



Barstow Area Consortium for Adult Education

Board **MINUTES**

Barstow Community College, Administration Conference Room

Tuesday, August 2, 2022 (2:00 p.m. – 4:00 p.m.)

([Ⓜ]Materials in Board Packet)

DUE TO COVID-19, THIS MEETING WILL BE HELD ON ZOOM; THE PUBLIC IS INVITED TO PARTICIPATE

Meeting URL: <https://barstow-edu.zoom.us/j/94450432200> **Meeting ID:** 944 5043 2200

PLEASE NOTE: Agenda related documents distributed to the BACAE Board for the Board Meeting may be viewed in the President’s Office at Barstow Community College, 2700 Barstow Rd, Barstow, CA 92311. Individuals who require special accommodation, including but not limited to an American sign language interpreter, accessible seating, or documentation in accessible formats, should contact the BACAE Coordinator at erivera@barstow.edu at least two days before the meeting date.

Call to Order: 2:04pm

Attending:	Voting Member	Voting Member	Attendee
Baker Valley	<input checked="" type="checkbox"/> Cecil Edwards	<input type="checkbox"/>	<input type="checkbox"/>
Barstow CC	<input checked="" type="checkbox"/> Eva Bagg	<input type="checkbox"/>	<input type="checkbox"/> Terri Walker
Barstow AS	<input type="checkbox"/> Scott Godfrey	<input type="checkbox"/>	<input checked="" type="checkbox"/> Michelle Colleoc
Silver Valley	<input type="checkbox"/> Jeff Youskievicz	<input checked="" type="checkbox"/> Brice Scott	<input type="checkbox"/>
Consortium Staff	<input checked="" type="checkbox"/> Elena Rivera	<input checked="" type="checkbox"/> Jackie Diaz	<input type="checkbox"/>
Guests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1. [Ⓜ]Approval of Minutes – June 7, 2022

Motion to approve by *S. Godfrey*; 2nd by *E. Bagg*

Motion passed unanimously

2. Public Comment – Public comment will be allowed on any topic relevant to the BACAE. Pursuant to BACAE Policy, comments are limited to 3 minutes per person. Please begin your comment by stating your name.

3. Closed Session – None Requested

4. Guest Speaker – None

5. Consortium Director’s Report

5.1 Director’s Update *E. Rivera and J. Diaz attended the “5th Annual Super-Consortia Regional PD Day” hosted by Inland Adult Education Consortium on Monday, August 1, 2022.*

5.2 CAEP Deadlines – Past & Upcoming

- July 15: Student Data due in TOPSPro (Q4) FINAL - COMPLETED
- Aug. 1: Employment and Earnings Follow-up Survey
- Sept. 1: 20/21 and 21/22 Member Expense Report due in NOVA (Q4)
- Sept. 1: July 1, 20221 to June 30, 2022 expenses by program area due in NOVA
- Sept. 14: Annual Plan for 2022-23 due in NOVA (Extended for 2022)

- Sept. 30: 20/21 and 21/22 Member Expense Report certified by Consortia in NOVA (Q4)
- Sept. 30: End of Q1
- Oct. 30: 22/23 Member Program Year Budget and Work Plan due in NOVA (Extended for 2022)
- Oct. 31: Student data due in TOPSPRO (Q1)
- Oct. 31: Employment and earnings Follow-up Survey
- Nov. 30: 22/23 Member Program Year Budget and Work Plan certified by Consortia in NOVA (Extended for 2022)

5.2 TTA Update: *Currently on summer break with Ryan de la Vega*

5.6 Member Program Update: *BAS M. Colleoc reports,*

- *The Barstow Adult School was open for the month of June and was able to extend graduation for students.*
- *Currently there are 72 enrollees*
- *Registration opened up on the 25th of July*
- *Preparing for the Fall semesters and are selecting teachers.*

5.7 Member Program Update: *BCC E. Rivera reports,*

- *A job counselor has been scheduled to have office hours to meet with students on a weekly basis until the end of the fall semester.*
- *BCC Adult Ed. Staff are going through MBTI training*
- *First cohort of students on probation have completed the CTE noncredit certificate program.*
- *New CTE noncredit cohorts of probation classes will begin August 9, 2022 we are scheduled to continue classes for the rest of the school year.*
- *ESL classes begin next week*
- *Scheduled Resource fair for September 13th 2022*
- *Workforce workshops will be available in English and Spanish*
- *First students under BCC AE have completed and passed US Citizenship test*
- *Continuing to CASAS pre and post test*
- *Currently enrolled 14 GED prep students in Spanish and 11 GED prep in English*
- *Outreach for Back to school night events*

5.8 Member Program Update: *BVUSD C. Edwards reports,*

- *They have changed one of their classes and are creating a parent resource center to help attract Adult Ed. Students*
- *Evening Adult Ed classes will begin at the end of August.*

5.9 Member Program Update: *SVUSD B.Scott reports,*

- *Remained open the whole summer and had two students complete their high school diploma.*
- *One student tested and passed the GED exam*
- *The adult school will begin next week on Monday and all students will be able to return via in person or online.*

5.10 BCC Fiscal Agent Report

- *July and August payments will be processed at the end of August.*

5.11 [Ⓜ]Marketing & Social Media Update: *Phoenix Design*

- *E. Rivera will be meeting with Phoenix Design and Hasani X for creating a video commercial.*

6. Discussion Items

- 6.1 Final: 3-Year Plan 2022-2025
- 6.2 2022-2023 Annual Plan due in NOVA on Sept. 14 2022

7. Action Items

- 7.1 Approval of amended CFAD BACAE 2022-2023 Allocations per Governor's revised budget

8. Announcements

- 8.1 Conferences
 - CAEP Annual Summit – 5th Annual SBC Super-Consortia Regional Professional Day – San Bernardino – August 1, 2022, 9am to 2pm
 - CAEP Summit 2022 – Oct. 25-28 – Virtual
- 8.2 2022-2023 Board Meeting Dates (2:00 pm – 4:00 pm via Zoom / 1st Tuesday of the Month)

2022-2023	February 7, 2023
September 6, 2022	March 7, 2023
October 4, 2022	April 4, 2023
November 1, 2022	May2, 2023
December 6, 2022	June 6, 2023
January 3, 2023	

9. Adjournment: 2:38pm

Motion to approve by *S.Godfrey* ; 2nd *E.Bagg*

Motion passed unanimously



August 22, 2022

To: Adult Education Consortium Directors and Members

From: The California Adult Education Program (CAEP) State Leadership

Subject: Fiscal Year 2022-23 Program and Accountability Requirements for Student Outcome Data Collection and Submission

This memorandum is to advise local recipients of the California Adult Education Program (CAEP) funds of accountability requirements in the 2022-23 Program Year. This letter and the supporting documents outlining data collection and reporting are located in the [Student Data Collection and Reporting](#) section of the adult education website (www.caladulthood.org) and will provide further clarification and details on program accountability requirements. Due dates for data deliverables can be accessed on the [AEP Due Dates](#) section. Failure to comply with any requirements or deliverable deadlines will be cause for withholding Adult Education Program apportionment payments until requirements are met and performance is considered satisfactory.

Data Accountability Requirements

Consortia receiving Adult Education Program funding from the California Department of Education (CDE) and the California Community College Chancellor's Office (CCCCO) for the 2022-23 program year must submit the required student data. The CDE and CCCCCO require all Adult Education Program agencies to use the following systems to track adult learner progress in the seven authorized program areas and report achievements from the seven-outcome areas designated by Education Code Section 84913.

- K12 agencies, County Offices of Education (COE), and Joint Powers Authority (JPA) are required to use TOPSpro® Enterprise to collect and report adult learner demographics, instructional hours, barriers, and program outcome information. Agencies are required to survey quarterly adult learners for whom a social security number is not available for data matching.
- California Community College Districts (CCDs) are required to use the Chancellor's Office Management Information System (MIS) to enter their adult learner demographics, instructional hours, barriers, and program outcome information.

Note: CCDs that receive WIOA, Title II funding for services under the Adult Education and Family Literacy Act (AEFLA) are required to collect and report all adult learner demographics, barriers, and program outcomes for all adult learners enrolled in their WIOA, Title II funded programs using TOPSpro® Enterprise. In addition, CCDs receiving WIOA, Title II funding must enter all adult learner demographics, barriers, and program outcomes into

their MIS system. Finally, CCDs that are WIOA Title II grantees will continue to collect and report CASAS assessment results using TOPSpro® Enterprise.

Data Accountability Training

The CAEP State Leadership has contracted with the Sacramento County Office of Education (SCOE) to create the Technical Assistance Project (TAP), which offers online and in-person trainings regarding a variety of topics, including meeting Adult Education Program accountability requirements, implementing approved assessments, and using the two data collection systems. The CAEP State Leadership strongly encourages local agencies to attend all available online and in-person accountability training, and to adopt a team approach for trainings and continuous improvement in managing student data outcomes. Positive student learning outcomes drive future grant funding in California's delivery system. More details regarding training sessions are available on the [Events](#) page of the CAEP website. Look for updates in the CAEP weekly newsletter.

Technical Assistance Contact Information

For questions related to the CAEP or fiscal information and/or technical assistance on professional development topics, please contact the CAEP (TAP) by phone at 1-888- 827-2324 or by e-mail at tap@caladulthood.org.

Sincerely,

Gary Adams
Dean
Adult Education Program Office
California Community Colleges Chancellor's Office

Carolyn Zachry, Ed.D.
Director
Adult Education Program Office
California Department of Education

Enclosure: 2022-23 CAEP Data Collection, Reporting, and Due Dates for Data Deliverables

2022-23 CAEP Data Collection, Reporting, and Due Dates for Data Deliverables

Due Dates for CAEP Data Submission Using TOPSpro® Enterprise

1. Submit quarterly and end-of-year data in TOPSpro® Enterprise. Complete all data entry and review to identify any potential problems on or before the submission due date. All data submissions must be received on or before the due date.
2. Agencies using Third-Party Attendance Software must export data from their system and import into TOPSpro® Enterprise. Please see the instructions regarding exchanging data with TOPSpro® Enterprise posted on the Comprehensive Adult Student Assessment Systems (CASAS) website at [3rd Party Import/Export Wizard](#).

3. Agencies will submit their quarterly TOPSpro® Enterprise data and CAEP Data Integrity Report (DIR) using the Quarterly Data Submission Wizard (QDS). Agencies will also complete sending the Employment and Earnings Survey to appropriate exit populations.

Data Submission	Due Date	Submit Electronically
First Quarter Data, TOPSpro® Enterprise	October 31, 2022	Enter all information into TOPSpro® Enterprise for this quarter on or before this date.
First Quarter CAEP Data Integrity Report	October 31, 2022	Complete the Quarterly Data Submission Wizard in TOPSpro® Enterprise – refer to the help document.
Employment and Earnings Follow-up Survey	October 31, 2022	Complete sending Employment and Earnings Survey to exit populations. The following tasks should be completed during Quarter 1 (July through September): <ul style="list-style-type: none"> • Run the “Core Performance Wizard” under Tools in TOPSpro® Enterprise • Send Employment and Earnings Survey to exit population for second after exit
Second Quarter Data, TOPSpro® Enterprise	January 31, 2023	Enter all information into TOPSpro® Enterprise for this quarter on or before this date
Second Quarter CAEP Data Integrity Report	January 31, 2023	Complete the Quarterly Data Submission Wizard in TOPSpro® Enterprise – refer to the help document.
Employment and Earnings Follow-up Survey	January 31, 2023	Complete sending Employment and Earnings Survey to exit populations. The following tasks should be completed during Quarter 2 (October through December): <ul style="list-style-type: none"> • Run the “Core Performance Wizard” under Tools in TOPSpro® Enterprise • Send Employment and Earnings Survey to exit population for second after exit
Third Quarter Data, TOPSpro® Enterprise	April 30, 2023	Enter all information into TOPSpro® Enterprise for this quarter on or before this date
Third Quarter CAEP Data Integrity Report	April 30, 2023	Complete the Quarterly Data Submission Wizard in TOPSpro® Enterprise – refer to the help document.

Employment and Earnings Follow-up Survey	April 30, 2023	Complete sending Employment and Earnings Survey to exit populations. The following tasks should be completed during Quarter 3 (January through March): <ul style="list-style-type: none"> • Run the “Core Performance Wizard” under Tools in TOPSpro® Enterprise • Send Employment and Earnings Survey to exit population for second after exit
End-of-Year Data, TOPSpro® Enterprise	July 15, 2023	Enter all information into TOPSpro® Enterprise for this quarter on or before this date
Fourth Quarter Data Integrity Report	July 15, 2023	Complete the Quarterly Data Submission Wizard in TOPSpro® Enterprise – refer to the help document.
Employment and Earnings Follow-up Survey	July 15, 2023	Complete sending Employment and Earnings Survey to exit populations. The following tasks should be completed during Quarter 4 (April through June): <ul style="list-style-type: none"> • Run the “Core Performance Wizard” under Tools in TOPSpro® Enterprise • Send Employment and Earnings Survey to exit population for second after exit

Critical TOPSpro® Enterprise Reports

The TOPSpro® Enterprise reports listed below are designed to guide you in the process of submitting complete and accurate data.

1. [CAEP Data Integrity Report](#)
On the Reports menu, go to **State Reports – California – CAEP Data Integrity**. This report provides comprehensive information on key items associated with data collection requirements, data completeness, and program performance indicators.
2. [CAEP Summary Report](#)
On the Reports menu, go to **State Reports – California – CAEP Tables**. The CAEP Summary Report provides enrollment and outcome data for all CAEP program areas.

If you have any questions regarding these quarterly requirements or data submission process, please e-mail caep@casas.org. If you need help using TOPSpro® Enterprise, please contact CASAS Technical Support, by phone at 800-255-1036 or by e-mail at techsupport@casas.org.

MIS Reporting Parameters

There are no separate reporting deadlines for data collected and entered into MIS. Colleges should capture all data relevant to their students and ensure it is entered completely into their local MIS system. Colleges will submit their adult education data through their college's regular data uploads to the Chancellor's Office. There is no separate submission of MIS data to the Chancellor's Office for adult education students.

Regardless of whether colleges report data through TOPSpro® Enterprise for WIOA Title II, colleges are also expected to capture and enter all student data elements into their MIS system.

Enrollment, demographics, barriers, and most student outcomes for noncredit adult education students rely almost exclusively on data entered into the MIS system to populate the LaunchBoard Adult Education Pipeline and the adult education metrics in the Student Success Metrics dashboards. Failure to enter all student data into MIS could result in underreporting of student data in the Adult Education Pipeline, the Student Success Metrics, and in end of year reporting to the legislature. For more details, please see the FAQs section of this document.

Please refer to the documents listed below for additional details on Adult Education Program data and accountability requirements, which are available in the [Student Data Collection and Reporting](#) section of the California Adult Education website:

Adult Education Data Collection Reporting and Due Dates for TE (see enclosure)

[Adult Education Pipeline Metric Definition Dictionary](#)

[Adult Education Pipeline Dashboard Coding Guide](#)

[Adult Education Pipeline Frequently Asked Questions](#)

[Measuring Our Success: Data and Accountability](#)

AEP 2022 is LIVE: *New Features and Updates to the Adult Education Pipeline Dashboard* Webinar (April 29, 2022 - [Slides](#) and [Recording](#))

Launchboard Adult Education Pipeline: MIS Coding (April 20, 2021 - [Slides](#) and [Recording](#))

AUGUST 2022

2022 INLAND EMPIRE/DESERT REGIONAL WORKFORCE DEMAND ASSESSMENT



Inland Empire/Desert Region
Center of Excellence for
Labor Market Research



C·O·E

CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

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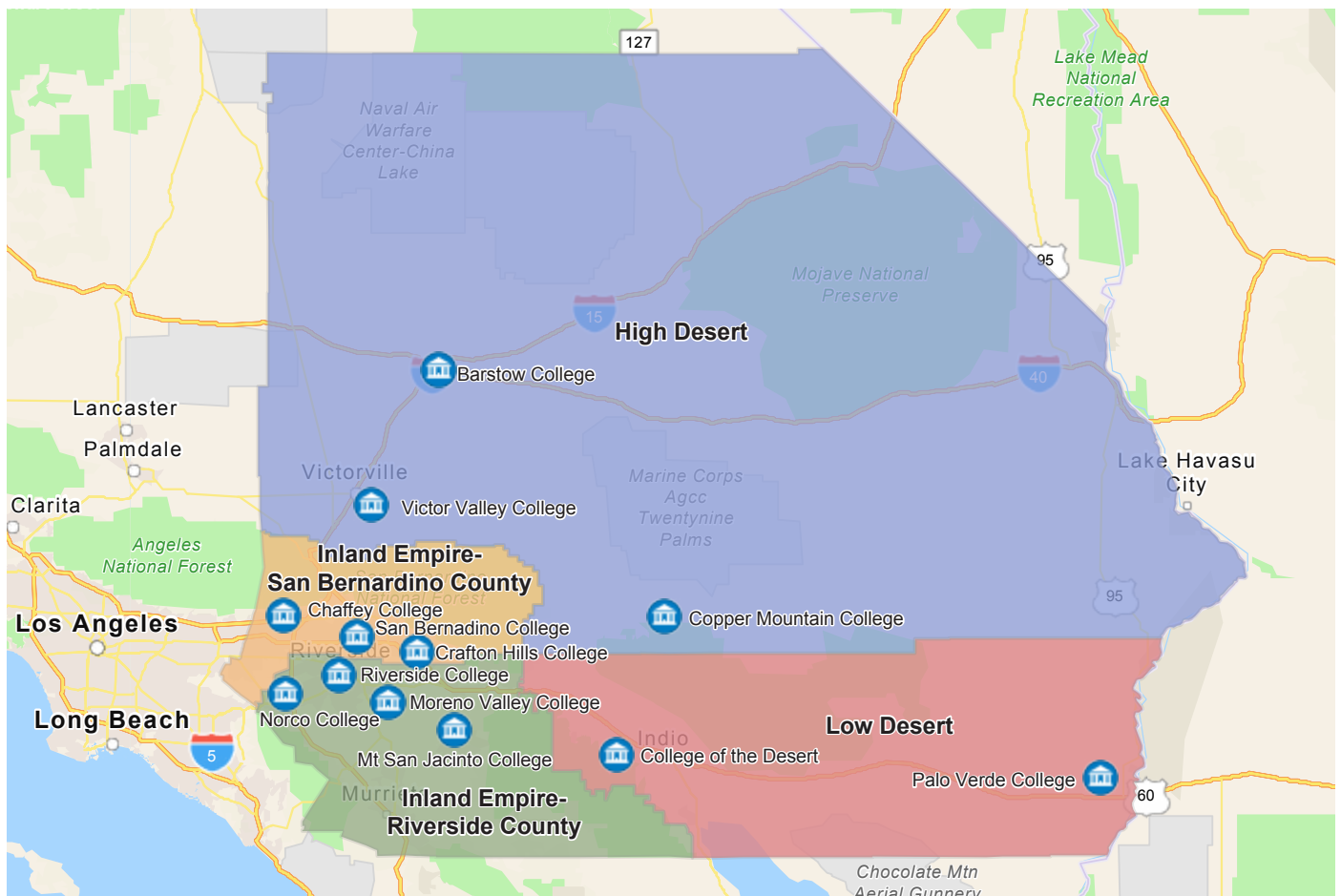
INLAND EMPIRE/DESERT REGIONAL OVERVIEW

Located in Southern California, the Inland Empire/Desert Region is composed of Riverside and San Bernardino counties and is among the largest, most diverse, and fastest-growing metro areas in California (Exhibit 1). The two-county region spans more than 27,000 square miles, slightly larger in area than West Virginia, and was home to approximately 4.7 million residents in 2021. The region is diverse geographically (containing deserts, mountains, agricultural land, and sprawling suburbs) and has a diverse population and business composition.

To assist regional community colleges with strategic planning and career education (CE) program development, the Inland Empire/Desert Region Center of Excellence (COE) conducted a workforce demand assessment to identify high-quality job opportunities for investment. This analysis identifies high-quality occupations that show strong workforce demand and offer median hourly earnings that exceed the state’s living wage standard. The occupations highlighted in this assessment may be used to calibrate or develop CE training programs designed to address the region’s in-demand and high-wage job opportunities.

The region contains 12 community colleges within nine community college districts as well as 56 high school districts. The California Community Colleges Chancellor’s Office (CCCCO) has identified 10 priority CE sectors for community college program alignment, enhancement, and development. This report analyzes occupations that require entry-level education of either high school, community college, or a bachelor’s degree that fall within with these sectors and the 15 California Department of Education (CDE) Industry Sectors.

Exhibit 1: Community Colleges and Subregions in the Inland Empire/Desert Region: Inland Empire-Riverside, Inland Empire-San Bernardino, High Desert, Low Desert



Source: COE, Esri

Given the Inland Empire/Desert Region's geographic size and diverse needs, future assessments will further explore four distinct subregions within the greater area. These subregional assessments will identify high-quality job opportunities for those choosing to learn, work, and live in their local communities. These subregions and representative communities include:



Inland Empire-San Bernardino County (Metro-1):

San Bernardino, Ontario, Rancho Cucamonga, Chino, Fontana, Yucaipa, Big Bear Lake



Inland Empire-Riverside County (Metro-2):

Riverside, Temecula, Murrieta, Norco, Moreno Valley, Eastvale



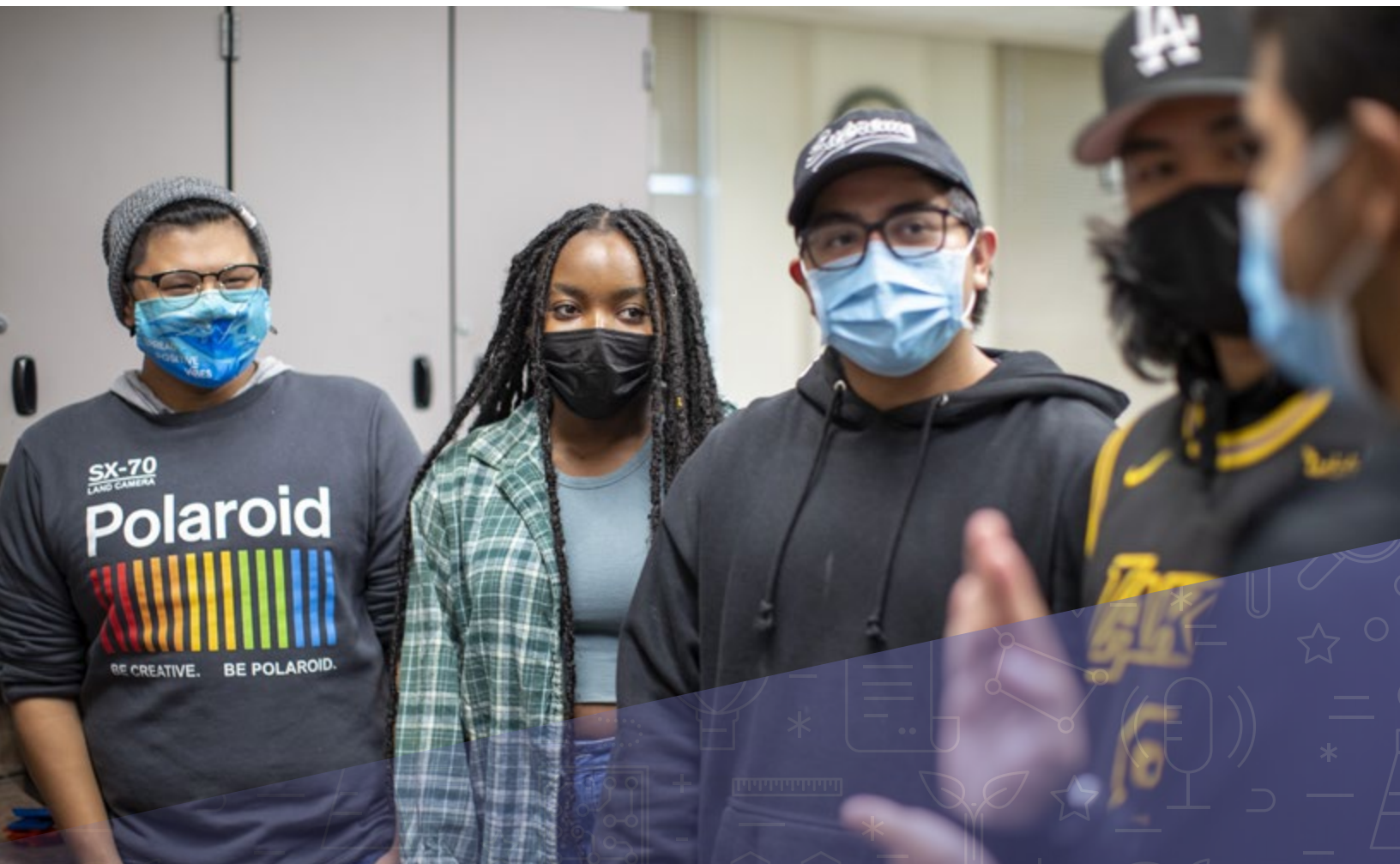
High Desert (San Bernardino County):

Victorville, Barstow, Needles, Adelanto, Hesperia, Twentynine Palms



Low Desert (Riverside County):

Blythe, Palm Springs, Palm Desert, Indio, Coachella



METHODOLOGY AND DATA SOURCES

This report focuses on occupations identified through the Bureau of Labor Statistics' (BLS) Standard Occupational Classification (SOC) System that are crosswalked to California Community Colleges Taxonomy of Programs (TOP) codes. These occupations are most relevant for students who enroll in community college education and training programs. This report analyzes occupations that require entry-level education of either high school, community college, or a bachelor's degree the 10 CCCC sectors and 15 CDE sectors. The regional analysis by sector allows for a comprehensive evaluation of where high-quality jobs exist and where colleges may invest in CE programs to address labor market demand.

A program inventory study was conducted for each CCCC sector, examining each college offering related programs in the region. Current occupational employment (2021 job count), projected demand (annual job openings and growth rate), and earnings associated with occupations in each sector are included in the assessment.

For each sector, occupations are highlighted that meet the high-quality job designation definition, i.e., occupations that are both in demand and high wage. For this study, an occupation is considered in-demand if it has 100 or greater regional annual job openings over the next five years. Occupations are considered high wage if their median hourly wage meets or exceeds \$21.82 per hour, the MIT living wage standard for a single adult in California. Further information on MIT Living Wage Standard Methodology is available on their website.¹

Labor market data in this report is sourced from Lightcast 2022.2 (formerly Emsi). The community college program inventory was sourced from the Chancellor's Office Curriculum Inventory (COCI 2.0) and verified by comparing the inventory with community college course catalogs. Each sector contains a list of existing program offerings and programs currently not offered by regional community colleges.

Job skills associated with occupations or groupings of occupations can provide insight into the competencies needed for employment. O*NET skills data reflects the skills historically required for occupational employment. Each sector contains a list of occupational skills from O*NET that are more relevant to that sector than other sectors. Each sector section in this report contains a job advertisement (ad) overview, including employers posting the most ads, common job titles, and the most frequently requested specialized and soft skills. Lightcast job posting data provides real-time insight into employer demand for high-quality occupations in each sector over the last 12 months, from June 2021 to May 2022.



¹ MIT Living Wage, "Living Wage Calculator for California," 2022, accessed August 8, 2022, <https://livingwage.mit.edu/states/06>.

