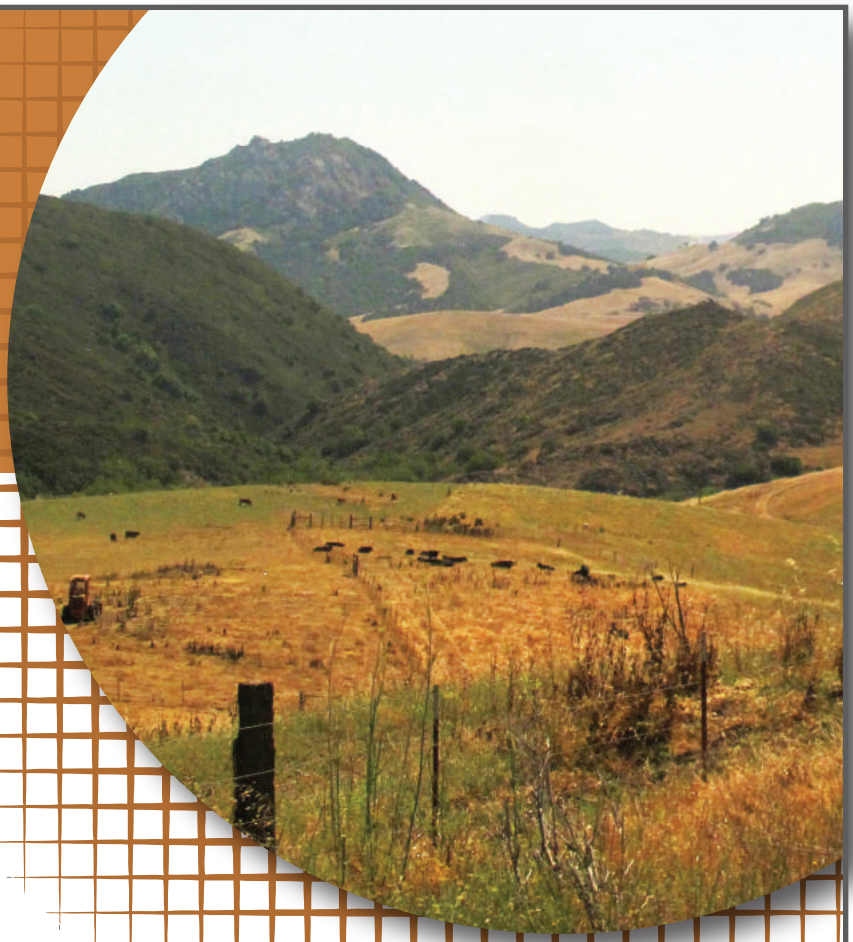
SAN JOAQUIN VALLEY AND ASSOCIATED COUNTIES



REGIONAL PLAN

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2017-2020

SAN JOAQUIN VALLEY AND ASSOCIATED COUNTIES REGIONAL PLANNING UNIT REGIONAL WORKFORCE DEVELOPMENT PLAN 2017 – 2020

Executive Summary

The parties to the Regional Plan are the eight Local WDBs within the RPU, which include 7 boards representing single counties (Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare) and 1 consortium board representing three counties (Kern, Inyo and Mono). To develop the Plan, the boards initiated a process that included extensive review of existing reports and analyses, individual meetings with key stakeholders, and, to gain the widest possible range of input, a series of 16 regional planning forums, where hundreds of stakeholders from business, education, economic development and other disciplines shared their thoughts on strategies and priorities for the workforce system. The plan is built upon five simple principles, which represent the values, vision and commitment of the Central Valley's workforce stakeholders. They include: support for the goals of the State Plan; the workforce system is demand-driven; regional sector pathways are the best approach to meeting demand; the workforce system encompasses all stakeholders; and commitment to long-term regional collaboration. The Plan is aspirational, setting forth goals and action steps to achieve real collaboration across geographic boundaries and funding siloes.

Economic and Background Analysis: The overall content of this Regional Plan, along with the goals it establishes and the actions its sets in motion, are derived from an intensive review of data and analyses of economic and workforce conditions in the RPU. Key sources included recent reports prepared by Applied Development Economics, Inc. and the State EDD's Labor Market Information Division. While post-recessionary recovery is occurring, it slower than anticipated in some sectors. However, qualified workers are in short supply for certain key job categories and skill areas. The RPU partners have selected the following sectors as priorities under the 2017 – 2020 Regional Workforce Development Plan: advanced manufacturing; construction (including public infrastructure); energy (including green energy); healthcare; transportation and logistics; and value-added agriculture.

Regional Sector Pathways: There are fully developed sector-focused career pathway programs in the Central Valley, many of which were driven by specific requests from and input by industry. Some of these have the potential to be scaled up throughout the RPU. The partners believe in the value of regional sector pathway programs to transform the workforce system into one that is uniquely focused on meeting the skills needed of business, while at the same time preparing new and incumbent workers to gain the skills for in-demand jobs. Over the last several years, at the local level, the WDBs have been focused on target sectors in their areas and a number of sector strategies and initiatives have taken shape. Some of these involve support for hiring, some for training and some for both. A number of projects have included economic development and/or the community colleges in the process of designing and delivering services. The partners are committed to transforming less uniform career pathway processes into more easily replicated ones to support development of regional sector pathways across the RPU. The partners will develop protocols for working with business to assess workforce needs and translate these needs into content for training and services to prepare candidates for jobs. The protocol will include strategies to engage with business, economic development, and education in the regional sector pathway planning and development process.

Industry-Recognized and Valued Credentials: The importance of determining industry-valued and recognized credentials has become understood by many business and industry leaders and system stakeholders. Discussions on this topic have begun and the issue has been a central topic during the process leading to the development of the Regional Plan. Still, much work remains. Discussions with businesses and stakeholders have resulted in a wide-range of comments regarding the value of various credential throughout the region. While credentials are essential for some jobs, they are optional in other cases. The partners will convene an industry steering committee for each of the region's six target sectors to discuss work-related credentials. The committees will: review and recommend metrics for determining the value of credentials; review existing credentials awarded in the region that pertain to their sector and determine their value; identify credentials that would be desirable for the industry; develop a process for re-confirming the value of credentials over time; and provide recommendations on course content for regional sector pathway programs and other training that will produce the credentials.

Accessibility and Inclusiveness: The plan addresses system accessibility and inclusiveness on two levels. The first concerns the approach used to ensure that a wide range of viewpoints were expressed during the planning process, where the second level describes various ways in which the workforce system makes services accessible to all job seekers, including those with barriers to employment. With regard to the inclusiveness of the planning process, the local WBDs reached out to organizations and individuals representing a broad range of stakeholders, including organizations representing groups with significant barriers to employment. The accessibility of services in the region is also notable, with local workforce systems, including education and human services partners, determined to ensure services are located and structured in ways that those who need them can reach them. The partners recognize that community-based organizations must play an important role in outreaching to and serving at-risk target groups.

Job Quality: Job quality and quality jobs have dominated several discussions during the regional planning process. Stakeholders engaged in the planning process, including those representing individuals with barriers to employment, generally agreed with the language of the state statute pertaining to "good jobs." They did offer a number of suggestions that helped frame the issue toward the development of regional goals. There was broad agreement that jobs into which partners place participants should pay a self-sufficiency wage, even for first time workers. Generally, the job characteristics that stakeholders believe speak to quality are: good wages (family supporting); benefits; flexibility; stability; advancement potential; and fulfillment/likeability. Acknowledging that job quality is not a fixed concept, there was significant agreement that entry-level jobs demonstrate quality when there are discernable next steps for training and skills acquisition that enable workers to move up and earn better wages. The partners plan more work in this area.

Compliance with Federal Requirements for Regional Coordination: While the State Workforce Plan ensures that federal requirements for regional coordination will be met, the partners have ensured that the Regional Plan addresses all regional planning and coordination objectives prescribed by WIOA.

Regional Agreements: Functioning together as the Central Valley Workforce Collaborative (CCWC), for nearly a decade, the WDBs that comprise the SJVAC have had a memorandum of understanding in place that creates a framework for collaboration among local workforce areas and opportunities to coordinate, especially with regard to special projects and initiatives that cross the boundaries that define the local area. This agreement was recently updated, confirming the value WDBs place on cooperation and bringing greater capacity and resources to the region.

Related Plans: The Regional Plan references compatible education and workforce plans in the San Joaquin Valley. These include the community colleges' recently released Strong Workforce Plan and the various plans for the region's many Adult Education Block Grant (AEBG) consortia.

Regional Goals: On behalf of the myriad regional stakeholders that have contributed to the Plan by providing recommendations and sharing both resources and insights, the eight LWDBs comprising the SJVAC RPU have established a series of goals for the regional workforce system across nine key areas of regional significance, including engagement with economic development, regional sector pathway programs, increased accessibility, job quality, and credential attainment, among others.

