordinate efforts in their colleges to ensure the effective delivery of SW strategic planning, project development, communication, and student learning outcomes. Coordination and communication between the North Central sub-region SW programs will improve planning and implementation efforts for ongoing Strong Workforce efforts.

4. Workforce/Economic Development Collaboration and Coordination

Lead: SCCC

Colleges participating: Clovis Community College, Fresno City College, Reedley College

DESCRIPTION: SCCC, on behalf of its three colleges and three centers, proposes to use SWP funds to support workforce/economic development function at the district level which will coordinate college efforts and develop/enhance collaboration among the colleges and within the business/industry sectors.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS? Employers and community organizations continually ask for relevant, up-to-date information regarding CTE programs and services. Efforts to increase CTE enrollments and completion must be well-coordinated and communicated throughout the service region in order to be effective. This coordination and

communication must include prospective students, employers, and community organizations. Employers and community agencies have identified a need for more and better partnerships leading to an improved economic development environment. Additionally, both employers and students have identified a need for coordination of programs and support services among the colleges and centers and transferability and/or portability of curriculum. The district dean of workforce and adult education will provide overall leadership in the coordination, planning, organization implementation, evaluation, and policy development for district-wide workforce programs. A district dean will be a catalytic force to formulate, implement, collaborate, and promote career technical education and economic development throughout the State Center Community College District and regionally. This Dean serves as a liaison between the district and agencies administering district-wide workforce initiatives. Working in tandem with staff and faculty across the district, the district dean will lead and coordinate efforts to ensure the effective delivery of relevant workforce preparation, economic development and training programs across the SCCCD service region. A district dean can serve in this capacity while coordinating district efforts with those of the colleges and centers. District-wide articulation of the career technical education programs among the district's colleges and centers will be increased and improved, as well as with secondary and other post-secondary institutions. A position at the district level will be able to establish and maintain working linkages and partnerships with industry, secondary education, and community agencies and organizations at the regional and state levels pertaining to the district-wide efforts in all sectors. The Central/Mother Lode Region strategic plan lists alignment as one of its four major goals. Alignment refers to engaging with industry to align CTE programs with leading and emergent sectors; aligning services across multiple providers, and building partnerships of industry, labor, education, workforce and economic development entities; and aligning efforts to provide comprehensive regional career pathways that align with industry sectors. This proposal provides an executive level district dean position to coordinate college and center programs; lead and coordinate outreach, branding, and marketing; and provide help and support to the colleges in their activities and achievement of their CTE goals. It will also be the district liaison businesses and community organizations, thus achieving the other three goals: increase the amount of CTE instruction delivered, continuously improve CTE outcomes with a particular focus on completion of industry valued credentials, job placement, and wage advancement, and close the equity gaps in program access, completion, and earnings of under-served populations.

5. Workforce Training Coordination - Apprenticeship/Pre-Apprenticeship

Lead: SCCCD

Colleges participating: Clovis Community College, Fresno City College, Reedley College

DESCRIPTION: Support of Pre-apprenticeship and Apprenticeship Program Manager position that will provide leadership of and coordination for apprenticeship program sponsors and district colleges. In addition, project will fund Office Assistant III position which will support the overall project functions.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?

With the increased need for jobs with sustainable wages and the increased emphasis throughout California on apprenticeship programs, there is a great need for colleges to communicate and work with local companies to develop training opportunities. The complexity of the process to establish pre-apprenticeship and apprenticeship programs with both union led programs and non-union programs requires a knowledgeable, single-point of contact approach, one that represents the entire district in communicating and developing training with one voice. With high unemployment rates, high poverty rates, and high rates of unskilled labor in the Central Valley, it is critical to the economic development of the region to provide a mechanism for the unemployed to become qualified to apply to and be accepted in an apprenticeship program. Establishing pre-apprenticeship programs, in partnership with community organizations, is critical in this process. In concert with this effort, establishing and providing a way for employers to participate in apprenticeship training is also critical. This proposal will provide the help needed by potential students in pre-apprenticeship training leading to apprenticeship training and also provide the help employers need to increase the skill levels of their incumbent workers. Apprenticeship training results in better skilled workers, in long-term jobs, earning a sustainable wage.

6. AEBG Workforce Training Partnership

Lead: Taft College

Colleges participating: Taft College, Clovis Community College

DESCRIPTION: A partnership between community colleges and their respective consortium for Adult Education BG programs to develop a collaborative approach to workforce skill-building. Drivers include: A focus on understanding and meeting the needs, and creating a measurable, operational plan for Access. Outcomes: A. Strong Workforce data to capture 1. Employment successes 2. Career advancement B. Certification, GED, completions C. Academic outcomes for students who go on to further education.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?

The AEBG Workforce Training Partnership collaborative to focus on increasing the employment. These occupations do not require a high school equivalency which will provide much needed employment preparation for 25% of the adult population in this region who lack a high school education. The Personal Care Aide standards-based curriculum was specifically designed for readers with lower literacy levels, or for trainees for whom English is a second language. The course will be used as a stand-alone certificate program but offer clear pathways to additional levels of medical training and higher education. The Food Preparation / Server curriculum is being developed but will be tailored to literacy levels as well. Neither program require a formal educational certificate or diploma.

7. CTE Regional Branding and Marketing - State Center Community College District

Lead: SCCC

Colleges participating: Clovis Community College, Fresno City College, Reedley College

DESCRIPTION: Develop and execute a cohesive, professional branding and marketing of CTE programs and opportunities offered by the State Center Community College District colleges and centers. The project will target prospective students, employers, and community organizations.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?

o This project is motivated by a lack of a comprehensive plan to strengthen communication to broadly publicize and promote career pathways that prepare students for jobs within the Central Valley's regional labor market
o This project will address these needs by creating a comprehensive career and technical education focused marketing and branding campaign, producing multimedia collateral, and broadly distributing messaging and images associated with the campaign via multiple media formats. This approach is designed to provide a sustained public outreach effort attractive to a varied audience of community/industry stakeholders and student constituents to heighten awareness and promote the value of career technical education.

8. CRC Region Wide - CTE Rebranding Regional Marketing & Outreach to Parents, Students & Employers

Lead: CRC

Colleges participating: **ALL**

DESCRIPTION: Regional Marketing and Outreach project (CCCCO identified/recommended Projects-In-Common set-aside) to develop a multi-media, multi-pronged approach to marketing CTE programs regionally and will leverage regional efforts with statewide "projects in common" efforts related to branding and outreach to students and to employers. Building upon SW1 marketing efforts

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?

CTE's share of statewide community college enrollment (FTES) declined from 31.3% in 2000/2001 to 28.2%

in 2013/2014. While non-CTE FTES increased 16.2% during this time period, CTE FTES remained about the same. Overall, in years when total FTES increases, the percentage increase for CTE tends to be lower than for non-CTE. In years when total FTES decreased, the percentage decrease in CTE tends to be greater than for non-CTE. This pattern has been observed in the Central/Mother Lode region as well as statewide. The colleges in the Central/Mother Lode region seek to increase enrollments in their CTE programs. In addition, the public workforce system engages employers by program, with different people from different organizations calling employers to hire their participants. Each college does its own marketing of its career technical education programs to employers; there is no cohesive, coherent message to all employers in the region. Marketing regional and local CTE programs is a high priority within the CRC; and identified in alignment with the regional strategic plan, as well as with the goals of the CRC strategic plan. Continued leveraging the State's re-branding, marketing efforts, a coherent message of CTE programs leading to careers across the region is desired. In addition, this project will continue to address the identified needs and lead to development and ultimate implementation of a regional marketing plan focused on increasing both student and employer involvement in the community colleges, implementing that regional plan, and coordinating with local college and state marketing.

Outreach to Parents, Students & Employers - CTE Rebranding Regional Marketing*

*CCCCO identified/recommended Projects-In-Common (CCCCO Memo 9/11/17; also known as 10% set-aside projects)

- Recommended continuation from SW1 for SW2 and SW3
- SW1 (7/1/16-12/31/18) \$700,000
- SW2 (7/1/17-12/31/19) \$150,000
- SW3 (7/1/18-12/31/20) \$150,000

9. CRC Region Wide - STEAM/STEM Teacher Pipeline (TPP); Employability/Soft Skills (NWoW; Hi-Touch Health); Early Career Exploration (Dual-Enrollment; Get Focused/Stay Focused)

Lead: CRC

Colleges participating: ALL

DESCRIPTION: Scale Regional STEM/STEAM Teacher Pipeline: To remedy the statewide teacher shortage and to bring more diversity into the STEM/STEAM teaching pipeline, every region needs to produce a fair share of this workforce need. Employability/Soft Skills: The New World of Work is a 21st Century Skills Program and Hi-Touch Health Program both emphasize curricular & employability skills to raise student workforce preparation. Early Career Exploration: H.S. Dual Enrollment & Get Focused/Stay Focused efforts.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?

• Scale Regional STEM/STEAM Teacher Pipeline: To remedy the statewide teacher shortage and to bring more diversity into the STEM/STEAM teaching pipeline, every region needs to produce a fair share of this workforce need. The STEM/STEAM Teacher Preparation Pipeline has sought to align Career and Technical Education curriculum and student support services as a way to establish pipelines for students interested in teaching in today's STEM/STEAM fields. During the 2014-2015 school year, the TPP campuses came together and created a state-wide collaborative. This collaborative focuses on the continuing development of a model of quality teacher preparation that includes career exploration, contextualized learning opportunities, teacher recruitment and retention, and the development of a quality teacher preparation model of collaboration that is currently shared regionally, statewide and beyond. West Hill College Lemoore is one of ten Teacher Preparation Pipeline (TPP) community colleges in California. The TPP was established in 2006 by the California Community Colleges Chancellor's Office to address the statewide shortage of teachers. The goal of the program is to provide additional support to those individuals that desire to enter the teaching field. The program supports community college students and industry professionals obtain the education, experience, and credentials needed to become a teacher. Ten California Community Colleges have joined together with businesses and workforce development partners to encourage and support our future teachers.