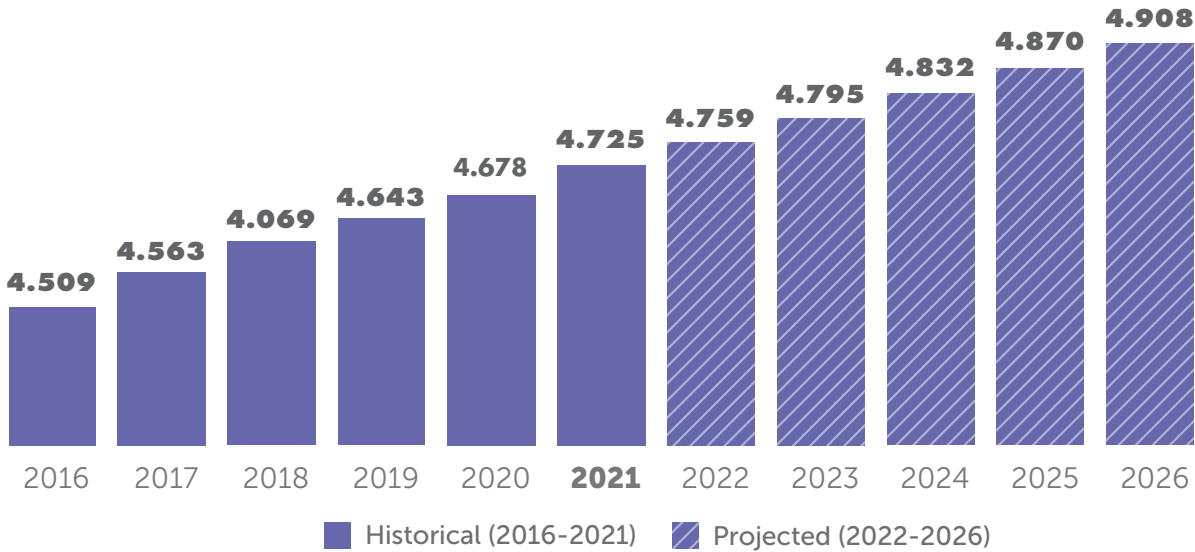
REGIONAL DEMOGRAPHICS AND LABOR FORCE

This section analyzes regional demographic characteristics, including population size, gender, race/ethnicity, age, educational attainment, and labor force participation. Providing foundational information on a region’s demographic composition may assist with ensuring that all residents are equitably served by local educational institutions.

Population

In 2021, the region contained about 4.7 million residents, or approximately 12% of California’s 39.5 million residents (Exhibit 2). Over the next five years, between 2021 and 2026, the region’s population is projected to increase by 3.9%, adding about 183,000 residents. Regional growth is faster than that of the state and the nation, which are projected to grow by 0.1% and 2.6%, respectively. Over the last five years, between 2016 and 2021, the population of the region grew by 4.8%, while that state only grew by 0.8%.

Exhibit 2. Population change, in millions, Inland Empire/Desert Region, 2016-2026

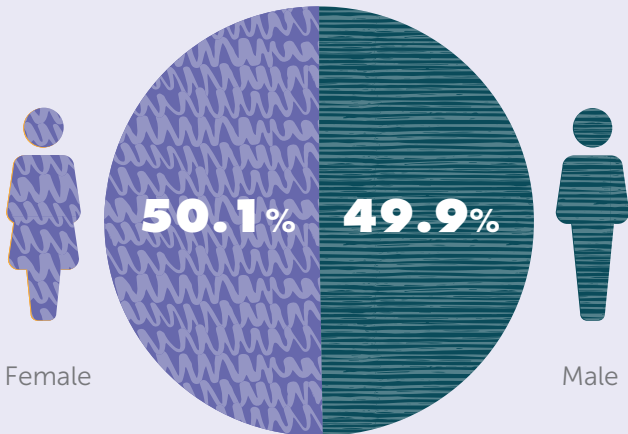


Source: Lightcast 22.2

Gender

The regional population has slightly more female (50.1%) than male (49.9%) residents (Exhibit 3). These numbers are similar to California’s gender composition in which 50.3% of residents are female and 49.7% are male.

Exhibit 3. Gender composition, Inland Empire/Desert Region, 2021



Source: Lightcast 22.2

Age

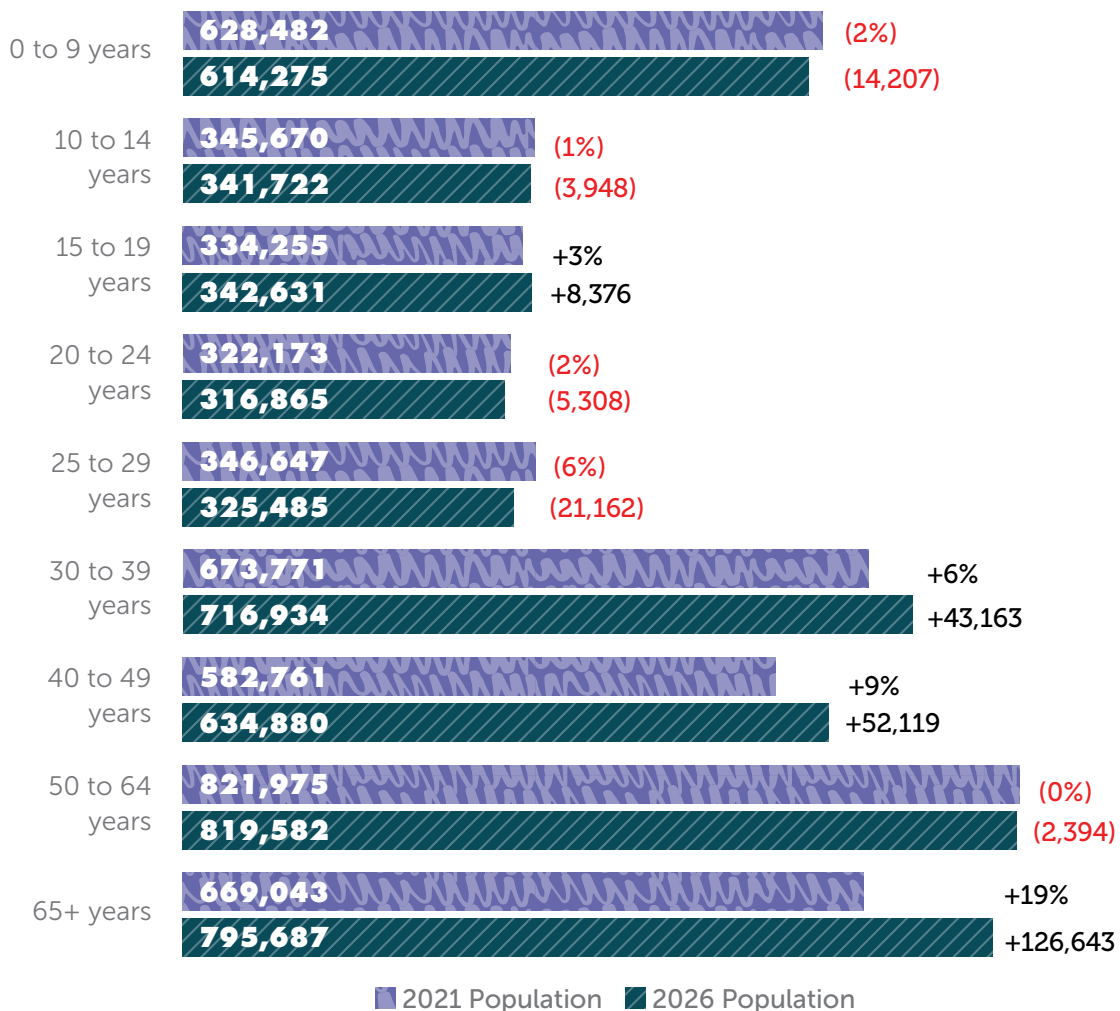
The size of resident age categories may provide insight into future demand for housing, services, and educational enrollment needs. In 2021, in the region, the median age of residents was 34.5 years, younger than California’s median age of 36.5 years and the nation’s median age of 38.1 years.²

In 2021, residents aged nine years and younger represented 13% of the region’s population (Exhibit 4). By 2026, over the next five years, this group is projected to shrink by 2%. This may indicate a future decline in community college student enrollment within the next 20 years. The 10-to-14 age group, those who may enter college in the next six to 10 years, is expected to fall by 1% by 2026. The 15-to-19 age group, representing high school students and recent graduates, accounted for just over 7% of the population in 2021. This age group is projected to increase by 3% through 2026.

The working-age population, those residents age 25-to-64, comprised 51% of the region’s population in 2021. Over the next five years, the working-age population is expected to gain about 71,700 residents, expanding by 3%. Within the working-age population, notable growth over the next five years is projected in two age groups: The 30-to-39 age group will increase by 6%, and the 40-to-49 age group will increase by 9%.

The age group comprised of residents 65 years and older is projected to rise by 19% over the next five years, adding nearly 127,000 residents. This is the fastest-growing age group in the region.

Exhibit 4. Age composition, Inland Empire/Desert Region, 2021 and 2026



Source: Lightcast 22.2

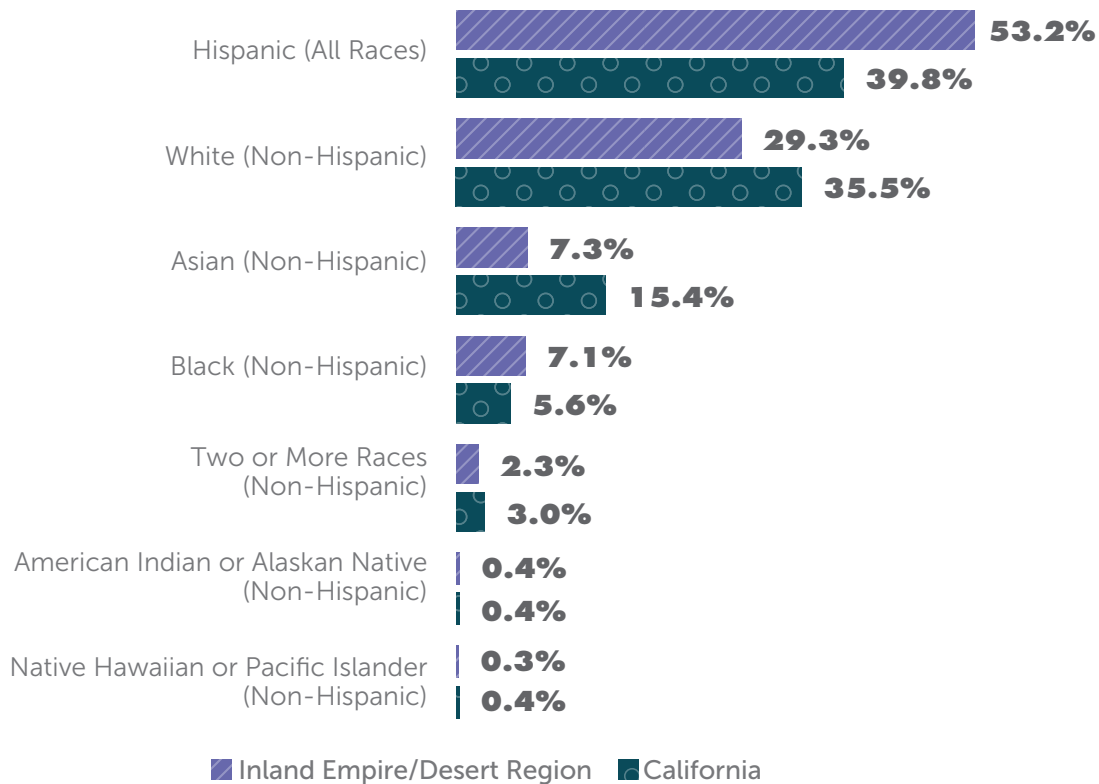
² Lightcast, "Demographic Overview," 2022, accessed August 8, 2022, <https://a.economicmodeling.com/analyst/>.

Race and Ethnicity

The U.S. Census Bureau collects race and ethnicity data from residents in accordance with the U.S. Office of Management and Budget’s guidelines. The Census questionnaire asks each resident to self-identify race and Hispanic-ethnic origin categories that generally reflect their social definition and are “not an attempt to define race biologically, anthropologically, or genetically.” Race and ethnicity data is particularly critical in federal and state civil rights policymaking, addressing issues such as equal employment opportunities and racial disparities in health and the environment assessments.³

In 2021, residents identifying as Hispanic (all races) made up more than half (53.2%) of the region’s population, considerably more than the state’s 39.8% (Exhibit 5). The region contains a larger share of Black residents than the state, 7.1% compared to 5.6%, respectively. The region contains a smaller share of Asian American residents than the state, 7.3%, compared to 15.4% in California. White residents comprise a smaller proportion of the region’s population, 29.3%, compared to California, 35.5%. The regional share of American Indian or Alaskan Native and Native Hawaiian or Pacific Islander residents mirrors the statewide composition.

Exhibit 5. Race/Ethnicity Composition, Inland Empire/Desert Region and California, 2021



Source: Lightcast 22.2

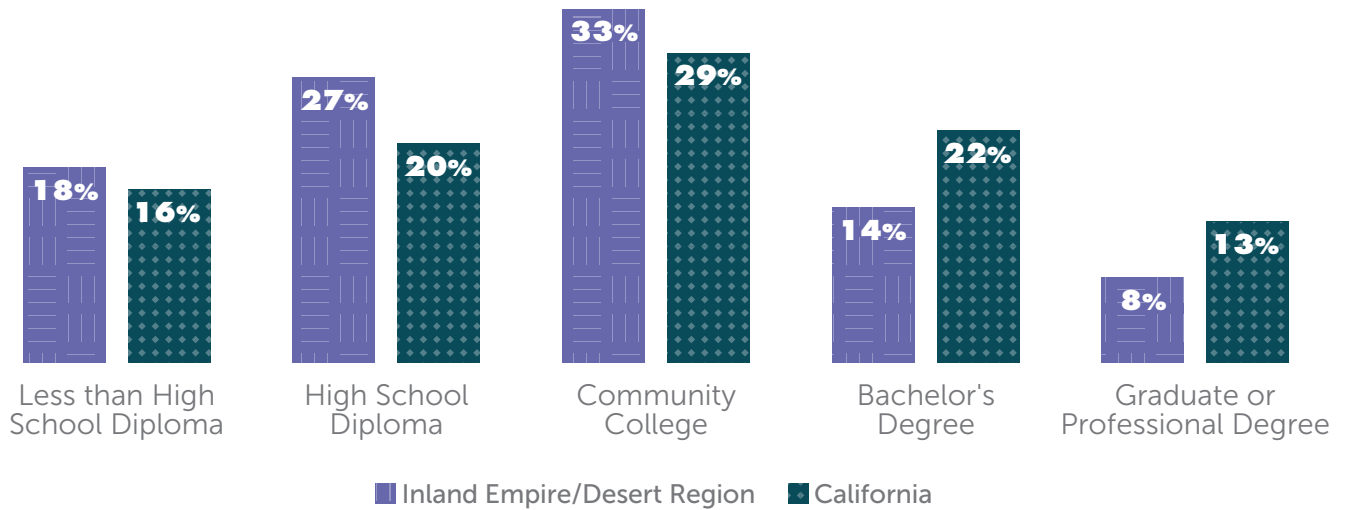
³ United States Census Bureau, “2020 Census Frequently Asked Questions About Race and Ethnicity,” 2022, accessed August 8, 2022, <https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/release/faqs-race-ethnicity.html>.

Educational Attainment

Educational attainment refers to the highest level of education that residents age 25 and older have completed. Educational attainment data may illuminate mismatches between resident skills and employment needs and the need for additional postsecondary program offerings in a region.

Approximately 45% of the residents in the region have a high school diploma or less, a 9% higher share than the state overall (Exhibit 6). This may indicate an opportunity for more CE program outreach with the goal of increasing educational attainment in the region. The region also has a greater share of residents with a community college education (some college but no degree, or an associate degree) 33%, than California, 29%. The region has a smaller share of residents with a bachelor's degree or higher, 22%, compared to 35% in California.

Exhibit 6. Educational attainment, Inland Empire/Desert Region and California, 2021



Source: American Community Survey

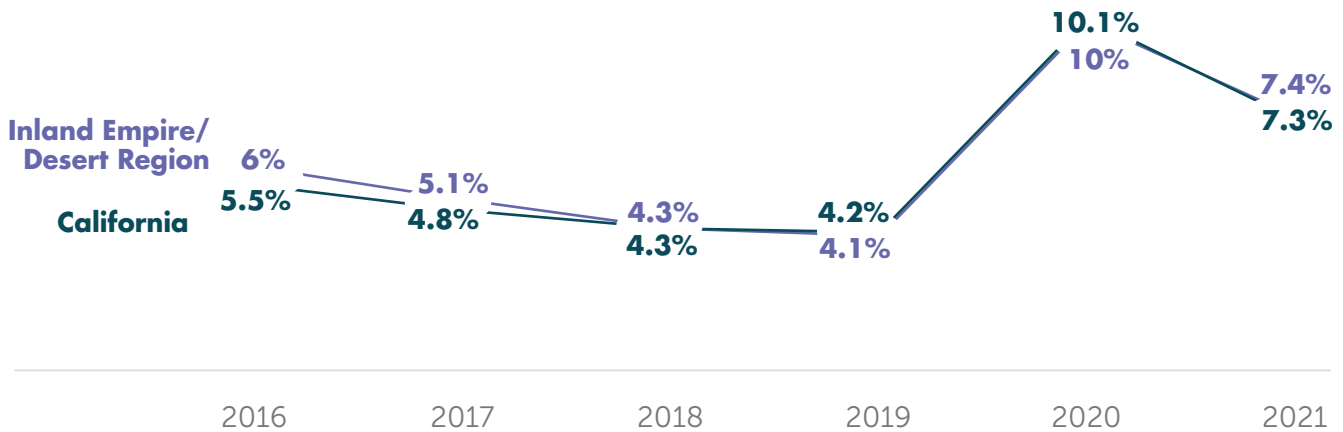


Labor Force and Unemployment Rate

Labor force data reflects the employment status of people by where they live. Labor force is the total count of residents working (employed) or seeking work (unemployed). The unemployment rate represents the number of unemployed individuals expressed as a share of the total labor force.

The regional annual average unemployment rate was 6% in 2016, and 118,300 residents were counted as unemployed (Exhibit 7). By 2019, the unemployment rate had fallen to 4.1%, with the number of unemployed residents dropping to 84,800. The impact of the COVID-19 pandemic dramatically increased the region’s unemployment rate to 10% in 2020, impacting 208,100 residents who were reported as unemployed. The annual average unemployment rate in the region dropped to 7.4% in 2021.

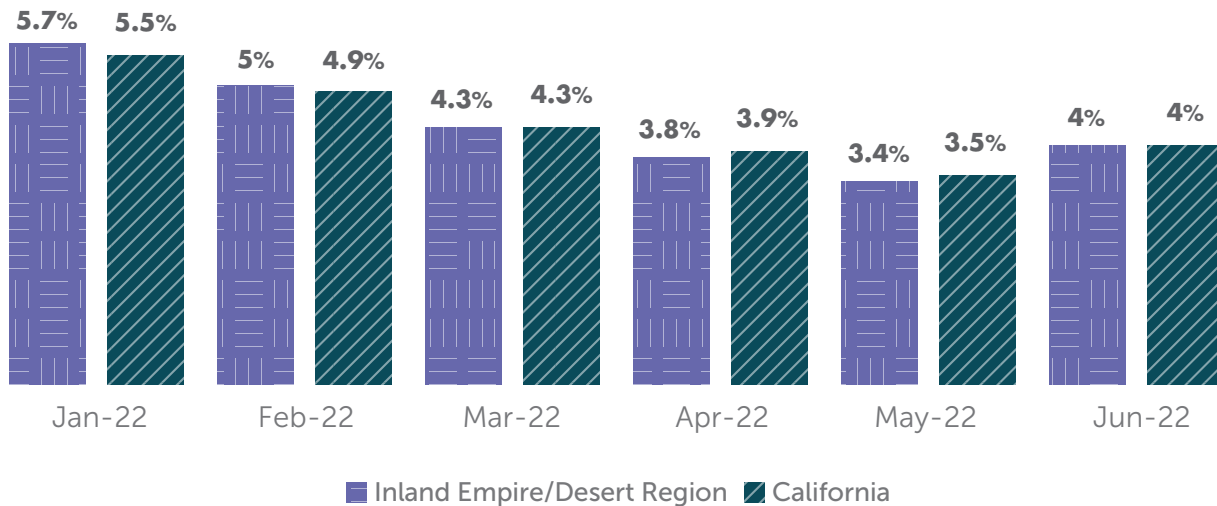
Exhibit 7. Annual average unemployment rate trend, Inland Empire/Desert Region and California, 2016-2021



Source: California Employment Development Department, Labor Market Information Division

In the first six months of 2022, the regional unemployment rate decreased from 5.7% in January to 4% in June (Exhibit 8). The count of unemployed residents decreased from 122,800 in January 2022 to 85,100 in June 2022, down by 37,700 individuals or 30.7%.

Exhibit 8. Year-to-date unemployment rate trend, Inland Empire/Desert Region and California, 2022



Source: California Employment Development Department, Labor Market Information Division

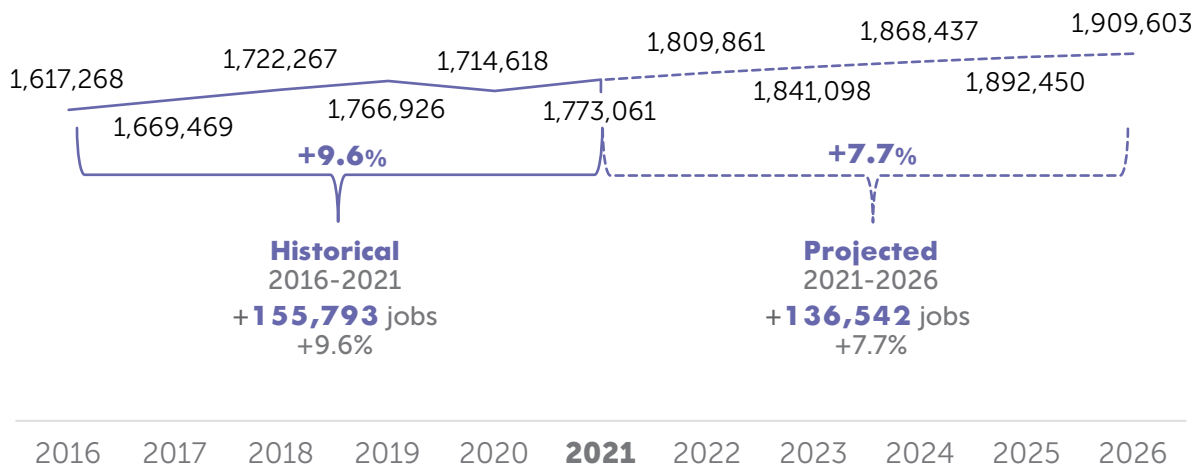
REGIONAL INDUSTRIES

Industries are groups of employer establishments categorized by their primary business activity, e.g., what they produce, sell, or the services they provide.⁴ Industries can be measured using many methods. This assessment analyzes industries by their current jobs count, job change over the next five years, average earnings per worker, and location quotient. It is important to recognize that industries are comprised of dozens of occupations that support the activity of the business, analyzed in terms of staffing patterns. Each industry employee, whether full-time and part-time, is counted across many different types of occupations, including management, maintenance workers, network administrators, analysts, and human resource assistants.

In the region, industry employers reported nearly 1.8 million total jobs in 2021, or about 9.1% of the state’s total employment (nearly 19.4 million jobs) (Exhibit 9). Over the next five years, the region’s industry employment is projected to grow by 7.7% (adding nearly 137,000 jobs), at a faster pace than the state’s projected job growth of just 3.6%. The region is projected to contribute 19.6% of the state’s net job growth over the next five years.

Over the past five years, from 2016 to 2021, regional employment rose by 9.6%, a net increase of nearly 156,000 jobs. Average employment in the region experienced a slight drop in growth in 2020 due to the effects of the COVID-19 pandemic, shedding an average of 52,300 jobs or about 3% of total employment.

Exhibit 9. Historical and projected total industry employment, Inland Empire/Desert Region, 2016-2026



Source: Lightcast 22.2



⁴ United States Census Bureau, "North American Industry Classification System (NAICS)," 2017, accessed August 8, 2022, <https://www.census.gov/naics/?58967?yearbck=2017>.

2021 Industry Employment

Employer industries are organized in a hierarchical structure known as the North American Industry Classification System (NAICS). This structure of categorization allows deeper and more detailed analysis of industry sectors and provides a better understanding of the employer activity that powers the region.

The region's 20 major industry sectors are visually displayed by their share of 2021 employment in Exhibit 10. The smallest eight sectors, by employment count, are displayed as an "Smaller Industries" category that is further disaggregated in Exhibit 11. These smaller sectors were combined to adequately demonstrate the scale and for readability purposes. The six largest major industry sectors, by job count, comprised two-thirds (66.6%) of total jobs in the region.

1. **Government, 268,873 jobs**
2. **Health Care and Social Assistance, 238,962 jobs**
3. **Transportation and Warehousing, 202,159 jobs**
4. **Retail Trade, 189,542 jobs**
5. **Construction, 141,369 jobs**
6. **Accommodation and Food Services, 140,737 jobs**

**2/3 of
regional
jobs in
2021**

Exhibit 10. Major industry employment, represented by total number of jobs, Inland Empire/Desert Region, 2021⁵

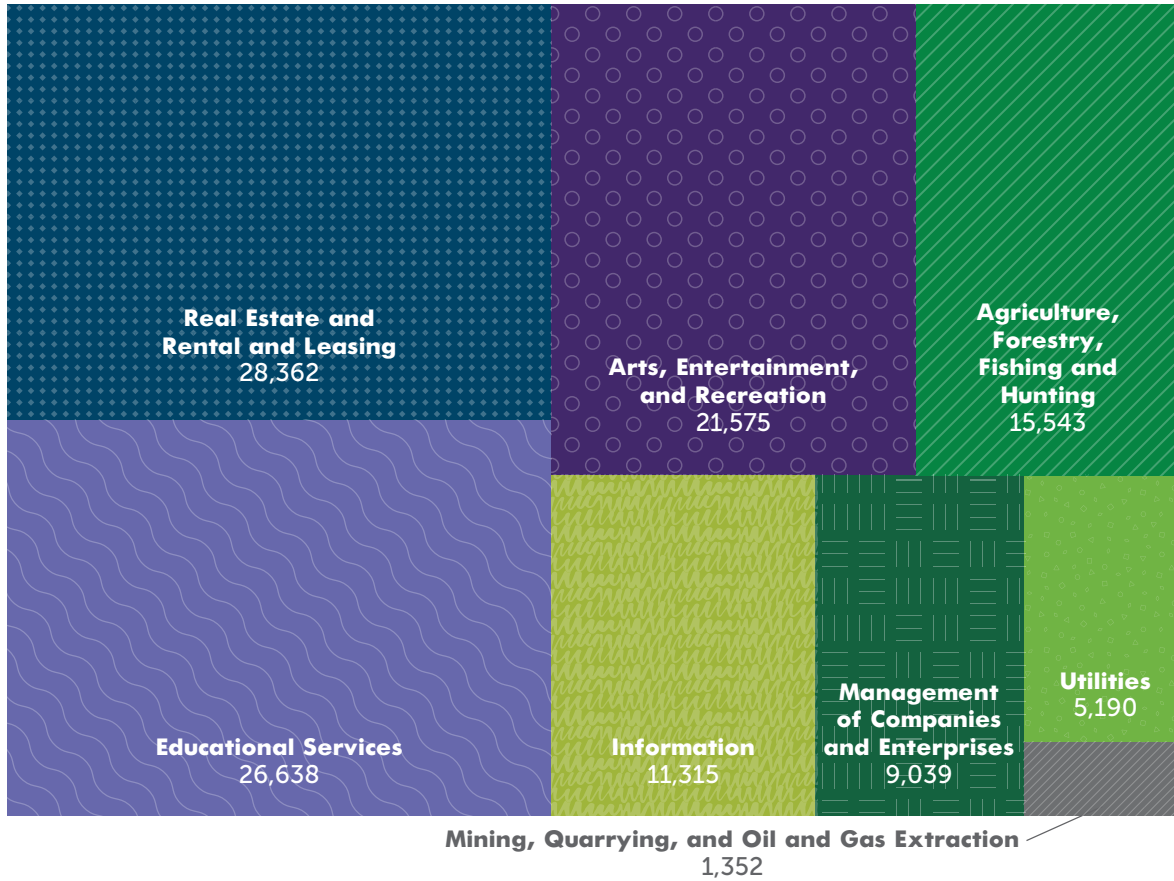


Source: Lightcast 22.2

⁵ Refer to Exhibit 11 for details on smaller industries.