Submission of Unsigned Plan: The period required to develop, vet and publish the Regional and Local Plans for comment has just concluded. WDBs and CLEOs have been briefed on the development and content of the Regional and Local Plans. However, insufficient time was available to formally present the Regional and Local Plans to all WDBs and CLEOs for formal approval prior to the March 15, 2017 deadline. On behalf of the 8 WDBs, Merced County will complete the following with regard to the Regional Plan prior to July 1, 2017: 1) ensure all local WDBs obtain board approval and Chairperson signature; 2) ensure all local WDBs obtain CLEO approval: and 3) submit to CWDB the signed original Regional Plan and documentation of CLEO approval.

SAN JOAQUIN VALLEY AND ASSOCIATED COUNTIES REGIONAL PLANNING UNIT REGIONAL WORKFORCE DEVELOPMENT PLAN 2017 – 2020

The eight local workforce development boards that are party to this plan have a long history of success, both individually and as a region. Nearly forty years ago, Private Industry Councils in the San Joaquin Valley met regularly to coordinate efforts and to secure training grants to serve the region. A decade before being designated as the San Joaquin Valley and Associated Counties Regional Planning Unit ("SJVAC RPU"), the boards formed the Central California Workforce Collaborative (CCWC), recognizing the value of working together for the benefit of businesses and workers across the vast expanse of California that locals simply call "the Central Valley." The boards have initiated a planning process that will be on-going, recognizing that meaningful change does not just happen. It is the result of thoughtful planning, preparation and hard work. In a word, this Regional Plan is aspirational, setting forth goals and action steps to achieve real collaboration across local geographic boundaries and funding siloes. The boards and their workforce system partners view the Regional Plan not as a destination, but as a beginning – a launch pad for achieving a demand-driven service delivery system that harnesses the region's human capital to build a world class workforce.

Approach

Given the time available between publication of planning guidance and the date by which Regional Plans must be submitted to the State, the local WDBs determined that support was needed for both the planning process and development of the Plan. Through a competitive process, Merced County, as designated lead of a joint regional collaboration, procured two independent consultants, John Chamberlin and David Shinder, for this purpose.

The consultants immediately began to take advantage of the significant work on regional collaboration, sector initiatives, system alignment and related issues that has already been done in the Central Valley. In addition to reviewing abundant documentation on completed work, the consultants began a process of information gathering by meeting individually with each local board and key stakeholders. To gain the widest possible range of input, the consultants facilitated a series of regional planning forums where hundreds of stakeholders shared their thoughts on strategies and priorities for the workforce system. The Regional Plan, which incorporates eight Local Plans developed by each board, owes a debt of gratitude to the business, education, economic development, labor, community and other stakeholders that gave generously of their time in this process.

Guiding Principles

The plan is built upon five simple principles, which represent the values, vision and commitment of the Central Valley's workforce stakeholders. They include:

- Support for The Goals of the State Plan: Workforce preparation and economic prosperity are inextricably linked. The State Plan requires approaches that provide opportunities for all Californians to develop in-demand skills, thereby ensuring that industry has the talent it needs to succeed.
- The Workforce System is Demand-Driven: Industry drives job demand and businesses define skills needed for jobs. It is the obligation of the workforce system to train candidates in these skills, preparing them for careers.
- Regional Sector Pathways Are the Best Approach to Meeting Demand: Structured, high-quality education, training and support programs offer the greatest likelihood of success for all those preparing for careers,
- The Workforce System Encompasses All Stakeholders: The system is not merely WIOA programs. Rather, it is comprised of the work, resources and unique capabilities of all organizations and individuals with a stake in building and maintaining a prosperous, competitive economy.
- Long Term Regional Collaboration: CCWC is a manifestation of a partnership that has existed regionally in the Central Valley for decades. This collaboration has led to many benefits throughout the Central Valley through the joint efforts of the eight WDBs. This collaboration, alignment and partnerships happen in a variety of ways.

Sometimes these efforts will encompass the entire RPU. In other instances, they may involve only a couple of workforce areas or represent coordination across two or three funding streams. Regionalism exists where it can add value and where stakeholders agree to work across boundaries.

A. The Region and Workforce System Stakeholders

The San Joaquin Valley and Associated Counties Regional Planning Unit is comprised of the ten-county area described below. There are no plans to petition for "RPU" modification.

1. RPU Boundaries: The boundaries of the RPU are those defined by the following ten California counties: Fresno, Inyo, Kern, Kings, Madera, Merced, Mono, San Joaquin, Stanislaus and Tulare. This area comprises approximately 40,760 square miles, roughly 25% of the State. The total population of the region is estimated at 4,079,609, making it more populous than 25 States[1].

2. Regional Stakeholders in Workforce Development: Key workforce stakeholders in the region include local WDBs, education, economic development, public agencies, organized labor and community and non-profit organizations. Following is an overview of partners that contributed to the regional planning process.

Local Workforce Development Board - Parties to the Plan: The parties to the Regional Plan are the eight Local WDBs within the RPU, which include 7 boards representing single counties (Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare) and 1 consortium board representing three counties (Kern, Inyo and Mono). Through their CCWC network, the WBDs have all been actively involved in the regional planning process by reviewing State guidance, selecting consultants to assist in the process, providing copious resource documents, organizing regional forums, and meeting regularly with the consultants as a group and individually to share insights, make decisions and set goals for regional coordination. As the designated lead for the RPU, this project has been managed by the Merced County WDB.

Businesses: Through the WDBs' intensive involvement in the regional planning process, private sector members of their boards have been apprised of key issues being addressed in the Regional Plan, thereby providing an opportunity for feedback. Businesses that participated directly in process through interaction with the regional planning consultants or analysts at Applied Development Economics, which provided labor market analysis for the plan, include the following: Adventist Health, ARC Dental, Ball Metal Food Containers, Black Oak Casino Resort, BW Implement Company, California Electric Supply, Clinica Sierra Vista, Conagra, Comcast, Delaware North, Doctors' Medical Center (Tenet), EJ Gallo, Fast Credit Union, Grimmway Farms, Golden Empire Transit, Hydrite Chemical Co., HR Professional, Jo-Ann Fabric and Craft Stores (corporate), Johasee Rebar, Kern Medical, Leprino Foods, Les Fong and Associates, Del Monte Foods Modesto, Mar Vista Resources, Memorial Medical Center, Mid-state Precast, Nestle, Pitman Family Farms, Silva Dental, Solecon Industrial, Sunsweet/Dryers, TSM Insurance Services, and Warren and Baerg Manufacturing.

Education and Training Institutions and Providers: The education community, from the K-12 system to 4-year universities, was engaged actively in the planning process, largely through participation in the regional forums. The consultants also communicated one on one with leadership from the Community College Regional Consortium, various Community College Deputy Sector Navigators, and some of the leadership from the Adult Education Block Grant consortia in the region.

Economic Development and Business-Serving Organizations: Individual discussions were held with economic development leaders from Kings, Madera, Merced and San Joaquin counties and with the Directors of the Fresno Council and the Office of Community and Economic Development at CSU Fresno. Other economic development and chamber of commerce representatives participated in the regional planning forums. Both Kings and San Joaquin

[1] Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates Business

counties combine their economic and workforce development staff within a single department.

Public Agencies and Programs: Elected officials, managers, and staff representing Central Valley counties and cities participated in region planning discussions. Representatives from various county welfare agencies were active in the process, as were representatives from the State Department of Rehabilitation (DOR). Individual discussions took place between the consultants and state and regional leadership from DOR. Similar conversations were held with Deputy Division Chiefs from EDD and staff from the State Employment Training Panel.

Organized Labor: Among the region's union partners joining the planning process, including those directly involved with training and apprenticeships, were IBEW Local 684, UA Plumbing and Pipefitting Local 442, the Carpenters' Training Committee of Northern California, IBEW Local 100/Fresno Area Electrical Training Center, Carpenters Local 1109, and Sheet Metal Workers Local 104.

Community and Non-Profit Organizations: CBO contributions to the planning process were robust, as dozens of community partners engaged in dialogs with other regional stakeholders. Among the many organizations participating were: Friends Outside (Modesto), H.O.P.E. (Fresno), Mexican American Opportunity Foundation (Bakersfield), Proteus (several Central Valley counties), Puentes (Stockton), Reading and Beyond (Fresno), and the Stanislaus Family Justice Center.

Additional information on the participation of regional partners in the planning process is provided in Section E.