The focus of the program is Science, Technology, Engineering and Mathematics (STEM) fields as well as Career and Technical Education (CTE) such as welding, automotive, electronics, HVAC and many others. The CRC will work with WH Lemoore to support efforts to expand this program. •Employability/Soft Skills: The New World of Work is a 21st Century Skills Program that emphasizes curricular and employability skills that is quickly raising the workforce preparation of students in our system. 13 community colleges have piloted the New World of Work with positive outcomes and results. The New World of Work is currently funded by the California Community College Chancellor's Office Doing What Matters initiative and collaborates with employers, workforce development boards, educators, and research organizations across the country to build 21st Century Employability Skills. A series of webinars is being offered to K-12, Chief Student Services Officers, CTE Deans, counselors, instructional faculty, and student services professionals throughout our system to raise awareness levels of a suite of tools that will benefit student completion efforts. More information and to register for webinars on the New World of Work for 21st Century Skills: <http://bit.ly/2fw5MdP>. With the Hi-Touch Health program, students learn soft skills are central to patient-centered care regardless of an employee's position within healthcare. The California Hospital Association, the Health Workforce Initiative (HWI) Statewide Industry Advisory Committee, the Statewide Sector Navigator, and the Regional Deputy Sector Navigators (DSN's) have recognized this need and subsequently requested that there be increased attention to Six Critical Soft Skills: Communication Competency, Workplace Ethics and Professionalism, Team Building and Collaboration, Effective Problem Solving, Embracing Diversity, Demonstrating Compassion. <http://bit.ly/2ffaBFT>. • Early Career Exploration: Dual Enrollment, as well as, the Get Focused/Stay Focused curriculum has been effectively tested in high schools by several community colleges in all seven regions in the state for use with over 80,000 secondary level students. Who am I? What do I want? How do I get it? – These are three questions that are keys to student success, and three questions that should be answered before selecting a guided pathway. Career Choices and Changes, and My10yearPlan help students answer these questions while facilitating a planning process that: Matches pathway selection to future student goals, Results in informed decision making regarding a course of study, Development of a skills-based education plan, Leads to a 10-year Plan focused on successful completion and workforce entry. Whether as a part of the First-Year Experience or implemented preemptively in collaboration with your secondary school partners, the 10-year Plan will relieve overtaxed advising services while supporting greater student success. This is a 3 unit curriculum that will ensure students become college completers and help reduce attrition and increase completers. A direct link to learn more about the college/high school collaboration program model - Get Focused...Stay Focused <http://www.getfocusedstayfocused.org>.

STEAM/STEM Teacher Pipeline (TPP); Employability/Soft Skills (NWOW; Hi-Touch Health); Early Career Exploration* (Dual-Enrollment; Get Focused/Stay Focused)

*CCCCO identified/recommended Projects-In-Common (CCCCO Memo 9/11/17; also known as 10% set-aside projects)

- Recommended continuation from SW1 for SW2 and SW3
- SW1 (7/1/16-12/31/18) \$78,000
- SW2 (7/1/17-12/31/19) \$150,000
- SW3 (7/1/18-12/31/20) \$150,000

10. CRC Region Wide - Support for CRC Data & LMI Research, Centers of Excellence

Lead: Centers of Excellence

Colleges participating: ALL

DESCRIPTION: Data driven decision making is a priority for the CRC region. The CRC Center of Excellence (CoE) supports the SWP for the strategic study of the regional economies of California by providing customized data on high growth, emerging, and economically critical industries and occupations and their related workforce needs. Braiding of funding to support CoE efforts further aligns CRC regional data, as well as provides for a consistent source of information.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?
 Data driven decision making is a priority for the CRC region. The Centers of Excellence for Labor Market Information currently support the Strong Workforce Program call for the strategic study of the regional economies of California by providing customized data on high growth, emerging, and economically critical industries and occupations and their related workforce needs. The Centers of Excellence Directors currently provide accessible performance and labor market data to participating community college districts and their regional partners to support the implementation of the Strong Workforce Program and related efforts to align regional workforce and education programming with regional labor market needs. “Region” means a geographic area of the state defined by economic and labor market factors. Braiding of funding for Centers of Excellence support and operations can further align regional efforts by continuing to make Labor Market Information available, and through the development of more personalized data to drive the regional economy. This project will support CRC data needs.

Support for CRC Data & LMI Research, Centers of Excellence*

*CCCCO identified/recommended Projects-In-Common (CCCCO Memo 9/11/17; also known as 10% set-aside projects)

·	New for SW2 and SW3	
·	SW1 (7/1/16-12/31/18)	NA
·	SW2 (7/1/17-12/31/19)	\$100,000
·	SW3 (7/1/18-12/31/20)	\$100,000

11. CRC Region Wide - Central Valley and Mother Lode Regional Counselor Conferences ('18, '19, '20)

Lead: DSNs/CRC

Colleges participating: ALL

DESCRIPTION: K-14 Counselor Conferences for the years 2018, 2019 and 2020 for K-14 counselors aimed to provide attendees with information, connections and tools for them to prepare students for career readiness through career education at the community college level. Introducing the connection between high wage jobs with skills to be obtained at community colleges with stackable credentials, certificates and AA degrees.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?
 With the sunseting of SB 1070 funding, K-12 outreach traditionally done using those funds has had to transition to more overtly, demonstrative outreach providing a nexus of WIOA metrics. The CRC Counselor Conference is one of those programs that provides that addresses More & Better CTE for students linked to industry demands. Affordable, career education offered at CA community colleges should be the mantra repeated by K-14 counselors on daily basis. The Counselor Conference is designed to introduce career pathways - existing, new and emerging - in our regions industry sectors that require a combination of academic knowledge and technical ability. Stressing the importance through speakers, workshops and networking with DSNs, colleges and industry professionals about looking to community colleges to rise above rising education costs, mounting student debt, fierce competition for jobs, and the over-saturation of some academic majors in the workforce AND guiding students towards personality-aligned, high wage careers and not just into college. It is also designed to strengthen the student pipeline continuum.

Central Valley and Mother Lode Regional Counselor Conferences ('18, '19, '20) (\$35,000/ea x3)
 (previously covered by SB1070 funds which sunset 6/18): *To date, three annual conferences have been held (Visalia, Modesto, Bakersfield) with combined attendance >1000 high school and college counselors.*

·	New for SW2 and SW3	
·	SW1 (7/1/16-12/31/18)	NA

·	SW2 (7/1/17-12/31/19)	\$70,000
·	SW3 (7/1/18-12/31/20)	\$35,000

12. CRC Region Wide - Employer-Student-College Connecting Platform; and CTE Faculty & Staff Professional Development (e.g. WBL, Train-the-Trainer)

Lead: CRC

Colleges participating: ALL

DESCRIPTION: Career Services Platform (i.e. JobSpeaker) to manage career services engagement with students; provide tracking, reporting & communication tools; provide employers tools to find, communicate and hire students; provide students tools to manage career portfolios and job searches. Provide for training related to the software in addition to related WBL professional development such as CTE Leadership & Faculty convenings; supporting venues for faculty-to-faculty best practices

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?

To provide More & Better CTE for student success and to address labor market demands, the CRC region has identified the need for a customized career services regional platform. A career services platform will be developed and implement (by JobSpeaker) to manage career services engagement with students; provide tracking, reporting & communication tools; provide employers tools to find, communicate and hire students; provide students tools to manage career portfolios and job searches. Software vendor will coordinate with the region and their participation with the California Community Colleges Foundation WBL Pilot Project. In addition, this project will also provide for training related to the software in addition to related WBL professional development such as CTE Leadership & Faculty convenings (i.e. in-service training; program-related conference modeled similar to CATA or mid-winter); supporting venues for faculty-to-faculty best practices; rotation of areas of focus. Priority goal(s) to identify best practices to increase program alignment, portability, and completers at each of the CRC 14 colleges, including WBL, job placement, etc.

Region-wide license purchasing of Employer-Student-College connecting software; and CTE Faculty & Staff Professional Development (e.g. WBL, Train-the-Trainer): Career Services Platform to help career services manage engagement with students; provide reporting and communication tools; provide employers tools to find, communicate and hire students; provide students tools to manage career portfolios and job searches. In addition, provides for training and personal development related to the software in addition to related WBL professional development such as CTE Leadership & Faculty convenings (i.e. in-service training; program-related conference modeled similar to CATA or mid-winter); supporting venues for faculty-to-faculty best practices; rotation of areas of focus. Priority goal(s) to identify best practices to increase program alignment, portability, and completers at each of our 14 colleges, including WBL, job placement, etc.

·	New for SW2 and SW3	
·	SW1 (7/1/16-12/31/18)	NA
·	SW2 (7/1/17-12/31/19)	\$548,419
	SW3 (7/1/18-12/31/20)	\$583,419

13. CRC Region Wide – Engagement in Teacher Prep Pipeline (TPP) / Education Futures

Lead: CRC/West Hills College Lemoore

Colleges participating: ALL

DESCRIPTION: The CRC has been effective in pursuing opportunities that will benefit the region, with a long history of regional collaboration. West Hills College Lemoore as a Teacher Pipeline Project program, the region agreed and has supported WHCL as the lead for the Ed Futures regional project. This project is assist the advancement of TPP programs at every CRC college.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?

As a region that is historically under-served, plagued with high poverty, high unemployment, and economic challenges, efforts have been and are being made in our region to strengthen opportunities to proactively

support student success in tandem with responding to the needs of the workforce. Further, as a means to address the region's teacher shortage, CRC college are working collectively to development or grow their Teacher Pipeline Projects and leverage efforts and resources provided to some of the colleges with the Education Futures project. The Central/Mother Lode Regional Consortium (CRC) has been effective in pursuing TPP opportunities that will benefit the region, with a long history of regional collaboration. As West Hills College Lemoore as the regional technical lead as an existing TPP college, eleven colleges within the CRC pursued the advancement of the TPP Multi-College Regional Network through the California Community Colleges Chancellor's Office (CCCCO) program, Education Futures; only five were funded. Three CRC colleges are also concurrently working on their TPP independent of Education Futures program. All 14 colleges are working to strengthen their TPP programs and are working together as part of the CRC communities of practice for TPP/Education Futures.

·	SW1 (7/1/16-12/31/18)	NA
·	SW2 (7/1/17-12/31/19)	\$450,000
·	SW3 (7/1/18-12/31/20)	\$0

14. CRC Region Wide - Prior Learning Assessment

Lead: CRC/West Hills Community College District

Colleges participating: ALL

DESCRIPTION: QuickPath PLA Program, faculty led/designed, allows colleges to offer course credit to students who can demonstrate prior learning. PLA expands beyond Challenge Exams & CLEP tests to include credit by portfolio assessment. Data shows that the use of PLA can help increase demand & completions & decrease the cost/time to degree. West Hills & Delta College received an Award for Innovation to lead development of the Program in the CRC Region, this SWP will leverage that & allow for 100% regional participation

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?