Exhibit 11 provides a disaggregated view of the region’s eight smallest industry sectors by employment count. These sectors were previously displayed as an “Smaller Industries” category in Exhibit 10. The smaller industries have a combined total of more than 119,000 jobs, or nearly 7% of the region’s total employment. These diminutive industries should not be overlooked despite their total employment size. Our smallest industries, utilities and mining, quarrying and oil and gas extraction, also offer the highest average industry earnings per job. See the next section, industry average earnings per job, for further details.

Exhibit 11. Smaller major industries employment, represented by total number of jobs, Inland Empire/ Desert Region, 2021



Source: Lightcast 22.2



Industry Average Earnings Per Job

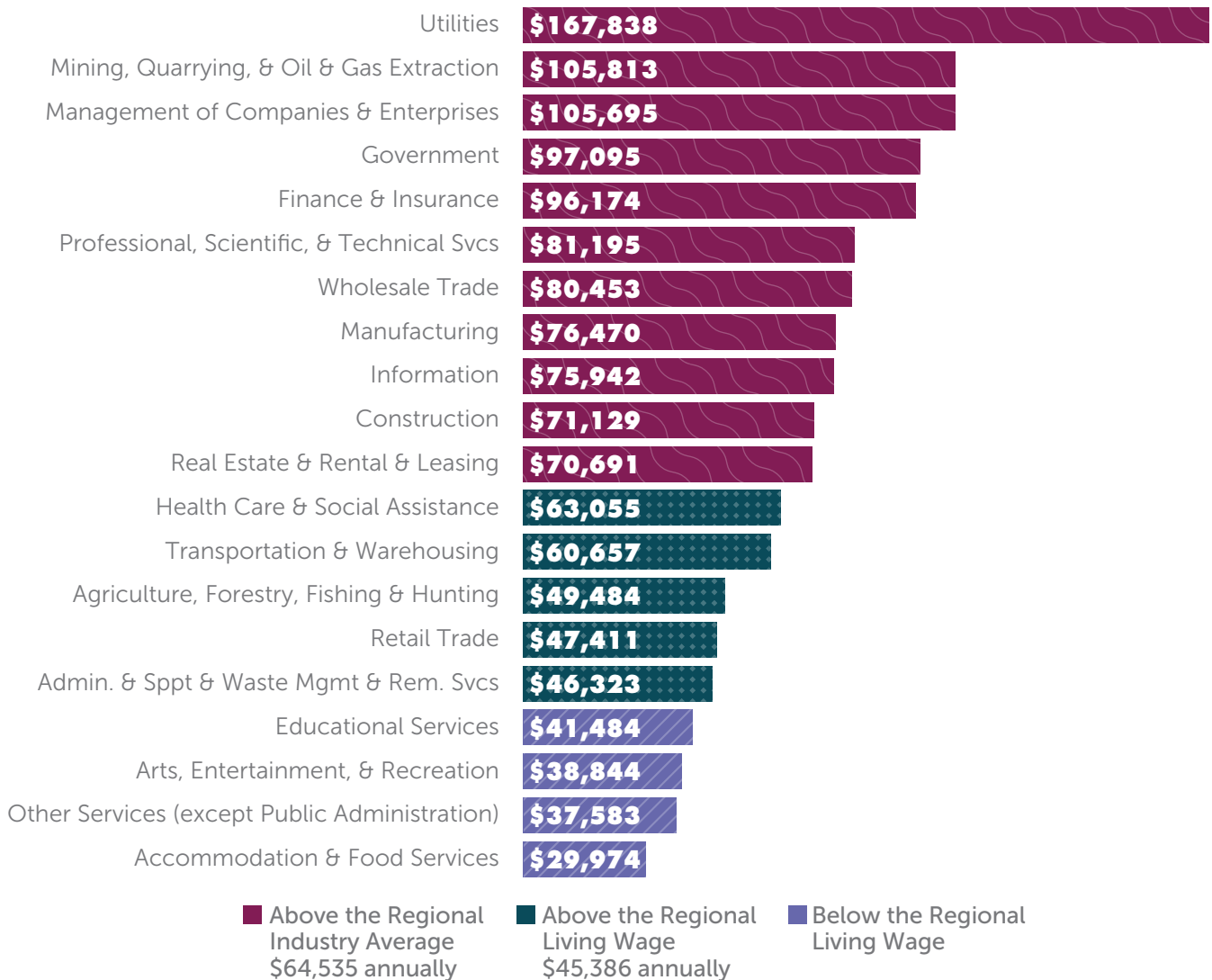
Industry average earnings per job represents pre-tax earnings from labor-related personal income, i.e., wages earned from work and not other compensation such as health insurance or other non-work value benefits. Average earnings per job represents every industry type of worker from maintenance workers or janitors to supervisory management.

Industry average earnings per job are analyzed in three categories:

- Industries that offer average earnings above the regional industry average of \$64,535 annually
- Industries that offer average earnings at or above the regional living wage standard of \$45,386 annually
- Industries that offer average earnings below the regional living wage standard of \$45,386 annually

Entering employment in a specific industry sector may not guarantee earnings that meet or exceed these earnings categories. Workers and job seekers should be aware that some industries, on average, offer higher wages than others. This is usually due to the composition of jobs and occupations they employ. Exhibit 12 displays average earnings by major industry sector.

Exhibit 12. Average earnings per job by industry sector, Inland Empire/Desert Region, 2021



Source: Lightcast 22.2

Projected Industry Growth

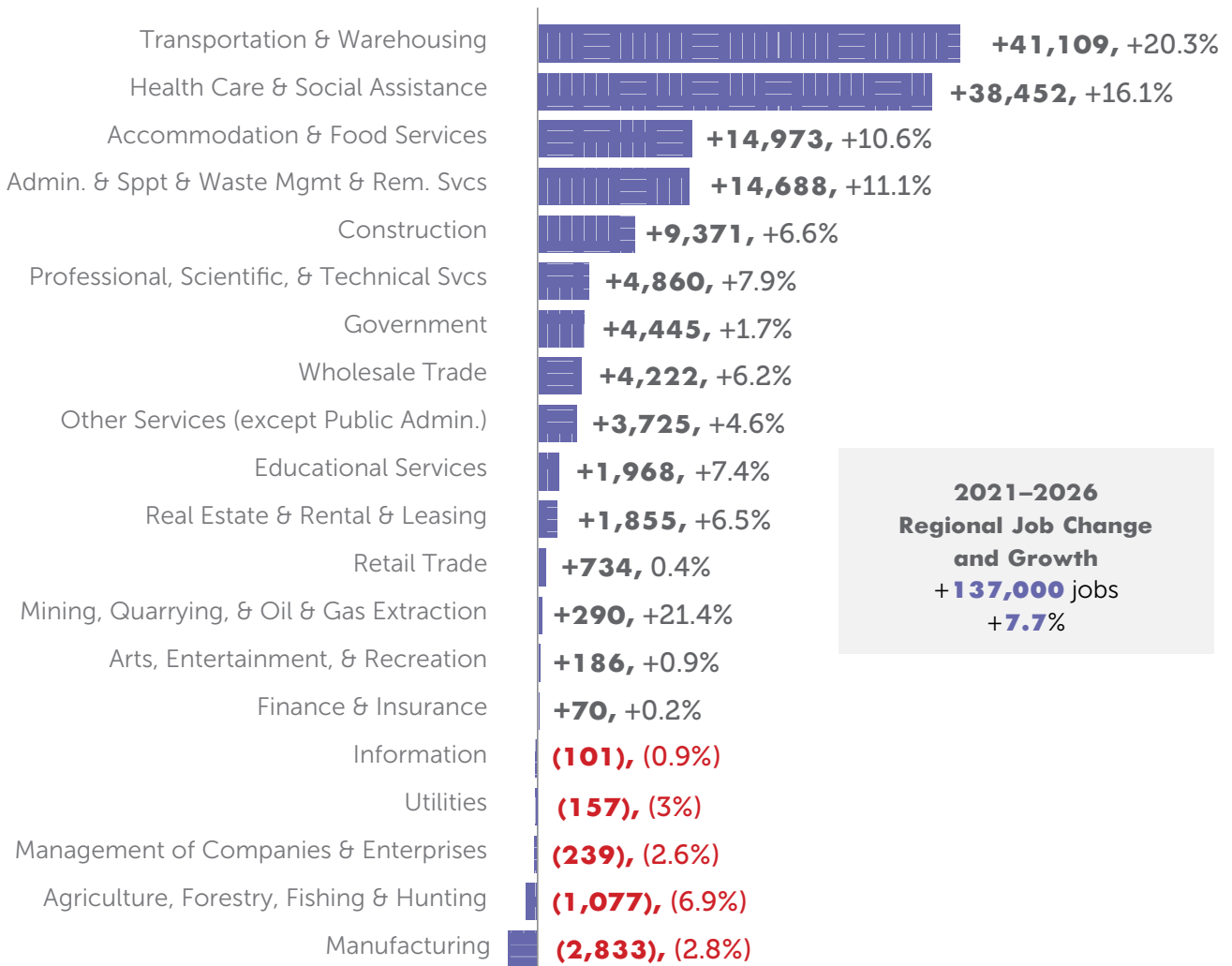
Over the next five years, regional employers are expected to increase employment by 7.7%, adding 137,000 jobs to the region. Exhibit 13 provides major industry sector change and growth trends. The mining, quarrying, and oil and gas extraction industry is projected to be the fastest growing industry sector but is only projected add 290 jobs over the next five years.

The following six major industries are projected to contribute 90% of the region's job growth. Each of these industry sectors (except construction) are projected to outpace overall regional job growth.

1. **Transportation and Warehousing, +41,109 jobs, +20.3%**
2. **Health Care and Social Assistance, +38,452 jobs, +16.1%**
3. **Accommodation and Food Services, +14,973 jobs, +10.6%**
4. **Administrative and Support and Waste Management and Remediation Services, +14,688 jobs, +11.1%**
5. **Construction, +9,371 jobs, +6.6%**
6. **Professional, Scientific & Technical Services, +4,860 jobs, +7.9%**

90% of job growth over the next five years

Exhibit 13. Industry change in employment, by number of jobs and percent growth, Inland Empire/Desert Region, 2021-2026



Source: Lightcast 22.2

Industry Groups

The previous section described the employment share of the region’s major industry sectors. NAICS codes facilitate a detailed analysis of subindustries within these major sectors. This analysis provides a clearer picture of industry activity that drives that regional economy.

Exhibit 14 provides a sample of high-quality industry groups. High-quality industries are those that are growing faster than the region overall (at or above 7.7% growth), have average per job earnings above the living wage standard (\$45,386 annually), and have a location quotient at or above 1.2. Location quotient describes the concentration of an industry in an area compared to the nation overall. Highly concentrated industries often describe the type of business activity an area is “known for.” The location quotient is further defined in the Appendix. Among the 18 high-quality industries identified in this analysis, eight of these are located within the transportation and warehousing sector.

In 2021, nearly 302,200 jobs were employed by industry groups that met the high-quality industry group definition. While high-quality industry groups accounted for 17% of regional employment in 2021, these industry groups are projected to add 41% of jobs over the next five years.

Exhibit 14. High-quality industry groups, Inland Empire/Desert Region, 2021-2026

Industry Groups (NAICS4)	2021 Jobs	2021-2026 Job Change	Growth Rate	Location Quotient	Average Earnings Per Job
Transportation and Warehousing					
Warehousing and Storage (4931)	118,368	28,605	24.2%	6.5	\$56,675
General Freight Trucking (4841)	29,493	3,453	11.7%	2.1	\$75,489
Couriers and Express Delivery Services (4921)	20,777	4,772	23%	2	\$52,795
Specialized Freight Trucking (4842)	7,803	1,284	16.5%	1.5	\$84,216
Freight Transportation Arrangement (4885)	4,344	854	19.6%	1.5	\$66,953
Support Activities for Air Transportation (4881)	2,928	383	13.1%	1.3	\$57,888
Other Support Activities for Transportation (4889)	1,114	126	11.3%	2.7	\$61,562
Other Pipeline Transportation (4869)	174	65	37.4%	1.9	\$138,611
Construction					
Building Equipment Contractors (2382)	34,284	3,875	11.3%	1.2	\$76,607
Foundation, Structure, and Building Exterior Contractors (2381)	27,298	2,190	8%	2.2	\$64,763
Health Care and Social Assistance					
Outpatient Care Centers (6214)	21,455	5,644	26.3%	1.8	\$103,767
Wholesale Trade					
Grocery and Related Product Merchant Wholesalers (4244)	12,119	1,477	12.2%	1.4	\$84,966
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers (4237)	4,610	860	18.7%	1.5	\$79,813

Continued

Industry Groups (NAICS4)	2021 Jobs	2021-2026 Job Change	Growth Rate	Location Quotient	Average Earnings Per Job
Administrative and Support and Waste Management and Remediation Services					
Office Administrative Services (5611)	7,852	964	12.3%	1.3	\$79,552
Facilities Support Services (5612)	2,113	304	14.4%	1.2	\$81,650
Manufacturing					
Bakeries and Tortilla Manufacturing (3118)	4,190	330	7.9%	1.2	\$55,802
Grain and Oilseed Milling (3112)	799	140	17.5%	1.2	\$77,443
Real Estate and Rental and Leasing					
Automotive Equipment Rental and Leasing (5321)	2,479	526	21.2%	1.2	\$64,010

Source: Lightcast 22.2

The detailed industry groups displayed above are notable due to their growth, strong earnings, and concentration in the region compared to the nation overall. While location quotient data may provide insight into the unique presence of certain industries that may define a region, there are an additional 50 industry groups that are growing and have average earnings per job above the regional living wage standard. In 2021, industry groups that met these criteria accounted for nearly 11% of regional employment with more than 193,500 jobs. These industry groups are projected to contribute 17% of regional job growth through 2026. (The Appendix contains a list of the 50 additional industry groups that are growing and have strong earnings.)



Industry Staffing Patterns

Industries are categorized by their primary business activity. Industry employers hire workers possessing a variety of occupational knowledge, skills, and abilities to carry out the task of the business operation. Let's use the educational services industry as an example. This industry is defined as:

Establishments that provide instruction and training in a wide variety of subjects.⁶

When considering the types of occupations that are employed by this sector, teachers, education administrators (principals and superintendents), and other jobs related to instruction may come to mind. The "primary occupations" classification includes occupations that directly support the industry's primary activity. In the case of educational services, jobs that provide instruction and training in a wide variety of subjects are considered the primary occupations.

There are, however, many more occupations employed in the educational services sector that support the primary activity of the industry, such as office and administrative jobs, building and grounds keeping and maintenance jobs, and computer technical support jobs. Support occupations assist primary occupations in carrying out the primary activity of a specific industry.

Of the more than 26,600 jobs in the educational services sector, 61% of the jobs are primary occupations, jobs that provide direct educational services to students, and nearly 39% are support occupations, jobs that support the primary activity of the industry (Exhibit 15). This breakdown of primary occupations versus support occupations is a staffing pattern that may be analyzed for nearly every industry, providing insight into the labor intensity of an industry's primary activity. (Refer to the Appendix for a sample of occupations that comprise the educational services sector.)

Exhibit 15. Occupational staffing pattern for the educational services sector, showing share of primary and support occupations, Inland Empire/Desert Region, 2021



Source: Lightcast 22.2

⁶ United States Census Bureau, "North American Industry Classification System (NAICS)," 2017, accessed August 8, 2022, <https://www.census.gov/naics/?58967?yearbck=2017>.

OCCUPATIONAL OVERVIEW

An occupation is a collection of jobs, and job titles, which perform similar work tasks and share similar work knowledge, skills, and abilities. Employees who perform essentially the same tasks are classified in the same occupation, whether or not they are in the same industry. It's important to note that some occupations are concentrated in a few industries (e.g., police officers are only employed in government), whereas other occupations are found in the majority of industries (e.g., information technology workers and maintenance workers).⁷

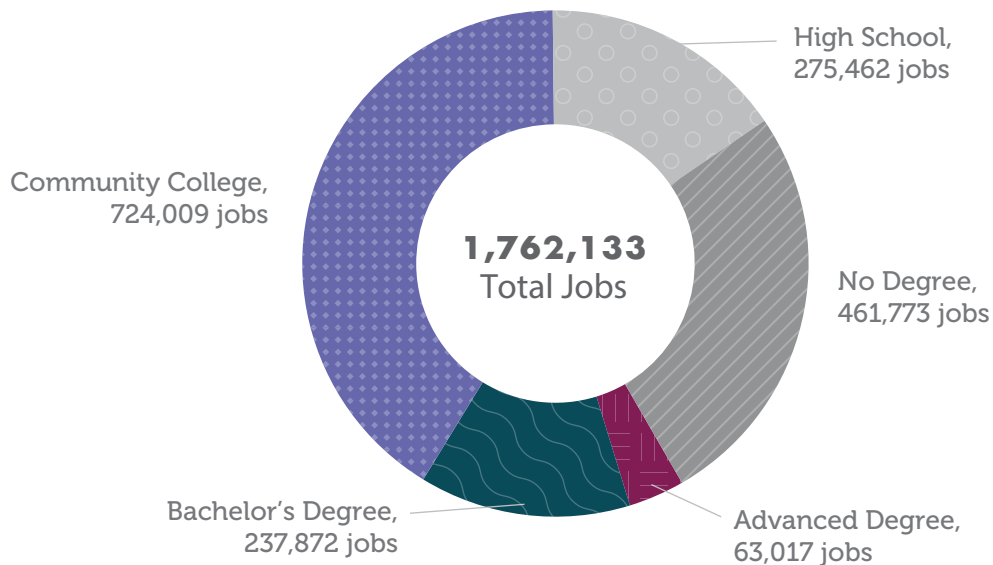
In this study, occupational employment in the region was analyzed in terms of each occupation's educational requirements, i.e., jobs requiring an entry-level education level needed to enter employment such as a high school diploma, community college coursework, a degree, or certificate, or a bachelor's degree. Typical entry-level educational requirements are reported by employers at the national level, and alternative paths to securing employment may exist depending on employer preferences and state licensing requirements. For example, registered nurses (RNs) typically must possess a bachelor's degree to enter employment in most states; however, California RN licensing may be attained after completing an Associate Degree in Nursing (ADN) through the California Community Colleges.⁸

California Community Colleges provide education and training that generally prepares workers to enter community-college-level jobs. These jobs typically require an education beyond a high school diploma but less than a four-year degree. Most community-college-level jobs offer a higher rate of pay than jobs that require less education, making them an excellent fit for community college students on a CE pathway who want to enter in-demand careers that offer a living wage.

Bachelor's-degree-level jobs are those that require a four-year degree from a college or university. These jobs were included in this report because they represent the types of jobs available to students who complete a transfer program to a four-year institution of higher education. High-school-level jobs illuminate possibilities open to those choosing to enter the workforce after securing a high school diploma or G.E.D, or jobs typically open to those who choose to work while attending college. This assessment does not include occupations that typically require an education beyond a bachelor's degree, such as physicians, lawyers, and most scientists, or occupations that do not typically require formal education to enter employment. Military occupations (about 11,000 regional military jobs in the region) were also excluded from the occupational section of this assessment. Definitions for education levels are available in the Appendix.

Of the approximately 1.8 million jobs in the region in 2021, approximately 70% of the jobs are included in this report. Exhibit 16 displays the count and share of jobs by educational level.

Exhibit 16. Count and share of jobs by education level, Inland Empire/Desert Region, 2021



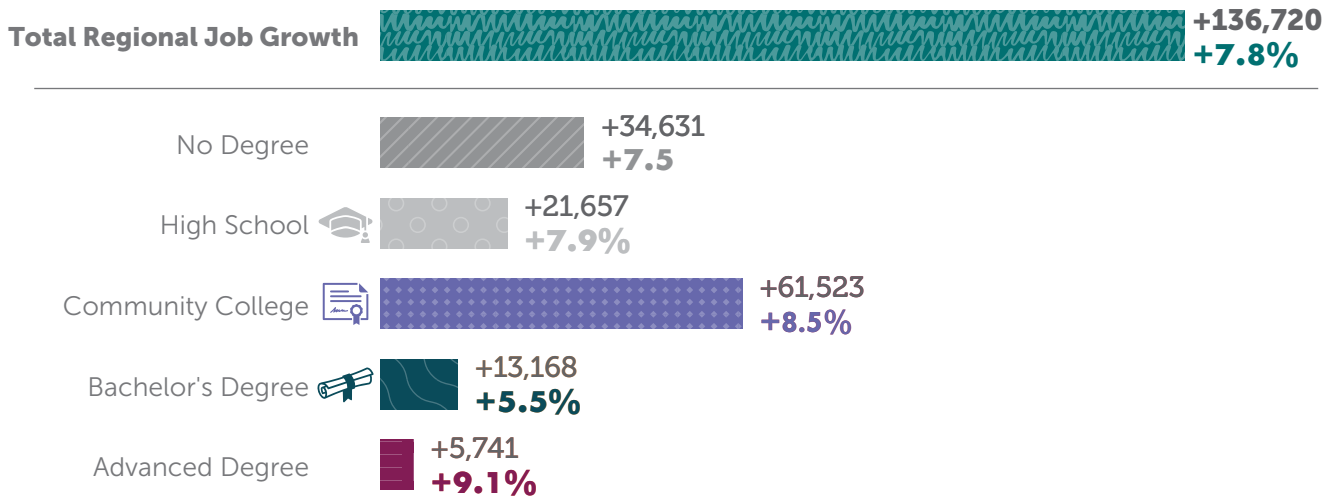
Source: COE, Lightcast 22.2

⁷ U.S. Bureau of Labor Statistics, "Concepts and Definitions," 2022, accessed on August 8, 2022, <https://www.bls.gov/cps/definitions.htm>.

⁸ California Board of Registered Nursing, "Steps to Become a California Registered Nurse," accessed on August 8, 2022, <https://www.rn.ca.gov/careers/steps.shtml>.

By 2026, regional employment is projected to expand by more than 137,000 jobs, increasing by 7.8% (Exhibit 17). Community-college-level occupations are projected to add nearly 62,000 jobs, comprising almost 45% of regional job growth. Advanced-degree-level jobs (jobs requiring education beyond a bachelor’s degree) are projected to be the fastest growing group, adding approximately 5,700 jobs and increasing by 9.1%. High-school-level job growth is projected to have nearly the same rate as the region overall, around 8%.

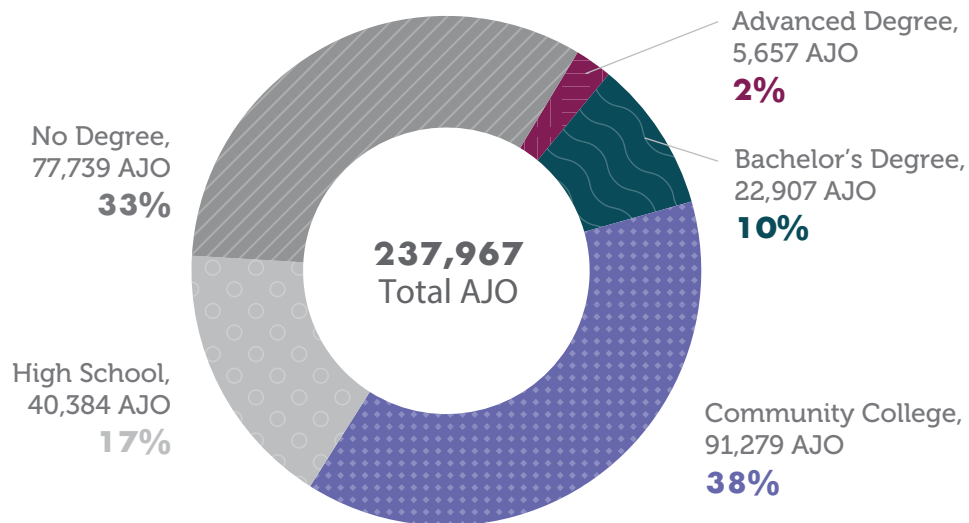
Exhibit 17. Projected job growth by education level, Inland Empire/Desert Region, 2021-2026



Source: COE, Lightcast 22.2

Beyond new job expansion, annual job openings provide insight into additional job demand when workers permanently vacate positions due to occupational transfers, promotions, or retirements. Regional employers are projected to have nearly 238,000 annual job openings for newly created positions and replacement jobs (Exhibit 18). While approximately half of these opportunities will be in the no-degree-level and high-school-level occupational groups, nearly 91,300 community-college-level job openings are projected annually through 2026. Community colleges should ensure that their training programs lead to occupations with adequate annual job openings. For this study, an occupation is considered in-demand if it has 100 annual job openings or more over the next five years in the region.

Exhibit 18. Average annual job openings (AJO) by education level, Inland Empire/Desert Region, 2021-2026



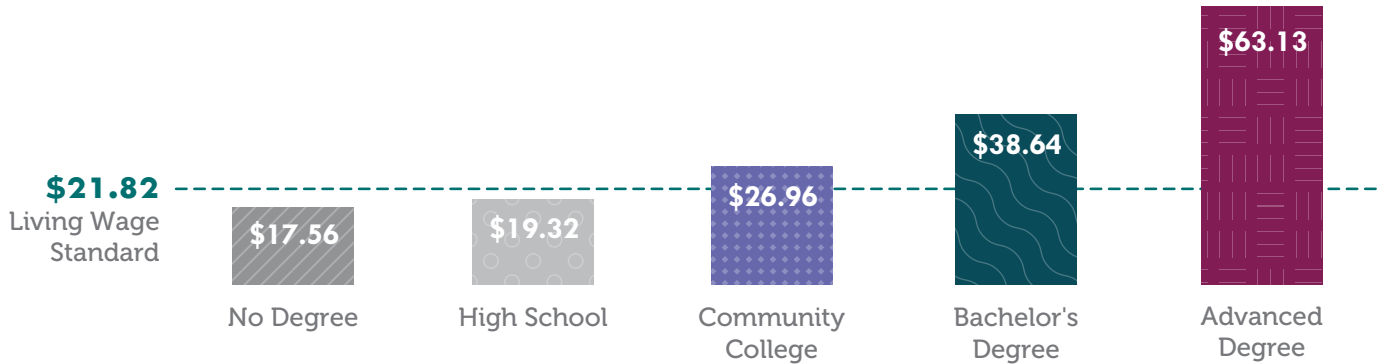
Source: COE, Lightcast 22.2

Exhibit 19 provides average hourly earnings for each grouping by education level. Occupations with higher educational requirements usually offer increased hourly earnings.⁹ Increasing educational attainment in the region may help workers access higher earnings and increase their ability to earn a living wage.

For the purposes of this study, the 2022 MIT Living Wage for California of \$21.82 per hour, or \$45,386 annually, is used as the regional living wage. The MIT Living Wage Calculator estimates the cost of living in a community or region based on typical expenses, including food, childcare, medical, housing, transportation, and taxes, to determine the minimum income needed for individuals to sustain themselves.¹⁰ The California living wage estimate is used as the regional living wage in this report because the estimated housing cost for the state aligns more closely with the 2020 median rental cost in the Inland Empire/Desert Region.¹¹

Occupations requiring a community-college-level education or higher have average hourly earnings that exceed the living wage standard for the region. Community-college-level jobs offer average hourly earnings of \$26.96 per hour, \$7.64 more (nearly \$15,900 annually) than the average hourly earnings (\$19.32 per hour) of high-school-level occupations.