B. Analysis of Key Economic Conditions, In-Demand Sectors and the Workforce

The overall content of this Regional Plan, along with the goals it establishes and the actions its sets in motion, are derived from an intensive review of data and analyses of economic and workforce conditions in the RPU. As indicated by the information that follows, the economy of the San Joaquin Valley defies easy definition. Its lies somewhere between one based on the historical foundations of the region as the nation's "bread basket" and an emerging viewpoint that sees the Central Valley offering unique promise for an array of burgeoning sectors, given the region's young, growing population and relative affordability for businesses and workers alike.

With both its economic promise and notable challenges, the San Joaquin Valley, has been, as stakeholders remark without hesitation, "studied to death." Hyperbole aside, there has indeed been a surprising abundance of research, study and planning concerning the economy, jobs, training and workforce preparedness in the region. Those taking on the task of transforming planning activities into a Regional Plan had to choose from many sources to provide a snapshot of the RPU's economy, demand sectors and workforce conditions. The following materials proved most useful.

Primary Economic Analysis Resources: Principal sources contributing to the economic and workforce analysis within this section include the following studies that address specific conditions within the RPU boundaries. Most, as noted, provide fairly current data, as they were published within the last six months.

- Regional Economic Sector and Skills Gap Analysis: CCWC Region, Applied Development Economics, Inc. (ADE), October 10, 2016: The eight local WDBs in the RPU, functioning collaboratively as the Central California Workforce Collaborative (CCWC), commissioned ADE, which had previously done analysis for the region, to prepare a report summarizing data concerning industry (providing NAICS references) and job growth and key labor force characteristics, along with information on the relationship of education and experience to projected jobs.
- Supplemental Information and Analysis, ADE Memorandum, December 5, 2016: As regional and local planning guidance had not yet been published by the State at the time the foregoing analysis was commissioned by the CCWC, ADE management provided a memorandum that used information from the report to respond to the requirements for Regional Plans.

- Regional Planning Unit Summary: San Joaquin Valley and Associated Counties, California Employment Development Department, Labor Market Information Division (EDD LMID), September 1, 2016 – Revised: The information presented by this summary was critical to the region's analysis, as it provides data aggregated to the region that corresponds precisely to regional planning requirements.
- Regional Economic Analysis Profile, EDD LMID, April 2015: The Profile provides an excellent synopsis for the Central Valley's top 10 industries by size – the number of workers employed in these sectors. Some of the sectors profiled are those that regional stakeholders have selected as targets for the Regional Plan.
- San Joaquin Valley Regional Industry Cluster Analysis and Action Plan, Applied Development Economics, September 2012: While this plan might be considered "out of date" given the date of its publication, it represents a decisive stage in economic and workforce development planning for the region. Under the leadership of ADE, which helmed the most recent economic and sector evaluation for the Central Valley, the report presents an analysis of the San Joaquin Valley economy and the San Joaquin Valley Regional Industry Cluster Action Plan, prepared on behalf of the California Partnership of the San Joaquin Valley out of CSU Fresno. The "Action Plan" identifies emerging opportunities for the region's comparative advantage industry clusters within the context of global, national, state and regional drivers and conditions.

Supplemental Economic Analysis Resources: As EDD LMID's recent Economic Analysis Profile did not provide cluster descriptions or data for two of the region's target sectors (advanced manufacturing or energy), the following served as resources for information on these industries or helped to fill in other gaps.

- California Manufacturing Jobs in Demand, July 2012: Given the fact that job loss has characterized manufacturing throughout the State for decades, data about opportunities for this rapidly changing sector is often harder to come by. This study provided useful information with regarding to where opportunities in the sector exist.
- California's Green Economy: Summary of Survey Results, EDD LMID, October 2010: In similar fashion to the manufacturing report, this publication helped to fill in the blanks about "green jobs," particularly as they relate to the energy sector.
- Labor Market Overview: Central Valley/Mother Lode Region, California Community Colleges' Center of Excellence Mother Lode Region, May 2016: This succinct analysis provides information on population characteristics and employment in targeted industries and occupations. Because the community college regions do not mirror those of the workforce system, data from this study was used only as a point of comparison.

Labor Market Intelligence from System Stakeholders: As described in the introduction to this Plan, discussions with business, economic development, education and other system stakeholders have been essential to formulating opinions about and strategies for the Workforce Development Plan in the Central Valley. Stakeholder experiences have provided a powerful lens through which to view and analyze opportunities to support the objectives of industry and workers alike.

I. The Regional Economy: In its 2012 analysis, ADE indicates that the region has had a relatively slow recovery from the Great Recession. Before the recession, total jobs in the region peaked at 1,361,550 in 2007 and did not reach that level again until 2014. The annual average number of jobs for 2015 was estimated at 1,405,122. Through 2008, total jobs in the region were growing at a 1.4 annual percentage rate, while, since 2008, the number of jobs has grown at a much lower 0.5 percent per year. The analysts conclude that, at 1.4 percent a year, jobs in the SJVAC RPU are expected to grow modestly through 2025, although they project a number of sectors (construction, health, logistics, professional, scientific and technical services, administrative support, education, healthcare and food service) to exceed this overall annual growth rate. However, qualified workers are in short supply for certain key job categories and skill areas. ADE's summary of overall job growth in the region indicates:

- The regional unemployment rate declined to 9.9 percent in 2015, down from the peak of 16.5 percent in 2010, but still well above the low point of 7.9 percent in 2006.
- Before the recession, total jobs in the region peaked at 1,361,550 in 2007 and did not reach that level again until

late 2014. Jobs have grown to 1,405,122 (annual average) in 2015.

- Healthcare is projected to see the highest growth in jobs between 2015 and 2025 (51,000 new jobs), followed by Retail (27,400 new jobs) and Food Service (18,000 new jobs).
- The SJVAC region is also expected to see relatively strong growth in Education (16,400 new jobs), and Professional, Scientific and Technical services (8,700 new jobs).
- The Logistics sector, including Wholesale, Warehousing and Transportation, is projected to grow by a combined 22,700 new jobs
- Manufacturing is projected to increase by 7,000 jobs, but this trend masks considerable turbulence within the sector, with some industries growing while others decline. Wineries (NAICS 312230) are projected to grow by 1,400 new jobs and a number of other food processing industries are projected to grow by at least 500 new jobs each, such as roasted nuts and peanut butter (NAICS 311911), poultry processing (NAICS 311615), animal slaughtering (NAICS 311611), and cheese manufacturing (NAICS 311513). At the same time, dried and dehydrated food manufacturing (NAICS 311423) and fruit and vegetable canning (NAICS 311423) are expected to each decline by more than 600 jobs. Breakfast cereal manufacturing (NAICS 311230) and commercial bakeries (NAICS 311812) are expected to decline by approximately 300 jobs each.
- Construction has recovered more than 12,800 jobs over the past five years, but is projected to continue at less than half that rate of job growth, with 11,200 new jobs created between 2015 and 2025.
- Consistent with the above trends, the Health and Wellness industry cluster is projected to have the highest job growth over the next ten years. The Health and Wellness cluster is projected to add 51,000 jobs by 2025. About 26,700 (52 percent) of the new jobs will occur in the Health Care Delivery sub-cluster. Within this sub-cluster, the number of jobs in hospitals and HMO Centers is projected to increase by 8,500 new jobs. In contrast, services to elderly and disabled persons are projected to increase by 20,800 new jobs.
- The projections of job openings show a concentration in transportation and materials handling (4,900 annual openings), food services and retail (12,600 combined annual openings), office and admin support (5,900 annual openings) and farm occupations (6,300 annual openings).

ADE's analysis corresponds to input from key stakeholders throughout the planning process. A question that workforce, economic development, education and other stakeholders have grappled with during the planning process is how to formulate a systemic response to substantial growth in the retail and food service sectors. The Community College's Deputy Sector Navigator responsible for these industries expressed opinions that many across the system echoed. Both food service and retail, while not directly within the career paths for middle skill jobs in targeted industries, do provide on-ramps for new workers, including youth, immigrants and those returning to work after overcoming employment-related barriers. The system's approach to using employment in these lower wage sectors must include plans for leveraging work readiness and maturity gained through the jobs to transition workers to fields offering greater opportunities to earn family sustaining wages. Approaches will likely require training, both at education/training institutions and on-the-job.

Based on ADE's analysis and discussions with key employers, workforce organizations and training providers, the regional planning process identified specific occupations as potential priorities for additional training efforts, including Medical Technicians, Electricians and Maintenance Mechanics. The planning process also identified specific skills needed by business, such as the ability to use computer-operated processing controls and instruments, supervisory and management skills, business skills, and related English competency.

Major Industry Sectors within the Region: EDD LMID's recent data summary highlights regional economic growth by reporting on the industries with the most employment.