Data shows that the use of Prior Learning Assessment can help increase demand and completions and decrease the cost and time to degree. With a focus on CTE, the end goal of the project is to scale the PLA Program out to the other colleges in the region and ultimately to the rest of the colleges in the State. - With birth rates and high school rates flattening, growing demand has become a priority and a challenge for colleges. In response, postsecondary institutions are beginning to take an expanded view of degree-seekers, focusing on attracting post-traditional students (25 and over). Serving post-traditional adult learners, however, presents the challenge of modifying existing institutional processes designed for traditional students. The QuickPath PLA Program (PLA) provides a solution by leveraging one of the best kept secrets in postsecondary education, prior learning assessment. With program partners AcademyOne and the Council for Adult and Experiential Learning (CAEL), and faculty at the pilot colleges West Hills Community College Coalinga and Lemoore, and San Joaquin Delta College leading the initiative, the QuickPath Program is designed to simplify the navigation of prior learning assessment options and expand the offerings to include credit by portfolio assessment. In revealing all the ways students are able to earn credit for their prior learning in an easy-to-navigate platform, colleges will be able to highlight the systems which help students decrease the cost of attendance and time to degree. With faculty driving the development of portfolio assessment at the pilot colleges, institutions will be able to grow enrollment of post-traditional students who have industry skills and competencies that align with certificate and degree programs, but who do not possess formal credentials or degrees. Portfolio assessment offers adult learners a way to demonstrate the prior learning they gained from years of industry experience and earn credit for what they already know. The QuickPath PLA Program is a faculty led and designed program that allows colleges to offer course credit to students who can demonstrate prior learning. PLA expands the traditional offerings beyond Challenge Exams and CLEP tests to include credit by portfolio assessment. Data shows that the use of Prior Learning Assessment can help increase demand and completions and decrease the cost and time to degree. West Hills and San Joaquin Delta College received a \$2 million Award for Innovation to spearhead the development of the QuickPath Program in the Central Region. The money is being used to pay for a full time coordinator for the program

(Dr. Justin Garcia), AcademyOne's work to design a multi-institutional regional web platform to facilitate and simplify the navigation of prior learning assessment options for students, the fee for hosting each of the region's colleges on the QuickPath online platform during Year 1 (ends April 2018), stipends for faculty to develop the policies, procedures, guidelines, regional marketing for all of the colleges, and assessments for the web platform, and consulting fees for The Council for Adult and Experiential Learning (CAEL) who is providing consulting services to faculty as they develop the Portfolio Assessment processes and practices . As supported by the CCCCCO, West Hills and Delta need full regional college input in regards to CAEL and AcademyOne to develop the pilot program. The end goal of the pilot is to scale the PLA Program out to the other colleges in the region and ultimately to the rest of the colleges in the State. College faculty and Admin champions need to be identified to serve as the contact points for the initiative and to work with CAEL and AcademyOne to ensure the success and scalability of the pilot project. This SWP involves all 14 CRC colleges and includes collaboration with the South Coast Central Region to assist them with their PLA efforts. As part of the program: ● AcademyOne to train administrators, faculty, and staff to use the platform to serve the students at their respective institution; ● CAEL led PLA-training for administrators, faculty, and staff; ● Professional development for faculty to serve as portfolio assessors and evaluate portfolios for credit; and ● Develop Prior Learning Assessment marketing materials to drive interest to the regional web-enabled portal.

·	SW1 (7/1/16-12/31/18)	NA
·	SW2 (7/1/17-12/31/19)	\$55,000
·	SW3 (7/1/18-12/31/20)	\$55,000

15. CRC Region Wide, set-aside: Just in Time SWP Projects – TBD

Lead: CRC

Colleges participating: ALL

DESCRIPTION: To allow for flexibility to react quickly as SWP CTE projects and needs arise on behalf of the region. Such SWP CTE projects, yet to be defined, could include more marketing, assistance with faculty recruitment, regional studies, professional development, regional conferences, and creation of software platform to help with college CTE-related needs for More & Better CTE, etc.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?

To allow for flexibility to react quickly as SWP CTE projects and needs arise on behalf of the region. Such SWP CTE projects, yet to be defined, could include more marketing, assistance with faculty recruitment, regional studies, professional development, regional conferences, and creation of software platform to help with college CTE-related needs for More & Better CTE, etc. For example, there projects yet to be identified that would help to optimize the linkages of all the initiatives and programs (i.e. CTE, Career Pathways, Guided Pathways, WBL, SSSP, Adult Ed, EOPS, etc.). Region-wide projects reporting is intended to be done at the CRC and does not become a burden of the individual colleges. In the event the funds are not being used within the SW3 funding cycle, the set-aside has not be drawn down upon, funds could be redistributed back to colleges accordingly.

·	SW2 (7/1/17-12/31/19)	\$0
·	SW3 (7/1/18-12/31/20)	\$181,300 ⁱⁱ

ADVANCED MANUFACTURING

16. CRC Region Wide - Advanced Manufacturing Sector Pipeline & Partnership Development

Lead: CRC/DSN & Fresno City College

Colleges participating: ALL

- 16.a) (Optional Regional Opt-in) **Advance Manufacturing/Welding Expansion Hybrid Engineering Technology Meeting Middle Skill Need**
 - **Lead:** CRC/DSN & Fresno City College
 - **Colleges participating** Fresno City College, Merced College (SW2 & SW3), Reedley College; Modesto Junior College (SW2); West Hills College Lemoore

DESCRIPTION: This region wide Advanced Manufacturing Sector project with regional opt-in options will provide discussion, partnership, recommendations, and industry projects that colleges can engage and invest in, providing professional development and industry connection opportunities to provide just-in-time delivery of cutting-edge technologies; career awareness events; tools, equipment, and/or facilities in order to accommodate industry demands; and regional and sub-regional discussions and convenings.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS? Originally a regional project with seven colleges participating in SW1; now a region wide project for SW2 and SW3 to support all manufacturing related programs and faculty; student pipeline development. Advanced Manufacturing is a priority sector for the Central/Mother Lode Region. This project will focus on: Developing regional/sub-regional Manufacturing faculty and/or Industry convenings to discuss new program development, curriculum improvements & industry certification alignment across the region; as well as, plan professional development opportunities for faculty, manufacturing events and projects, internship and/or apprenticeship opportunities Collaborating on improving non-credit offerings for incumbent workers across the region to meet industry's short term workforce development needs Planning and supporting regional/sub-regional Manufacturing/Industrial Summits to build stronger relationships amongst colleges, industry, K-12, and other local and regional stakeholders Plan Manufacturing Day events across all colleges to provide targeted career awareness to students, build stronger relationships with industry and feeder high schools (FTES growth for colleges CTE programs) Advanced Mfg. DSN will support the regional work by working closely with the Consortium Chair, Steering Committee members (CTE Deans), and faculty to plan, develop, and facilitate activities as determined and prioritized by the steering committee; will assist colleges in collecting and reporting all activity based participation data to the steering committee; and will assist colleges in exploring, developing, and implementing regional industry advisory for manufacturing programs as per the direction of the Steering Committee In addition, in order to leverage the work of the region wide "Advanced Manufacturing Sector Pipeline & Partnership Development" project there are regional opt-in options to this project that will provide each college with the opportunity to allocate the necessary resources for implementation of strategies, techniques, or plans that develop out of the region wide project such as industry partnership events, conversations, or planning; curriculum changes or additions; support travel and conference expenses for professional development of faculty and/or staff; and broadening services for manufacturers throughout the region. Optional Regional Opt In: Advanced Manufacturing/Welding Expansion - Fresno City College, Merced College, Reedley College, Modesto Junior College, Columbia College, Taft College, West Hills College Lemoore Optional Regional Opt In: Hybrid Engineering Technology Meeting Middle Skill Needs - Fresno City College, Clovis Community College

·	SW2 (7/1/17-12/31/19)	\$50,000
·	SW3 (7/1/18-12/31/20)	\$50,000

17. Bachelor of Science Industrial Automation Collaborative

Lead: Bakersfield College

Colleges participating: Bakersfield College, Clovis Community College, Fresno City College, San Joaquin Delta College, West Hills College Lemoore, Modesto Junior College (SW1 only)

DESCRIPTION: Continuation of the development of a regional collaborative group to align and articulate the lower division electronics courses required for admission to the Bachelor of Science degree in the Industrial Automation at Bakersfield College. The group will continue to meet regularly via conference calls and participate together in the IA Advisory Committee meetings for the Baccalaureate Degree.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?
The San Joaquin Valley has a large base of production and logistics facilities serving industry sectors ranging from Agricultural, Manufacturing, Transportation, to Energy. All of these industry sectors utilize automated processes requiring a workforce trained in mechatronics or industrial automation.

AGRICULTURE, WATER & ENVIRONMENTAL TECHNOLOGIES

18. Transportation Technician Regional Project

- a. Diesel Truck Technician**
- b. Automotive Technician**

Lead: Reedley College

Colleges participating: Reedley College, San Joaquin Delta, West Hills College Coalinga, Merced College, Fresno City College

DESCRIPTION: Create and/or strengthen programs to train entry level diesel truck technicians. These programs will include a certificate of completion and an associate of science degree with mandatory work place learning/work experience in cooperation with local industry partners.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?
Local industry partners such as truck dealerships, independent repair facilities and trucking companies have identified a shortage of entry level diesel truck technicians. Existing Agriculture Mechanics programs in the Central Region have historically focused on off-highway equipment technicians but will now create a pathway for on-highway diesel trucks technicians so the programs can focus on both areas.

19. Agricultural Guided Pathways Development

Lead: Modesto Junior College

Colleges participating: Modesto Junior College, Reedley College, San Joaquin Delta College, Merced College

DESCRIPTION: This project will develop and align guided pathways for the Agriculture, Water, and Environmental Technology sector in the Central Region to provide students with uniform, clear, and specific educational choices. Lead faculty from identified colleges will develop a framework for program pathways, work within their own colleges to refine program recommendations, and re-confer with other colleges to align recommendations. Pathway development will provide clear maps to university transfer programs.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?
Agriculture, Water and Environmental Technology is a diverse industry sector, with multiple programs in a variety of areas. Students in agriculture-based programs need consistent advising from two-year colleges as they transfer into common 4-year agriculture programs. This project brings discipline faculty together to align program requirements in individual colleges, develop clear advising messaging for students, and design potential program maps that provide students with clear direction. The alignment of agriculture programs in the region will benefit students by providing common program guidelines. The project will ultimately benefit employers and students who select, enter, complete and/or transfer through a pathway.

HEALTH

20. Health Simulation

Lead: Bakersfield College

Colleges participating: Bakersfield College, Porterville College, San Joaquin Delta College

DESCRIPTION : The focus of the Regional Project is to provide continued support to the Central Valley Simulation Group (CVSG), a simulation users network group established in year one of SWP.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?