Exhibit 19. Average hourly earnings by education level, Inland Empire/Desert Region, 2021



Source: COE, Lightcast 22.2



⁹ U.S. Bureau of Labor Statistics, "Education Pays, 2020," 2021, accessed on August 8, 2022, <https://www.bls.gov/careeroutlook/2021/data-on-display/education-pays.htm>.

¹⁰ MIT Living Wage, "Living Wage Calculator for California," 2022, accessed August 8, 2022, <https://livingwage.mit.edu/states/06>.

¹¹ U.S. Census Bureau, "Census Tables," 2022, accessed on August 8, 2022, https://data.census.gov/cedsci/table?t=Financial%20Characteristics%3AHousing%20Value%20and%20Purchase%20Price%3ARenter%20Costs&g=0400000US06_310XX00US40140&tid=ACSCP5Y2020.CP04.

SECTOR ANALYSIS AND PROGRAM OFFERINGS

The remainder of this report focuses on CE occupations that require the following levels of entry-level educational attainment:

- High school
- Community college
- Bachelor's degree

Occupations that fall within these education-level categories are further categorized into the 10 CCCCCO sectors and 15 CDE industry sectors. The regional analysis by sector presented in the second half of this report allows for a comprehensive evaluation of where high-quality jobs exist and where colleges can invest in career education programs to address labor market demand. To facilitate this analysis, each sector has been assigned its own report section detailing:

- Regional workforce demand and projections for high-quality occupations
- In-demand skills
- Key takeaways from job postings
- An inventory of community college programs offering training for high-quality occupations with opportunities highlighted for new program development

For each sector, occupational tables display high-quality employment opportunities, jobs that meet both high-wage and in-demand criteria and denote whether a high school diploma, community college education, or a bachelor's degree is required. Additional occupations that meet one, but not both, of these criteria can be found in the Appendix.












Current occupational employment (2021 job count), projected demand (annual job openings and growth rate), and earnings associated with occupations in each sector are included in the assessment.

An O*NET skills analysis was conducted to provide insights into the competencies needed for employment. O*NET skills are occupation-specific skills and can be classified as basic skills and cross-functional skills. Basic skills are developed capacities that facilitate learning or the more rapid acquisition of knowledge. Cross-functional skills are developed capacities that facilitate the performance of activities that occur across jobs. O*NET skills data reflects the skills historically required for occupational employment.

Additionally, the economic modeling firm and job posting aggregator Lightcast provides real-time insight into skills sought by employers posting job advertisements. Skills can be classified as specialized or soft skills. Specialized skills are occupation-specific skills that employers request for industry or job competency. Soft skills are foundational skills that transcend industries and occupations.

A program inventory study was conducted for each CCCCCO sector, examining each college with related programs that align with CDE sectors. The CDE developed Career Education (CE) Model Curriculum Standards for grades 7 through 12 that categorize courses and programs into 15 industry sectors. The CE model sectors are not to be confused with the NAICS employment industry sectors discussed in the previous section of this report or with the CCCCCO sectors. The CE model provides a useful way to classify postsecondary CE offerings and connect career pathways from high school to college. The relationship between the CDE and CCCCCO sectors is illustrated in Exhibit 20. Additional information on program offerings can be found in the Appendix.

Exhibit 20. Crosswalk showing CCCC priority and emerging sectors alignment with CDE industry sectors

CCCCO Priority and Emerging Sectors		CDE Industry Sectors	
	Advanced Manufacturing	Manufacturing and Product Development	
	Advanced Transportation & Logistics	Transportation	
	Agriculture, Water & Environmental Technologies	Agriculture and Natural Resources	
	Business & Entrepreneurship	Business and Finance	
		Marketing, Sales, and Services	
	Education & Human Development	Education, Child Development, and Family Services	
	Energy, Construction & Utilities	Building and Construction Trades	
		Energy, Environment, and Utilities	
		Engineering and Architecture	
	Health	Health Science and Medical Technology	
	Information & Communication Technologies (ICT)/Digital Media	Arts, Media, and Entertainment	
		Information and Communication Technologies	
	Public Safety	Public Services	
	Retail, Hospitality & Tourism	Fashion and Interior Design	
		Hospitality, Tourism, and Recreation	

Source: CCCC, CDE, COE

Inland Empire/Desert community colleges currently offer programs in each of the 10 CCCC and 15 CDE sectors. The following sections display current program offerings, high-quality occupations related to regional training programs, skills data, job ad information, and programs not currently offered at the regional colleges, separated by industry sector.

In 2021, regional community college programs prepared students for employment in nearly 393,400 high-quality jobs, of which, approximately 64% (253,400 jobs) were community-college-level. The high-quality community-college-level occupations trained by regional programs are projected to have nearly 27,100 annual job openings. Through the expansion of program offerings, the colleges could prepare students for an additional 8,500 community-college-level annual job openings.



ADVANCED MANUFACTURING

The advanced manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. This sector includes traditional manufacturing work in addition to jobs and careers dedicated to customization, scalability, and technologies that improve the entire manufacturing process (NAICS, 2017).

Eight regional community colleges currently offer programs that prepare students for employment in the manufacturing sector. Manufacturing programs aim to equip students with workplace skills that will secure employment in positions with self-sustainable wages.

Manufacturing and Product Development

The CCCC advanced manufacturing sector aligns with the CDE manufacturing and product development sector. Regional advanced manufacturing programs utilize nine program codes.

Programs Offered

- 0699.00 – Other Media and Communications
- 0934.00 – Electronics and Electric Technology
- 0935.00 – Electro-Mechanical Technology
- 0945.00 – Industrial Systems Technology and Maintenance
- 0953.30 – Electrical, Electronic, and Electro-Mechanical Drafting
- 0953.40 – Mechanical Drafting
- 0956.00 – Manufacturing and Industrial Technology
- 0956.30 – Machining and Machine Tools
- 0956.50 – Welding Technology

There are five high-quality occupations in advanced manufacturing. Two of the high-quality manufacturing occupations require a community college education, and three manufacturing occupations require a bachelor’s degree. In 2021, there were nearly 7,800 community-college-level jobs and more than 4,500 bachelor’s-degree-level jobs. Employment for community-college-level occupations is projected to grow by 4.9% through 2026, with more than 800 annual job openings. Over the next five years, more than 300 annual job openings are projected for bachelor’s-degree-level occupations, increasing employment by 5.3%.

Exhibit 21. High-quality community-college-level advanced manufacturing occupations related to regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
First-Line Supervisors of Production and Operating Workers	4,915	2%	500	\$30.05
Industrial Machinery Mechanics	2,884	11%	317	\$30.61

Source: Lightcast 22.2

Exhibit 22. High-quality bachelor’s-degree-level advanced manufacturing occupations related to regional training programs

Bachelor’s-Degree-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Industrial Engineers	1,579	8%	127	\$38.57
Industrial Production Managers	1,547	1%	109	\$47.37
Mechanical Engineers	1,421	7%	104	\$42.14

Source: Lightcast 22.2

According to O*NET, the following skills are, on average, more important for occupations in the advanced manufacturing sector than occupations in other sectors.

- **Equipment Maintenance:** Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
- **Equipment Selection:** Determining the kind of tools and equipment needed to do a job.
- **Operations Monitoring:** Watching gauges, dials, or other indicators to make sure a machine is working properly.
- **Quality Control Analysis:** Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

High-Quality Manufacturing and Product Development Job Advertisements

Over the last 12 months, June 2021 through May 2022, nearly 3,500 job ads were posted for high-quality advanced manufacturing occupations. Between 2016 and 2021, ads for high-quality manufacturing occupations increased by 129%. Below are highlights from a high-quality manufacturing job ad search.

<p>Employers Posting the Most Ads</p> <ul style="list-style-type: none"> • Mauser Packaging Solutions • YRC Freight • Ryder Systems, Inc. • Niagara Bottling, LLC. 	<p>Most Common Job Titles</p> <ul style="list-style-type: none"> • Production Supervisor • Maintenance Mechanic • Production Manager • Quality Manager
<p>Frequently Sought Specialized Skills</p> <ul style="list-style-type: none"> • Repair • Scheduling • Quality Assurance and Control • Machinery • Process Improvement 	<p>Frequently Sought Soft Skills</p> <ul style="list-style-type: none"> • Communication Skills • Problem Solving • Planning • Teamwork/Collaboration • Physical Abilities

According to the Center of Excellence (COE) business list, the largest employers in the manufacturing sector, by employee count, are Collins Aerospace, Dart Container Corporation, and Fender Musical Instruments.

There are 14 advanced manufacturing programs that regional community colleges do not currently offer. However, these programs do not train additional occupations that meet the high-demand and high-wage criteria for high-quality employment opportunities.

- 0934.20 – Industrial Electronics
- 0934.80 – Laser and Optical Technology
- 0935.10 – Appliance Repair
- 0936.00 – Printing and Lithography
- 0943.00 – Instrumentation Technology
- 0943.30 – Vacuum Technology
- 0953.60 – Technical Illustration
- 0954.20 – Plastics and Composites
- 0954.30 – Petroleum Technology
- 0956.70 – Industrial and Occupational Safety and Health
- 0956.80 – Industrial Quality Control
- 0957.30 – Surveying
- 0961.00 – Optics
- 1920.00 – Ocean Technology



ADVANCED TRANSPORTATION & LOGISTICS

The advanced transportation & logistics sector includes businesses providing transportation of passengers and cargo, warehousing and storage for goods, and support activities related to modes of transportation. The modes of transportation are air, rail, water, road, and pipeline. Support activities include the routine repair and maintenance of transportation equipment, such as aircraft, railroad rolling stock, cars, trucks, and ships. Many establishments in this sector often operate on networks with physical facilities, labor forces, and equipment spread over an extensive geographic area (NAICS, 2017).

Transportation

Ten regional community colleges currently offer programs that train students for employment in the transportation sector. Regional transportation programs utilize 14 program codes.

Programs Offered

- 0510.00 – Logistics and Materials Transportation
- 0947.00 – Diesel Technology
- 0948.00 – Automotive Technology
- 0948.40 – Alternative Fuels and Advanced Transportation Technology
- 0949.00 – Automotive Collision Repair
- 0949.10 – Upholstery Repair - Automotive
- 0950.00 – Aeronautical and Aviation Technology
- 0950.10 – Aviation Airframe Mechanics
- 0950.20 – Aviation Powerplant Mechanics
- 0950.40 – Aircraft Electronics (Avionics)
- 0950.50 – Aircraft Fabrication
- 3020.00 – Aviation and Airport Management and Services
- 3020.10 – Aviation and Airport Management
- 3020.20 – Piloting

There are nine high-quality occupations in the advanced transportation sector, accounting for nearly 66,800 jobs in 2021. All the high-quality occupations in this sector require a community college education. Employment for high-quality transportation occupations is projected to increase by 13% through 2026, with nearly 9,100 annual job openings.

Regional community colleges currently provide training programs related to eight of the nine high-quality transportation occupations which are displayed in Exhibit 23. In 2021, there were nearly 32,500 high-quality jobs related to transportation training programs. These occupations are projected to grow by 12%, with nearly 4,100 annual job openings.



Exhibit 23. High-quality community-college-level advanced transportation occupations related to regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	9,982	16%	1,472	\$28.42
Production, Planning, and Expediting Clerks	5,071	10%	636	\$23.01
First-Line Supervisors of Mechanics, Installers, and Repairers	4,899	7%	517	\$38.43
Bus and Truck Mechanics and Diesel Engine Specialists	4,356	10%	503	\$23.89
Transportation, Storage, and Distribution Managers	2,741	16%	310	\$44.44
Mobile Heavy Equipment Mechanics, Except Engines	2,144	9%	256	\$30.33
Logisticians	1,599	19%	213	\$38.42
Aircraft Mechanics and Service Technicians	1,694	6%	164	\$35.23

Source: Lightcast 22.2

According to O*NET, the following skills are, on average, more important for occupations in the advanced transportation sector than occupations in other sectors.

- **Operation and Control:** Controlling operations of equipment or systems.
- **Operations Monitoring:** Watching gauges, dials, or other indicators to make sure a machine is working properly.
- **Repairing:** Repairing machines or systems using the needed tools.
- **Troubleshooting:** Determining causes of operating errors and deciding what to do about it.

High-Quality Advanced Transportation Job Advertisements

Over the last 12 months, June 2021 through May 2022, nearly 22,000 job ads were posted for high-quality advanced transportation occupations. Between 2016 and 2021, ads for high-quality transportation occupations increased by 211%. Below are highlights from a high-quality transportation job ad search.

<p>Employers Posting the Most Ads</p> <ul style="list-style-type: none"> • Marten Transport • YRC Freight • Reddaway Trucking • Penske 	<p>Most Common Job Titles</p> <ul style="list-style-type: none"> • CDL A Truck Driver • Warehouse Supervisor • Diesel Mechanic • Maintenance Supervisor
<p>Frequently Sought Specialized Skills</p> <ul style="list-style-type: none"> • Scheduling • Repair • Commercial Driving • Customer Service • Logistics 	<p>Frequently Sought Soft Skills</p> <ul style="list-style-type: none"> • Physical Abilities • Communication Skills • Teamwork/Collaboration • Problem Solving • Organizational Skills

According to the Center of Excellence (COE) business list, the largest employers in the transportation sector, by employee count, are Ontario International Airport, Amazon, FedEx, and YRC Freight.

There are eight transportation programs that regional community colleges do not currently offer.

- 0947.20 – Heavy Equipment Maintenance
- 0947.30 – Heavy Equipment Operation
- 0947.40 – Railroad and Light Rail Operations
- 0947.50 – Truck and Bus Driving
- 0948.30 – Motorcycle, Outboard, and Small Engine Repair
- 0948.50 – Recreational Vehicle Service
- 0959.00 – Marine Technology
- 3020.30 – Air Traffic Control

Regional community colleges do not provide training for one high-quality occupation: heavy and tractor-trailer truck drivers. In 2021, more than half (51%) of the total high-quality transportation jobs in the region were for heavy and tractor-trailer truck drivers. This occupation is trained by truck and bus driving programs (TOP 0947.50).

Exhibit 24. High-quality community-college-level transportation occupation without a regional training program

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Heavy and Tractor-Trailer Truck Drivers	34,289	14%	4,978	\$23.91

Source: Lightcast 22.2





AGRICULTURE, WATER, & ENVIRONMENTAL TECHNOLOGIES

The agriculture, water, & environmental technologies sector is more than just agricultural production. Programs in this sector are varied, addressing subjects such as animal science, agricultural wholesale trade, environmental services, and veterinary services. This sector aligns with the CDE agriculture and natural resources sector.

Agriculture and Natural Resources

Four regional community colleges currently offer eight programs that prepare students for employment in the agriculture, water, & environmental technologies sector.

Programs Offered

- 0101.00 – Agriculture Technology and Sciences, General
- 0102.00 – Animal Science
- 0102.40 – Equine Science
- 0103.00 – Plant Science
- 0109.00 – Horticulture
- 0109.40 – Turfgrass Technology
- 0112.00 – Agriculture Business, Sales and Service
- 0115.00 – Natural Resources

There are two high-quality agriculture, water, & environmental technologies occupations. One occupation requires a high school education; the other, a community college education. In 2021, there were nearly 3,500 high-quality jobs in this sector. Employment for pest control workers (the high-school-level occupation) is projected to increase by 6%, with nearly 200 annual job openings. Employment for the community-college-level occupation is projected to grow by 3% through 2026, with nearly 300 annual job openings.

Exhibit 25. High-quality high-school-level agriculture, water, & environmental technologies occupation related to regional training programs

High-School-Level Occupation	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Pest Control Workers	1,252	6%	186	\$24.07

Source: Lightcast 22.2

Exhibit 26. High-quality community-college-level agriculture, water, & environmental technologies occupation related to regional training programs

Community-College-Level Occupation	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	2,236	3%	256	\$23.38

Source: Lightcast 22.2

According to O*NET, the following skills are, on average, more important for occupations in the agriculture, water, & environmental technologies sector than occupations in other sectors.

- **Management of Material Resources:** Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.

High-Quality Agriculture, Water, & Environmental Technologies Job Advertisements

Over the last 12 months, June 2021 through May 2022, more than 700 job ads were posted for high-quality agriculture, water, & environmental technologies occupations. Approximately 91% of regional ads were posted for pest control workers. Between 2016 and 2021, ads for high-quality agriculture, water, & environmental technologies occupations increased by 279%. Below are highlights from a high-quality agriculture and natural resources job ad search.

Employers Posting the Most Ads <ul style="list-style-type: none">• Hawx Services, LLC• Orkin Incorporated• Rollins Inc.• Rentokil North America	Most Common Job Titles <ul style="list-style-type: none">• Pest Control Technician/Specialist• Commercial Pest Control Technician• Pest Control Service Professional• Termite Specialist• Exterminator
Frequently Sought Specialized Skills <ul style="list-style-type: none">• Customer Service/Contact• Customer Billing• Basic Mathematics/Calculation• Scheduling• Customer Complaint Resolution	Frequently Sought Soft Skills <ul style="list-style-type: none">• Communication Skills• Problem Solving• Writing• Verbal/Oral Communication• Teamwork/Collaboration

According to the Center of Excellence (COE) business list, the largest employers in the agriculture, water, & environmental technologies sector, by employee count, are Lloyd Pest & Termite Control, Brightview Landscape Services, Oasis Date Gardens, Golden Acre Farms, and Desert Concepts Landscaping.

There are 14 agriculture, water, & environmental technologies programs that regional community colleges do not currently offer. However, these programs do not train for additional occupations that meet the high-demand and high-wage criteria for high-quality employment opportunities.

- 0102.10 – Veterinary Technician (Licensed)
- 0102.20 – Artificial Inseminator
- 0102.30 – Dairy Science
- 0103.10 – Agricultural Pest Control Advisor and Operator
- 0104.00 – Viticulture, Enology, and Wine Business
- 0109.10 – Landscape Design and Maintenance
- 0109.20 – Floriculture - Floristry
- 0109.30 – Nursery Technology
- 0113.00 – Food Processing and Related Technologies
- 0114.00 – Forestry
- 0115.10 – Parks and Outdoor Recreation
- 0115.20 – Wildlife and Fisheries
- 0116.00 – Agricultural Power Equipment Technology
- 0199.00 – Other Agriculture and Natural Resources



BUSINESS & ENTREPRENEURSHIP

Community college business & entrepreneurship programs provide skills that span industries engaged in the private and public sectors. This sector may be considered a catch-all for a variety of activities that span multiple industries. For example, accountants and management skills are necessary for nearly every business, public and private. This sector aligns with the CDE business and finance and marketing, sales, and services sectors.

Business and Finance

All regional community colleges offer business & entrepreneurship programs related to business and finance, utilizing 15 program codes.

Programs Offered

- 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
- 0506.50 – Retail Store Operations and Management
- 0508.00 – International Business and Trade
- 0509.70 – E-Commerce (Business emphasis)
- 0514.00 – Office Technology/Office Computer Applications
- 0514.40 – Office Management
- 0599.00 – Other Business and Management
- 1301.10 – Consumer Services

There are 18 high-quality occupations in the business & entrepreneurship sector related to business and finance, accounting for nearly 90,200 jobs in 2021. One occupation requires a high school education, nine occupations require a community college education, and eight occupations require a bachelor’s degree. Employment for high-quality business and finance occupations is projected to increase by 5% through 2026, with nearly 9,200 annual job openings.

Regional community colleges currently provide training programs related to 17 of the 18 high-quality business & entrepreneurship occupations. In 2021, there were nearly 88,600 high-quality jobs related to business & entrepreneurship training programs. These occupations are projected to grow by 5%, with almost 9,100 annual job openings projected. Approximately 58% of the projected job openings for high-quality business & entrepreneurship jobs are for community-college-level occupations.

Exhibit 27. High-quality high-school-level business and finance occupation related to regional training programs

High-School-Level Occupation	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Insurance Claims and Policy Processing Clerks	2,180	0%	209	\$21.82

Source: Lightcast 22.2

Exhibit 28. High-quality community-college-level business and finance occupations related to regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
General and Operations Managers	19,499	9%	2,009	\$47.41
First-Line Supervisors of Office and Administrative Support Workers	15,737	4%	1,717	\$28.33
Executive Secretaries and Executive Administrative Assistants	3,620	(4%)	382	\$31.51
Buyers and Purchasing Agents	3,525	1%	351	\$27.95
First-Line Supervisors of Non-Retail Sales Workers	3,251	0%	306	\$26.39
Administrative Services and Facilities Managers	2,921	7%	289	\$47.05
Payroll and Timekeeping Clerks	1,737	(2%)	176	\$23.71
Human Resources Assistants, Except Payroll and Timekeeping	1,232	4%	135	\$22.05

Source: Lightcast 22.2

Exhibit 29. High-quality bachelor’s-degree-level business and finance occupations related to regional training programs

Bachelor’s-Degree-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Accountants and Auditors	8,538	7%	893	\$34.84
Management Analysts	7,265	7%	785	\$38.48
Human Resources Specialists	5,913	11%	711	\$30.96
Financial Managers	5,103	8%	458	\$54.29
Chief Executives	2,846	3%	218	\$76.31
Loan Officers	2,212	(5%)	165	\$33.03
Personal Financial Advisors	1,630	4%	133	\$36.91
Human Resources Managers	1,378	6%	132	\$54.16

Source: Lightcast 22.2

According to O*NET, the following skills are, on average, more important for business and finance occupations in the business & entrepreneurship sector than occupations in other sectors.

- **Management of Financial Resources:** Determining how money will be spent to get the work done, and accounting for these expenditures.
- **Management of Personnel Resources:** Motivating, developing, and directing people as they work, identifying the best people for the job.
- **Mathematics:** Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- **Negotiation:** Bringing others together and trying to reconcile differences.
- **Persuasion:** Persuading others to change their minds or behavior.
- **Reading Comprehension:** Understanding written sentences and paragraphs in work-related documents.
- **Speaking:** Talking to others to convey information effectively.
- **Time Management:** Managing one’s own time and the time of others.
- **Writing:** Communicating effectively in writing as appropriate for the needs of the audience.

High-Quality Business and Finance Job Advertisements

Over the last 12 months, June 2021 through May 2022, more than 19,100 job ads were posted for high-quality business and finance occupations in the business & entrepreneurship sector. Between 2016 and 2021, ads for high-quality business and finance occupations increased by 148%. Below are highlights from a high-quality business and finance job ad search.

<p>Employers Posting the Most Ads</p> <ul style="list-style-type: none"> • Anthem Blue Cross • Bank of America • University of California, Riverside • Riverside County • Yaamava' Resort & Casino at San 	<p>Most Common Job Titles</p> <ul style="list-style-type: none"> • Communication Skills • Organizational Skills • Planning • Problem Solving • Teamwork/Collaboration
<p>Frequently Sought Specialized Skills</p> <ul style="list-style-type: none"> • Scheduling • Budgeting • Customer Service • Accounting • Staff Management 	<p>Frequently Sought Soft Skills</p> <ul style="list-style-type: none"> • Operations Manager/Supervisor • Human Resources Generalist • General Manager • Human Resources Manager • Office Manager

According to the Center of Excellence (COE) business list, the largest employers in the business & entrepreneurship sector, by employee count, are Inland Empire Health Plan, Target, and Mercury Insurance.

There are five programs related to business and finance that regional community colleges do not currently offer.

- 0509.20 – Purchasing
- 0512.00 – Insurance
- 0514.10 – Legal Office Technology
- 0516.00 – Labor and Industrial Relations
- 3005.00 – Custodial Services

Regional community colleges business & entrepreneurship programs do not provide training for one high-quality occupation: claims adjusters, examiners, and investigators. In 2021, there were almost 1,600 claims adjuster, examiner, and investigator jobs in the region. While employment for this occupation is projected to decline by 2% through 2026, claims adjusters, examiners, and investigators earn a high median hourly wage, and more than 100 annual job openings are projected. Claims adjusters, examiners, and investigators are trained by insurance programs (TOP 0512.00).

Exhibit 30. High-quality community-college-level business and finance occupation without a regional training program

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Claims Adjusters, Examiners, and Investigators	1,570	(2%)	121	\$38.95

Source: Lightcast 22.2

Marketing, Sales, and Services

Nine regional community colleges currently offer business & entrepreneurship programs related to marketing, sales, and services, utilizing six program codes.

Programs Offered

- 0509.00 – Marketing and Distribution
- 0509.40 – Sales and Salesmanship
- 0511.00 – Real Estate
- 0511.10 – Escrow
- 0518.00 – Customer Service
- 0610.00 – Mass Communications

There are 12 high-quality marketing, sales, and services occupations in the business & entrepreneurship sector. Six of the occupations require a community college education, and six require a bachelor's degree. In 2021, there were nearly 36,700 community-college-level jobs and more than 16,500 bachelor's-degree-level jobs in the region.

Employment for community-college-level occupations is projected to grow by 7%, with more than 4,100 job openings available annually through 2026. Bachelor's-degree-level occupations are projected to have more than 1,700 annual job openings, growing by 6% over the next five years.

Exhibit 31. High-quality community-college-level marketing, sales, and services occupations related to regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	12,822	6%	1,449	\$28.62
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	8,081	7%	1,064	\$23.32
Insurance Sales Agents	5,174	10%	584	\$22.23
Real Estate Sales Agents	5,149	5%	510	\$28.32
Property, Real Estate, and Community Association Managers	3,732	4%	323	\$32.16
Real Estate Brokers	1,730	6%	172	\$33.02

Source: Lightcast 22.2

Exhibit 32. High-quality bachelor's-degree-level marketing, sales, and services occupations related to regional training programs

Bachelor's-Degree-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Market Research Analysts and Marketing Specialists	4,391	12%	558	\$25.36
Sales Managers	4,811	4%	447	\$46.52
Securities, Commodities, and Financial Services Sales Agents	3,366	0%	293	\$25.93
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	1,389	5%	156	\$41.90
Public Relations Specialists	1,308	7%	141	\$29.30
Marketing Managers	1,256	8%	127	\$49.83

Source: Lightcast 22.2

According to O*NET, the following skills are, on average, more important for marketing, sales, and services occupations in the business & entrepreneurship sector than occupations in other sectors.

- **Active Listening:** Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Coordination:** Adjusting actions in relation to others' actions.
- **Management of Financial Resources:** Determining how money will be spent to get the work done, and accounting for these expenditures.
- **Negotiation:** Bringing others together and trying to reconcile differences.
- **Persuasion:** Persuading others to change their minds or behavior.
- **Service Orientation:** Actively looking for ways to help people.
- **Social Perceptiveness:** Being aware of others' reactions and understanding why they react as they do.
- **Speaking:** Talking to others to convey information effectively.

High-Quality Marketing, Sales, and Services Job Advertisements

Over the last 12 months, June 2021 through May 2022, more than 21,300 job ads were posted for high-quality marketing, sales, and services occupations in the business & entrepreneurship sector. Between 2016 and 2021, ads for these occupations increased by 220%. Below are highlights from a high-quality marketing, sales, and services job ad search.

<p>Employers Posting the Most Ads</p> <ul style="list-style-type: none"> • Charter Communications • Anthem Blue Cross • Assurance Agency • State Farm Insurance • E-homes 	<p>Most Common Job Titles</p> <ul style="list-style-type: none"> • Sales Representative • Inside/Outside Sales Representative • Account Executive • Account Manager • Leasing Consultant
<p>Frequently Sought Specialized Skills</p> <ul style="list-style-type: none"> • Sales • Customer Service/Contact • Sales Goals • Prospective Clients • Product Sales 	<p>Frequently Sought Soft Skills</p> <ul style="list-style-type: none"> • Communication Skills • Organizational Skills • Teamwork/Collaboration • Building Effective Relationships • Problem Solving

According to the Center of Excellence (COE) business list, the largest marketing, sales, and services employers, by employee count, are Starcrest Products of California, JC Penny, and Valley View Mortgage.

There are three marketing, sales, and services programs that regional community colleges do not currently offer. However, these programs do not train for additional occupations that meet the high-demand and high-wage criteria for high-quality employment opportunities.