Major Industry Sector	May 2016 (preliminary)	May 2012	Change	Percent	LQ[2]
Total All Industries	1,514,200	1,368,720	145,480	10.6%	-

[2] Location Quotient

Total Farm	240,000	220,001	19,999	9.1%	5.6
Total Nonfarm	1,274,200	1,148,720	125,480	10.9%	0.9
Mining and Logging	9,930	13,451	-3,521	-26.2%	4.4
Construction	43,130	36,530	6,600	18.1%	0.6
Manufacturing	111,240	102,701	8,539	8.3%	1.0
Trade, Transportation and Utilities	268,450	235,200	33,250	14.1%	1.0
Information	11,840	11,660	180	1.5%	0.3
Financial Activities	42,940	42,540	400	0.9%	0.6
Professional and Business Services	110,120	101,620	8,500	8.4%	0.5
Educational and Health Services	205,460	181,400	24,060	13.3%	0.9
Leisure and Hospitality	126,430	106,960	19,470	18.2%	0.7
Other Services	38,790	35,700	3,090	8.7%	0.8
Government	287,380	266,760	20,620	7.7%	1.3

Notably, agriculture, construction, manufacturing, trade-transportation-utilities and educational and health services (sectors being targeted, as described below) all experienced growth over the 4-year period from May 2012 through May 2016.

Target Sectors for Workforce Development: The RPU partners have selected the following sectors as priorities under the 2017 – 2020 Regional Workforce Development Plan: advanced manufacturing; construction (including public infrastructure); energy (including green energy); healthcare; transportation and logistics; and value-added agriculture. The decision to target these sectors is based principally on the following factors:

- Each is showing substantial growth and/or post-recession resurgence in the Valley;
- To varying extents, the industries are being transformed by technology, requiring innovative strategies and approaches for training new workers and the current workforce;
- Engagement with businesses, business supporting agencies and economic development organizations all suggest that these sectors will benefit as the result of interventions by the workforce and education system.
- They were selected as targets through the extensive research and planning that culminated in the 2012 San Joaquin Valley Regional Industry Cluster Analysis and Action Plan. According to the Cluster Action Plan, emerging opportunities for these "comparative advantage" industry clusters are the foundation for innovation, competitiveness, and future well-being in the region. They support improved health, sustainability, energy self-sufficiency, and shared prosperity.

EDD LMID's Regional Economic Analysis Profile, provides clear and concise industry cluster descriptions[3] for four of the RPU target sectors. These are summarized below:

Agriculture (particularly, Value-Added Agriculture): The Agriculture, Food, and Beverage Processing industry cluster includes establishments primarily engaged in growing crops, raising animals, and manufacturing food and beverages, as well as support activities for crop and animal production. This cluster employed almost 269,000 people in 2014, nearly 21.7 percent of the economic market's workforce. Top industries in this cluster include: Support Activities for Crop Production; Fruit and Tree Nut Farming; Cattle Ranching and Farming; Other Food Manufacturing; and Beverage Manufacturing. Examples of in demand entry-level and middle skills jobs include agriculture and food processing technicians, maintenance mechanics, quality control inspectors, farm machinery mechanics and bi-lingual supervisors. There is a very high degree of cross-over between value-added agriculture and advanced manufacturing.

[3] Distinctions between EDD's industry cluster titles and the sector titles used by the RPU are considered immaterial.

The RPU is focusing on the economic benefits of "value-added" agriculture. Defined as the transformation of agricultural products to a higher value for the end consumer, examples can be seen when carrots are processed into smaller, "baby" carrots, or used in the production of vegetable juice and when grapes are turned into wine.

Construction (including Public Infrastructure): The Construction Materials and Services industry cluster is comprised of builders of mechanical systems such as electrical, heating, and water; specialty trades outfits such as drywall, flooring, and painting contractors; residential and commercial builders; and contractors who complete foundation and framing work. In 2014, this cluster was comprised of more than 55,000 workers, or 4.5 percent of the economic market's employment. Expenditures on road, bridge, tunnel, pipeline and other public infrastructure construction in the Central Valley is expected to top $36 billion in the coming several years. Industries showing the highest projected job openings include: Building Equipment Contractors; Building Finishing Contractors; Foundation, Structure, and Building Exterior Contractors; Residential Building Construction; and Other Specialty Trade Contractors.

Healthcare: The Healthcare Services industry cluster includes acute care and outpatient hospitals, nursing homes and rehabilitation centers, adult day care centers, and community service agencies for the elderly. It employed nearly 134,000 people in the economic market in 2014, accounting for 10.8 percent of the workforce. Industries in this cluster may include both public and private employment. Top industries within this cluster include: General Medical and Surgical Hospitals; Offices of Physicians; Nursing Care Facilities (Skilled Nursing Facilities); Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly; and Outpatient Care Centers. In demand entry-level and middle skills jobs include: medical assistants, certified nursing assistants, licensed practical and vocational nurses, registered nurses, triage nurses, nurse practitioners, emergency medical technicians and paramedics, medical lab technicians, respiratory therapists, clinical technicians, health diagnosticians, a variety of medical support personnel and dental assistants,

Transportation and Logistics: The Transportation and Logistics cluster is made up of interrelated industries such as refrigerated warehousing, self-storage facilities, freight transporting companies, and overnight delivery businesses. In 2013-2014, over 50,000 workers were employed in this cluster, making up 4 percent of the economic market's workforce population. Industries showing the highest projected job openings include: Warehousing and Storage; General Freight Trucking; Specialized Freight Trucking; Couriers and Express Delivery Services; Commercial and Industrial Machinery and Equipment (except Automotive and Electronic); and Repair and Maintenance. In demand entry-level and middle skills jobs include truck drivers, mechanics, supply chain workers for "fulfillment" or on-line ordering businesses, fork lift operators, warehouse workers, bi-lingual supervisors and order takers/route planners.

The following industry descriptions for the advanced manufacturing and energy sectors are based on information provided in the 2012 San Joaquin Valley Regional Industry Cluster Analysis and Action Plan.

Advanced Manufacturing: Manufacturing is a lynchpin cluster in that it is a component of virtually all of the other regional clusters in addition to other "diversified" manufacturing companies. More than 70 percent of manufacturing jobs are associated with one of the five other target sectors. Most of this employment is in food processing and is part of the agriculture value chain. Manufacturing has generally lost employment during the past decade, although this loss occurred more slowly in the Central Valley than it did statewide. It is worth noting, though, that nearly 60 percent of the losses were in non-cluster related diversified manufacturing industries. In demand entry-level and middle skills jobs include entry level and skilled technicians, engineering and drafting specialists, maintenance mechanics, welders, supply chain managers, quality control specialists and bilingual frontline supervisors.

Energy (including Green Energy): The San Joaquin Valley's growing population and expanding economy will require increased supplies of reliable, diverse, clean energy, which is defined as "increasing the energy use efficiency of our homes and businesses and other resources; and producing more electricity and fuel in the Valley from renewable energy resources such as solar, wind and biomass."

It is challenging to find both a consistent definition of the Energy Cluster "value chain" in terms of component groups

of industries, and to identify the NAICS codes that comprise the cluster. This is in part because Energy is a rapidly evolving cluster and there are not yet specific NAICS codes for some of the industries, especially in the production of renewable energies. In some cases, such as the solar industry, activities cover many NAICS codes and are difficult to classify. In other cases, activities fall under categories that can involve non-energy-related functions. For example, installation of solar panels on roofs of buildings is classified under a NAICS code for roofing contractors, which is a more encompassing area than solar panel installation. The development of biofuels is sometimes categorized within the agriculture value chain. As a goal of this Regional Plan, the RPU partners will work with EDD LMID to develop a definition for the industry cluster and the jobs it encompasses. In demand entry-level and middle skills jobs include HVAC specialists and insulators, wind and solar farm technicians, energy conservation advisors, natural gas conversion specialists and mechanics specializing in converting and repairing vehicles and devices using alternative fuels.

II. Skill Requirements for a Diverse Region: The in-depth stakeholder engagement process, which included both business representatives and individuals from organizations that serve businesses, pinpointed several key skill areas that companies require of their employees and job candidates. These include:

Foundational skills: Basic literacy and numeracy skills are required in virtually every type of work. Education partners equate the typical minimum requirements of businesses for language and math skills to 8th grade proficiency.

Core Competency Skills: Over and over again, businesses and those who provide training for their workers expressed that digital literacy is now a core competency. While the ways that technology manifests within a company and in relation to specific jobs are countless, a baseline understanding of computer/microprocessor operations is now essential for virtually all work. Many stakeholders, including businesses themselves, expressed similar thoughts about "customer service" skills, recognizing that strong customer relations, be they external or internal, affect productivity and profitability.

Essential Skills: Punctuality, team work, customer responsiveness, critical thinking, and accepting supervision are among a long list of workplace behaviors, attitudes and knowledge that businesses require. Many businesses, for which specific licensure/certification is not a prerequisite, indicate that these "essential skills" alone can advance a job applicant to the hiring phase and suggest that no candidate be referred without workforce system representatives first verifying that he or she demonstrates competency in these areas.