The CVSG is a collaborative group that is very active and would continue the work on further developing and refining our shared resources and evidenced based practices. A primary goal this second year is for the group to join and become active in California Simulation Alliance's Central Valley subdivision. This will provide additional collaboration to strengthen our group's knowledge and access further resources. The Health Simulation Proposal addresses several needs of the Central Valley and our regional partners. It has been well documented the need of qualified healthcare workers in this highly underserved area. In fact, Registered Nurses (RN), Licensed Vocational Nurses (LVN), Emergency Medical Technicians (EMT), and Paramedics have been consistently identified in the top 100 occupations based on projected needs, with RN's identified with the highest annual openings. In addition, the health and long term care needs of our aging population, including increased medical emergencies; growing numbers of people accessing the healthcare system due to the recent reforms in healthcare; the anticipated acceleration of retirements of healthcare workers, and the subsequent job vacancy forecast, all lead to a dismal projection in providing qualified trained healthcare professionals. (<https://www.labormarketinfo.edd.ca.gov> (2017)). Despite an overall increase in enrollment numbers in the RN, LVN, EMT, and Paramedic Programs over the last 4 years, local hospitals report growing vacancy rates up to 12 – 18% with an upsurge in turnover rates. In addition, long term agencies, correctional institutions and outpatient facilities are reporting even higher vacancy and turnover rates. The increased enrollment numbers has created clinical placement site issues. Clinical sites are severely impacted creating limited space. This proposal, and its subsequent benefits, will decrease the impacted space at each clinical site, allowing students to participate in simulation based training in lieu of physically being present at the clinical sites, and will promote standardized clinical educational experiences of the Allied Health Division (faculty and students). In our central region we have a severe deficit of nurses, particularly in the specialty areas (Emergency Department, Critical Care Units, Perioperative Care, Ambulatory Care, and Labor and Delivery). This proposal will aid in both training faculty in Simulation education, integrate into curriculum, and provide consistent simulated educational experiences for the students. This will be necessary for the outlying areas where there are limited opportunities to care for higher acuity patients. In 2002, The Joint Commission (TJC) established National Patient Safety Goals as a method to reduce errors in healthcare settings. Examples of patient safety measures include use of EHR and bar code scanning of medications. Some clinical sites are reluctant to give access to the EHR and automated medication dispensing units, and therefore students may have limited opportunities to use these safety tools. Simulation provides practice of these skills in a safe, controlled environment allowing learning experiences which will promote a smooth transition into the workforce.

21. Certified Nursing Assistant Program (C.N.A.)

Lead: Modesto Junior College

Colleges participating: Modesto Junior College, Columbia College

DESCRIPTION: Strong Workforce funding will enhance the current Certified Nursing Assistant (CNA) program at two colleges through a shared program director, instructional delivery, and development of clinical practicum opportunities. The program is a one-semester, 16-week certification program offering training in theory and clinical (skill) procedures. Students enter the practicum portion of the program and complete 100 hours in direct patient care.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS?

Modesto Junior College and Columbia College will expand a CNA program to serve additional students at both colleges. With close to 50 long-term care, memory care and rehabilitation centers within Stanislaus County and the surrounding area the community is in need of entry-level trained individuals who can take care of the older population. The aging of America is occurring at rapid speed and trained individual are imperatives if we are going to meet the needs of our community. Not only are the Nurse Assistant and Home Health Aide programs needed in our community, but there is also a potential to develop curriculum with courses that will improve the care of the older adult, meet the needs of our community and increase student employment opportunities providing a living wage for CNA's. The federal and state regulations require all nurse assistants be certified by the state in which they will be practicing and we are one of the few colleges in the area offering the Nurse Assistant Program to a large number of students at minimal cost. All other local agencies serve less than 45 students per semester. The Nurse Assistant can work in acute care hospitals, long-term care facilities, skilled nursing and rehabilitative facilities and sub-acute nursing facilities. The Nurse Assistant continues to be listed among the fastest growing occupations in the country. According to Center for Excellence the nurse assistant occupation is projected to have 263 job opening annually and is listed number 1 and 2 on the United States Department of Labor, Bureau of Labor Statistics. Many Long-term Care facilities need a higher proportion of health care givers to provide the daily care for the older patient residing in their facilities. The Nurse Assistant Program trains students to become qualified and competent in skills i.e. transferring and ambulating patients using a gait belt and performing vital signs. To increase student's living wage after completing the CNA program, additional curriculum could be develop to offer additional training in Restorative Care Aide, Senior Nurse Assistant, Acute Care Nurse Assistant, Dementia Care and Communicating with Compassion. Currently within the Stanislaus County and surrounding areas the above courses are not offered at the community college level, and students are required to travel outside of the community for training. The program plans to seek CTE funding to develop and teach these important courses to increase student's skill set to increase their living wage. The advisory committee, Columbia and attendees at the Columbia College Health Care Career Summit are in full support of expanding the Nurse Assistant program at Modesto Junior College to include a cohort of 30 students at Columbia College to positively impact students' education. The committee is excited about the possibility of the college offering additional courses that address the needs of the older population, the care facilities in the community and provide increased living wages for CNA student graduates.

ICT/DIGITAL MEDIA

22. Cyber Security

Lead: Fresno City College

Colleges participating: Clovis Community College (SW2), Fresno City College

DESCRIPTION: Program to train students in cybersecurity skills, needed in multiple industries in the region. The project includes development of new curriculum for a new degree, development of a CyberPatriots program with local high schools, and summer academies.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS? The Bureau of Labor Statistics indicates that demand for careers in cybersecurity will far outpace supply throughout the next decade. Creating new and expanding existing programs for students who want to learn cybersecurity creates an opportunity to increase CTE enrollment for the institution, establish partnership with industries in the service area, and help students develop technical skills that are in high demand in the workplace. Investments to be made in personnel, including a new cybersecurity faculty member, curriculum development, technology, and partnership activities with local high schools.

23. “Regional Certiport Testing Center”

Lead: Fresno City College

Colleges participating: Clovis Community College, Fresno City College

DESCRIPTION: The testing center will help certify students in the area of computer science, security, and other certifications.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS? This project will support students' achievement in computer science and related fields.

24. Region-wide, set-aside: NetLab (ICT) Hub Collaborative

Lead: San Joaquin Delta College

Colleges participating: San Joaquin Delta College, West Hills College Lemoore, Cerro Coso Community College (SW2 & SW3), Fresno City College

DESCRIPTION: Information Communication Technologies (ICT) is a continuous regional project for the Central Regional Consortium (CRC). CRC partners now have ability for students in ICT courses to access a virtual ICT laboratory. Some individual colleges lacked the equipment necessary for students to attain the appropriate higher level skills necessary in ICT. This project has allowed faculty to use state-of-the-art equipment that would otherwise be inaccessible to them.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS? Information Communication Technologies (ICT) are an integral part of day-to-day operations in all sectors, including IT, logistics, commerce, etc. There is significant shortage of qualified technician with ICT skills. This continuous project aims to increase the regional need for this highly skilled and technical workforce.

PROP 39: ENERGY, CONSTRUCTION & UTILITIES

25. HVAC-R Collaborative

Lead: Fresno City College

Colleges participating: Fresno City College, College of the Sequoias, Merced College

DESCRIPTION: The CRC HVAC Collaborative is a community of practice among the six Central region colleges who either have or are starting HVAC programs. The collaborative will meet in person twice per year and by phone twice per year.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS? The intent of the program is; 1. Share best practices regarding curriculum and lab equipment and activity. 2. Work regionally with larger employers to validate SLOs and maximize placement opportunities. 3. Look for opportunities to align curriculum to certifications valued by region employers to create greater access opportunities for Central Region HVAC students. 4. Create Economies of scale to facilitate equipment sharing among colleges for expensive hand-on training equipment. 5. Develop faculty professional development priorities and opportunities. 6. Work together to determine the role of virtual simulation in regional HVAC programs.

RETAIL, HOSPITALITY & TOURISM

26. Retail/Hospitality/Tourism programs

Lead: Columbia College

Colleges participating: Columbia College, Modesto Junior College

DESCRIPTION: Strong Workforce funding will expand Retail/Hospitality/Tourism programs to address labor market demands in the service areas of Columbia College, Modesto Junior College and West Hills College Lemoore to develop their programs into comprehensive programs.

WHAT NEEDS MOTIVATE THIS PROJECT AND HOW WILL THE PROJECT ADDRESS THESE NEEDS? Retail/Hospitality/Tourism occupations, such as culinary jobs are available in a variety of restaurants and hotels. For example, they provide a career ladder from entry-level work to top chefs. Workers in these jobs need high-level culinary skills in cooking, baking, and hospitality. For Columbia College, Calaveras and Tuolumne counties are destination areas where many Bay Area residents come for weekends and holidays.

ACROSS ALL SECTORS ADDED 9/2018ⁱⁱ

27. CRC – KCCD District IR Support

Lead: KCCD

Colleges participating: Bakersfield College, Cerro Coso College, Porterville College

DESCRIPTION: KCCD, on behalf of its three colleges and three centers, proposes to use SWP funds to support workforce/economic development function at the district level which will coordinate college efforts and develop/enhance collaboration among the colleges and within the business/industry sectors.

Central Mother Lode Regional Consortium



Round 1 Funding/SW1/PY1 **CRC SWP Regional Projects** (updated, 3/10/2017)

By Sector

ADVANCED MANUFACTURING

Bachelor of Science Industrial Automation Collaborative

Investment: \$704,900

Sector(s): Advanced Manufacturing Sector; Energy, Construction & Utilities Sector; & Global Trade & Logistics Sector

Lead College: Bakersfield College

Number of colleges participating: 7

Bakersfield College, Clovis Community College, College of the Sequoias, Fresno City College, Modesto Junior College, San Joaquin Delta College, Taft College

DESCRIPTION: Development of a regional collaborative group to align and articulate the lower division electronics courses required for admission to the Bachelor of Science degree in Industrial Automation at Bakersfield College. The group will meet regularly via conference calls and participate together in the Industrial Automation Advisory Committee meetings for the baccalaureate degree.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

The San Joaquin Valley has a large base of production and logistics facilities serving industry sectors ranging from agricultural, manufacturing, transportation to energy. All of these industry sectors utilize automated processes requiring a workforce trained in mechatronics or industrial automation. Thus, precipitating the need for a highly skilled automation workforce. Currently, the valley has 154 annual openings in positions requiring degrees or certificates in automation related fields.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

The region's labor market data indicates demand for automation related positions outweighs supply in the region. Strengthening the pathway via curricular alignment and articulation will increase the number of community college students earning certificates, associate degrees and baccalaureate degrees, subsequently preparing them for employment in automation related industries.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

To meet the workforce demand, this proposal will address building capacity for a cohesive academic pathway in industrial automation with a stackable design of certificates, associates degrees and baccalaureate degree. Planned activities include curricular alignment of lower division electronics or manufacturing technology programs, development of stackable

certificates and the associate degree in industrial automation, articulation of the lower division technical courses required for the Bachelor of Science degree in Industrial Automation at Bakersfield College, and regional participation in the Industrial Automation Advisory Committee at Bakersfield College.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

The Advanced Manufacturing Sector, in which Industrial Automation is included, is designated as a priority by the Central Valley Region.