- 0509.10 – Advertising
- 0509.60 – Display
- 0606.00 – Public Relations



EDUCATION & HUMAN DEVELOPMENT

Education & human development programs make a positive difference in the lives of young children. Professionals who follow this path tend to be good communicators with the ability to empathize with people from diverse backgrounds. This sector aligns with the CDE education, child development, and family services sector.

Education, Child Development, and Family Services

All community colleges in the region currently offer education & human development programs, utilizing 15 program codes.

Programs Offered

- 0802.00 – Educational Aide (Teacher Assistant)
- 0802.10 – Educational Aide (Teacher Assistant), Bilingual
- 0835.20 – Fitness Trainer
- 0835.60 – Coaching
- 0835.70 – Aquatics and Lifesaving
- 0850.10 – Sign Language Interpreting
- 1305.00 – Child Development/Early Care and Education
- 1305.10 – Child and Adolescent Development
- 1305.20 – Children with Special Needs
- 1305.40 – Preschool Age Children
- 1305.50 – The School Age Child
- 1305.80 – Child Development Administration and Management
- 1305.90 – Infants and Toddlers
- 2104.00 – Human Services
- 2140.00 – Legal and Community Interpretation

There are eight high-quality occupations in the education & human development sector, accounting for nearly 47,800 jobs in 2021. One occupation requires a community college education, and seven occupations require a bachelor's degree. Employment for high-quality education occupations is projected to increase by 0.3% through 2026, with nearly 3,800 annual job openings.

Regional community colleges currently provide training programs related to seven high-quality education & human development occupations. In 2021, there were nearly 44,900 high-quality jobs related to education & human development training programs. These occupations are projected to decline by 0.3% through 2026, but will still offer more than 3,400 annual job openings.



Exhibit 33. High-quality community-college-level education & human development occupation related to regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Interpreters and Translators	1,014	14%	128	\$35.47

Source: Lightcast 22.2

Exhibit 34. High-quality bachelor’s-degree-level education & human development occupations related to regional training programs

Bachelor’s-Degree-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Elementary School Teachers, Except Special Education	20,114	(3%)	1,420	\$44.49
Secondary School Teachers, Except Special and Career/Technical Education	11,743	(2%)	791	\$42.89
Middle School Teachers, Except Special and Career/Technical Education	5,299	(2%)	379	\$42.81
Child, Family, and School Social Workers	2,433	13%	295	\$23.58
Social and Community Service Managers	2,172	16%	267	\$34.41
Special Education Teachers, Kindergarten and Elementary School	2,106	(2%)	152	\$37.05

Source: Lightcast 22.2

According to O*NET, the following skills are, on average, more important for occupations in the education & human development sector than occupations other sectors.

- **Active Learning:** Understanding the implications of new information for both current and future problem-solving and decision-making.
- **Active Listening:** Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Complex Problem Solving:** Developed capacities used to solve novel, ill-defined problems in complex, real-world settings.
- **Coordination:** Adjusting actions in relation to others’ actions.
- **Critical Thinking:** Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.
- **Instructing:** Teaching others how to do something.
- **Judgment and Decision Making:** Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- **Learning Strategies:** Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.
- **Management of Personnel Resources:** Motivating, developing, and directing people as they work, identifying the best people for the job.
- **Monitoring:** Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
- **Negotiation:** Bringing others together and trying to reconcile differences.
- **Persuasion:** Persuading others to change their minds or behavior.
- **Reading Comprehension:** Understanding written sentences and paragraphs in work-related documents.
- **Social Perceptiveness:** Being aware of others’ reactions and understanding why they react as they do.
- **Speaking:** Talking to others to convey information effectively.

- **Systems Analysis:** Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
- **Systems Evaluation:** Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.
- **Time Management:** Managing one’s own time and the time of others.
- **Writing:** Communicating effectively in writing as appropriate for the needs of the audience.

High-Quality Education & Human Development Job Advertisements

Over the last 12 months, June 2021 through May 2022, approximately 1,700 job ads were posted for high-quality education & human development occupations. Between 2016 and 2021, ads for these occupations increased by 25%. Below are highlights from a high-quality education & human development job ad search.

<p>Employers Posting the Most Ads</p> <ul style="list-style-type: none"> • Riverside County • Hemet Unified School District • California State University, San Bernardino • Hesperia Unified School District 	<p>Most Common Job Titles</p> <ul style="list-style-type: none"> • Teacher • Elementary Teacher • English Teacher • Case Manager • Training Specialist
<p>Frequently Sought Specialized Skills</p> <ul style="list-style-type: none"> • Teaching • Lesson Planning • Special Education • Music • Social Services 	<p>Frequently Sought Soft Skills</p> <ul style="list-style-type: none"> • English • Communication Skills • Planning • Physical Abilities • Teamwork/Collaboration

According to the Center of Excellence (COE) business list, the largest employers in the education & human development sector, by employee count, are Ontario-Montclair School District; California State University, San Bernardino; Snowline Joint Unified School District; and Yucaipa-Calimesa Joint Unified School District.

There are seven education & human development programs that regional community colleges do not currently offer.

- 0809.00 – Special Education
- 0860.00 – Educational Technology
- 0899.00 – Other Education
- 1301.00 – Family and Consumer Sciences, General
- 1305.60 – Parenting and Family Education
- 1305.70 – Foster and Kinship Care
- 1308.00 – Family Studies

Regional community colleges do not provide training for one high-quality occupation: training and development specialists. In 2021, there were nearly 2,900 training and development specialist jobs in the region. Employment in this occupation is projected to increase by 10% through 2026, with more than 300 job openings available annually. Training and development specialists are trained by educational technology programs (TOP 0860.00).

Exhibit 35. High-quality bachelor’s-degree-level education & human development occupation without a regional training program

Bachelor’s-Degree-Level Occupation	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Training and Development Specialists	2,894	10%	337	\$31.02

Source: Lightcast 22.2



ENERGY, CONSTRUCTION, & UTILITIES

The energy, construction, & utilities sector comprises establishments primarily engaged in the construction, alteration, maintenance, and repair of residential and commercial buildings as well as distribution lines and related buildings and structures for utilities (i.e., water, sewer, petroleum, gas, power, and communication). This sector employs specialty trade contractors, whose primary activity is the utilization of occupation-specific skills that contribute to the completion of projects.¹ This sector aligns with the CDE building and construction trades, energy environment and utilities, and engineering and architecture sectors.

Building and Construction Trades

Ten out of 12 regional community colleges, currently offer energy, construction, & utilities programs related to building and construction trades, utilizing six program codes.

Programs Offered

- 0946.00 – Environmental Control Technology
- 0952.00 – Construction Crafts Technology
- 0952.20 – Electrical
- 0957.00 – Civil and Construction Management Technology
- 0957.20 – Construction Inspection
- 2102.10 – Public Works

There are 14 high-quality building and construction trades occupations in the energy, construction, & utilities sector, accounting for more than 70,700 jobs in 2021. One high-quality occupation requires a high school education, 11 occupations require community college education, and two occupations require a bachelor’s degree. Employment for high-quality construction occupations is projected to increase by 8% through 2026, with nearly 8,000 job openings expected annually.

Regional community colleges currently provide training programs related to nine of the high-quality building and construction trades occupations. In 2021, there were nearly 39,500 high-quality jobs related to building and construction trades training programs. These occupations are projected to increase employment by 9%, with nearly 4,600 annual job openings.

Exhibit 36. High-quality high-school-level building and construction trades occupation related to regional training programs

High-School-Level Occupation	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Security and Fire Alarm Systems Installers	730	16%	102	\$25.17

Source: Lightcast 22.2

¹ United States Census Bureau, “North American Industry Classification System (NAICS),” 2017, accessed August 8, 2022, <https://www.census.gov/naics/?58967?yearbck=2017>.

Exhibit 37. High-quality community-college-level building and construction trades occupations related to regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Electricians	8,634	15%	1,208	\$23.98
First-Line Supervisors of Construction Trades and Extraction Workers	8,551	6%	939	\$30.68
Plumbers, Pipefitters, and Steamfitters	6,212	8%	757	\$26.40
Operating Engineers and Other Construction Equipment Operators	4,641	6%	551	\$36.66
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	4,540	9%	528	\$22.80
Construction and Building Inspectors	1,499	4%	187	\$39.46
Plasterers and Stucco Masons	1,592	2%	141	\$23.90

Source: Lightcast 22.2

Exhibit 38. High-quality bachelor’s-degree-level building and construction trades occupation related to regional training programs

Bachelor’s-Degree-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Construction Managers	6,330	11%	618	\$34.33

Source: Lightcast 22.2

According to O*NET, the following skills are, on average, more important for building and construction trades occupations in the energy, construction, & utilities sector than occupations in other sectors.

- **Equipment Maintenance:** Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
- **Equipment Selection:** Determining the kind of tools and equipment needed to do a job.
- **Installation:** Installing equipment, machines, wiring, or programs to meet specifications.
- **Operation and Control:** Controlling operations of equipment or systems.
- **Quality Control Analysis:** Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- **Repairing:** Repairing machines or systems using the needed tools.
- **Troubleshooting:** Determining causes of operating errors and deciding what to do about it.

High-Quality Building and Construction Trades Job Advertisements

Over the last 12 months, June 2021 through May 2022, approximately 5,000 job ads were posted for high-quality building and construction trades occupations in the energy, construction, & utilities sector. Between 2016 and 2021, ads for high-quality building and construction trades occupations increased by 316%. Below are highlights from a high-quality building and construction trades job ad search.

<p>Employers Posting the Most Ads</p> <ul style="list-style-type: none"> • ServiceMaster • MasTec • CDM Smith • SunRun • Park West Construction 	<p>Most Common Job Titles</p> <ul style="list-style-type: none"> • Heavy Equipment Operator • Estimator • Construction Manager • HVAC Technician • Electrician
<p>Frequently Sought Specialized Skills</p> <ul style="list-style-type: none"> • Repair • Scheduling • Project Management • Budgeting • HVAC 	<p>Frequently Sought Soft Skills</p> <ul style="list-style-type: none"> • Communication Skills • Organizational Skills • Physical Abilities • Troubleshooting • Detail-Oriented

According to the Center of Excellence (COE) business list, the largest employers in the building and construction trades sector, by employee count, are J Ginger Masonry, Berck’s Old Time Plumbing Heating & Air, Pro Wall Lath & Plaster, and Pacific Production Plumbing.

There are 10 building and construction trades programs that regional community colleges do not currently offer.

- 0952.10 – Carpentry
- 0952.30 – Plumbing, Pipefitting, and Steamfitting
- 0952.40 – Glazing
- 0952.50 – Mill and Cabinet Work
- 0952.60 – Masonry, Tile, Cement, Lath and Plaster
- 0952.70 – Painting, Decorating, and Flooring
- 0952.80 – Drywall and Insulation
- 0952.90 – Roofing
- 0953.20 – Civil Drafting
- 0956.40 – Sheet Metal and Structural Metal

Regional community colleges do not provide training for five high-quality building and construction trades occupations. In 2021, there were more than 31,200 high-quality building and construction trades jobs for which regional community colleges did not provide training. Employment in these occupations is projected to increase by 6% through 2026, with just over 3,400 job openings available annually.

Exhibit 39. High-quality community-college-level building and construction trades occupations without regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Carpenters	20,758	4%	2,116	\$23.81
Plumbers, Pipefitters, and Steamfitters	6,212	8%	757	\$26.40
Structural Iron and Steel Workers	1,788	10%	227	\$33.47
Sheet Metal Workers	1,612	7%	177	\$27.25
Glaziers	878	15%	124	\$24.62

Source: Lightcast 22.2

Energy, Environment, and Utilities

Seven regional community colleges currently offer five programs related to energy, environment, and utilities.

Programs Offered

- 0303.00 – Environmental Technology
- 0934.30 – Telecommunications Technology
- 0934.40 – Electrical Systems and Power Transmission
- 0946.10 – Energy Systems Technology
- 0958.00 – Water and Wastewater Technology

There are four high-quality energy, environment, and utilities occupations in the energy, construction, & utilities sector, all of which require community college education. In 2021, there were nearly 6,900 high-quality energy, environment, and utilities jobs in the region. Employment for high-quality community-college-level jobs is projected to grow by 0.9%, with more than 700 annual job openings.

Exhibit 40. High-quality community-college-level energy, environment, and utilities occupations related to regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Telecommunications Equipment Installers and Repairers, Except Line Installers	3,018	(1%)	339	\$27.82
Water and Wastewater Treatment Plant System Operators	1,458	1%	135	\$34.29
Telecommunications Line Installers and Repairers	1,230	2%	141	\$27.86
Electrical Power-Line Installers and Repairers	1,167	4%	112	\$41.06

Source: Lightcast 22.2

According to O*NET, the following skills are, on average, more important for energy, environment, and utilities occupations in the energy, construction, & utilities sector than occupations in other sectors.

- **Equipment Maintenance:** Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
- **Equipment Selection:** Determining the kind of tools and equipment needed to do a job.
- **Installation:** Installing equipment, machines, wiring, or programs to meet specifications.
- **Monitoring:** Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
- **Operation and Control:** Controlling operations of equipment or systems.
- **Operations Monitoring:** Watching gauges, dials, or other indicators to make sure a machine is working properly.
- **Programming:** Writing computer programs for various purposes.
- **Quality Control Analysis:** Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- **Repairing:** Repairing machines or systems using the needed tools.
- **Science:** Using scientific rules and methods to solve problems.
- **Technology Design:** Generating or adapting equipment and technology to serve user needs.
- **Troubleshooting:** Determining causes of operating errors and deciding what to do about it.

High-Quality Energy, Environment, and Utilities Job Advertisements

Over the last 12 months, June 2021 through May 2022, more than 700 job ads were posted for high-quality energy, environment, and utilities occupations in the energy, construction, & utilities sector. Between 2016 and 2021, ads for these occupations increased by 210%. Below are highlights from a high-quality energy, environment, and utilities job ad search.

Employers Posting the Most Ads <ul style="list-style-type: none">• Charter Communications (Spectrum)• AT&T• HHS Construction Incorporated• Edison International• ServiceMaster	Most Common Job Titles <ul style="list-style-type: none">• Field Technician• Tower Foreman• Cable Technician• Cable Installer/Splicer• Lead Water Technician
Frequently Sought Specialized Skills <ul style="list-style-type: none">• Repair• Hand Tools• Telecommunications• Scheduling• Test Equipment	Frequently Sought Soft Skills <ul style="list-style-type: none">• Physical Abilities• Communication Skills• Troubleshooting• Problem Solving• Computer Literacy

According to the Center of Excellence (COE) business list, the largest employers in the energy, environment, and utilities sector, by employee count, are Eastern Municipal Water District, Coachella Valley Water District, and Southern California Edison.

Regional community colleges currently offer all programs related to energy, environment, and utilities.



Engineering and Architecture

Seven regional community colleges currently offer energy, construction, & utilities programs related to engineering and architecture, utilizing six program codes.

Programs Offered

- 0201.00 – Architecture and Architectural Technology
- 0924.00 – Engineering Technology, General (requires Trigonometry)
- 0953.00 – Drafting Technology
- 0953.10 – Architectural Drafting
- 0999.00 – Other Engineering and Related Industrial Technologies
- 2206.10 – Geographic Information Systems

There are three high-quality engineering and architecture occupations in the energy, construction, & utilities sector. One occupation requires a community college education, and two occupations require a bachelor’s degree.

In 2021, there were more than 1,100 community-college-level jobs and nearly 5,000 bachelor’s-degree-level jobs in the region. Community-college-level employment is projected to grow by 6% through 2026, with more than 100 annual job openings. Bachelor’s-degree-level occupations are projected to have more than 400 annual job openings, growing by 7% over the next five years.

Exhibit 41. High-quality community-college-level engineering and architecture occupation related to regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Architectural and Civil Drafters	1,117	6%	121	\$25.29

Source: Lightcast 22.2

Exhibit 42. High-quality bachelor’s-degree-level engineering and architecture occupations related to regional training programs

Bachelor’s-Degree-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Civil Engineers	3,358	9%	309	\$52.08
Architectural and Engineering Managers	1,592	3%	122	\$74.98

Source: Lightcast 22.2



According to O*NET, the following skills are, on average, more important for engineering and architecture occupations in the energy, construction, & utilities sector than occupations in other sectors.

- **Active Learning:** Understanding the implications of new information for both current and future problem-solving and decision-making.
- **Complex Problem Solving:** Developed capacities used to solve novel, ill-defined problems in complex, real-world settings.
- **Critical Thinking:** Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.
- **Instructing:** Teaching others how to do something.
- **Learning Strategies:** Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.
- **Management of Financial Resources:** Determining how money will be spent to get the work done, and accounting for these expenditures.
- **Management of Material Resources:** Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.
- **Mathematics:** Using mathematics to solve problems.
- **Operations Analysis:** Analyzing needs and product requirements to create a design.
- **Programming:** Writing computer programs for various purposes.
- **Reading Comprehension:** Understanding written sentences and paragraphs in work-related documents.
- **Science:** Using scientific rules and methods to solve problems.
- **Systems Analysis:** Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
- **Systems Evaluation:** Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.
- **Technology Design:** Generating or adapting equipment and technology to serve user needs.
- **Time Management:** Managing one’s own time and the time of others.

High-Quality Engineering and Architecture Job Advertisements

Over the last 12 months, June 2021 through May 2022, more than 1,000 job ads were posted for high-quality engineering and architecture occupations in the energy, construction, & utilities sector. Between 2016 and 2021, ads for these occupations increased by 94%. Below are highlights from a high-quality engineering and architecture job ad search.

<p>Employers Posting the Most Ads</p> <ul style="list-style-type: none"> • ServiceMaster • Albert Webb Associates • Michael Baker International • Psomas • Rick Engineering 	<p>Most Common Job Titles</p> <ul style="list-style-type: none"> • Project Engineering • Restoration Project Manager • Engineering Manager • CAD Drafter • Senior Civil Engineer
<p>Frequently Sought Specialized Skills</p> <ul style="list-style-type: none"> • Project Management • Civil Engineering • Budgeting • Scheduling • Calculation 	<p>Frequently Sought Soft Skills</p> <ul style="list-style-type: none"> • Communication Skills • Planning • Writing • Research • Teamwork/Collaboration

According to the Center of Excellence (COE) business list, the largest employers in the engineering and architecture sector, by employee count, are Skanska USA Civil West California District, Herman Weissker Inc., HMC Architects, and K&B Engineering.



HEALTH

Due to an increasing population and longer life expectancy in California, the health sector's employment needs will continue to grow. Health care employment refers to careers in public and private hospitals, medical facilities, ambulatory health centers, long-term and residential care facilities, as well as public health and safety agencies. This sector aligns with the CDE health science and medical technology sector.

Health Science and Medical Technology

Eleven regional community colleges currently offer health programs, utilizing 26 program codes.

Programs Offered

- 0514.20 – Medical Office Technology
- 1201.00 – Health Occupations, General
- 1202.00 – Hospital and Health Care Administration
- 1205.10 – Phlebotomy
- 1208.00 – Medical Assisting
- 1208.10 – Clinical Medical Assisting
- 1208.20 – Administrative Medical Assisting
- 1210.00 – Respiratory Care/Therapy
- 1221.00 – Pharmacy Technology
- 1223.10 – Health Information Coding
- 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
- 1230.80 – Home Health Aide
- 1239.00 – Psychiatric Technician
- 1240.10 – Dental Assistant
- 1240.20 – Dental Hygienist
- 1250.00 – Emergency Medical Services
- 1251.00 – Paramedic
- 1261.00 – Community Health Care Worker
- 1299.00 – Other Health Occupations
- 1309.00 – Gerontology
- 2104.40 – Alcohol and Controlled Substances

There are 11 high-quality health occupations. Nine of the occupations require a community college education, and two occupations require a bachelor's degree. In 2021, there were more than 59,200 high-quality health jobs.

In 2021, approximately 85% of the high-quality health jobs in the region were community-college-level. Bachelor's-degree-level occupations are projected to grow the fastest through 2026, increasing by 18%, with just over 1,100 annual job openings. Employment in community-college-level occupations is projected to increase by 11%, with more than 4,300 annual job openings through 2026.

Exhibit 43. High-quality community-college-level health occupations related to regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Registered Nurses	31,332	11%	2,373	\$52.44
Licensed Vocational Nurses	8,011	10%	791	\$28.71
Phlebotomists	1,482	11%	215	\$21.82
Clinical Laboratory Technologists and Technicians	1,928	12%	183	\$24.82
Dental Hygienists	2,189	10%	181	\$47.63
Radiologic Technologists and Technicians	1,702	11%	164	\$40.34
Psychiatric Technicians	1,586	7%	136	\$30.25
Respiratory Therapists	1,667	15%	132	\$36.40
Physical Therapist Assistants	622	35%	128	\$31.46

Source: Lightcast 22.2

Exhibit 44. High-quality bachelor's-degree-level health occupations related to regional training programs

Bachelor's-Degree-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Substance Abuse, Behavioral Disorder, and Mental Health Counselors	4,724	15%	601	\$25.74
Medical and Health Services Managers	3,979	21%	501	\$59.18

Source: Lightcast 22.2

According to O*NET, the following skills are, on average, more important for occupations in the health sector than occupations in other sectors.

- **Active Learning:** Understanding the implications of new information for both current and future problem-solving and decision-making.
- **Active Listening:** Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Coordination:** Adjusting actions in relation to others' actions.
- **Instructing:** Teaching others how to do something.
- **Judgment and Decision Making:** Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- **Learning Strategies:** Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.
- **Management of Personnel Resources:** Motivating, developing, and directing people as they work, identifying the best people for the job.
- **Monitoring:** Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
- **Science:** Using scientific rules and methods to solve problems.
- **Service Orientation:** Actively looking for ways to help people.
- **Social Perceptiveness:** Being aware of others' reactions and understanding why they react as they do.
- **Writing:** Communicating effectively in writing as appropriate for the needs of the audience.

High-Quality Health Job Advertisements

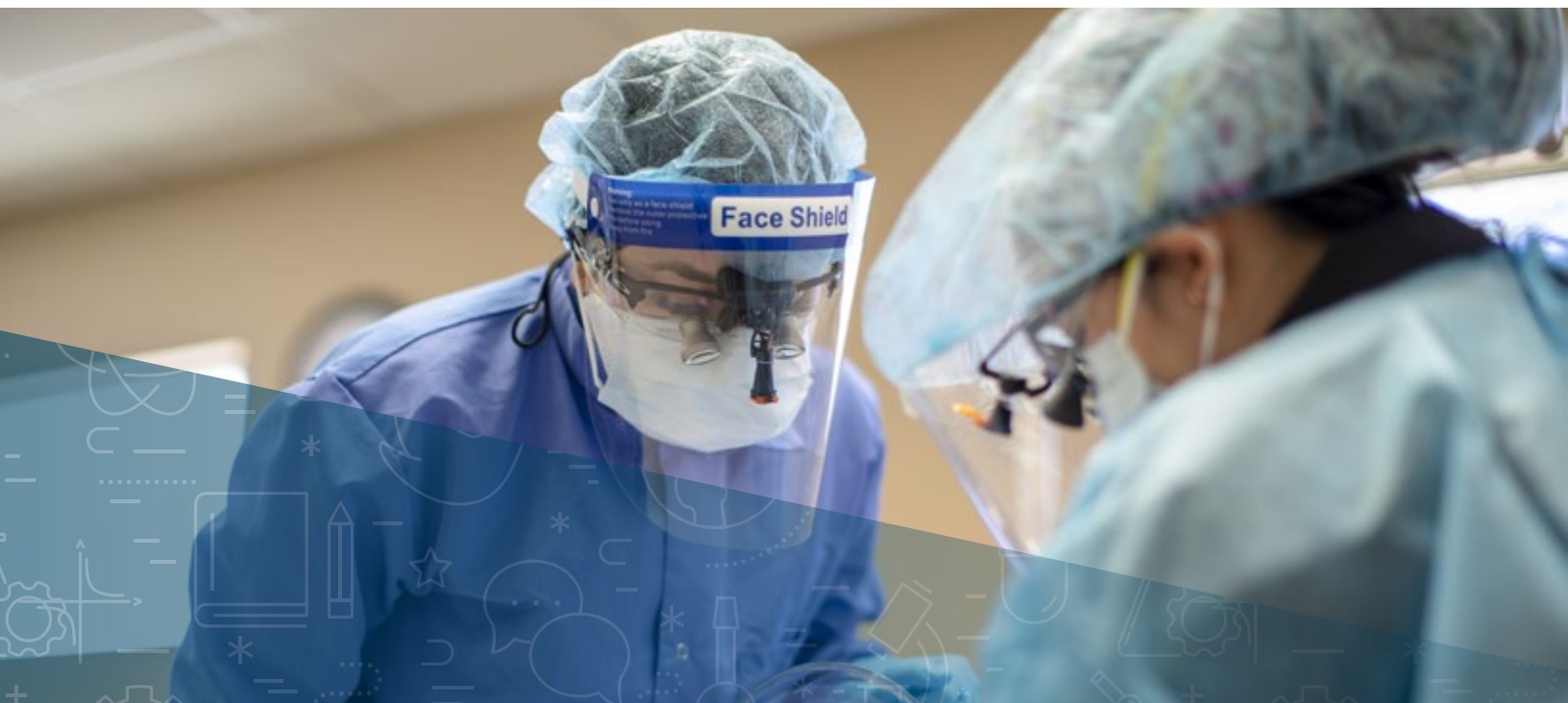
Over the last 12 months, June 2021 through May 2022, nearly 26,800 job ads were posted for high-quality health occupations. Between 2016 and 2021, ads for high-quality health occupations increased by 89%. Below are highlights from a high-quality health job ad search.

Employers Posting the Most Ads <ul style="list-style-type: none">• Kaiser Permanente (Fontana, Riverside, Moreno Valley, Ontario)• Universal Health Services (Temecula Valley Hospital, Rancho Springs Medical Center, Inland Valley Medical Center, Corona Regional Medical Center)• Riverside Community Hospital• Kindred Healthcare (Rancho Cucamonga, Ontario, Perris)	Most Common Job Titles <ul style="list-style-type: none">• Registered Nurse• Licensed Vocational Nurse• Phlebotomist• Registered Nurse Case Manager• Clinical Supervisor• Registered Dental Hygienist
Frequently Sought Specialized Skills <ul style="list-style-type: none">• Patient Care• Treatment Planning• Advanced Cardiac Life Support (ACLS)• Acute Care• Cardiopulmonary Resuscitation (CPR)	Frequently Sought Soft Skills <ul style="list-style-type: none">• Communication Skills• Teamwork/Collaboration• Planning• Problem Solving• Computer Literacy

According to the Center of Excellence (COE) business list, the largest employers in the health sector, by employee count, are ACE Programs Management, Advanced Functional Medicine, Advantage Infusion Care, and Arrowhead Regional Medical Center.

Regional community colleges do not currently offer training related to the following programs. However, these programs do not train for additional occupations that meet the high-demand and high-wage criteria for high-quality employment opportunities.

- 1255.00 – Mortuary Science
- 1262.00 – Massage Therapy





INFORMATION & COMMUNICATION TECHNOLOGIES (ICT)/DIGITAL MEDIA

Job activities in the information and communications technologies (ICT)/digital media sector range from protecting computer infrastructure from cyberattacks to the latest offerings in digital entertainment. This sector aligns with the CDE information & communication technologies sector and the arts, media, and entertainment sector.

Arts, Media, and Entertainment

Eleven out of twelve of the regional community colleges offer ICT/digital media programs related to arts, media, and entertainment, utilizing 15 program codes.