Job Specific Skills: As indicated various times throughout this Plan, each target industry has described skills needed for workers in a wide range of occupations. Industry engagement will continue to focus on translating skill requirements into training for each target sector. In most cases, this will involve updates to the technical content of curricula, especially as workplace skills are altered by technology and automation. In other cases, as technology and market place conditions create new job classifications or completely new skills requirements for existing classifications, new curricula will need to be developed.

Regional Plan goals and action steps concerning the foregoing demand-driven skill areas are further described in section L.

In its recent analysis of labor market data for the region, ADE reports that more than 51,200 average annual openings are projected between 2015 and 2025 (512,600 total openings), of which approximately 21,000 annual openings would be due to new job growth.

- The minimum educational requirements listed by the Department of Labor for more than three-quarters of the openings do not exceed a high school diploma. However, nearly 4,000 openings per year require more than a high school diploma, though less than a four year BA degree. This includes about 700 openings that require specialized training beyond high school, though not necessarily a certificate or AA degree. Of these jobs, 572 are teaching assistants and 105 are computer support specialists.

- Nearly 1,400 annual openings are for jobs that do require a certificate in a specialized area of training. The largest occupational groups in this category include medical assistants (348 annual openings) and licensed practical and vocational nurses (308 openings per year). Other occupations requiring a certificate with 90-100 annual projected openings include dental assistants, emergency medical technician and paramedics, firefighters, supervisors of production and operating line workers, and heating, air conditioning and refrigeration mechanics.
- About 2,000 projected openings per year would require an AA degree. The largest occupational group in this category is nurse practitioners (560 annual openings), followed by registered nurses (430 annual openings) and preschool teachers (203 annual openings). Another 331 projected annual openings are in other medical occupations, such as clinical technicians, health diagnosing support personnel, and respiratory therapists. The remaining openings in this category include a wide range of technical specialties including engineering and drafting technicians, agriculture and food science technicians and radio and telecommunications equipment installers.

While some of what ADE highlights is outside the focus of the region's target sectors, it provides important insight with regard to skills for middle skill jobs and other occupations requiring less than a four year degree.

III. The Regional Workforce: The workforce in the greater San Joaquin Valley region is, consistent with the demographics of the vast majority of California, ethnically and culturally diverse. The region's vast agricultural footprint has, for more than 150 years, drawn immigrants from around the world to the Central Valley, where they have been quickly able to use their knowledge of farming and ranching, along with the hard labor that they know is required of the industry. Over the past several decades, as the industrial base of the region has expanded beyond agriculture and related sub-sectors, all of those with a stake in economic growth have worked to build a workforce that is as diverse in skills as it is in heritage.

Labor Force Data: The following labor market profile information, providing employment and unemployment data, is excerpted from EDD LMID's September 2016 LMID Summary[4] for the ten county area comprising the SJVAC RPU[5]:

	May 2016	May 2015	Change	Percent
Labor Market	1,871,810	1,873,910	-2,100	-0.1%
Employed	1,710,720	1,689,870	20,850	1.2%
Unemployed	160,910	184,240	-23,330	-12.7%
Unemployment Rate	8.6%	9.8%	-1.2%	-

The Summary expresses labor force participation in the following terms:

Labor Force Participation	Population	Percentage
Employed or in Armed Forces	1,562,189	51.7%
Unemployed	261,676	8.6%
Not in labor force	1,196,002	39.6%
Total	3,019,867	100.0%

Other key labor force and overall regional population characteristics in the summary include: native and foreign born; English learners; veteran status; disability status; and barriers to employment. The tables that follow present this data:

Native and Foreign Born	Population	Percentage
Native	3,192,815	78.3%
Foreign Born	886,794	21.7%

[4] For all tables under the "Labor Force Data" sub-heading, the source is U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.
[5] Note: LMID advises that numbers may vary from table to table due to rounding and other factors.

Total	4,079,609	100.0%

English Learners	Population	Percentage
Speaks English Less Than "Very Well"	711,447	19.0%
Speaks English "Very Well"	916,870	24.5%
Speaks Only English	2,117,332	56.5%
Total	3,745,649	100.0%

Veteran Status	Population	Percentage
Male Veterans	179,774	93.2%
Female Veterans	13,092	6.8%
Total	192,866	100.0%

Disability Status	Population	Percentage
With Any Disability	482,044	12.1%
No Disability	3,507,996	87.9%
Total	3,990,040	100.0%

Individuals with Barriers to Employment	Total
Ethnic Minorities	2,627,380
Households with Cash Public Assistance or Food Stamps	227,663
Population 18 and Over with Less Than a 9 Grade Level Education	383,224
Single Parent Households	299,397
Speak English Less Than "Very Well"	711,447
Youth Ages 10 to 24	977,226

While EDD LMID's Summary stops short of analysis concerning labor force characteristics, it does make clear that there is a significant number of RPU residents with barriers to employment. These statistics suggest that the region's workforce system must be responsive to challenges faced by workers and those seeking to enter the workforce. Growth of key sectors of the Central Valley's economy will require that large percentages of these individuals become skilled members of workforce. Strategies must include training and other workforce services specially designed to remediate barriers and enable entry to critical, in-demand career paths.

In contrast to the LMID Summary, the October 2016 report by ADE analyzed the labor force, focusing on characteristics including race and ethnicity, gender, veteran status, disability status, citizenship, age, educational attainment and employment status. The report makes note of a number of significant factors and draws some conclusions, about labor force characteristics, the economy and employment. The following information is in largely excepted from ADE's Report.

Unemployment: Within the RPU, about 48 percent of the labor force is Latino, at 870,562 persons out of a labor force of 1,814,685. Thirty-eight percent is White. Unemployment for Latino workers 25 and older is 12.4 percent compared to 8.6 percent for Whites. Unemployment is 14.2 percent for workers in other racial and ethnic groups. Unemployment affects workers 25 and older with no college degree much more, at 13.2 percent, than those with a college degree (6.1 percent). Veterans' unemployment level is at 8.8 percent. Disabled workers have relatively high unemployment, at slightly over 22.0 percent.

Age Demographics: The labor force in the RPU is fairly evenly concentrated among the age groups. Workers in the 16-24 age group are about 16.6 percent of the total, while nearly 25 percent are in the 25-34 age group. The prime working age group of 35-54 has 42 percent of the workforce. Workers over 55 constitute about 16.9 percent of the workforce and a number of employers report that impending retirements are a significant issue for them in terms of anticipated openings in the future.

Underutilized Workforce: ADE examined the part-time and unemployed labor force in terms of how its educational attainment and prior occupational background matches projected annual job openings. The largest numbers of openings identified were in lower skilled occupations such as farming, food service, sales and administrative office occupations. However, significant numbers of openings were also projected in education, production, healthcare practitioners and personal care services, which are followed closely by management and healthcare positions. Comparing these categories to the availability of currently unemployed and part-time workers, there are substantial numbers of workers who would seemingly be available to fill these positions. This may suggest that these unemployed individuals and those working only part-time need training to help upgrade their skills. It might also be the case that they need other services to help them be available for full-time employment.

Labor Market Trends: ADE's 2016 analysis sheds light on labor market trends in the RPU. The authors report that, as expressed in the following table[6], the San Joaquin Valley has defined a number of regional industry clusters that are significant components of the regional economic base.

NAICS	2015 JOBS	2025 PROJECTED	2015-25 CHANGE	2015-25 ANNUAL GROWTH RATE
Total	1,031,426	1,203,14475	171,718	1.6%
Energy	47,762	53,517	5,755	1.1%
Diversified Manufacturing	30,277	30,777	500	0.2%
Health and Wellness	203,489	254,499	51,010	2.3%
Agriculture	418,394	469,406	51,012	1.2%
Water Flow Technology	9,934	11,480	1,546	1.5%
Logistics	51,436	63,324	11,888	2.1%
Retail	151,397	178,823	27,426	1.7%
Accommodations and Food Services	106,314	125,619	19,305	1.7%
Heavy Construction	12,423	15,699	3,276	2.4%

Industry clusters represent traded sectors in the regional economy, which are typically the source of most of the income and wealth for the region, as well as the areas where innovation occurs most frequently. Agriculture and Healthcare are the two largest industry clusters.