Advanced Manufacturing Pipeline & Partnership Development

Investment: \$20,003

Lead College: Fresno City College

Number of colleges participating: 7

Reedley College, Clovis Community College, College of the Sequoias, Merced College, Modesto Junior College, Bakersfield College, Fresno City College

DESCRIPTION: Advanced Manufacturing is a priority sector for the Central/Mother Lode Region. This project will focus on faculty curriculum and industry certification discussions for regional alignment; sub-regional industry meetings with employers to discuss manufacturing events and projects, internship and/or apprenticeship opportunities, and/or incumbent worker training needs; and support annual Manufacturing Summit and Manufacturing Day events.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

There are a number of educational/workforce partnerships that have developed in the region to address the Advanced Manufacturing sector. This project will be a focused effort by the regional colleges to collaborate with Workforce Development Boards (WDBs), industry associations such as the San Joaquin Valley Manufacturing Alliance and the Manufacturing Council of the Central Valley, and the California State Universities in the region (Stanislaus, Fresno, and Bakersfield) in order to advance manufacturing efforts in the region.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

2014-2015: Number of course enrollments: 26,189; Number of students who got a degree or certificate: 538. 2013-2014: Number of course enrollments: 29,326; Number of students who got a degree or certificate: 515; Number of students who transferred;; * Employed in the second fiscal quarter after exit: 65%; Employed in the fourth fiscal quarter after exit: 63%; Job closely related to field of study;; * Median earnings in the second fiscal quarter after exit: \$7,486; Median change in earnings: 27%; Attained a living wage: 47%.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

Alignment and scheduling of discussions, events, and projects to support the overall growth and development of the Advanced Manufacturing industry in the Central/Mother Lode region: 1) faculty regional/sub-regional curriculum, industry certifications, and/or industry event discussions and coordination; 2) collaborative subregional meetings with workforce development/educational partners in order to advance manufacturing efforts in the region; and 3) annual sponsorship and attendance at a regional meeting with industry and workforce development partners, also known as the Manufacturing Summit.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

Advanced Manufacturing is a priority sector for the Central/Mother Lode Region both from a credit/noncredit perspective as well as for not-for-credit offerings.

AGRICULTURE, WATER & ENVIRONMENTAL TECHNOLOGIES

Precision Ag & Irrigation Technology

Investment: \$339,614

Lead College: College of the Sequoias

Number of colleges participating: 2

College of the Sequoias, Modesto Junior College (also a local project for MJC)

DESCRIPTION: Utilize curriculum and best practices of the CTE Enhancement Regional Agriculture/Irrigation Project to expand and enhance Precision Agriculture and Irrigation Technology courses in the south valley, specifically College of the Sequoias. Activities will include 1) collaborative meetings with industry partners, Fresno State University and other regional or state schools; 2) development of a Precision Agriculture Lab and Irrigation Technology Lab; 3) working collaboratively with regional community colleges in creating interest in high school students to this highly technical field of work; 4) ensure connectivity and transfer of courses to 4-year institutions

WHAT NEED DOES THIS PROPOSAL ADDRESS?

Agriculture is a major economic force in the San Joaquin Valley. Increasing water use efficiency helps ensure a sustainable agro-economic region that supports employment and fiscal stability for those regions. Precision agriculture practices increase crop yields, reduce waste, and improve overall efficiency across all crop areas.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

Current Labor Market Information indicates demand outweighs supply in the region. Completing this proposal promises to increase the number of graduates in impacted programs, directly translating to increased numbers of qualified employees.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

This project will increase and improve educational offerings in Precision Agriculture and Irrigation Technology across multiple San Joaquin Valley colleges. Additionally, appropriate laboratory equipment will enhance relevancy and improve learning by anchoring concepts and content. The development of a workforce educated in agricultural efficiency methods directly and indirectly raises expectations, capacity, and capability across all agricultural areas.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

Ag, Water, and Environmental Technology is a priority sector in the Central Valley/Motherlode Region.

Diesel Truck Technician

Investment: \$690,706

Lead College: Reedley College

Number of colleges participating: 4

Merced College, West Hills College Coalinga, Reedley College, San Joaquin Delta College

DESCRIPTION: Create and/or strengthen programs to train entry level diesel truck technicians. These programs will include a certificate of completion and an associate of science degree with mandatory work place learning/work experience in cooperation with local industry partners.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

Local industry partners such as truck dealerships, independent repair facilities and trucking companies have identified a shortage of entry level diesel truck technicians. Existing Agriculture Mechanics programs in the Central Region have historically focused on off-highway equipment technicians but will now create a pathway for on-highway diesel trucks technicians so the programs can focus on both areas.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

The region's labor market data indicates demand outweighs supply in the region. Creating these pathways will increase the number of graduates in community college programs, directly translating to increased numbers of entry level technicians.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

This proposal will create/strengthen new pathways in existing Agriculture Mechanics programs in the Central Region. Community Colleges along with industry partners will identify skill sets that are required for entry level diesel truck technician that are not currently taught in existing programs. New skill sets such as Suspension and Steering, Brake Systems and other topics will be developed into new courses or infused into existing classes.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

Ag, Water, and Environmental Technology is a priority sector in the Central Valley/Motherlode Region.

HEALTH

Nurse Faculty Development & Recruitment Project

Investment: \$140,000

Lead College: Fresno City College

Number of colleges participating: 5

Bakersfield College, College of the Sequoias, Fresno City College, Merced College, West Hills College Lemoore

DESCRIPTION: Cost: \$140,000 Number of colleges participating: 5 • Development of a regional marketing plan for nursing faculty recruitment • Development of a tri-fold brochure on “Becoming a Nurse Educator” • Purchasing the BRN’s mailing list for direct mail campaign to RN with MSN • Hiring of an Outreach Coordinator to increase awareness of nursing education opportunities at regional community colleges • Providing a Nurse Educators Training Course (online) Description: Many of the community colleges in the region have faculty positions posted/open for their Nursing Divisions for Instructors. These positions are very difficult to fill for a variety of reasons. This project will develop and implement a marketing and recruitment plan for hiring new nursing faculty. We will also be offering a training course on “Becoming a Nurse Educator” as well as hiring a part-time Recruitment Coordinator to conduct outreach to CSU’s and UC’s Masters of Nursing programs. Through these efforts regional community college faculty vacancies will be filled (including future vacancies due to retirements) while student nursing success will be improved by an increase in NCLEX-RN college pass rates.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

1. CTE Faculty Recruitment; Eliminates barriers to hiring qualified instructors for nursing programs (SWF objective #11) 2. Increases the quality of CTE educational courses (Nursing) that lead to successful workforce outcomes.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

Health care in general is one of the most in need occupations in the Central Valley. Registered Nurses are listed as the number one healthcare occupation in demand. Current projections are as follows: Annual Average Employment between 2010 to 2020: 251,800 to 306,100 Projected Employment Change: +21% Average Annual Job Openings: New: 5,420 Replacements: 4,520 Total Jobs: 9,980

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

The need for qualified registered nurses (RN) who are in academia can impact the number of enrollments of nursing students to a program. RN faculty are required to meet the Board of Registered Nursing's hiring requirements. RN faculty are not paid at the higher rate of salaries compared to the hospital's clinical staff nurse.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

Recruiting and increasing the number of qualified Registered Nurses (RN) in the Central Valley Region would allow for the improved outcomes of completing the RN Program and increase the pass rates for the NCLEX-RN Professional licensure exam.

Health Simulation

Investment: \$297,000

Lead College: Bakersfield College

Number of colleges participating: 3

Bakersfield College, Porterville College, San Joaquin Delta College

DESCRIPTION: Development of a simulation users network group with a primary focus on development of simulations that can be shared with participating colleges and within the region. The group will meet monthly to share best practices and strategies for student success.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

The Health Simulation Proposal addresses several needs of the Central Valley Bakersfield College, and our regional partners, are all located in the Central Valley/Mother Lode Region of California. It has been well documented the need of qualified healthcare workers in this highly underserved area. In fact, Registered Nurses (RN), Licensed Vocational Nurses (LVN), Emergency Medical Technicians (EMT), and Paramedics have been consistently identified in the top 100 occupations based on projected needs, with RN's identified with the highest annual openings. (Economic Modeling Specialist International Sept 2016). According to the United States Census Bureau report (2015), Bakersfield's population has increased by 40.6% between 2000 and 2010. This, coupled with the health and long term care needs of our aging population, including increased medical emergencies; growing numbers of people accessing the healthcare system due to the recent reforms in healthcare; the anticipated acceleration of retirements of healthcare workers, and the subsequent job vacancy forecast, all lead to a dismal projection in providing qualified trained healthcare professionals. (www.labormarketinfo.edd.ca.gov (2017)). Despite the increased enrollment numbers in the RN, LVN, EMT, and Paramedic Programs over the last 4 years, local hospitals report growing vacancy rates up to 12 – 18% with an upsurge in turnover rates. In addition, long term agencies, correctional institutions and outpatient facilities are reporting even higher vacancy and turnover rates. (Bakersfield College Joint Advisory Committee Minutes, January 2017). The increased enrollment numbers has created clinical placement site issues. Clinical sites are severely impacted creating limited space. This proposal, and its subsequent benefits, will decrease the impacted space at each clinical site, allowing students to participate in simulation based training in lieu of physically being present at the clinical sites, and will promote standardized clinical educational experiences of the Allied Health Division (faculty and students). In our central region we have a severe deficit of nurses, particularly in the specialty areas (Emergency Department, Critical Care Units, Perioperative Care, Ambulatory Care, and Labor and Delivery). This proposal will aid in both training faculty in Simulation education, integrate into curriculum, and provide consistent simulated educational experiences for the students. This will be necessary for the outlying areas where there are limited opportunities to care for higher acuity patients. In 2002, The Joint Commission (TJC) established National Patient Safety Goals as a method to reduce errors in healthcare settings. Examples of patient safety measures include use of EHR and bar code scanning of medications. Some clinical sites are reluctant to give access to the EHR and automated medication dispensing units, and therefore students may have limited opportunities to use these safety tools. Simulation provides practice of these skills in a safe, controlled environment allowing learning experiences which will promote a smooth transition into the workforce.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