Programs Offered

- 0602.00 – Journalism
- 0604.00 – Radio and Television
- 0604.10 – Radio
- 0604.20 – Television (including combined TV/Film/Video)
- 0612.20 – Film Production
- 0614.00 – Digital Media
- 0614.10 – Multimedia
- 0614.20 – Electronic Game Design
- 0614.40 – Animation
- 0614.50 – Desktop Publishing
- 0614.60 – Computer Graphics and Digital Imagery
- 1005.00 – Commercial Music
- 1006.00 – Technical Theater
- 1012.00 – Applied Photography
- 1030.00 – Graphic Art and Design

There are two high-quality arts, media, and entertainment occupations in the ICT/digital media sector. One occupation requires a community college education, and one occupation requires a bachelor’s degree.

In 2021, there were more than 1,600 community-college-level jobs, and more than 1,200 bachelor’s-degree-level in the region. Employment for the community-college-level occupation is projected to grow by 11%, with more than 200 annual job openings through 2026. The bachelor’s-degree-level occupation is projected to have more than 100 annual job openings, growing by 1% over the next five years.

Exhibit 45. High-quality community-college-level arts, media, and entertainment occupations related to regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Photographers	1,646	11%	202	\$24.56

Source: Lightcast 22.2

Exhibit 46. High-quality bachelor’s-degree-level arts, media, and entertainment occupation related to regional training programs

Bachelor’s-Degree-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Writers and Authors	1,245	1%	124	\$25.97

Source: Lightcast 22.2

No occupational skills in O*NET are more important for arts, media, and entertainment occupations in the ICT/digital media sector than occupations in other sectors.

High-Quality Arts, Media, and Entertainment Job Advertisements

Over the last 12 months, June 2021 through May 2022, nearly 400 job ads were posted for high-quality arts, media, and entertainment occupations in the ICT/digital media sector. Between 2016 and 2021, ads for high-quality arts, media, and entertainment occupations increased by 375%. Approximately 71% of job ads were posted for photographers. Below are highlights from a high-quality arts, media, and entertainment job ad search.

<p>Employers Posting the Most Ads</p> <ul style="list-style-type: none"> • Cherry Hill Programs • Shutterfly • Lifetouch • Cox Automotive • Nationwide Studios Incorporated 	<p>Most Common Job Titles</p> <ul style="list-style-type: none"> • Photographer • School Photographer • Seasonal Studio Photographer • Content Writer • Copywriter
<p>Frequently Sought Specialized Skills</p> <ul style="list-style-type: none"> • Photography • Customer Service • Adobe Photoshop • Sales • Social Media 	<p>Frequently Sought Soft Skills</p> <ul style="list-style-type: none"> • Communication Skills • Creativity • Editing • Writing • Teamwork/Collaboration

According to the Center of Excellence (COE) business list, the largest employers in the arts, media, and entertainment sector, by employee count, are Desert Sun Media Group, Press-Enterprise, and Daily Press Newspaper.

There are three arts, media, and entertainment programs that regional community colleges do not currently offer. However, these programs do not train for additional occupations that meet the high-demand and high-wage criteria for high-quality employment opportunities.

- 0604.30 – Broadcast Journalism
- 0607.00 – Technical Communication
- 1013.00 – Commercial Art

Information and Communication Technologies

Although most employers in this sector seek candidates with a bachelor’s degree, job opportunities also exist for those with a community college education. All regional community colleges currently offer ICT programs, utilizing 14 program codes.

Programs Offered

- 0614.30 – Website Design and Development
- 0701.00 – Information Technology, General
- 0702.00 – Computer Information Systems
- 0702.10 – Software Applications
- 0707.00 – Computer Software Development
- 0707.10 – Computer Programming
- 0707.20 – Database Design and Administration
- 0707.30 – Computer Systems Analysis
- 0708.00 – Computer Infrastructure and Support
- 0708.10 – Computer Networking
- 0708.20 – Computer Support
- 0709.00 – World Wide Web Administration
- 0709.10 – E-Commerce (Technology emphasis)
- 0934.10 – Computer Electronics

There are six high-quality ICT occupations in the ICT/digital media sector. Three occupations require a community college education, and three require a bachelor's degree. In 2021, there were more than 6,500 community-college-level ICT jobs and nearly 9,700 bachelor's-degree-level ICT jobs.

Employment for community-college-level jobs is projected to grow by 8%, with nearly 600 annual job openings. Bachelor's-degree-level occupations are projected to have almost 1,000 annual job openings, growing by 12% over the next five years.

Exhibit 47. High-quality community-college-level ICT occupations related to regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Computer User Support Specialists	3,305	9%	305	\$27.85
Web Developers and Digital Interface Designers	1,514	8%	139	\$28.26
Network and Computer Systems Administrators	1,727	6%	136	\$41.63

Source: Lightcast 22.2

Exhibit 48. High-quality bachelor's-degree-level ICT occupations related to regional training programs

Bachelor's-Degree-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Software Developers and Software Quality Assurance Analysts and Testers	5,283	16%	576	\$46.91
Computer Systems Analysts	2,405	7%	206	\$41.87
Computer and Information Systems Managers	2,008	8%	183	\$62.64

Source: Lightcast 22.2

According to O*NET, the following skills are, on average, more important for information and communication technologies occupations in the information & communication technologies/digital media sector than occupations in other sectors.

- **Complex Problem Solving:** Developed capacities used to solve novel, ill-defined problems in complex, real-world settings.
- **Critical Thinking:** Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.
- **Installation:** Installing equipment, machines, wiring, or programs to meet specifications.
- **Judgment and Decision Making:** Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- **Mathematics:** Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- **Operations Analysis:** Analyzing needs and product requirements to create a design.
- **Programming:** Writing computer programs for various purposes.
- **Systems Analysis:** Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
- **Systems Evaluation:** Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.
- **Technology Design:** Generating or adapting equipment and technology to serve user needs.

High-Quality Information and Communication Technologies Job Advertisements

Over the last 12 months, June 2021 through May 2022, nearly 5,500 job ads were posted for high-quality ICT occupations. Between 2016 and 2021, ads for high-quality ICT occupations increased by 103%. Below are highlights from a high-quality job ad search.

Employers Posting the Most Ads

- Esri
- Anthem Blue Cross
- Best Buy
- University of California, San Bernardino

Most Common Job Titles

- Systems Administrator
- Fiber Network Field Technician
- IT Technician
- Geek Squad Agent
- Help Desk Technician

Frequently Sought Specialized Skills

- Technical Support
- Customer Service
- Repair
- Software Development
- Project Management

Frequently Sought Soft Skills

- Communication Skills
- Troubleshooting
- Problem Solving
- Teamwork/Collaboration
- Planning

According to the Center of Excellence (COE) business list, the largest employers in the information and communication technologies sector, by employee count, are Esri, Timerack, DXC Technology, and Automatic Data Processing (ADP).





PUBLIC SAFETY

Public safety career cluster services are generally provided by local, state, and federal government entities for the benefit of residents. This sector aligns with the CDE public services sector.

Public Services

All regional community colleges offer programs related to public safety, utilizing 10 program codes.

Programs Offered

- 1402.00 – Paralegal
- 1602.00 – Library Technician (Aide)
- 2105.00 – Administration of Justice
- 2105.10 – Corrections
- 2105.30 – Industrial and Transportation Security
- 2105.40 – Forensics, Evidence, and Investigation
- 2105.50 – Police Academy
- 2133.00 – Fire Technology
- 2133.50 – Fire Academy
- 4931.00 – Vocational ESL

There are eight high-quality occupations in the public safety sector, accounting for more than 20,800 jobs in 2021. Seven occupations require a community college education, and one occupation requires a bachelor’s degree. Employment for high-quality public safety occupations is projected to increase by 6% through 2026, with nearly 2,200 annual job openings.

Regional community colleges currently provide training programs related to seven of the high-quality public safety occupations displayed below. In 2021, there were nearly 19,700 high-quality jobs related to public safety programs. These occupations are projected to increase employment by 6%, with nearly 2,100 annual job openings.

Exhibit 49. High-quality community-college-level public safety occupations related to regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Police and Sheriffs Patrol Officers	6,066	7%	561	\$50.38
Correctional Officers and Jailers	5,333	2%	519	\$40.98
Firefighters	2,970	8%	272	\$32.42
Paralegals and Legal Assistants	1,958	10%	258	\$27.00
Miscellaneous First-Line Supervisors, Protective Service Workers	1,175	14%	158	\$25.73
Library Technicians	993	1%	145	\$22.27
Court, Municipal, and License Clerks	1,166	9%	140	\$22.06

Source: Lightcast 22.2

None of the occupational skills in O*NET are more important for occupations in the public services sector than occupations in other sectors.

High-Quality Public Safety Job Advertisements

Over the last 12 months, June 2021 through May 2022, nearly 1,100 job ads were posted for high-quality public safety occupations. Between 2016 and 2021, ads for these occupations increased by 111%. Below are highlights from a high-quality public safety job advertisement search

<p>Employers Posting the Most Ads</p> <ul style="list-style-type: none"> • San Bernardino County • Riverside County • City of San Bernardino • State of California 	<p>Most Common Job Titles</p> <ul style="list-style-type: none"> • Paralegal/Legal Assistant • Family Law Paralegal • Public Safety Officer • Police Cadet • Litigation Paralegal
<p>Frequently Sought Specialized Skills</p> <ul style="list-style-type: none"> • Public Health and Safety • Legal Documentation • Customer Service • Litigation • Cardiopulmonary Resuscitation (CPR) 	<p>Frequently Sought Soft Skills</p> <ul style="list-style-type: none"> • Writing • Communication Skills • Organizational Skills • Detail-Oriented • Physical Abilities

According to the Center of Excellence (COE) business list, the largest employers in the public safety sector, by employee count, are San Bernardino County Sheriff’s Department, Riverside County, Cabazon Band of Mission Indians, and West Valley Detention Center.

There are two public safety programs that regional community colleges do not currently offer.

- 2105.20 – Probation and Parole
- 2133.10 – Wildland Fire Technology

Regional community colleges do not provide training for one high-quality occupation: probation officers and correctional treatment specialists. The median hourly earnings for probation officers and correctional treatment specialists is high, and employment is projected to grow by 7% through 2026. Probation officers and correctional treatment specialists are typically trained by community college probation and parole programs (TOP 2105.20).

Exhibit 50. High-quality bachelor’s-degree-level public safety occupation without a regional training program

Bachelor’s-Degree-Level Occupation	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Probation Officers and Correctional Treatment Specialists	1,163	7%	115	\$41.59

Source: Lightcast 22.2



RETAIL, HOSPITALITY, & TOURISM

The retail, hospitality, & tourism sector encompasses lodging, restaurants, retail stores, theme parks, cruise lines, and other tourism services. Retail trade primarily engages in the sale of merchandise, while the hospitality and tourism sector primarily provides services related to lodging, food service, and local attractions. This sector aligns with the CDE hospitality, tourism, and recreation and fashion and interior design sectors.

Fashion and Interior Design

Three of the 12 regional community colleges offer retail, hospitality, & tourism programs related to fashion and interior design, utilizing five program codes.

Programs Offered

- 1302.00 – Interior Design and Merchandising
- 1303.10 – Fashion Design
- 1303.20 – Fashion Merchandising
- 1303.30 – Fashion Production
- 3007.00 – Cosmetology and Barbering

The occupations related to fashion and interior design programs do not meet the high-quality criteria.

The TOP code and title 1303.00-Fashion is the only program code in this sector not currently offered by regional community colleges.

According to O*NET, the following skill is, on average, more important for fashion and interior design occupations in the retail, hospitality, & tourism sector than occupations in other sectors.

- **Operations Analysis:** Analyzing needs and product requirements to create a design.

Hospitality, Tourism, and Recreation

Eight regional community colleges currently offer programs related to hospitality, tourism, and recreation, utilizing eight program codes.

Programs Offered

- 0836.10 – Recreation Assistant
- 1306.00 – Nutrition, Foods, and Culinary Arts
- 1306.20 – Dietetic Services and Management
- 1306.30 – Culinary Arts
- 1307.00 – Hospitality
- 1307.10 – Restaurant and Food Services and Management
- 1307.20 – Lodging Management
- 1307.30 – Resort and Club Management

There are three high-quality occupations align with the hospitality, tourism, and recreation sector. Two occupations require a community college education, and one occupation requires a bachelor's degree.

In 2021, there were nearly 5,900 community-college-level jobs and nearly 900 bachelor's degree-level jobs. Employment for community-college-level jobs is projected to grow by 7%, with nearly 800 annual job openings. Bachelor's-degree-level employment is projected to have more than 100 annual job openings, growing by 10% over the next five years.

Exhibit 51. High-quality community-college-level hospitality, tourism, and recreation occupations related to regional training programs

Community-College-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Food Service Managers	4,713	7%	610	\$23.68
Chefs and Head Cooks	1,153	8%	170	\$25.84

Source: Lightcast 22.2

Exhibit 52. High-quality bachelor’s-degree-level hospitality, tourism, and recreation occupation related to regional training programs

Bachelor’s-Degree-Level Occupations	2021 Jobs	Growth Rate	Annual Job Openings	Median Hourly Earnings
Meeting, Convention, and Event Planners	883	10%	113	\$23.56

Source: Lightcast 22.2

According to O*NET, the following skills are, on average, more important for hospitality, tourism, and recreation occupations in the retail, hospitality, & tourism sector than occupations in other sectors.

- **Management of Material Resources:** Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.
- **Service Orientation:** Actively looking for ways to help people.

High-Quality Hospitality, Tourism, and Recreation Job Advertisements

Over the last 12 months, June 2021 through May 2022, nearly 6,300 job ads were posted for high-quality hospitality, tourism, and recreation occupations in the retail, hospitality, & tourism sector. Approximately 82% of ads were posted for food service managers. Between 2016 and 2021, ads for these occupations increased by 88%. Below are highlights from a high-quality hospitality, tourism, and recreation job ad search.

<p>Employers Posting the Most Ads</p> <ul style="list-style-type: none"> • Jack in the Box • Del Taco • Taco Bell • Raising Cane’s • Domino’s Pizza 	<p>Most Common Job Titles</p> <ul style="list-style-type: none"> • General Manager • Assistant Manager • Shift Manager • Restaurant Manager • Team Manager
<p>Frequently Sought Specialized Skills</p> <ul style="list-style-type: none"> • Restaurant Management • Scheduling • Guest Services • Food Safety • Staff Management 	<p>Frequently Sought Soft Skills</p> <ul style="list-style-type: none"> • Communication Skills • Physical Abilities • Teamwork/Collaboration • Problem Solving • Organizational Skills

According to the Center of Excellence (COE) business list, the largest employers in the hospitality, tourism, and recreation sector, by employee count, are Fantasy Springs Resort Casino, Mountain High Ski Resort, Big Bear Mountain Resort, Agua Caliente Resort and Spa, and Yaamava’ Resort and Casino at San Manuel.

There are three hospitality, tourism, and recreation programs that regional community colleges do not currently offer. However, these programs do not train for additional occupations that meet the high-demand and high-wage criteria for high-quality employment opportunities.

- 0959.10 – Diving and Underwater Safety
- 3009.00 – Travel Services and Tourism
- 3020.40 – Flight Attendant

SUMMARY OF REGIONAL FINDINGS AND RECOMMENDATIONS

Key findings

The Inland Empire/Desert Region is a vast area served by 12 community colleges dedicated to closing the employment gap between our students and employers. An effective community college educational system, providing community-college-level skills training, is critical to serving our diverse population and playing to the strengths of regional industry employment needs and composition.

In 2021, the region contained about 4.7 million residents or approximately 12% of California's total population. By 2026, the region's population is projected to increase by 3.9%, adding about 183,000 additional residents. Regional growth is projected to outpace state and national growth, which are projected to grow by 0.1% and 2.6%, respectively.

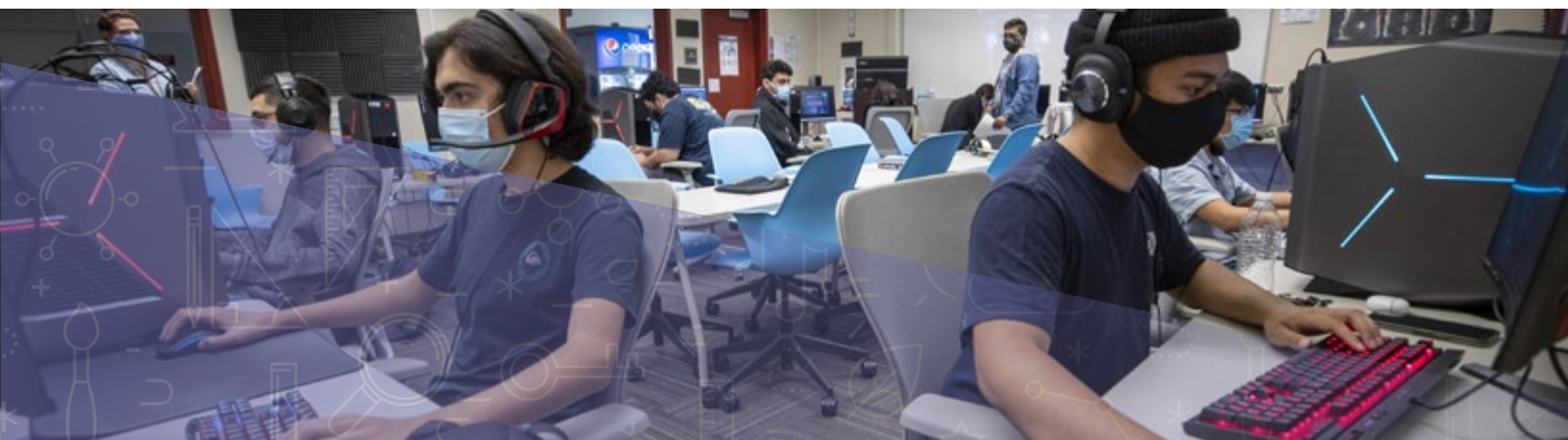
Residents aged 65 years and older are the fastest-growing population age group in the region, increasing by 19% over the next five years, adding nearly 127,000 residents. This age group's projected rapid increase may indicate an increased need for health care services and demand for leisure activities. The region's working-age population, residents aged 25-to-64, comprised 51% of the region's population in 2021. Over the next five years, this group is expected to gain about 71,700 residents, expanding by 3%.

The cohort of younger residents, aged 10-to-14, typically representing enrollments for the community colleges in the next five to ten years, is projected to shrink by 1% by 2026. The 15-to-19 age group, representing high school students and recent graduates, accounts for just over 7% of the 2021 population and is projected to increase by 3% over the next five years. Targeted outreach about the community colleges' program offerings to the local K-12 education system may be essential to maintaining or expanding future student enrollments.

Approximately 45% of regional residents have a high school diploma or less, a 9% higher share than the state. This may indicate an opportunity for more career education program (CE) outreach to increase regional educational attainment. The region also has a greater share of residents with a community college education (33%, some college but no degree, or an associate degree) than California (29%). The region has a smaller share of residents with a bachelor's degree or higher, 22%, compared to 35% in California. Reiterating that the region's postsecondary institutions have an overall opportunity to boost educational attainment beyond a high school diploma, thus increasing access to more jobs and higher wage opportunities.

Inland Empire/Desert community colleges currently offer programs that fall into each of the 10 CCCCCO sectors. In 2021, regional programs prepared students for employment in nearly 393,400 high-quality jobs, of which approximately 64% (253,400 jobs) were community-college-level. The high-quality occupations trained by regional community college programs are projected to have nearly 27,100 annual job openings in the region. Through the expansion of program offerings, regional community colleges may prepare students for an additional 8,500 annual job openings.

The regional community colleges provide an assortment of career education training and program offerings that address projected high-quality employment demand through 2026. However, regional community colleges have the opportunity to develop new programs





Recommendations

There are multiple employment opportunities in the region with CE training requirements not currently addressed by existing programs. Furthermore, colleges may expand current program offerings related to several sectors to address the projected employment demand for more workers. The region is projected to have nearly 91,300 community-college-level annual job openings over the next five years. Community colleges will continue to have several avenues available to close the employment gap between our students and employers.

The recommendations in this assessment are broad, and opportunities for program expansion at the subregional level may exist, which are otherwise overshadowed by the greater regional demand. Examples of CCCCCO sectors that warrant further exploration to determine if it is appropriate for colleges to develop new programs include:

- Advanced transportation & logistics
- Energy, construction, & utilities
- Business & entrepreneurship

The advanced transportation & logistics sector will experience strong employment demand over the next five years. Transportation and warehousing employers are projected to add more than 41,100 jobs over the next five years, growing employment by 20.3%. Many of the job openings in this sector are for heavy and tractor-trailer truck drivers (4,978 annual job openings).

Besides truck driving jobs, the colleges may choose to develop logistics and warehousing programs that prepare students for supervisor and manager positions. Logistics and warehousing workers with years of experience in the industry may benefit from a community college program that boosts their leadership skills and opens them to advanced career opportunities.

- First-line supervisors of transportation and material moving workers, except aircraft cargo handling supervisors, 1,472 annual job openings, \$28.42 median hourly
- Transportation, storage, and distribution managers, 310 annual job openings, \$44.44 median hourly

Energy, construction, & utilities is a sector that regional colleges may want to focus on for further program development, particularly in the construction industry. Regional employers in the construction industry are projected to add nearly 9,400 jobs (representing 6.6% growth) over the next five years. High-quality community-college-level occupations without training programs include:

- Carpenters, 2,116 annual job openings, \$23.81 median hourly earnings
- Plumbers, pipefitters, and steamfitters, 757 annual job openings, \$26.40 median hourly earnings
- Structural iron and steel workers, 227 annual job openings, \$33.47 median hourly earnings
- Sheet metal workers, 177 annual job openings, \$27.25 median hourly earnings
- Glaziers, 124 annual job openings, \$24.62 median hourly earnings

Regional colleges and trade unions representing occupations may consider developing a training partnership to collaboratively address the high demand for these occupations.

Lastly, the business and entrepreneurship sector may consider adding training programs that lead to the high-quality claims adjusters, examiners, and investigators occupation. This occupation provides a \$38.95 median hourly rate and is projected to have 121 annual job openings.

The business and entrepreneurship sector contains training related to several community-college-level and bachelor's-degree-level occupations that may find employment in nearly every industry sector to support business operations. The community college may also consider partnering with the local four-year universities to develop transfer pathways to bachelor's degree attainment.

In addition, the community colleges are strategically positioned to partner with local high schools' career education pathways to develop dual enrollment agreements or paths to continue CE training and provide access to higher-earning community college-level jobs.

Further research may determine if programs exist at nearby for-profit proprietary schools or other avenues. A conversation with regional employers may reveal the potential need for program expansion or reveal emerging technologies or skills gaps not addressed by current offerings.



MORE ABOUT THE CENTERS OF EXCELLENCE

The Centers of Excellence (COE) for Labor Market Research deliver regional workforce research and technical expertise to California Community Colleges for program decision making and resource development. This information has proven valuable to colleges in beginning, revising, or updating economic development and Career Education (CE) programs, strengthening grant applications, assisting in the accreditation process, and in supporting strategic planning efforts.

The Centers of Excellence Initiative is funded in part by the Chancellor's Office, California Community Colleges, Economic and Workforce Development Program. The Centers aspire to be the leading source of regional workforce information and insight for California Community Colleges. More information about the Centers of Excellence is available at www.coecc.net.

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Special thanks to Interact Marketing for access to their regional community college photo catalog.



CAEP Integrated Education and Training in CA Research Brief

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Integrated Education and Training (IET) in California: Voices from the Field

Introduction: IET in California

For the state's 4.5 million adults with limited English proficiency and 4.2 million adults without a high school diploma, the California Adult Education Program (CAEP) offers basic skill-building opportunities, as well as bridges into postsecondary education, living wage jobs, and career advancement. Integrated education and training (IET) is among the strategies adopted by adult schools and community colleges to both build adults' basic skills and accelerate pathways to higher education and careers. IET has been implemented in California for over a decade and since 2014 is codified in the federal Workforce Innovation and Opportunity Act (WIOA), Title II: Adult Education and Family Literacy Act (AEFLA).¹

What is IET? The California Department of Education (CDE) promotes an IET framework that integrates the delivery of (a) adult education and literacy activities, such as English-as-a-second-language, adult basic education, or high school diploma/high school equivalency classes, (b) workforce preparation activities, addressing employability skills such as critical thinking, digital literacy, and self-management,² and (c) workforce training activities for a specific occupation or occupational cluster.³ IET's three components are provided concurrently (rather than sequentially) as well as contextually (through integration), and they must be part of a career pathway that furthers the student's educational and career advancement.⁴ For the student, then, IET's basic skills learning takes place in the context of a selected career interest, using materials that are relevant to that industry and applying class content to real world challenges.

IET is based on adult learning theory and has been demonstrated through rigorous evaluation to impact college credential attainment, employment, and earnings outcomes.⁵ Critical elements of high-quality IET programs have emerged through practice, are described in WIOA, and in California are emphasized in technical assistance delivered by the California Adult Literacy Professional Development Project (CALPRO) on behalf of CDE (see sidebar). These key elements include:

1. Strong collaboration among partnering workforce agencies, administrators, instructors, counselors, and staff during IET program planning, development, implementation, and on-going program assessment.

¹ Final Workforce Innovation and Opportunity Act (WIOA) regulations, 34 CFR §463.35

² For English as a Second Language students enrolled in WIOA, Title II-funded programs, workforce preparation includes instruction and assessment in a career related COAAP (Civic Objective and Additional Assessment Plan).

³ See WIOA §463.30, §463.34, and 134(c)(3)(D)

⁴ See WIOA 29 U.S.C. § 3102 for career pathway definition.

⁵ Martinson, K. et al. (2021) Washington State's Integrated Basic Education and Skills Training (I-BEST) Program: Three-Year Impact Report. Office of Planning, Research, and Evaluation (OPRE) Report 2021-102. Washington, DC: OPRE, Administration for Children and Families (ACF), U.S. Department of Health and Human Services.

2. Responsiveness to both student interests and employer needs as evidenced by local/regional research, promoting graduates' advancement along a pathway to quality jobs

Supporting IET Quality and Rigor in California

IET is a priority of the California Department of Education (CDE), Adult Education Office, and of the California Community College Chancellor's Office (CCCCO). One hundred and twelve educational agencies in California are allocated more than \$15 million in WIOA Title II Section 243 funds to implement English literacy and civics education programs in combination with IET — known as Integrated English Literacy and Civics Education (IELCE) — and IET appears in a growing number of California Adult Education Program (CAEP) consortia's three-year and annual plans. Although not all IET programs benefit from WIOA funding, CDE promotes adherence to the WIOA definition of IET and has invested in building practitioners' IET capacity. The California Adult Literacy Professional Development Project (CALPRO, a project conducted by the American Institutes for Research on behalf of CDE) produced IET-related professional development videos and launched an IET Regional Communities of Practice in 2012, issued a research brief on IET in 2017, and conducts twice-annual IET Implementation Clinics. CASAS (Comprehensive Adult Student Education Systems) supports IET implementation in California through a system of IELCE assessment and reporting using Civic Objectives and Additional Assessment Plans (COAAPs), which are task-based assessments of how well a learner can interact with or access the community.

and careers.

3. Alignment of curriculum across adult education, workforce preparation, and workforce training activities so that each is:
 - a. Of sufficient intensity and quality.
 - b. Based on the most rigorous research available, particularly with respect to improving reading, writing, mathematics, and English proficiency.
 - c. Simultaneously occurring within the overall scope of the IET program.
 - d. Using occupationally relevant instructional materials.⁶

⁶ See the U.S. Department of Education's IET Design Guide, page 8:
<https://www.oregon.gov/highered/institutions-programs/ccwd/SiteAssets/Pages/abs-resources/IET-Toolkit-508%20Sept2021.pdf>

4. A single set of learning objectives agreed upon by adult education, workforce preparation, and workforce training providers.
5. Delivery of integrated instruction according to one of two⁷ California team-teaching models⁸:
 - a. Co-teaching, which involves basic skills and career education instructors teaching together in the same classroom or virtual space at least some of the time. (Often instructors in this model also teach some of the time in separate but concurrent classes.)
 - b. Alternating teaching, which involves basic skills and career
 - c. education instructors in separate classrooms or virtual spaces, teaching separate classes, but co-designing, co-planning, and coordinating ongoing instruction to further common contextualized learning objectives.
6. Integration of wraparound student support services, which may include orientations, counseling to address barriers to education and work, academic tutoring, transition navigation counseling, and other services.
7. Provision of career guidance, job counseling, and job placement assistance designed to help students secure employment in their field of study.