The Agriculture cluster includes not only farm production, but also food processing, related distribution and logistics, and a variety of agricultural services that include fertilizers, irrigation, soil testing, veterinary services, and marketing, among others. Within the broader Agricultural cluster, there continues to be a shift away from jobs employed directly at farms and increased reliance on farm labor contractors. In addition, a number of food processing industries are projected to increase employment, including poultry processing (NAICS 311615), animal slaughtering (NAICS 311611), meat processed from carcasses (NAICS 311612), wineries (NAICS 312130), corrugated and solid fiber box (NAICS 322211), perishable prepared foods (NAICS 311991), and wood containers and pallets (NAICS 321920). In addition, the agriculture-related distribution (logistics) sector is projected to add about 3,900 jobs over the next ten years.

The Health and Wellness cluster is projected to add 51,000 jobs by 2025. Of the 51,000 new jobs, almost 26,700 (52 percent) will occur in the Healthcare - Delivery sub-cluster. Within this sub-cluster, the number of jobs in hospitals is projected to increase by 5,400 new jobs, with another 4,200 new jobs projected for services to elderly and disabled persons. In addition to the 4,200 new service-related jobs in the Health Care - Delivery sub-cluster, there is another 20,800 new jobs in the Health Care – Other Services sub-cluster pertaining to services for the elderly and disabled

[6] ADE Inc., San Joaquin Valley Regional Industry Cluster Analysis and Action Plan, prepared for the Office of Community and Economic Development, CSU Fresno, on behalf of the California Partnership for the San Joaquin Valley. September 2012

(NAICS 624120). Some of the new jobs will occur in hospital settings, but many will be in outpatient facilities and various types of nursing and residential care facilities.

ADE's analysis also identifies industries that are expected to decline. While food processing generally exhibits strong growth over the next ten years, there are several food processing industries within the Agriculture Cluster that are expected to decline, such as breakfast cereal manufacturing (NAICS 311230), fruit and vegetable canning (NAICS 311421), and dried and dehydrated food manufacturing (NAICS 311423).

Labor force demand is not only affected by new jobs growth, but also by changes in the labor force. As the Baby Boomer generation ages out of the labor force, there will be an increased need for replacement workers. In addition, job turnover occurs for a number of other reasons. More than 51,200 average annual openings are projected between 2015 and 2025 (512,600 total openings), of which approximately 21,000 annual openings would be due to new job growth.

Educational and Skill Levels: The LMID Summary provides the following data on the educational attainment levels of Central Valley residents:

Educational Attainment	Male	Percentage	Female	Percentage
Less than 9th grade	198,654	13.8%	184,570	12.8%
9th to 12th grade, no diploma	196,833	13.6%	153,414	10.6%
High school graduate (includes equivalency)	394,997	27.4%	366,649	25.4%
Some college, no degree	363,871	25.2%	397,218	27.6%
Associate's degree	92,503	6.4%	118,626	8.2%
Bachelor's degree	131,471	9.1%	154,746	10.7%
Graduate or professional degree	65,809	4.6%	65,914	4.6%
Total	1,444,138	100.0%	1,441,137	100.0%

The fact that nearly one quarter of the region's "job age" residents have not earned a high school diploma or its equivalent is troubling. Even opportunities for which a high school diploma is not required are more readily attainable when the candidate has this credential. As discussed in section D of this Plan, representatives of business, education and virtually every workforce stakeholder group agreed that a high school diploma is the "bedrock" credential for the majority of jobs in the Central Valley, particularly those offering upward career path potential.

ADE's October 2016 report provides substantive review of education attainment and its effect on workforce conditions. According to this analysis[7], Educational attainment in the region is slightly lower than the statewide averages, with 22 percent of workers 25 years and older not holding a high school diploma or equivalent, compared to 18.5 percent for the state as a whole. Statewide, 38.8 percent have a college degree, compared to 28.5 percent for the SJVAC region. However, in the Central Valley, there is a stark contrast in the educational attainment levels of the labor force when citizenship status is taken into account. Among US citizens in the workforce, only 12 percent do not have a high school diploma or GED and 33.7 percent have a college degree. However, it is important to recognize that many non-citizens have not had the same educational opportunities in their home countries and many have not achieved the equivalent of a high school diploma. 63 percent of the non-citizens 25 and over in the labor force have not obtained a high school diploma or a GED. Twenty percent of non-citizens in the labor force have earned a high school diploma or equivalent, which is five percentage points lower than the rate for citizens (i.e. 25.9 percent). This accounts, in part, for the differences in educational attainment between Latino workers and other workers in the labor force, as the non-citizen group is 87.1 percent Latino; slightly over 39 percent of all Latinos in the workforce have no

[7] The following text is largely excerpted from ADE's report; edited only for narrative flow and sequence of information within the context of topics to be addressed by the Regional Plan.

high school diploma or GED. It is also important to note that Latinos have earned high school diplomas and GEDs at rates slightly surpassing Whites and Others, at 25.9 percent versus 24.5 percent (Whites) and 21.7 percent (Others). However, Whites and Others are over two times more likely than Latinos to have earned a college degree: 14.9 percent of the Latinos in the labor force have earned a college degree versus 40 percent for Whites and 41 percent for Others.

Educational attainment also affects employment status. Persons with no high school diploma exhibit rates of unemployment that more than double unemployment levels for persons with a college degree, or 15.8 percent versus 6.1 percent. Of the persons with a college degree, almost 68 percent work full-time, resulting in a full-time employment rate that is 18 percentage points greater than the rate for persons without a high school diploma (i.e. 68.3 percent versus 50.0 percent).

Veterans in the region tend to have high levels of overall educational attainment, with only 3.5 percent not achieving a high school diploma. For the workforce as a whole, 22.0 percent do not have a high school diploma or equivalent degree. Among workers with disabilities, however, nearly 26.5 percent do not have a high school diploma.

IV. Workforce Development Activities within the Region: From the on-set of recent planning activities that have taken place to support the development of the Regional Workforce Plan, the partners have agreed that there are substantial resources within the RPU to provide workforce development and training. The challenge in moving the needle forward on the development of a more demand-focused system is marshaling these resources so that they become more nimble and able to quickly respond to labor market needs.

Overall, the training assets of the region are abundant and, in the aggregate, are effective at meeting the demands of industry for a variety of skill sets. However, ample room for improvement exists in the following areas:

- Capacity to receive on-going input from industry on its changing needs and support from business in translating workplace skill needs into training content.
- Shortening the turn-around time from when business "sounds the alarm" to the start date of training in new and updated courses.
- Consistency of content from institution to institution and from area to area so that regional businesses can gain confidence that credentials resulting from training reflect agreed upon content.
- Greater collaboration with system stakeholders, particularly economic and workforce development, in the process of engaging industry in regional discussions of current and emerging skill requirements.
- Development of more on-ramps for individuals with barriers to employment to enter training that enables subsequent transition to career pathway programs eventually leading to middle-skill and other self-sustaining employment.

Strategies to address these challenges are described throughout this Regional Plan and are summarized within section L, Regional Collaboration: Goals and Associated Action Steps.

Scope and Capacity of Regional Workforce Development and Training Activities: The eight local WDB's within the region all operate high-functioning workforce development systems that comply with and fulfill the objectives of WIOA. These systems include a regional network of American Job Centers of California (AJCCs) and youth/young adult programs, some of which are linked directly to AJCCs, while others are stationed in other locations throughout the community. For many job seekers, these centers provide access to occupational, foundational, employment readiness and remedial skills training offered by a wide variety of providers, including the following.

<u>Community Colleges</u>: There are 14 community colleges in and around the SJVAC RPU, which, to varying degrees, are key contributors to training Central Valley residents in skills for in-demand jobs in target sectors. Coordination between the local WDBs and the community colleges is facilitated and made more effective by the Central Valley/Mother Lode Regional Consortium (CRC), which represents community college's career and technical

education faculty, staff and programs in the region. The CRC supports regional economic growth by facilitating development and expansion of college training and educational programs to meet the needs of regional businesses and industries. Working with the CRC are the region's Deputy Sector Navigators (DSNs), which serve as liaisons between local colleges and business. Within the region, DSNs represent the following sectors/areas of focus: Advanced Manufacturing; Health Workforce Initiative; Agriculture, Water and Environmental Technologies; Global Trade & Logistics; ICT/Digital Media; Retail, Hospitality, Tourism; and Small Business. The efforts of the DSNs, combined with those of deans and faculty, have resulted in the updating of courses reflecting the major demand industries in the Central Valley. Community colleges also provide foundational skills training in language and mathematics.

Adult Education: Adult education programs tied to local school systems provide training in a number of areas, both academic and vocational. For students with barriers to employment, learning deficits and lack of a high school diploma, adult schools throughout the region are a critical resource. Adult Basic Education (ABE), which promotes development of literacy and numeracy skills required in the workplace, English-as-a-second language (ESL) and high school completion and equivalency programs are offered by the system. In addition, various adult schools offer career training, much of which is closely aligned to target industries and demand jobs, including welding, construction skills, entry-level healthcare occupations, warehousing, food service and culinary occupations.