Across the nation, the need for healthcare workers including Registered Nurses (RN), Licensed Vocational Nurses (LVN), and Emergency Medical Technicians (EMT)/Paramedics is increasing. According to the U.S. Department of Labor (2012), unemployment decreased by two percent between the years 2000 to 2010. However, healthcare employment openings increased by more than 25% during the same period. The U.S. Department of Labor also projects that by 2020 nearly 1 in 9 jobs in the United States will be in the health care sector. California mirrors this same trend with increases in the healthcare sector needed to fill new positions and replace current workers who will leave their jobs (e.g. retirement, attrition from the profession. etc.) over the same period. (U.S. Department of Labor., Health Care Employment Projections

for 2010 – 2010, 2013). California has been projected in an employment outlook report published by the U.S. Bureau of Labor Statistics (2013) to need an annual average of 9,980 RNs; 3,170 LVNs; and 990 EMTs/Paramedics from 2014 – 2024. In Kern County and the Bakersfield area, the projected need for these health care workers also shows increases in these jobs to meet the needs. The California Community Colleges: Doing What Matters For Jobs and the Economy website has compiled the labor market data on five-year trends and projected job openings from 2014 to 2019 (doingwhatmatters.cccco.edu/launchboard.aspx, 2017). Registered nurses in our community have experienced a 5-year change of 1,654 new jobs with further increases for the next five years. Licensed vocational nurses have an increase in job openings from 2009 – 2014 of 1, 098. The next five years is also showing a projected increase in this occupation. Finally, the EMTs/Paramedics had an increase of 299 jobs from 2009 to 2014. The five-year trend is also growth for these healthcare support positions. The needs of our regional labor market mirrors the trend in California and the nation for increasing numbers of healthcare workers who serve in technical and support positions. These are programs that are supported by the community colleges through the associate degree or vocational certificates. Our aging population and the projected population growth in our region will continue to demand a large, strong, and qualified workforce to meet this need. Simulation in our healthcare education programs can make a difference in attaining this goal.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

This HealthCare Simulation Proposal addresses the need for more training hours, limited patient encounters and impacted clinical sites, regulatory oversight, and the problem of patient safety by using innovative training in a controlled environment with deliberate practice and assessment. This provides standardized educational experiences incorporating cognitive, psychomotor, and affective skills. Furthermore, simulation based learning significantly improves skills and skill retention for participants. (Medical Teacher 10/06/2013, Vol 35 e1511 - e1530) At a recent Joint Advisory meeting (January 2017) with our community partners, it was discussed that lack of access to the Electronic Healthcare Record (EHR), glucose monitoring, medication dispensing system and barcode medication scanning are huge limitations to the student's growth and development as effective practitioners. These limitations grossly restrict valuable clinical experiences, and inhibit their transition into practice. Additionally, there were concerns expressed these identified limitations pose a huge safety risk by not allowing the students to grasp the full picture to develop appropriate plans of care. Clinical sites are overburdened with the number of students, lack of resources, and qualified personnel to train students. Simulation will ease the burden on the staff and resources, and still provide high quality learning experiences. This is accomplished by providing standardized learning experiences in a controlled environment which may be customized to student's specific learning needs and program curriculum. More specifically, simulated educational experiences may be tailored to meet the training needs of the higher acuity patients not consistently seen in the rural settings. Also, the need to focus on training for the specialty areas can be captured through the use of simulation. Other areas which this proposal, and its subsequent benefits addresses is faculty development in using simulation to enhance instruction, improve student retention, and skill acquisition; foster inter-professional cooperation between regional and local faculty, staff, and Allied Health students; enhance community relations, and; improve employability and increase employer satisfaction and enhancing the quality of the future workforce. "Fresno, Modesto, and Bakersfield-Delano areas are among the top five U.S. regions with the highest percentage of residents living below the poverty line." (Associated Press, September 20, 2012). By increasing enrollment of students within in our programs, there will an increased number of students entering the workforce with certificates and degrees and the ability to obtaining a living wage.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

The proposal addresses the priorities established by our region, including: 1) Developing a Simulation Users Network group focusing on regional collaboration and innovative practices. 2) Promoting best practices when using simulated learning experiences. 3) Developing standardize tools and resources that can shared among the network users. 4) Increasing student enrollment in the Allied Health Division. 5) Enriching the lives of individuals and families by increasing the number of certificates and degrees awarded to provide a living wage in a region with extremely high poverty rates. 6) Decreasing the burden on clinical sites while ensuing equivalent learning experiences though simulation. 7) Aiding students to safely transition into the workforce, meeting the community standards for entry level practice. 8) Decreasing attrition rates.

ICT/DIGITAL MEDIA

NetLab (ICT) Hub Collaborative

Investment: \$391,880

Lead College: San Joaquin Delta College

Number of colleges participating: 4

San Joaquin Delta College, West Hills College Lemoore, West Hills College Coalinga, Cerro Coso Community College

DESCRIPTION: Partner colleges will have the ability for their ICT courses/students to access a virtual ICT laboratory. Some individual colleges lack the equipment necessary for students to attain the appropriate higher level skills necessary in ICT. This project will allow faculty to use state of the art equipment that otherwise it would be inaccessible to them.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

Information Communication Technologies are part of an integral day to day operation in all Sectors including IT, Logistics, Commerce, etc... There is a significant shortage of qualified technicians with ICT skills. This proposal aims to increase the regional need for this type of skilled workforce.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

The proposal will meet the needs not only of the regional labor market, but the state's as well. There is a significant shortage of qualified individuals with ICT skills.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

This proposal allows partner colleges the ability for their ICT courses/students to access a virtual ICT laboratory. Some individual colleges lack the equipment necessary for students to attain the appropriate higher level skills necessary in ICT. This project will allow faculty to use state of the art equipment that otherwise it would be inaccessible to them.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

The ICT sector is one of the priority sectors for our region.

Across All Sectors

AEBG Workforce Training Partnership

Investment: \$145,350

Lead College: Taft College

Number of colleges participating: 1

Taft College

DESCRIPTION: A partnership with West Kern Adult Education Network (WKAEN) to develop a collaborative approach to workforce skill-building. Drivers include: A focus on understanding and meeting the needs within West Kern District as much as possible, and creating a measurable, operational plan for Access. Outcomes: A. Strong Workforce data to capture 1. Employment successes 2. Career advancement B. Certification, GED, completions C. Academic outcomes for students who go on to further education.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

This proposal addresses the need to increase the number of program completers on jobs by the 2nd and 4th quarters after completing a certificate program.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

This proposal will coordinate efforts with the West Kern Adult Education Network to focus on a few of the top ten occupations labor market projections in Personal Care Aides and Food Preparation/Server.
[http://www.labormarketinfo.edd.ca.gov/file/occproj/cal\\$occnarr-2015-2017.pdf](http://www.labormarketinfo.edd.ca.gov/file/occproj/cal$occnarr-2015-2017.pdf)

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

The AEBG Workforce Training Partnership will focus on increasing the employment. These occupations do not require a high school equivalency which will provide much needed employment preparation for 25% of the adult population in this region who lack a high school education. The Personal Care Aide standards-based curriculum was specifically designed for readers with lower literacy levels, or for trainees for whom English is a second language. The course will be used as a stand-alone certificate program but offer clear pathways to additional levels of medical training and higher education. The Food Preparation / Server curriculum is being developed but will be tailored to literacy levels as well. Neither program require a formal educational certificate or diploma.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

This proposal have been a result of communication and coordination between Taft College, West Kern Adult Education Network and Taft Union High School CTEC programs. Instructors will be obtained by integrating industry professionals. In order to track workforce progress and outcomes across institutions and programs, students will be issued a Taft College ID card. Student informational materials will be developed and distributed to educate students as to industry-informed career pathways that prepare students for jobs needed within the region's market.

CTE Regional Branding and Marketing

Investment: \$200,000

Lead: SCCC

Number of colleges participating: 3

Clovis Community College, Fresno City College, Reedley College

DESCRIPTION: Develop and execute a cohesive, professional branding and marketing of CTE programs and opportunities offered by the State Center Community College District colleges and centers. The project will target prospective students, employers, and community organizations.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

Brand building provides an opportunity to move from laundry-listing of classes, programs, and benefits to distilling a unique promise that has the greatest value for our targets--students, employers, and community organizations. Branding defines and disseminates a value system of qualities and character that make our district/colleges distinctive in our communities and region. Branding and marketing must be specific and distinctive and will provide the mechanism to set our region apart from competing product from both public and private options. This project will allow the colleges to find the place to occupy among what's important to their targets and make it theirs--programmatically, in customer service, in their inventiveness and in how they message it all. This approach only works if it is kept time after time which is at the heart of this project. One of the most important unified objectives is to take a leadership position in CTE. If a strong distinction can be made about how CTE is delivered the SCCC way in context of a brand message, and individual colleges properly leverage that brand in CTE programming and in allied marketing executions, both District and individual colleges will be more successful in meeting their objectives. In the process, colleges can still maintain their individuality with brand and communications standards. Cost and communications efficiencies are a result, and targets find value in knowing their choices are credible and how these choices are organized and available.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

Prospective students and employers are largely unaware of the CTE programs offered by our colleges and, thus, student are unable to access much-needed training to become employable and employers have difficulty finding skilled employees. These are missed opportunities in an area that has high unemployment rates. Employers and community organizations express a critical and urgent need for skilled employees and clearly indicate an extreme need to connect with college

programs rather than turning to other means to secure employees. This proposal will increase knowledge about career technical programs available at the SCCC colleges and centers and will identify SCCC college programs as the high-quality, robust, and effective programs they are. Connecting students and employers to effective community college CTE programs is essential to the labor market.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

This proposal will result in enhanced involvement of all regional and local stakeholders – businesses and their representatives, workforce and economic development agencies, government, educational organizations, nonprofits, and STUDENTS. Connecting these stakeholders to the CTE programs and services at the colleges and centers will add to the potential for lasting impact. A truly effective campaign will also build on the longstanding efforts of others in the region, ensuring effective and efficient use of funds. A marketing campaign will benefit current and future students, increasing both enrollment and eventual employment for students and helping employers find the skilled employees they need. Alignment of this project with the broader branding and marketing efforts currently underway by the CCCC is also important and will provide an opportunity to leverage the resources of both, leading to high efficiency and effectiveness.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

The Central/Mother Lode Region strategic plan lists alignment as one of its four major goals. Alignment refers to engaging with industry to align CTE programs with leading and emergent sectors; aligning services across multiple providers, and building partnerships of industry, labor, education, workforce and economic development entities; and aligning efforts to provide comprehensive regional career pathways that align with industry sectors. This proposal provides the mechanism to help the colleges achieve this goal. More importantly, it will also align students with programs, thus achieving the other three goals: increase the amount of CTE instruction delivered, continuously improve CTE outcomes with a particular focus on completion of industry valued credentials, job placement, and wage advancement, and close the equity gaps in program access, completion, and earnings of underserved populations. This proposal will rebrand our CTE programs and provide an effective marketing approach to connect students to employers.