IET is an evidence-based educational approach that could benefit more of California’s adult learners than it does currently. In 2020-2021, CDE awarded WIOA Title II Section 243 funding to 112 agencies to provide IELCE programs, which enrolled 14,627 learners, or 2,000 in IELCE-funded IET programs. Outcome data for these IELCE-IET programs shows that more than 90 percent of those who took performance-based additional assessments achieved a COAAP. How can high-quality IET programs be scaled to reach more students, with subsequent benefits for the state’s economic vitality? How can IET help adult educators realize goals related to the inclusion of adult basic skills students on high-quality career education pathways? Are there lessons to be learned from those who have designed and led IET programs across the state? Are there funding models — including but not limited to those using WIOA Title II funds — that can support high-quality IET programs? These questions prompted this brief.

Listening to California’s IET Leaders: Purpose and Methods

The CAEP Technical Assistance Project (TAP) contracted with High Road Alliance (HRA) to listen to adult education practitioners about their experiences leading, building, and delivering IET programs, to glean lessons for the future of IET in California. In March through May 2022, HRA conducted thirteen interviews with program leaders (including consortium leads, school principals, community college deans, other program administrators, and instructors) and five virtual “listening sessions” on IET topics, engaging 47 practitioners. Interviewees were identified by CAEP, CDE, and CASAS as IET leaders. (The interview protocol is included in Appendix A.) The listening sessions were announced in the CAEP newsletter, on the CAEP website, on social media, and in email communications sent to CAEP

⁷ Note that a 3rd and rarer instructional configuration involves one instructor with the required credentials teaching both the occupational skills and adult education content, either in virtual or physical spaces.

⁸ <https://calpro-online.org/documents/CALPRO2017Brief-IET-508.pdf>

consortium directors. (The content of these announcements is included in Appendix B.) CAEP TAP and HRA also convened four meetings of an advisory group composed of representatives of CDE, CCCCCO, CASAS, CALPRO, and several adult education consortia, who contributed expertise to the framing of the brief, the key questions explored in interviews, and the themes and recommendations that emerged.

In all, interviews and listening sessions engaged 27 providers of California IET programs, representative of a diversity of program structures, partnerships, industry sectors, and funding models. Of these programs, 21 involved an adult school, 13 involved a community college, and 7 involved both these entities in program delivery. Nineteen of the providers used WIOA Title II Section 243 - IELCE funding to deliver IET programs. Among the eight providers who did not use IELCE funding, two had used it in the past but transitioned to use of CAEP funds for IET delivery; two received very small IELCE grants and were still exploring avenues to use them; three received no IELCE funding and found alternative ways to resource IET (such as CAEP and community college apportionment funding, for example); and one used an IET approach to deliver courses paid for by employers. (Several other adult education practitioners participated in listening sessions not to share their own experiences but to hear from more experienced peers, because they were new to IET.)

Due in large part to the predominant use of IELCE funds, interview and listening session participants generally described programs that aspired to meet IELCE requirements and to incorporate the elements of effective IELCE programs promoted by CDE. The IET activities described in this brief reflect this context, providing examples of IELCE in practice. For a variety of reasons, however, this brief also captures stories of IET programs along a continuum of full implementation, including programs that veer from the recommended IET models. The intent of this brief is to capture these voices from the field, highlighting the ways in which practitioners are fulfilling the intent of WIOA and CDE, as well as the ways they are innovating and adapting in response to local contexts.

Participants in interviews and listening sessions were invited to share strategies related to the following topics:

1. Overcoming obstacles and garnering support for IET at an institution or consortium
2. Adult education/community college collaboration for IET delivery
3. Funding and sustaining IET programs
4. Supporting and building the capacity of IET personnel
5. Supporting the enrollment and retention of students in IET
6. Connecting IET students to work or further training

This brief begins with a summary of the reasons providers offer IET, followed by an overview of the diversity of program structures, partnerships, occupations, and funding models seen among the providers who participated. The following section describes themes and promising practices that were heard during the interviews and listening sessions, related to each of the topics above. The brief concludes with recommendations drawn from the interviews and listening sessions to sustain and scale high-quality IET programs in California.

Why IET?

Interview and listening session participants articulated a large need that IET can address: to connect students with limited basic skills to quality jobs and careers. Some described hearing this need through community surveys, where lower-level students expressed wanting to move into careers and described language as a barrier to education and work. Others heard the need from employers who had difficulty hiring qualified workers, or who suggested the need for English as a Second Language (ESL) and career technical education (CTE) classes among their employees. Adult education administrators and teachers also saw a need for IET among students whose English levels prevented them from entering CTE programs, or who enrolled in CTE and did not succeed.

Four themes emerged in practitioners' descriptions of why they pursue IET:

- IET is an *equity* strategy. By designing and delivering IET programs, adult educators intentionally remove historical barriers to in-demand employment and training for adults who otherwise might not meet educational prerequisites or skills qualifications, and who may benefit from support services on their path to a credential or degree.
- IET is a *transition* strategy, supporting adult education students' entry into community college and advancement to college-level and career-oriented coursework.
- IET is an *acceleration* strategy in providing adult learners more rapid access to career education, college credit classes, and industry credentials through delivery of contextualized or linked basic skills instruction, elimination of prerequisites, and shortening of course sequences.
- IET is a *workforce and economic development* strategy, fueling the growth of industries that drive our state's economy... with a deliberate focus on inclusion and access for adult education students.

As central as IET is to the mission and purpose of adult education, it is not achieved without significant effort. It is collaborative by design, spans traditional boundaries between disciplines and institutions, and requires deep levels of trust and understanding among its partners. It demands the investment of resources in program planning, design, and professional development, often over an extended period of experimentation and adjustment. Alignment with CDE-approved program models and identification of sustainable funding invites innovation. Practitioners described this effort as worthwhile and challenging; indeed, for many, the "why?" of IET drives a creative problem-solving approach to making it work.

California's Diversity of IET Program Structures, Partnerships, Occupations, and Funding Models

Program Structures

Interview and listening session participants described a diversity of approaches to structuring their integrated instructional components. Two specific team-teaching models — *co-teaching* and *alternating teaching* — are allowable under California’s IELCE program. In either model, programs have various ways of scheduling and coordinating classes and instructional hours, and in the co-teaching model this includes varying degrees of teaching at the same time and in the same physical or virtual space.⁹ A co-teaching model – with basic skills and CTE teachers sharing some classroom hours – was described by only four providers; four others began their iterative IET design process with co-teaching, then backed away from the model due to cost, scheduling, personnel, or enrollment challenges. A few providers described wanting to arrive at a sustainable co-teaching structure but are struggling to find a way under current funding. Several were exploring solutions that did not meet IET requirements but brought some of their benefits to students; for example, questions were raised regarding use of a “professional expert” to bring industry expertise into the basic skills classroom, recognizing that this non-credentialed individual could not serve as a teacher of record and the program could not enroll students in a CTE course.

The approach described most often by IET leaders involves CTE and contextualized basic skills courses linked in the alternating teaching model, with both teachers dedicating time to collaborative instructional design and addressing students’ needs comprehensively. The basic skills courses varied in the level of contextualization to a specific occupation or industry: some involved deeply collaborative curriculum design based on a single CTE teacher’s guidance and instruction, while others (due to enrollment levels) supported IET students enrolled in several different CTE programs with less specific reference to CTE content. Some programs use the IET alternating teaching approach to enroll basic skills students in a general career exploration course, which may be the first step on a career pathway. During the COVID-19 pandemic, many IET programs adapted to deliver alternating teaching online, with some of those interviewed making use of online platforms through EnGen or Burlington English, for example, to supplement teacher-led ESL or CTE classes. The intensity of students’ participation in the alternating teaching model varied, since some did not elect to enroll in both the linked classes, or they enrolled in both but did not attend ESL classes as consistently as CTE classes.

A more unusual structure was described by several interviewees in which “one instructor with the required credentials for teaching both the occupational skills and adult education content delivers the instruction 100 percent of the time, either in virtual or physical spaces.”¹⁰ This was achieved by one adult school whose ESL teacher pursued two CTE credentials to offer the benefits of IET to her students. In other cases, this structure was not fully achieved, but creative efforts to deliver on it were pursued. For example, one CTE teacher, absent an ESL teacher in the classroom, enrolled in a short-term teaching-English-as-a-second-language program to better support his students. The clear benefits of this light-touch integration — and its limitations — suggest the need for further guidance and support

⁹ See page 37 of the IET Design Toolkit: <https://www.oregon.gov/highered/institutions-programs/ccwd/SiteAssets/Pages/abs-resources/IET-Toolkit-508%20Sept2021.pdf>

¹⁰ IET Design Toolkit, page 37.

for practitioners willing to innovate to address students' basic skills and career education needs comprehensively.

Education Provider Partners

Interview and listening sessions participants described a variety of partnership approaches to IET delivery, each involving at least an adult school or a community college, and many involving both. Although a national study conducted in 2017 found only 13% of participating IET providers to be local school districts' adult education programs,¹¹ adult school-based models are prevalent in California because they receive the majority of WIOA, Title II and CAEP funds to serve these learners. The involvement of community colleges in IET was influenced by the size of their noncredit (adult education) basic skills and CTE programs, as well as by the depth of their collaboration with neighboring adult schools. Some adult schools described difficulty securing the interest of community college partners in supporting programs for students the college considered not college-ready, or in expanding noncredit offerings; while some community colleges described a lack of capacity among their adult school partners to align with career pathways. Some mentioned a desire to collaborate, both for students' benefit (i.e., easing transition to postsecondary) and to leverage additional resources across education systems. A benefit described by some collaborative adult school/community college programs was the ability to offer in-person courses flexibly at either campus; for example, one adult school invited its nearby college's Personal Care Assistant program to take place at the adult school, next door to the ESL classroom where students were already comfortable. In another case, the college CTE class offered at the adult school was taught by an adult school teacher whose CTE credential meant she could be hired by the college.

A few of those interviewed described partnerships with local workforce development boards, community-based organizations, or private training providers, in addition to core education provider partners. For example, one adult school's ESL program in the local jail established a team-teaching agreement with a Custodial CTE program offered by a private training provider contracted by the school. Several robust IET programs partnered with CBOs to provide wraparound support to students — and often utilized flexible grant funding for service delivery. And as discussed below in relation to facilitating students' transition to employment, strong IET programs described partnerships with employers and with WIOA Title I-funded local workforce development boards (LWDBs).

Industries and Occupations

Table 1 shows the great diversity of IET industries and occupations described by interview and listening session participants. The highest number of IET programs were mentioned in Personal Care Giver, followed by Early Childhood Education and Introduction to Healthcare. (The 2017 CLASP study of IET programs nationally found over half of providers offered IET training leading to a Certified Nursing

¹¹ Mortrude, J. (2017) Integrated Education and Training: A Career Pathways Policy and Practice. Washington, DC: CLASP. Available at: <https://www.clasp.org/sites/default/files/public/resources-and-publications/publication-1/Integrated-Education-and-Training-A-Career-Pathways-Policy-Practice.pdf>

Assistant (CNA) credential, and a third offered programs in welder, medical assistant, and office specialist occupations.¹²⁾ Other IET programs span a wide range of industries, reflective of regional economies and program capacities. As noted above, most of these programs were funded with IELCE dollars and thus enrolled English language learners seeking employment in these industries.

Table 1. IET Industries and Occupations

Industry	IET Occupations
Healthcare	<ul style="list-style-type: none"> ● Personal Care Assistant/Home Care Assistant (7) ● Introduction to Healthcare/Medical Terminology (4) ● Pharmacy Technician (3) ● Behavioral Health (1)
Business	<ul style="list-style-type: none"> ● General Office Clerk (2) ● Banking (2) ● Workforce Digital Skills (2) ● Business Technical Skills/Communications (2) ● Digital Media (1) ● QuickBooks (1) ● Entrepreneurship (1)
Manufacturing and Skilled Trades	<ul style="list-style-type: none"> ● Automotive (3) ● Construction (2) ● Manufacturing/Precision Machining (2) ● AutoCAD (1) ● Trades Technician (1) ● Industrial Refrigeration (1)
Service	<ul style="list-style-type: none"> ● Custodial (3) ● Hospitality/Food Service/Culinary (2)
Education	<ul style="list-style-type: none"> ● Early Childhood Education (5) ● Parent Educator/Para-educator (2)
Agriculture	<ul style="list-style-type: none"> ● Farmworker (1) ● Horticulture (1)

Funding Models

¹² Ibid.

As appears to be true nationally,¹³ IELCE allocations under WIOA, Title II Section 243 are the most common source of dedicated IET funding in California. This has largely driven the focus on IET that is for English language learners, provides ESL instruction, and is delivered by credentialed ESL and CTE teachers through adult schools and community college adult education divisions. Because of its requirements and because IELCE rarely covers all costs of IET design and delivery, California providers have devised a plethora of creative approaches to funding IET, as shown in Table 2. [Not all of the models described below are currently in practice, since some practitioners described previous approaches.]

Table 2. IET Funding Models

	Basic Skills	Career Education
Alternating Teaching	WIOA, Title II - Section 243	CAEP
	WIOA, Title II – blend of 231/243 on days of general/contextualized ESL	CAEP
	WIOA, Title II- Section 243 and CAEP and adult school general funds	CAEP and adult school general funds
	WIOA, Title II- Section 243	Community college apportionment (FTES) or Career Development and College Preparation (CDCP) funds
	WIOA, Title II- Section 243 or CAEP	College Basic Aid
	WIOA, Title II- Section 243 and CAEP	Community college Full-Time Equivalent Students (FTES)
	WIOA, Title II- Section 243	Private grant through community partner
	CAEP and adult school general funds	WIOA, Title I Individual Training Accounts (ITAs)

13 The 2017 CLASP study found that nearly three-quarters of respondents were implementing or planning IET using Integrated English Language and Civics Education (IELCE), WIOA Section 243 funds.

	FTES	FTES
	FTES and WIOA, Title II- Section 243	FTES
	Contract education*	Contract education
Co-teaching	WIOA, Title II - Section 243	CAEP
	CAEP	FTES
	WIOA II- Section 243 or CAEP, with overlapping co-teaching hours "donated"	CAEP
	Apprenticeship Related Supplemental Instruction (RSI) - adult school	Apprenticeship RSI - college
	CAEP*	Private grant funding for a non-credentialed second ESL teacher/industry professional
	Contract education*	Contract education
	CAEP or FTES*	College funds for non-instructional "professional expert"
	Single Class	WIOA, Title II- Section 243 or CAEP (Single teacher class taught by ESL teacher with CTE credential)
Contract education (Single teacher class taught by bilingual CTE teacher who has completed short-term VESL training) *		

* Note that these IET approaches would not be eligible to receive WIOA, Title II - Section 243 funding.

Keys to implementing IET

Interview and listening session participants shared success stories and promising practices, as well as challenges related to designing and implementing IET programs. The following section describes themes that emerged from practitioners' stories and that could inform future directions for IET in California. An overarching theme of this section is the creativity with which California's IET leaders are uncovering the potential of IET, embracing IET requirements and adapting key elements to local contexts and working to address the persistent needs IET can solve.

Keys to implementing IET that were raised by interviewees are discussed here in the following areas:

1. Collaborative partnerships
3. Teacher recruitment and training
4. Student recruitment and enrollment
5. Retention support
6. Support services to connect students to work
7. Support services to connect students to further training

(1) Collaborative partnerships

A point expressed by many who shared their stories is that successful IET programs challenge the boundaries of traditional educational system structures in California. At a single adult school or college, IET can bring basic skills and CTE instructors together to address students' needs holistically. IET can also span adult education and post-secondary education systems, overcoming bureaucratic barriers to collaboration and bridging the gap between institutions. This collaboration requires trust, understanding and an open mind... and potentially allows students to reap the benefits of all partners.

Building and supporting IET programs is not easy work and may take years to yield results. As one administrator expressed in an interview, "A lot of effort goes into having the IET connections happen at all." Interviewees spoke about the sometimes-difficult paths to establishing trust and commitment to IET across institutions; for example, one adult school met resistance to pairing its ESL class with a CTE class at a college that itself offered ESL. Also, navigating the complexities of IET design can uncover any number of technical challenges, such as scheduling instructional and planning hours, securing new college course approvals, managing student eligibility under multiple programs, and ensuring minimum class sizes. IET program personnel who overcame these barriers said a key to lasting success is effective and on-going collaboration. This involved having determined champions, conducting advocacy and relationship-building to establish understanding and buy-in, defining clear roles across partners, holding regular meetings, and maintaining open communication, and establishing a shared vision and goals. Several interviewees described the importance of leaders who value cross-system collaboration, and of staff positions dedicated to sustaining partnerships and carrying out the vision. "It comes down to individual relationships with people," said one adult school principal.

Mt. Diablo Adult Education and Diablo Valley College (DVC) began offering IET twelve years ago to prepare English learners who would not otherwise have sought out postsecondary education for success in the DVC Early Childhood Education Certificate Program. Although personnel have changed over the years, the steady leadership of the program's Steering Committee has helped weather transitions. Each month, the Steering Committee convenes college and adult school teachers, along with coordinators/administrators from both institutions who hold the big picture vision and decision-making authority needed to sustain the program. When teachers have needed support — or when they have raised concerns about student needs — the Steering Committee has sought solutions. And when a critical private grant came to an end, the Steering Committee identified alternative funding so the program continued uninterrupted.

Numerous examples were given of the power of the *adult education consortium* to realize the IET vision. For the past six years, California has invested in a consortium structure that distributes funding and incentivizes planning and reporting of adult education activities at the regional level. In regions where the consortium has established collaborative structures to facilitate student transitions — for example, by funding transition specialists, establishing articulated career pathways, co-locating classes and services, and enabling dual enrollment — IET programs were also facilitated. For example, one administrator described how IET programs helped the consortium to further a shared goal to “enroll students in both adult school and community college courses, coordinate, and co-teach. More programs want this cross-system experience for students in adult education, so they can have an opportunity to explore careers, decide if they want to pursue them, and eventually get to credit certificates and degrees.”

The South Bay Consortium for Adult Education (SBCAE), a coalition of five adult schools and two community college districts, offers an Early Childhood Education IET program that demonstrates a highly collaborative adult school/college approach to integrated instruction and services. Students who are English learners and aspire to a teacher assistant certificate learn about the program through Campbell Adult and Community Education or Mission College. Following an orientation meeting with transition specialists from both the adult school and the college, students receive assistance to enroll in both institutions: in contextualized ESL for Childcare courses at the appropriate level, and in two semesters of credit-bearing Child Development classes in preparation for a preliminary childcare permit. The courses share a single set of learning objectives, and the ESL teacher participated in Child Development courses to align curriculum. Students receive on-going support from the transition specialists, guiding them toward the permit and continuing college education. Keys to success? Program staff say locating college classes at the adult school campus, investing in top-quality integrated curriculum development, and fostering a deep understanding of the roles of each collaborator have paid off and will nurture the future growth of IET across the consortium.

Strong IET programs exist within the walls of a single institution; in fact, twenty of the participants in interviews and listening sessions described programs delivered by either an adult school or a community college that they believed fulfilled IET objectives. Several of these involved community colleges with

strong noncredit divisions, where IET facilitated transition from adult education to postsecondary, credit-bearing classes within the college. In adult schools, IET programs sometimes leveraged a school's internal CTE capacity. Single-institution programs identify barriers to cross-system collaboration in the distance between campuses, differences between calendars (course start/end dates, semesters vs. trimesters), and uncertainty or confusion about how collaborative funding and reporting could work. College IET programs are unlikely to reach students with basic skills levels as low as the adult schools, but they benefit from different funding streams than the adult schools' and may face fewer barriers to hiring CTE teachers. Programs offered entirely by an adult school bring the benefits of CTE directly to their basic skills students; however, these programs may be harder to sustain financially than those fueled by college apportionment funding, and they may have more difficulty connecting IET graduates to continued career education and stackable credentials.

(2) Teacher recruitment and training

The *people* behind IET make it work: teachers, counselors, coordinators, and organizational leaders. Their individual assets, woven together in collaboration, are at the heart of the approach. Interview and listening session participants spoke about their challenges and successes identifying IET team members and ensuring they received training and support to deliver quality IET programming.

A recurring theme was the challenge of IET teacher recruitment. Several interviewees at adult schools spoke about difficulties hiring and retaining teachers (especially teachers with CTE credentials) due in part to the higher wages offered to community college teachers – not to mention professionals employed in their CTE field – and to the credential requirement at adult schools. Even adult schools and colleges with good numbers of existing basic skills and CTE teachers described the challenge of assembling an IET team. Reasons given for this include:

- the extra time required for teachers to prepare IET curriculum and lesson plans (and, in some cases, a lack of resources to pay teachers for this extra time)
- logistical demands of offering IET classes at coordinated times and locations
- teachers' reluctance to yield control of curriculum and instruction in a co-teaching environment
- limited understanding of or commitment to IET, or
- personality differences that affect teacher collaboration.

Lack of a qualified teacher can limit a program's growth or lead to its end. But in some cases, providers found creative solutions to establishing their IET teacher team. For example, one IELCE-funded institution started a teacher recruitment task force to bring attention to the issue. Another supported its basic skills instructor's pursuit of CTE credentials, permitting her to deliver IET instruction in a single course. Several institutions identified alternatives to IELCE funding that permitted greater flexibility in teacher hiring: one engaged employers to pay for contract education, and several hired "professional experts" from industry to assist in the basic skills classroom — approaches that demonstrate resourcefulness in integrating basic skills and workforce training but may compromise the quality provided by two credentialed teachers.

Pleasanton Adult and Career Education collaborated with other local organizations to design a successful team-teaching arrangement for its Adults with Disabilities (AWD) program that leveraged adult education, community college, and community-based organization (CBO) resources. Young adults with moderate disabilities enrolled in a college course, Adaptive Horticulture, to learn about gardening and prepare for work-based learning at the farm of a CBO partner. The adult school hired a credentialed K-12 Special Education teacher to collaborate on curriculum development and co-teach in the Horticulture classroom. So, while the program structure does not meet California's IELCE requirement of serving ESL students, it brings the benefits of teacher collaboration and co-teaching to a high-need, adult student population.

IET instruction requires specialized skills and experience, and the importance of teacher professional development was well recognized by interviewees. CALPRO's IET implementation clinic is a valued and sought-after resource. IET providers also deliver their own training and support. One district has developed a 15-hour IET training over three sessions, where teacher teams learn about co-teaching, practice it, and plan their own IET courses. Some providers arrange for CTE and basic skills teachers to cross-train each other, or to sit in on each other's classes. In a few examples, a teacher pursued additional training so that they could teach both basic skills and career education, or to further curriculum integration in their classroom. For example, one Spanish-bilingual Automotive instructor completed a two-day training on VESL methodology to better support the development of his students' English skills. At one adult school, an ESL teacher pursued teaching credentials in Business and Early Childhood Education to facilitate her own IET instruction.

San Diego College of Continuing Education (part of the San Diego Community College District) used flexible Strong Workforce Program dollars to lay the groundwork for robust instructor collaboration in its Automotive IET program. First, the Auto teacher spent 20 hours training the ESL teacher in the technical content covered in the department's introductory CTE course. This created a space for dialogue about the math and language skills necessary for success in the course. Each teacher also spent time in the other's classroom, observing student-teacher interaction and noting opportunities to integrate instruction. The pair then developed curriculum for pre-taught ESL and co-taught Automotive classes. "It's important to make the commitment to work together for more than a semester," said the ESL teacher. "Make the commitment to the faculty team, to learning your own material and the best way to compliment your partner." As student needs for math support emerged, the CTE instructor was able to follow a similar approach with a new Adult Basic Education instructor partner.

IET partners' considerable investment in professional development has not been without risk. High teacher turnover can mean that trained teachers move on, requiring a program to start over to recruit and train its team. One program dedicated resources to teacher training for a program that then didn't generate student interest and enrollment. "We paid a lot to have instructors shadow," said the program administrator, "for low results." Examples like this underscore the importance of student needs assessment, to confirm interest and readiness before a program begins. They also suggest the value in building the capacity of an entire IET team, inclusive not only of instructors, but also of institutional

leaders, administrators, counselors, front desk staff, and data coordinators, who share the commitment to IET and can together adjust and adapt as programs grow.

Many interviewees emphasized that paid time for teacher collaboration – both initially and throughout a course – is essential to IET programs. Successful programs paid teachers to review lesson plans and to raise and address student challenges together. Some programs emphasized the benefits of including administrators or advisors in these meetings, while others reserved the space for teachers. What were described as the outcomes of this time together? In a co-teaching environment, teacher prep was said to be critical to establishing "equal footing" between the CTE and ESL teachers, so that lessons drew from both teachers' expertise and demonstrated to students the interrelated nature of content areas. In an alternating teaching setting, interviewees described teacher collaboration as equally important to the contextualization of language instruction and support for students' success in CTE courses, as teachers heard from each other how best to "link " what they delivered to what the student experienced in paired classes. Said one administrator, "When grant funding ended, we considered creating a manual to remove the need for teacher collaboration but decided there is no alternative to teachers collaborating." In fact, one community college described teacher collaboration as a cost-saving measure, as it allowed for effective alternating teaching in place of more resource-intensive co-teaching. Only one of the interviewees described no need for teacher collaboration time: their ESL teacher took an entire sequence of CTE courses and developed a customized, contextualized ESL curriculum, which is now offered as a separate but linked class. Challenges mentioned related to teacher collaboration included coordinating schedules and covering costs, particularly for adult school teachers with maximum hour limitations.

Baldwin Park Adult School launched its IET programs using ESL co-teaching in CTE classes that enrolled both ESL and non-ESL students, but the approach was costly and student feedback about the integrated instruction experience was mixed. Teachers curious about alternative approaches pivoted to offer a four-hour-per-week English class for ESL students enrolled in any of the school's CTE programs. Now, a monthly meeting convenes all ESL and CTE teachers involved in the programs to discuss students' basic skills needs. CTE teachers share what they observe about ESL students' progress and needed support, and ESL teachers design highly responsive lessons based on these group discussions.

(3) Student recruitment and enrollment

Many interviewees described difficulty maintaining sufficient student enrollments in IET programs. One reason cited is that communicating to students the purpose, expectations, and opportunities of IET is not easy. Clear and consistent messages need to come from teachers, counselors, front office staff, administrators, and marketing materials, so that students understand what IET involves, the commitment needed, as well as how IET can accelerate their progress toward education and career goals. Another recruitment challenge for IET programs lies in identifying full cohorts of students with common ESL and CTE course interests and needs, especially in smaller or remote schools. IET was described as especially hard to recruit for due to the number of required hours for both ESL classes and

CTE classes (with a minimum of 30 instructional hours necessary to document completion of a COAAP), some students' higher interest in CTE than in ESL (which may be a requirement for participation), difficulty scheduling collaborative classes at times convenient for two teachers as well as students, and accounting for adult students' multiple work and family time commitments. It is worth noting that staff of programs with low recruitment were not always able to explain *why* they were under enrolled, suggesting the need to hear more from students about their interests and possible barriers.

Institutions offering IET programs often publicized them actively. Recruitment strategies described by interviewees included announcing classes in both adult school and college catalogs (or at multiple adult schools), identifying incumbent workers through employer partners (possibly paid by their employers for time in training), offering video sessions with teachers demonstrating their co-teaching approach, and publicizing through student support staff prepared to help students overcome barriers to participation. An advantage of active IET recruitment campaigns was that they brought in students beyond those currently enrolled in basic skills classes, including working adults with interest in entering or advancing in careers: one K-12 district is recruiting among classified staff at the district itself, which has agreed to tie relevant training completion to pay raises.