Private Vocational Training: According to the State Bureau for Private Postsecondary Education, there are more than 150 approved private training institutions in the San Joaquin Valley. While some institutions in this category have come under scrutiny within the last several years around fee structures and student outcomes, several private postsecondary schools in the Central Valley have proven track records in training job seekers for in-demand entry-level jobs, such as truck driver, medical assistant and technicians for various industries. These schools continue to occupy an important niche within the training community, as, based on their small size and flexible structures, they are often able to train students quickly and place completers into jobs with local businesses.

Others: Other providers also comprise an important, albeit smaller, portion of the training community. These include

- *4-Year Institutions*: The Central Valley is home to the University of California, Merced, along with three campuses of the California State University system: Bakersfield, Fresno and Stanislaus. In addition, several notable private universities, such as University of the Pacific, are located in the RPU. While these institutions are well known for awarding baccalaureate and advanced degrees, many of which are required for employment in the region's key sectors, increasingly their "extended education" divisions are providing training and producing certificates that respond to industry demands for particular skills.
- *Organized Labor*: Unions representing the skilled trades offer a number of pre-apprenticeship and apprenticeship programs that can lead to employment with good wages and benefits.
- *Constituent-Focused Training*: Programs offered by organizations serving specialized target groups (including WIOA Section 166 and 167 programs serving farmworkers and Native Americans) offer a wide range of vocational programs for jobs ranging from solar panel installation to truck driving, welding and more.
- *Community-Based Organizations*: An extensive number of community-based agencies provide training and services to support employment. Many such organizations provide "essential skills" training, which emphasize work readiness, along with information on the behaviors, attitudes and work maturity expected by business.
- *Private Industry*: Business itself is a major trainer of workers, mostly using its own resources. Increasingly, workforce development, education and economic development are developing new partnerships with private businesses to make training more responsive to the specialized skill needs of industries and companies. Initiatives include providing financial support for work-based learning and designing customized training programs on behalf of specific businesses.

Addressing the Needs of Limited English Proficient Individuals: With the eight largest counties in the RPU all reporting a workforce that is at least 15 percent limited English proficient and 19% of workers throughout the region self-identifying as speaking English less than "very well," there is a clear need to provide services to assist these

individuals in increasing their prospects for success in the labor market. Stakeholders representing all workforce-related disciplines and every sub-region of the RPU shared insights on the need for services, where they are available and how service delivery can be improved to increase the work readiness of English language learners. With regard to need, while everyone agreed that it exists, the level of need for English language skills was a subject of some debate. After decades of immigration from Mexico and other parts of Latin America, Spanish has become the unofficial second language of the Central Valley. As such, workers can live their daily lives communicating in Spanish and are able to secure jobs where only the most minimal English skills are required. Although jobs requiring little or no English are generally low-paying, some stakeholders indicate that it is often difficult to persuade adult workers of the benefits of studying English to improve career opportunities and increase their earning potential.

ESL training is available through a range of providers and programs. In rural communities, WIOA Section 167 grantees and their partners play a significant role in delivering English skills training though the National Farmworker Jobs Program. Providers for the region include Proteus, Central Valley Opportunity Center and Employers' Training Resource, which offer some vocational services in tandem with ESL. By far, the region's largest provider of ESL training is public education, with the Adult Education system at the forefront. Under the leadership of the AEBG consortia throughout the Central Valley and up and down the state, a number of unique practices have been developed by adult schools and community colleges that hold promise for increasing the English language fluency of workers in the region. Among these are: strategies that bring ESL into rural communities, sometimes on a non-credit basis, to make training more accessible; offering training during school hours and in the evening to parents of English language learners and immigrant students; and contextualizing ESL through a co-instruction process, where language teachers and vocational instructors split teaching time and provide English language training in a work-related context.

Improving the capacity and results of the workforce system to build English skills for those with limited fluency is a priority of the regional partners. To this end, workforce and education leadership will convene a workgroup to develop strategies around the following challenges and issues:

- Communicating the value of English language skills acquisition in terms of employment opportunities
- Making services accessible in terms of location, schedule and instructional methods
- Broadcasting the availability of programs and services
- Linking language skills to work requirements
- Offering various on-ramps to beginning, intermediate and advanced English skills training

C. Regional Sector Pathways

Associated goals and action steps are summarized within section L of the Plan.

The SJVAC RPU partners understand and believe in the value of regional sector pathway programs to transform the workforce system into one that is uniquely focused on meeting the skills needs of business, while at the same time preparing new and incumbent workers to gain the skills for in-demand jobs. Over the last several years, at the local level, the WDBs have indeed been focused on target sectors in their areas and a number of sector strategies and initiatives have taken shape. Some of these involve support for hiring, some for training and some for both. A number of projects have included economic development and/or the community colleges in the process of designing and delivering services. Some have not. Simply put, within any local area, strategies do not necessarily adhere to a particular protocol with regard to identifying need or developing new training responses to that need. Neither is there a standardized process for the partners to come together with industry to assess the need for adjustments to existing programs. From area to local area, processes used for translating the workforce skills needs of industry into career pathways vary. Despite the lack of standard processes within and across local workforce areas, many very promising practices are emerging and industry-responsive services have been and continue to be developed. Some of this work is even being done on a regional level, signaling that the Central Valley is well positioned to develop and implement

regional sector pathway programs as envisioned by the State Plan.

In short, what remains to be done is transforming local and less uniform processes into more easily replicated ones based on best practices for the development of regional sector pathways. The partners will develop protocols for working with business to assess regional industry workforce needs and translate these needs into content for training and services to prepare candidates for jobs. The protocol will include strategies to effectively engage with business, economic development, and education in a regional sector pathway planning and development process. As stated above, the good news is that there are indeed sector-focused career pathway programs in the Central Valley, many of which were driven by specific requests from and input by industry. Some of these have the potential to be scaled up to other areas of the RPU. Again, the only things lacking are standard structures, processes and protocols, so that partners throughout the region can develop sector pathway programs that will be replicable in other locations.

The partners' description of regional sector pathways strategies in response to the planning guidance is largely forward thinking and aspirational, indicating where the system currently is in the process of planning and what plans have been devised thus far. In addition, the following responses highlight a number of local career pathway programs that are well positioned for further development and regional replication.

I. Need for Regional Sector Pathway Programs

For several years the local boards within the region have been intensively involved in the development of programs and strategies to respond to the growing demand from key sectors. In addition, significant regional planning began to coalesce in 2011, when the Office of Community and Economic Development (OCED) at CSU Fresno received an Economic Adjustment grant from the U.S. Department of Commerce's Economic Development Administration to prepare a Central Valley-wide industry cluster analysis and a regional strategy: a Cluster Action Plan to catalyze the growth of priority clusters. The resulting San Joaquin Regional Industry Cluster Analysis and Action (described in Section B) set in motion numerous actions that would give shape to sector strategies throughout the Central Valley.

One important outgrowth of the Action Plan was the establishment of the Regional Industry Clusters Initiative (RICI). The goal of the project is to support improved regional economic performance, sustainability, and shared opportunity for Central Valley residents, businesses and communities. RICI got its official start in February 2013, with team members engaging champions for five identified clusters: agriculture, clean energy, health, manufacturing, and water technology. For each of these clusters, industry partners have been identified and advisory committees have been organized. While RICI has not yet focused on two of the region's priority sectors (construction and transportation/logistics), it has the potential to function as a resource for reaching out to and even convening industry on behalf of the workforce system.

Initiating the Regional Sector Pathway Discussion with Industry and Stakeholders: During the planning process that preceded the development of this Regional Plan, industry was engaged in discussions (principally through the regional forums) of its workforce needs. The dates and times of these sessions are included as attachments to the Regional Plan. However, these sessions did not drill down to the content level in such a way as to render feedback usable for development of sector pathway programs. That will require the more in-depth process described below.