Workforce/Economic Development Collaboration and Coordination

Investment: \$214,908

Lead: SCCC

Number of colleges participating: 3

Clovis Community College, Fresno City College, Reedley College

DESCRIPTION: SCCC, on behalf of its three colleges and three centers, proposes to use SWP funds to establish a workforce/economic development function at the district level to coordinate college efforts and develop/enhance collaboration among the colleges and within the business/industry sectors.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

Employers and community organizations continually ask for relevant, up-to-date information regarding CTE programs and services. Efforts to increase CTE enrollments and completion must be well-coordinated and communicated throughout the service region in order to be effective. This coordination and communication must include prospective students, employers, and community organizations. Employers and community agencies have identified a need for more and better partnerships leading to an improved economic development environment. Additionally, both employers and students have identified a need for coordination of programs and support services among the colleges and centers and transferability and/or portability of curriculum.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

The district dean of workforce and adult education will provide overall leadership in the coordination, planning, organization implementation, evaluation, and policy development for district-wide workforce programs. A district dean will be a catalytic force to formulate, implement, collaborate, and promote career technical education and economic development throughout

the State Center Community College District and regionally. This position will serve as a liaison between the district and agencies administering district-wide workforce initiatives.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

Working in tandem with staff and faculty across the district, the district dean will lead and coordinate efforts to ensure the effective delivery of relevant workforce preparation, economic development and training programs across the SCCCDC service region. A district dean can serve in this capacity while coordinating district efforts with those of the colleges and centers. District-wide articulation of the career technical education programs among the district's colleges and centers will be increased and improved, as well as with secondary and other postsecondary institutions. A position at the district level will be able to establish and maintain working linkages and partnerships with industry, secondary education, and community agencies and organizations at the regional and state levels pertaining to the district-wide efforts in all sectors.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

The Central/Mother Lode Region strategic plan lists alignment as one of its four major goals. Alignment refers to engaging with industry to align CTE programs with leading and emergent sectors; aligning services across multiple providers, and building partnerships of industry, labor, education, workforce and economic development entities; and aligning efforts to provide comprehensive regional career pathways that align with industry sectors. This proposal provides an executive level district dean position to coordinate college and center programs; lead and coordinate outreach, branding, and marketing; and provide help and support to the colleges in their activities and achievement of their CTE goals. It will also be the district liaison businesses and community organizations, thus achieving the other three goals: increase the amount of CTE instruction delivered, continuously improve CTE outcomes with a particular focus on completion of industry valued credentials, job placement, and wage advancement, and close the equity gaps in program access, completion, and earnings of underserved populations.

Dual Enrollment/Student Services/ Prison Education

Investment: \$257,477

Lead College: West Hills Coalinga

Number of colleges participating: 3

Taft College, West Hills College Coalinga, Bakersfield College

DESCRIPTION: Enhance the CTE Dual Enrollment offering/sections and opportunities to different high schools in our region.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

This proposal addresses the need to increase the number of students pursuing a college education, specifically for CTE programs. It also addresses the industry need for individuals who possess soft skills and technical skills. Should students who complete these dual enrollment courses decide to forego a college education, they will have gained technical skills that will carry into the workforce, making them more prepared for the workforce.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

According to EMSI labor reports, it is anticipated that there will be an increase in the need for welders in 2018, with an estimated 1,849 welding positions becoming available. By allowing students to earn dual enrollment units in the welding program through their high school, students will have a more advanced skillset to bring into the workforce and fill these positions. Regional colleges will work on different CTE programs will local ROP groups to enhance CTE offerings throughout the region. The project will align regional efforts and will help colleges have a uniform process to offer dual enrollment in CTE areas.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

By allowing students to earn college credit while they are still in high school, the likelihood of students pursuing a college education increases. This will also help students shorten the amount of time that they spend in college and increase completion rates. Students will also gain technical skills that they can use in the workforce.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

This proposal helps to increase awareness of and participation in CTE programs, as well as increase the amount of middle skill credentials earned by allowing high school students to take dual enrollment CTE courses. It will also assist in aligning high school and community college curriculum by establishing pathways for CTE programs, allowing a smooth transition from high school to community college. In addition, high school students will participate in career exploration and job preparation activities, serving to better prepare them for the workforce.

Strong Workforce Oversight - North Central Subregion Colleges

Investment: \$399,344

Lead: Modesto Junior College

Number of colleges participating: 2

Modesto Junior College, Columbia College

DESCRIPTION: The Strong Workforce Oversight proposal will provide Individual college coordination and oversight of SW project implementation, budget and expenditures, and metrics reporting in the Stanislaus/Mother Lode region. Each partnering college will implement administrative oversight to ensure college SW projects are effective and meet state metrics and budget guidelines. Partnering colleges will communicate and share effective practices, processes, and structures.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

Efforts to increase CTE enrollments and completion must be well-coordinated and communicated throughout the service region in order to be effective. Oversight of project implementation will provide support to CTE faculty, establish processes for budget expenditures and record keeping, and measure impact according to proposed metrics. Oversight will include marketing efforts, outreach to potential students, public information on initiatives, proactive board and community SW presentations, and campus wide communication.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

Administrative oversight will provide overall leadership in the coordination, planning, organization, implementation, evaluation, and policy development for North Central SW programs. College organizational structures will formulate, implement, collaborate, and promote career technical education and economic development throughout the North Central sub-region and in the Central/Mother Lode Region. College SW administrative positions will serve as liaisons between the colleges and the implementation of SW initiatives.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

Working with staff and faculty in each college, SW administrators will lead and coordinate efforts in their colleges to ensure the effective delivery of SW strategic planning, project development, communication, and student learning outcomes. Coordination and communication between the North Central sub-region SW programs will improve planning and implementation efforts for ongoing Strong Workforce efforts.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

This project addresses all four areas of the Central/Mother Lode Region strategic plan: 1) Communication and Leadership; 2) Curriculum, Programs and Pathways; 3) CTE Student Support Services; and 4) Research and Data. Each of these Strategic Areas are addressed through ongoing discussion, coordination, and sharing of program plans, curriculum, and relevant data in the North Central Sub-region colleges. This will increase the capacity to provide regional career pathways that align with industry needs in the North Central sub-region. This proposal enables each college to design an administrative structure that is unique to their college organization while providing the capacity to coordinate college programs; lead and coordinate outreach, branding, and marketing; and provide help and support to the colleges in their activities and achievement of their SW goals. College SW administrators will share processes and methods that increase degree and certificate completion, job placement, wage advancement, and close equity gaps in program access, completion, and earnings of underserved populations.

Workforce Training Coordination - Apprenticeship/Pre-Apprenticeship

Investment: \$201,472

Lead: SCCD

Number of colleges participating: 3

Clovis Community College, Fresno City College, Reedley College

DESCRIPTION: Support and develop pre-apprenticeship and apprenticeship coordinator position and office that will provide leadership of and coordination to apprenticeship providers and district colleges.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

With the increased need for jobs with sustainable wages and the increased emphasis throughout California on apprenticeship programs, there is a great need for colleges to communicate and work with local companies to develop training opportunities. The complexity of the process to establish pre-apprenticeship and apprenticeship programs with both union led programs and non-union programs requires a knowledgeable, single-point of contact approach, one that represents the entire district in communicating and developing training with one voice.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

With high unemployment rates, high poverty rates, and high rates of unskilled labor in the Central Valley, it is critical to the economic development of the region to provide a mechanism for the unemployed to become qualified to apply to and be accepted in an apprenticeship program. Establishing pre-apprenticeship programs, in partnership with community organizations, is critical in this process. In concert with this effort, establishing and providing a way for employers to participate in apprenticeship training is also critical. This proposal will provide the help needed by potential students in pre-apprenticeship training leading to apprenticeship training and also provide the help employers need to increase the skill levels of their incumbent workers. Apprenticeship training results in better skilled workers, in long-term jobs, earning a sustainable wage. Apprenticeship has always been a part of the building trades' success, but now more and more employers in sectors like manufacturing have realized it may be the answer to their workforce needs. In terms of workforce skills gap, apprenticeship may be the answer many sectors, including manufacturing, have been seeking.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

An identified and knowledgeable coordinator can connect pre-apprenticeship and apprenticeship opportunities to college training programs. At the same time, a coordinator can build partnerships with building trades and both union and non-union employers and provide students with the opportunity to secure sustainable wage jobs. A knowledgeable coordinator who is connected to the community SCCC serves can be the one voice that links employers to the colleges' programs.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

A pre-apprenticeship/apprenticeship coordinator will establish partnerships with community-based organizations, district colleges, and adult education providers resulting in pre-apprenticeship training opportunities for unemployed, high-risk, high-need student populations. Completion of pre-apprenticeship training provides the opportunity for students to become eligible for entry into a registered apprenticeship program and opens the door to high-wage, long-term jobs. Additionally, establishing apprenticeship program partnerships enables employers to increase the skill level of their incumbent workers. The complexity of these processes, procedures, and regulations requires a knowledgeable single-point of contact for employers, building trades, community-based organizations, and Single Employer programs to be their required Local Educational Agency (LEA).