Most IET programs recruit and serve English language learners, in part because CDE's WIOA, Title II Section 243 funds are restricted for these students. Several interviewees expressed similar need for IET among other adult education students, such as those pursuing a high school diploma or GED whose pathways to employment could be shortened by contextualized and integrated instruction. Some programs allocated other funding, such as WIOA, Title II Section 231 or CAEP, to implementing programs for non-ESL students, or for mixed groups of ESL and non-ESL students.

Castro Valley Adult and Career Education, believing in the value of IET, has accepted smaller enrollments in IET courses, at the same time they have innovated to increase enrollments and sustain the IET model. Whereas intake used to take place just prior to each semester start, now programs are marketed year-round, and intake occurs more frequently. In IET programs with multiple CTE courses, the school staggers cohort sequencing so that each course enrolls a mix of both first semester and second semester students for higher total numbers. A careful review of IELCE and district policy confirmed that students who test out of traditional ESL classes may enroll in WIOA, Title II-funded IET programs and ESL, broadening the pool of qualified IET candidates. Most recently, the adult school is exploring the use of online CTE modules for English learners, to enable the enrollment of small numbers of students in asynchronous CTE and a synchronous ESL class that supports learning across CTE occupations.

(4) Retention support

Attendance and retention in IET classes were also described as significant challenges. A transition advisor explained, "It's an easy sell to enroll students in IET, but we need to do a lot of case management and monitor attendance..." One community college launched a program developed

through extensive teacher collaboration, with students recruited through a thorough vetting process involving individual interviews and ESL assessments, yet less than half of the enrolled students completed. The most common reason cited for retention challenges is simply the complexity of adult students' lives, which typically involve juggling work, family, and school schedules and priorities. In response to this, successful programs fine-tuned their IET program designs, shaping more student-centered models. They shortened CTE program length; staggered required courses for less intensive scheduling; offered asynchronous online or hybrid course options; and secured funding for stipends or cost reimbursements. One program adapted to the conditions of the COVID-19 pandemic by offering all ESL and CTE classes online, with limited hands-on hours on campus, and celebrated 100 percent of students completing. Schools also prioritized student services to monitor and support attendance, goal setting, and transitions to next steps on career pathways.

Barstow Community College is just beginning to build its first IET program — a Trades Technician certificate program linking the college's noncredit ESL and CTE courses — and is intentionally integrating retention support from the outset. Thorough orientation and assessment will take place through the college's new ESL Student Success Center, which will promote the IET program. In response to needs called out by students during the region's CAEP three-year planning process, the Center will connect IET students to tutoring, mentoring, counseling, and support groups. It will also encourage students to access supports like a food pantry, childcare, and mental health services. Bilingual counselors will build trust with IET students and help them to create an Education Plan directed toward their career goals.

Interviewees articulated the role of high-quality instruction — tailored to the needs of working adult learners — as a contributor to student completion and success on career pathways. They described instructional strategies such as focusing ESL instruction on very practical language needed for and applied to work; integrating math as well as English in IET programs, whether formally or informally in ESL classes; and prioritizing cultural competency and respect in the classroom. For example, one ESL teacher supporting a linked CTE class began including math in her lessons in response to student requests. IET teachers also emphasized the value of integrating ESL with hands-on career education, thereby motivating students to learn English in context, in contrast to requiring lengthy ESL sequences prior to entering CTE. As one administrator described, "If [IET students] use their hands and like it, then they want to know why. They're self-motivated to learn English. If they're incorporating this thing that they want to do for the rest of their lives — responding to real practical needs — now that confidence steps up... and gets them moving forward."

Hartnell College runs IET programs for agricultural workers through contract education, paid for by employers. ESL and CTE curricula are highly responsive not only to the wishes of the companies, but to the voiced needs of workers themselves, who requested that technical content be offered in English, not in Spanish, with accompanying support for language acquisition. A college ESL teacher collaborated with the company's technical trainer to integrate content relevant to agriculture and its language context; now, ESL instruction is specific to workplace needs and the CTE class incorporates language support. The instructors respected students' cultural assets and extensive knowledge of the agriculture industry,

included families in training activities when possible, and saw results in terms of students' commitment to learning and persistence in training.

(5) Support services to connect students to work

Not all IET programs connect participants directly to work experience and employment, though the need for these connections is described as a primary reason for offering IET. Among programs included in interviews and listening sessions, some were quite new, having graduated only a cohort or two, and connections to employer partners were not yet strong. Concerns were expressed that IET providers (particularly adult schools and noncredit college programs) are rarely resourced or equipped with staffing expertise to develop and sustain employer relationships. In cases where programs attempted to connect graduates to employment, some confronted students' inability to commute far distances, or their lack of right-to-work documentation. The need for job placement assistance, work experience, and other employment services for IET students was unquestionable, and this remains an area for further capacity-building and guidance.

IET programs with successful internship and job placements typically have close relationships with one or more employers and a history of placing program graduates. They select IET occupations with attention to local hiring demand and tailor instruction in response to employer input. Some programs invite speakers from industry to present to students or ask employers to regularly inform the school about job openings. One program described inviting a legal aid provider to meet with students about their legal status and opportunities to work in the industry. Another well-established IET program is in conversation about offering community college Work Experience internships to IET students.

Los Angeles Unified School District's Department of Adult and Career Education (DACE) has established a close partnership with the mayor's office to connect graduates of its Early Childhood Education IET program to job preparation activities and job opportunities with the Los Angeles County Office of Education. A second DACE IET program is run in partnership with Hospitality Training Academy, a labor-management training partnership that facilitates access to classroom kitchen facilities for classes co-taught by a working chef, leading graduates directly into union jobs with participating employers.

A largely untapped resource among IET programs is the public workforce development system and its America's Job Centers of California (AJCC), which provide job placement assistance using WIOA, Title I funding for which many adult education and community college students qualify. Among examples shared in interviews and listening sessions, one IET program enrolled its students in WIOA, Title I to secure funding for work uniforms. An adult school integrating contextualized ESL classes with short-term AutoCAD and QuickBooks training secured inclusion of the CTE classes on the state's Employment Training Provider List (ETPL), assuring eligible students' eligibility for WIOA, Title I-funded Individual Training Accounts (ITAs) and career services.

(6) Support services to connect students to further training

Some IET programs intentionally connect participants to longer-term training through the community college and support this through a variety of transition supports, including integrated counseling, college enrollment assistance, a college prep course, and credit by exam. However, several interviewees said the next steps on career pathways at the community colleges are not always clear, or provide insufficient language support, or that they have been unable to track the long-term education or employment outcomes of IET students. "We lose students at the point of transition to college enrollment," said one program administrator. One adult school principal described guaranteeing students a refund of fees if they completed a CTE sequence leading to certification. At another adult school, an IET bridge program linked directly to a CTE course sequence offered by the college with on-going ESL support; this adult education consortium identified a goal of scaling and extending its CTE pathways so that each begins with a similar IET bridge.

Several successful practices shared in interviews align with the commitments of adult education consortia to facilitate student transition to post-secondary education. Several interviewees offered IET programs that introduced students to the first courses on a college CTE pathway, and some led to an industry certification that is "stackable" toward a community college certificate or degree. One college used credit-by-exam to award college credit for noncredit IET classes. Student support services were offered to students considering their next steps: transition specialists met with students near the end of IET training to map a plan and to complete college enrollment, and concurrent college prep courses prepared IET students to transition. In some cases, the adult school itself offered short-term CTE programs and certification testing leading to immediate employment, with the aim of lessening the need for college enrollment.

Fremont Adult and Continuing Education partnered with Mission Valley Regional Occupational Program (ROP) to design an Introduction to Medical Terminology and Pharmacy Technology for Advanced English Language Learners IET program. The 12-week evening program builds knowledge of key medical terminology and concepts while reinforcing English reading, writing, and basic math skills used in medical settings. Students who complete the program are accepted into Mission Valley ROP's Pharmacy Technology course, which qualifies students to enter an externship, take the Pharmacy Technician Certification Exam, and apply for entrance to the University of California or California State University system meeting the Area G requirement.

Recommendations to scale IET implementation

The interviews and listening sessions suggested several recommendations for consortium and institutional leaders and policymakers interested in sustaining and scaling IET. To grow IET programs in California, this approach must work for students, for teachers, and for educational institutions. It must be financially sustainable. And providers must have access to current guidance and technical assistance related to effective IET practices. Recommendations are summarized in the four areas below.

(1) Hold up a vision of IET as an equity strategy

Successful IET programs point to a high-functioning team behind their ability to deliver high quality training. This collaborative entity requires leadership and an ability to move on key decisions. It also needs to hold a collective vision and shared goals across its members — the guideposts that hold the initiative together when it must problem-solve and course-correct.

A vision voiced strongly by interviewees describes IET as an *equity* strategy. Partners that had reviewed student data and thought hard about who completes career education and who doesn't, who gains employment and who doesn't, who transitions to post-secondary education and who doesn't... these teams saw in IET the potential to accelerate progression from basic skills education to applied, technical skill-building, and to overcome the barriers many adult education students face to enter and advance in the labor market. These teams understood IET among an array of transition supports — co-located classes and services, bridge and pre-apprenticeship programs, dual enrollment initiatives, and other efforts designed to transcend historical boundaries between adult and post-secondary education.

Holding this common vision can equip an IET team for the strategic thinking and actions necessary to sustain and scale IET programs, even when these require extensive effort, investment, and persistence. Said one adult education program's IET teacher advisor, "I go back to the equity framework we use... Without that vision, my job would be much more difficult. When people buy into that vision — supporting ESL students down the career pathway — then we can look at the assets we use to do that. IET is one of those." IET as an equity strategy may justify investment of dedicated equity funds (such as the California Community Colleges' Student Equity and Achievement (SEA) or Guided Pathways funding) or of other flexible resources, such as CAEP.

(2) Encourage allegiance to key IET elements *and* creativity in IET design

IET practitioners in California have access to a wealth of resources disseminated by CDE, CALPRO and CASAS — as well as others available nationally — to support the design of programs aligned with WIOA and state regulations.¹⁴ Allegiance to the sanctioned IET elements maintains a standard of quality. Participants in interviews and listening sessions revealed, though, that their work to achieve this standard at times went against the grain of structures and practices at the hearts of their institutions — forging alliances across departments and consortium members, bringing teachers together in new ways, and connecting students to support and employment opportunities beyond the school campus. Interview and listening session participants suggested that leaders and advocates — at the local, regional, or state level — can support the scaling of high-quality IET programs by facilitating and incentivizing the design of comprehensive, research-based, and state-approved programs that overcome these challenges.

¹⁴ Practitioners are encouraged to access these resources at: <https://www.calpro-online.org/onlinevideolibrary/iet.aspx>, <https://www.calpro-online.org/pubs/resources.aspx>, <https://www.cde.ca.gov/sp/ae/fg/aeoelcivics.asp>, <https://www.casas.org/training-and-support/casas-peer-communities/california-adult-education-accountability-and-assessment/california-el-civics>

Practitioners also described ways they applied creativity and a think-outside-the-box approach to designing programs that achieve the intent of WIOA and IET by innovative means. For example, in response to student and teacher feedback, some programs granted flexibility in their structure — by encouraging an ESL teacher to integrate math instruction, for example, or by enrolling non-ESL students alongside English learners. Some programs invested heavily in their teachers, paying for atypical teacher collaboration and curriculum development hours. IET programs wove in counseling support and integrated hands-on work experience and direct connections to employment — taking the “integrated” in IET several steps beyond the three basic instructional components and embracing partnerships with employers, workforce system partners, and community-based organizations. They designed accessible programs, responsive to barriers to adult student success, by introducing online and hybrid course alternatives, or by realizing the IET “gold standard” of co-teaching CTE and basic skills in one classroom, lessening time required and reducing scheduling complications. While practitioners must be encouraged to abide by federal and state IET guidelines, they also should be applauded for going a “step beyond” to make IET work for their students and their communities.

(3) Use braided funding models for IET

Many IET programs have come about thanks to the dedicated funding provided by WIOA, Title II, Section 243, or IELCE. IELCE funds instruction when it is offered in alternating or co-teaching contexts. With attention to the many components that make IET rich, programs in California also use IELCE funds for teacher collaboration, program design activities, and student support services, as described in this brief.

But not all adult education providers have applied for IELCE funding, and IELCE comes with limitations, namely its restricted use for English language learners in California. Fortunately, as the interviews and listening sessions showed, braided funding models can complement or reduce reliance on IELCE, and other resources available in California to support IET success and scale have not been fully utilized. By creatively blending resources, IET programs can reach more students who could benefit from IET, deliver the highest quality instruction, and help these students reach their education and career goals. As shown in Table 2, programs are layering IELCE with CAEP funds. Other CTE funding can be acquired through WIOA, Title I (ITAs), SWP, Perkins, or community college apportionment dollars. Education providers with strong employer partnerships can leverage their contract education divisions to secure employer payment, or work with employers to solicit Employment Training Panel (ETP) funds for work-related training. Additional resources are available for training-related work experience and internships (such as through community colleges’ work experience programs), or for on-the-job training (such as through local workforce development boards). Programs that do not rely solely on California’s IELCE funds can extend the benefits of IET to other student groups beyond ESL, including ABE and ASE students, incarcerated students, and adults with disabilities.

(4) Build Capacity to Lead, Design, and Deliver IET

Additional state-level guidance — including explanation of relevant regulations and examples of effective practices — is needed to encourage and facilitate more expansive adoption of IET, and more extensive and creative collaboration between adult schools and their community college partners. This information can include practical, nuts-and-bolts explanation of IET funding models, data collection, and reporting structures. It can also illustrate how high-functioning adult education consortia leverage the strengths of their members, enabling students to tap the benefits of all. These forms of guidance can support the sort of trial-and-error innovation that generates learning and builds the field of IET aligned with state and federal regulations. Across the state, increased capacity to collaborate and innovate will support the scaling of IET, particularly IET programs that lead to living wage employment via CTE training on post-secondary career pathways.

Several specific capacity-building and technical assistance requests were heard in interviews and listening sessions, suggesting opportunities for additional investment in these areas:

- a comprehensive library of available training resources
- a repository of integrated basic skills/CTE curricula
- a platform for shared access to online IET courses and materials
- additional case studies of effective IET program models, expanding upon the CASAS Promising Practices and videos
- a list of existing IELCE programs in California, with contact information
- expansion of CALPRO implementation clinics (both additional sessions of the existing clinic, and a new module on IET leadership)
- a peer learning group addressing IET topics.

Conclusion

California’s adult education providers and community colleges have achieved a rich variety of IET programs, preparing basic skills students for careers in some of the state’s fastest growing industry sectors. This is a strong foundation for growth. Learning from each other, and with guidance from state system leaders, IET practitioners — whether funded by IELCE or by other sources — will continue to uncover what works for students in their communities, and to share among peers what could be replicated and scaled for greater impact. They will continue to build collaborative structures — united around a common equity agenda — that will realize the potential of IET. The coming years’ IET leaders will bring their originality to what remains fertile ground for innovation, building on the strengths of adult education consortia and demonstrating the potential of IET to bridge more students to their career goals.

Appendix A: Interview Protocol

1. What is the current status of IET programs at your institution or consortium?
 - a. Do you currently receive WIOA, Title II Section 243 IELCE funds? If so, what are your current IELCE-funded programs and what role does IET play in them?
 - b. Do you currently offer IET programs that are not funded by IELCE? If so, what are they?
 - c. How many years have you been offering IET programs?
2. Why do you offer IET? What needs do your IET programs aim to address (students, employers)?
 - a. What students do you aim to reach and serve?
 - b. How do you identify and address employers' needs?
 - c. How successful have your programs been at meeting these needs?
3. What are the key elements of effective IET programs?
 - a. How is collaboration structured?
 - b. Who are other key partners?
 - c. How is faculty buy-in and ownership fostered?
 - d. What is the approach to integrating CTE and basic skills instruction (co-teaching, alternating teaching...)?
 - e. How could your programs be replicated and scaled to serve higher numbers of adult students?
 - f. What professional development (paid planning time, coaching, instructor training) is offered?
 - g. What student services (academic, retention supports, employment services) are offered?
 - h. What work-based learning/internships/connection to work are offered?
 - i. How is funding sustained?
4. What are the challenges associated with running or expanding your IET programming? Have any of these prevented you from offering or expanding IET programs?
5. What are your hopes or goals for IET programming in the future?
 - a. What are the next steps for you and your programs?

Appendix B: Listening Session Invitation Text

Dear Colleague -

I am writing to invite you to participate in a new effort to identify and elevate effective practices, challenges, and opportunities related to the implementation of ***Integrated Education and Training (IET)/Integrated English Language and Civics Education (IELCE)*** in California. [High Road Alliance](#) (HRA) has been contracted by the CAEP-TAP to conduct a series of listening sessions to hear from practitioners about your experiences with IET/IELCE.

Between March 28 and April 7, HRA will host six listening sessions on different topics related to IET/IELCE. Brief descriptions and sample questions for each session are provided below. *You are invited to attend any or all of these sessions, according to your interest and availability.* Please click on the links below to register.

We know your schedule is busy, so thank you in advance for responding. Your assistance with this effort is much appreciated!

Sincerely,
CAEP TAP

Listening Session A: Strategies to overcome obstacles and garner support for IET/IELCE at your institution/consortium

Monday, Mar 28, 2022, 1-2pm

Registration Link:

- How have you identified champions and leadership for IET/IELCE?
- How have you built organizational capacity to grow and sustain IET programs?
- How have you supported approval of IET courses?

Listening Session B: Strategies for adult education/community college collaboration for effective IET/IELCE delivery

Wednesday, Mar 30, 2022, 1-2pm

Registration Link:

- What have been successful models of collaboration across college and adult education programs?
- How have you leveraged the strengths of college and adult education instruction and services?
- What challenges have you overcome to foster this collaboration?

Listening Session C: Strategies to fund and sustain IET/IELCE programs

Thursday, Mar 31, 2022, 1-2pm

Registration Link:

- What various funding sources have you braided to support IET/IELCE?
- What challenges have you faced to grow or sustain IET/IELCE programs?
- How have small and/or rural IET programs been supported and sustained?

Listening Session D: Strategies to support and build the capacity of IET/IELCE personnel

Monday, April 4, 2022, 1-2pm

Registration Link:

- In what ways have you recruited and oriented personnel to the IET approach?
- How have you supported instructor collaboration and co-teaching?
- What professional development have you found to be most effective?

Listening Session E: Strategies to support the enrollment and retention of students in IET/IELCE

Wednesday, April 6, 2022, 1-2pm

Registration Link:

- How have you generated student interest in IET/IELCE programs?
- How have you addressed challenges to student retention in IET?
- How have you structured your IET/IELCE programs to be accessible to diverse student populations?

Listening Session F: Strategies to connect IET/IELCE students to work or further training

Thursday, April 7, 2022, 1-2pm

Registration Link:

- How have you engaged industry and local employers in your IET/IELCE programs?
- How have you leveraged the public workforce system?
- How have you facilitated students' transition to employment or further training?

Appendix B: IET Resources

U.S. Department of Education and National Resources

U.S. Department of Education IET Design Toolkit: <https://www.oregon.gov/highered/institutions-programs/ccwd/SiteAssets/Pages/abs-resources/IET-Toolkit-508%20Sept2021.pdf>

Center for Law and Social Policy (CLASP) IET Defined: https://www.clasp.org/wp-content/uploads/2022/01/3.21.18_definingIET.pdf

CLASP IET Brief: <https://www.clasp.org/sites/default/files/public/resources-and-publications/publication-1/Integrated-Education-and-Training-A-Career-Pathways-Policy-Practice.pdf>

Compendium of Innovative Practices: Adult Education Bridge Programs and Integrated Education and Training (IET) Programs: <https://lincs.ed.gov/professional-development/resource-collections/profile-8808>

CALPRO Resources

IET Brief: <https://calpro-online.org/documents/CALPRO2017Brief-IET-508.pdf>

IET Video Library: <https://www.calpro-online.org/onlinevideolibrary/iet.aspx>

IET Resource Page: <https://www.calpro-online.org/onlinevideolibrary/additional-iet-resources.aspx>

Facilitated Online Courses: <https://www.calpro-online.org/onlineCourseDescriptions.aspx>

Regional Community of Practice: <https://www.calpro-online.org/documents/Host%20a%20regional%20training%20flyer%202021v3.pdf>

IET Implementation Clinic: <https://www.calpro-online.org/News.aspx#IETClinic>

CASAS Resources

California Civic Participation and IELCE Webpage: <https://www.casas.org/training-and-support/casas-peer-communities/california-adult-education-accountability-and-assessment/california-el-civics/california-civic-participation>

Presentation: Planning and Implementing a New IELCE/IET Program: <https://www.youtube.com/watch?v=z39fTBIDoUA>

Presentation: Developing a Single Set of Learning Objective for IELCE/IET: <https://www.youtube.com/watch?v=Bn0HY9O8RHQ>

California IELCE Pre-approved COAAPs List: <https://www2.casas.org/elc/index.cfm?fuseaction=COAAPSList.welcome>

California Pre-approved Civic Objectives List:

www.casas.org/docs/default-source/el-civics/pre-approved-civic-objectives-list.pdf?sfvrsn=32fb305a_16?Status=Master



BARSTOW
AREA
CONSORTIUM
FOR **A**DULT **E**DUICATION

SOCIAL MEDIA REPORT

Aug 2022

FACEBOOK PAGE SUMMARY

Ad reach ⓘ

14,852 ↑ 59.6%

Facebook Page reach ⓘ

5,229 ↑ 30.4%

Facebook Page likes ⓘ

238

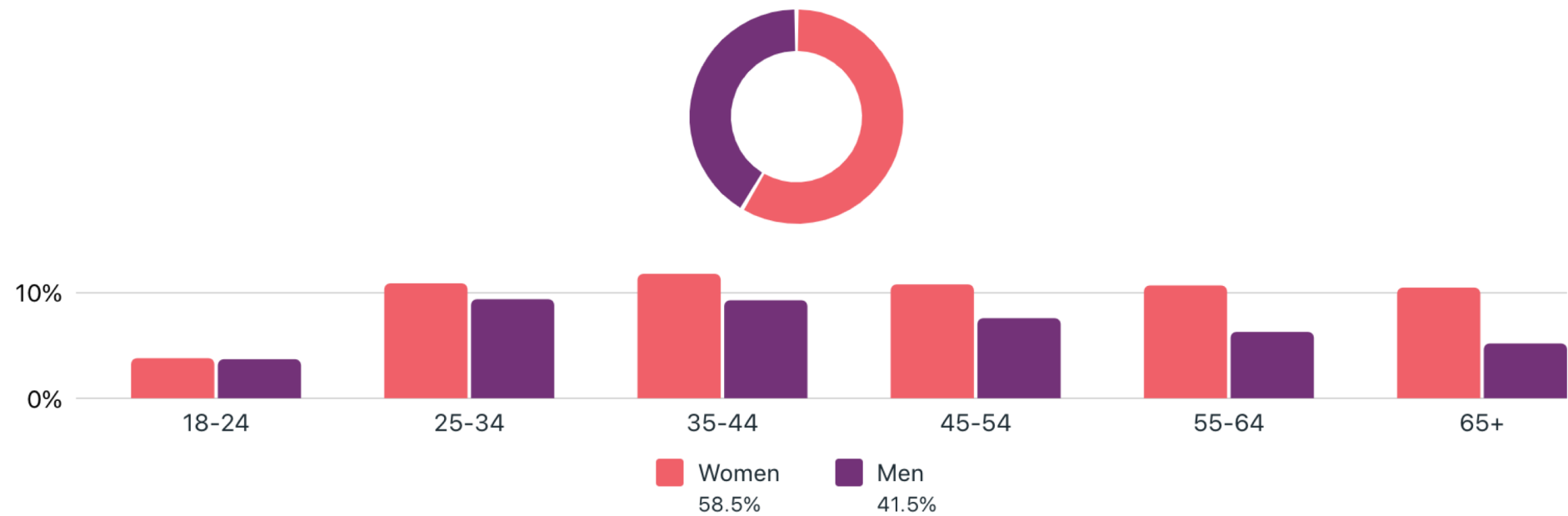
Instagram reach ⓘ

127 ↑ 62.8%

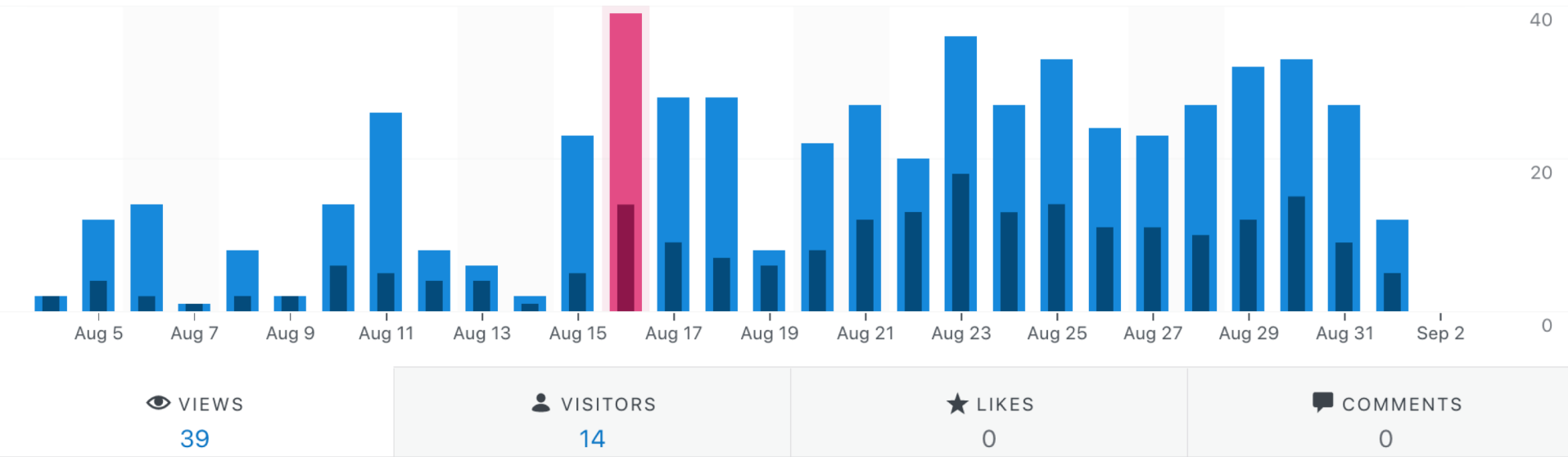
Social Media Audience

– Gender and Age –

Age & gender ⓘ



BARSTOW WEBSITE TRAFFIC



AUGUST 16, 2022

- 👁️ VIEWS 39
- 👤 VISITORS 14
- > VIEWS PER VISITOR 2.79














BARSTOW WEBSITE TRAFFIC AND PAGE PER VIEW

Stats for 30 days ending September 2, 2022 (Summarized)

Title	Views		
Home	185		
Programs & Classes	102		
English as a Second Language	43		
Career Technical Education (CTE)	42		
Contact Us	40	Consortium Meetings	6
Technology Courses	40	Consortium Documents	6
High School Equivalency – GED	37	Member Schools	5
Inglés como segundo idioma	23	Citizenship Preparation	3
High School Diploma	10	Contáctenos	3
In the News	7	Home page / Archives	3
		PROGRAMAS Y CLASES	3
		Casa	2
		Preparación para la ciudadanía	2
		Escuelas miembros	1
		Educación en carreras técnicas (CTE)	1

BARSTOW WEBSITE LINKS CLICKS

Stats for 30 days ending September 2, 2022 (Summarized)

Referrer	Views
  Facebook	150
  Search Engines	62
 barstowaebg-org.cdn.ampproject.org 	15
 barstow.edu 	11
 WordPress Android App	8
  Instagram	5
 url-opener.com 	1