Workplace Internship Development Investment: \$2,606,533

Lead College: Merced College

Number of colleges participating: 11

Bakersfield College, Cerro Coso Community College, Columbia College, Fresno City College, Merced College, Modesto Junior College, Porterville College, San Joaquin Delta College, Taft College, West Hills College Coalinga, West Hills College Lemoore

DESCRIPTION: The Workplace Internship Development Regional Project will focus on students attending community college, with a goal of earning a certificate or associate degree aimed at technical training, with a desire to enter directly into the workforce upon successful completion of their CTE program. Each Workplace Internship Development partnering college would put in place a center that will provide services to assist in internship/job placement that is an integral part of the colleges Career Center or like office. The focus of this office is to provide an opportunity for each CTE program completer to put the skill sets they have developed, to work in a “real world” application. Additionally, the interns will be provided exposure to the culture of the work place that can’t be reproduced in a classroom environment. Interns will be exposed to the culture and etiquette of a “real world” job, and a chance to apply the training they have received in their college program. They will gain experience in establishing relationships with work place mentors and receive the “field experience” that is so valued by employers. Providing a pathway to internships is a natural progression to the success of all CTE students.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

This proposal addresses the need to increase the number of program completers on jobs by the 2nd and 4th quarters after completing a CTE degree or certificate.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

This proposal will coordinate efforts across the region with both industry partners and colleges to place program completers into internships/Jobs that align with their area of study. Colleges will also share best practices and leverage other efforts to maximize the outcome of job placement for each college.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

The workplace Internship Development Office will employ a Manager/Job Developer, and secretarial support staff. The duties of the office would include: 1. Industry Partnership Internship Development Relations 2. CTE program completer Internship facilitation 3. Business mentor partnership development 4. Graduate employment follow-up data collection 5. Employability training for potential interns (Resume writing, letter of application writing, mock interview training, employment application completion, etc.) 6. Coordinate with Career Counseling upon student placement in CTE programs. 7. Coordinate services with entities such as EDD, WIB to promote enrollment of the un or under employed.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

This proposal addresses the need to increase the number of program completers on jobs by the 2nd and 4th quarters after completing a CTE degree or certificate.

PROJECTS IN-COMMON/10% REGIONAL SET-ASIDE

CRC CTE Marketing & Outreach: Parents, Students, Workforces Dev't Partners, Industry/Employers Investment: \$700,000

Lead: CRC

Number of colleges participating: 14

Bakersfield College, Clovis Community College, Cerro Coso Community College, College of the Sequoias, West Hills College Coalinga, West Hills College Lemoore, Fresno City College, Merced College, Modesto Junior College, Porterville College, San Joaquin Delta College, Taft College, Reedley College, Columbia College

DESCRIPTION: For the first SWP allocation, College CEOs and the CRC Steering Committee have prioritized a Regional Marketing and Outreach project for the majority of the 10% set-aside. The project will develop a multimedia, multi-pronged approach to marketing CTE programs regionally and will leverage regional efforts with statewide “projects in common” efforts related to branding and outreach to students and to employers. The statewide branding and outreach effort is already underway. The regional consortium will convene a marketing committee with regional representation to develop a Request-for-Proposal. Depending on the scope of the campaign, it might be divided into phases. In regards to the CCCC, they will be investing \$3M if the regions statewide can match \$3M toward a CTE Rebranding effort. The region’s match would go toward customizing the outreach: 1) specific to the region’s sectors and employer partners/voices; and, 2) specific to the ground-game needed in each region to get in front of underserved students/families so they better understand their higher education options. The CCCC has retained the services of renowned Public Relations firm Ogilvy to do an environmental scan and set a path forward on how the \$3M of state funds will be deployed. The CCCC feels it is important to keep consistency in the look and feel for how an outreach campaign is deployed lest we undermine its effectiveness and continue to confuse employers/students. It is anticipated the RFP will be issued in late 2017. The successful contractor will be expected to coordinate with the CCCC’s re branding efforts, as well as with individual CTE marketing efforts at CRC districts and colleges.

WHAT NEED DOES THIS PROPOSAL ADDRESS?

CTE's share of statewide community college enrollment (FTES) declined from 31.3% in 2000/2001 to 28.2% in 2013/2014. While non-CTE FTES increased 16.2% during this time period, CTE FTES remained about the same. Overall, in years when total FTES increases, the percentage increase for CTE tends to be lower than for non-CTE. In years when total FTES decreased, the percentage decrease in CTE tends to be greater than for non-CTE. This pattern has been observed in the Central/Mother Lode region as well as statewide. The colleges in the Central/Mother Lode region seek to increase enrollments in their CTE programs. A coherent message of CTE programs leading to careers across the region is desired. The State Chancellor's office has retained the services of renowned public relations firm Ogilvie to do an environmental scan and set a path forward on to deploy up to \$3 million of state funds. This project aims to ensure that the Central/Mother Lode regional plan is to be coordinated with that plan. In addition, the public workforce system engages employers by program, with different people from different organizations calling employers to hire their participants. Each college does its own marketing of its career technical education programs to employers; there is no cohesive, coherent message to all employers in the region.

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

CTE enrollments have been in decline throughout the region over the past decade. However, the gap between job openings and the availability of qualified applicants is expected to increase to over one million jobs statewide by 2025. The number of students enrolling in CTE programs in the region and statewide is not expected to fill that gap. Strong Workforce Program local funds will provide additional CTE training opportunities, but students must learn that they are available and that they offer the ability to earn a living wage. In addition, regional partners identified several cross-sector employer needs/priorities by utilizing the findings from multiple sector studies. The top priority is for workers with strong soft skills – communication, professionalism, critical thinking, problem solving, etc. These soft skills make the difference in securing and retaining employment; previous work experience also is key for many well-paying middle-skill occupations, and employers across sectors report the need for more experienced workforce. Regional employers have difficulties finding qualified employees and are interested in new ways to find and cultivate new talent. They indicate that industry-based certifications are an

indicator to employers of a job candidate's technical proficiency. While some businesses surveyed (particularly in advanced manufacturing) indicated a strong interest in partnering with the community colleges for internships and company tours, many were not aware of the training programs that the community colleges offer or how they could partner with the colleges to find a qualified work force.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

This proposal addresses the identified needs by hiring a marketing firm to develop a regional marketing plan focused on increasing both student and employer involvement in the community colleges, implementing that regional plan, and coordinating with local college and state marketing.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

Marketing regional and local CTE programs is a high priority within the CRC; and identified in alignment with the regional strategic plan, as well as with the goals of the CRC strategic plan.

CRC Projects-In-Common/10% Regional Set-Aside beyond Marketing –TBD

Investment: \$78,000

Lead: CRC

Number of colleges participating: 14

Bakersfield College, Clovis Community College, Cerro Coso Community College, College of the Sequoias, West Hills College Coalinga, West Hills College Lemoore, Fresno City College, Merced College, Modesto Junior College, Porterville College, San Joaquin Delta College, Taft College, Reedley College, Columbia College

DESCRIPTION: The CRC Steering Committee has tentatively prioritized the following projects, in order, as funding allows, after the marketing priority: STEM/STEAM Teacher Pipeline, Employability/Soft Skills (New World of Work is a 21st Century Skills Program), and Early Career Exploration (Get Focused/Stay Focused).

WHAT NEED DOES THIS PROPOSAL ADDRESS? A description of each of those program is as follows:

- **Scale Regional STEM/STEAM Teacher Pipeline:** To remedy the statewide teacher shortage and to bring more diversity into the STEM/STEAM teaching pipeline, every region needs to produce a fair share of this workforce need. The STEM/STEAM Teacher Preparation Pipeline has sought to align Career and Technical Education curriculum and student support services as a way to establish pipelines for students interested in teaching in today's STEM/STEAM fields. During the 2014-2015 school year, the TPP campuses came together and created a state-wide collaborative. This collaborative focuses on the continuing development of a model of quality teacher preparation that includes career exploration, contextualized learning opportunities, teacher recruitment and retention, and the development of a quality teacher preparation model of collaboration that is currently shared regionally, statewide and beyond.

West Hill College Lemoore is one of ten Teacher Preparation Pipeline (TPP) community colleges in California. The TPP was established in 2006 by the California Community Colleges Chancellor's Office to address the statewide shortage of teachers. The goal of the program is to provide additional support to those individuals that desire to enter the teaching field. The program supports community college students and industry professionals obtain the education, experience, and credentials needed to become a teacher. Ten California Community Colleges have joined together with businesses and workforce development partners to encourage and support our future teachers. The focus of the program is Science, Technology, Engineering and Mathematics (STEM) fields as well as Career and Technical Education (CTE) such as welding, automotive, electronics, HVAC and many others. The CRC will work with WH Lemoore to support efforts to expand this program.

- **Employability/Soft Skills:** The New World of Work is a 21st Century Skills Program that emphasizes curricular and employability skills and is quickly raising the workforce preparation of students in our system. Thirteen community colleges have piloted the New World of Work with positive outcomes and results. The New World of Work is currently funded by the California Community College Chancellor's Office Doing What Matters initiative and

collaborates with employers, workforce development boards, educators, and research organizations across the country to build 21st Century Employability Skills. A series of webinars is being offered to K-12, Chief Student Services Officers, CTE Deans, counselors, instructional faculty, and student services professionals throughout our system to raise awareness levels of a suite of tools that will benefit student completion efforts.

- **Early Career Exploration:** The Get Focused/Stay Focused curriculum has been effectively tested in high schools by several community colleges in all seven regions in the state for use with over 80,000 secondary level students. Who am I? What do I want? How do I get it? – These are three questions that are keys to student success, and three questions that should be answered before selecting a guided pathway. Career Choices and Changes, and My10yearPlan help students answer these questions while facilitating a planning process that:
 - Matches pathway selection to future student goals
 - Results in informed decision making regarding a course of study
 - Development of a skills-based education plan
 - Leads to a 10-year Plan focused on successful completion and workforce entry

HOW DOES THIS PROPOSAL MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

This proposal addresses the identified needs by strengthening the student and teacher pipeline, as well as preparing students for the world of work.

HOW DOES THIS PROPOSAL ADDRESS THE IDENTIFIED NEEDS?

This proposal addresses the identified needs by strengthening the student and teacher pipeline, as well as preparing students for the world of work.

HOW DOES THIS PROPOSAL ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

CCCCO has suggested that for a number of the Strong Workforce Recommendations, there is economy of scale to do “projects in-common” across all regions. Existing pilots have informed effective practices for addressing these recommendations. According to the Strong Workforce Program flowchart, 10% of Regional share allocation can be deployed for Task Force recommendations with attention to: 1) region-wide outreach to employers on CTE by sector for purposes of internship/job placements; 2) region-wide outreach to students/families on career awareness/CTE options; 3) additional data-related needs; and, 4) professional development to streamline curriculum approval. Given the focus for these funds, regions are asked to strongly consider applying the 10% set-aside to scale “projects in-common”; identified in alignment with the regional strategic plan, as well as with the goals of the CRC strategic plan.

ⁱ 1/25/18 – M/S/A Steering Committee SW2 & SW3 Regional Project list approved.

File: file:///C:/Users/lkh014/Desktop/SW2%20SW3_17-18%20and%2018-19/Final%20PROJECT%20DETAIL%20CRC%20Colleges%20Strong%20Workforce%20Program%20Regional%20Project%20List%20SW2%20SW3%20Jan%2029%202018.docx

ⁱⁱ 10/9/18 - M/S/A Steering Committee approved the additional \$36,300 (realized from the final allocations of the incentive funds for SW3 as related to the CRC 10% region wide set-aside.