More Intensive Industry-Led Planning on Regional Sector Pathways: As described in Section D, which follows, the partners plan to organize a series of meetings with key industry leaders regarding industry-valued credentials. These same convenings can be used to review existing career pathway programs to determine opportunities to upscale them throughout the region. The RICI committees as well as the local and regional Economic Development organizations may serve as resources for organizing these meetings. Intensive engagement sessions with industry leaders in all six sectors will be used to

- Review credentials in terms of value (described in Section D)

- Discuss industry needs for skills in various classifications, including middle skills jobs and entry-level employment that provides a path to these jobs
- Identify new classifications or skills sets for which training is needed and provide direction on content requirements
- Review new and existing career pathway programs (including the one's under Item III, below), which have been developed throughout the region, and provide input on the relevance of content and what changes are necessary to reflect current skill needs of business
- Determine the frequency with which regional sector pathway program content should be reviewed to ensure it remains relevant

II. How Existing Programs Work to Meet Industry Needs: The aforementioned process for initiating more intensive and on-going industry engagement reflects processes currently being piloted under a state-funded SlingShot initiative serving the entire region. The project is focused on several of the SJVAC priority sectors, including: advanced manufacturing, construction, water technology, industrial agriculture, and transportation/logistics. Partners (including community colleges, campuses of the California State University system, the WDBs, organized labor, and business) are working to streamline training curriculum, while ensuring that it meets the skill requirements of industry. Under the project, SlingShot partners are working on:

- Analyzing existing curriculum through the "eyes of businesses"
- Organizing "stackable" credentials
- Standardizing assessment(s) and training
- Aligning existing training resources to meet industry sector needs.
- Creating new apprenticeships
- Replicating "best practices"

The Community College SlingShot consortium has begun to lay the groundwork to establish policies and practices for Prior Learning Assessments and Competency-Based Education in an effort to expedite the rate at which students complete programs and obtain certificates and/or degrees, and eventually enter into the workforce.

III. Promising Practices within the Region: Demand-driven, career pathway programs have been developed throughout the region. The majority of these operate within one or two workforce areas, with some taking place across large portions of the RPU. While, as indicated, there have been various levels of industry engagement on these programs, all reflect skill needs expressed by business. Under the planned industry engagement protocol, these programs will be presented for further review to determine if they remain up to date and suitable as regional pathway programs.

Advanced Manufacturing: Several Central Valley manufacturers including JBT Food Tech, the Ardagh Group and Constellation Brands requested that an accelerated welding/blue print reading training program be established. The Madera County WDB, in conjunction with the Merced Community College Center, Reedley College and Fresno City College developed an accredited, year-long career pathway program which will complete its first cycle in the summer of 2017. The program includes on site apprenticeships at JBT and Ardagh.

Construction (including Public Infrastructure): In connection with this sector, various career pathway programs have been implemented on a regional basis. These include:

Multicraft Construction Training: Under a grant funded by the California Workforce Investment Board and Central Valley Infrastructure Employment Project (CVIEP), this program was implemented to fill critical workforce skills gaps by creating opportunities for job seekers to earn industry-valued credentials and enter into an apprenticeship or direct employment in the energy efficiency or construction sector. Merced WDB has conducted a total of five multi-craft pre-apprenticeship training modules that have taken place in Modesto: two jointly with the Stanislaus WDB, one in

partnership with the San Joaquin Valley WDB and two independently. Training has also been carried out in other regions of the Central Valley RPU. As candidates graduate, many have been scouted by several solar field businesses; one of which is preparing to construct the largest such field in the Central Valley.

The Pre-Apprenticeship Training Programs in the Crafts Trades is coordinated through the Fresno WDB and extends throughout the Central Valley. The curricula includes a six week program of exposure to the varying Craft Trades, industry-recognized OSHA-10 and First Aid/CPR certification, work maturity skills and physical training. Successful completers are allowed to bypass early screening processes when applying for acceptance into the trade unions.

Building Inspector Technology (BIT): The Deputy County Building Official in the Merced County Public Works Building Division communicated to representatives of the Merced County WDB and Merced College that there is a need for more trained building inspectors. The final result of that initial conversation is a new program to prepare candidates for the State of California Residential Building Code Certification Exam, which enables individuals to qualify for entry-level jobs. A Certified Inspector has opportunities with the local and State government, private consulting firms and business, as well as, real estate firms and can also work in inspection testing labs and as an entry-level Permit Counter Technician and Plan Checker. The median annual wage for construction and building inspectors was $57,340 in May 2015 and $27.57 per hour. Employment of construction and building inspectors is projected to grow 8 percent from 2014 to 2024, about as fast as the average for all occupations. (US Bureau of Labor Statistics)

Energy/Green Energy: While high speed rail, solar and wind energy are all hot topics related to energy, the majority of jobs available at present exist within the construction arena. More outreach to and engagement with energy sector leaders will precede planning and development of regional sector pathway programs.

Healthcare: Merced County WDB offers the following examples of demand-driven sector pathway programs:

Health Coaches: Under an Accelerator 2.0 Grant received from the State, more than a year was invested in developing this project. The WDB was approached by the Livingston Community Health Services seeking resources to train Medical Assistants (MAs) to become Health Coaches to respond to emerging needs in the growing health sector. A similar project had taken place in Southern California and successful replication seemed achievable. This training is an excellent example of a "stackable credentials," building on workers' knowledge and qualifying them for higher-skilled and higher-paying jobs.

The Merced County Health Coaching and Behavioral Health Career Ladder Project – Medical Assistant to LVN: Under the new Accelerator 4.0 Grant received from the State, this project is a joint effort among the WDB, the Livingston Community Health Services, Merced County Department of Mental Health, and UC-Davis Betty Moore School of Nursing Training. This project aims to create an upward career path for Medical Assistants and also to train LVNs on how to supervise and better incorporate Health Coaches into their teams.

Transportation and Logistics: The San Joaquin County WDB has been at the forefront of developing career pathway programs in the transportation and logistics sector, working closely with large businesses in the county. Existing programs include:

Caterpillar Maintenance Mechanic Program at San Joaquin Delta College: The Caterpillar Maintenance Mechanic Program at San Joaquin Delta College is a public/private regional collaborative training program. Training is provided at San Joaquin Delta College and students are referred by employers throughout the Central Valley. These employers provide the operating vehicles to facilitate the training and the hands-on experience. Additionally, students go through an apprenticeship program, spending time both in the field and in the classroom.

Electric Vehicle Repair and Maintenance - Regional Transportation Center: This program has been developed through a partnership among the San Joaquin Regional Transit District, San Joaquin Delta College, the San Joaquin

County WDB and the State Department of Industrial Relations. The Regional Transportation Center will soon become an on-site training facility. San Joaquin Delta College will be conducting the training at the Regional Transportation Center using the state-of-the-art equipment, tools and hybrid and electric vehicles. The site will be a centralized training hub for Northern Transportation Districts and organizations that will refer students and participate in an apprenticeship program currently under development by the State Department of Industrial Relations. The Regional Transportation Center will refer its own job candidates and employees for training. San Joaquin Delta College, the WDB, various transit facilities from the Central Valley and the Bay Area will also refer students.

Support for Existing and Planned Sector Pathway Programs: While the structured regional industry engagement process described above is in its early stages, much work is currently being done by local WDBs and sub-regional groups made up of the WDBs, the community colleges, business, economic development and other partners. This includes activity on the regional SlingShot program.

D. Industry-Valued Credentials

The regional planning guidance requests information about the status of industry-valued and recognized credentials, along with a description of the processes that were used by industry to determine their value. This topic is at the forefront of the Central Valley's regional workforce planning discussions. Industry is being engaged by system partners around this issue, business has begun to provide input and, based on what has been expressed to date, content of various programs and courses is being examined. However, as is the case with regional sector pathway program themselves, the process for industry's leading discussions about credentials has not been standardized in terms of protocol, including processes for review, ranking and results. And, like processes for developing pathway programs, current processes for determining credentials' value vary from one place to the next and based on who is convening business and stakeholders around the discussion.

The importance of determining industry-valued and recognized credentials has become understood by many business and industry leaders and system stakeholders. Discussions on this topic have begun and the issue has been a central topic during the process leading to the development of the Regional Plan. Still, much work remains. While credentials are being earned and individuals with these credentials are being hired in the fields for which they trained, the value of credentials in decisions to hire is not abundantly clear. The information that follows describes how the regional partners are coalescing around this topic, what information from industry and stakeholders has been gathered to date, what plans have been developed for moving forward on determining credentials' value and keeping them current and ensuring their attainment for career candidates and incumbent workers. This is, without doubt, the most aspirational component of the Regional Plan, but one to which the stakeholders are deeply committed.

I. Putting Credentials into Context: As the planning process was initiated, the consultants, local boards and partners relied extensively on the State Plan and state-issued planning guidance to shape the information gathering process. Given the importance being place on industry-valued and recognized credentials, it was decided that the issue would be included as a topic for the regional planning forums, as well as one for individual discussion with businesses. The information that follows summarizes initial discussions.

Initiating the Credential Discussion with Industry and Stakeholders: Three forums were held on this topic: in Madera, Modesto and Visalia. The sessions were attended by representatives of business (including those representing target industries), economic development, chambers of commerce and individuals from system partners (e.g. education, workforce development) that deal directly with business. The purpose of these sessions was to gather information on industry-valued credentials that currently exist, with the goal of using information as a starting point for subsequent industry-led discussions on how to establish credentials where industry insight is "baked" into the process. While the consultants served as facilitators, every attempt was made for business representatives to lead the discussions. The sessions were enlightening and highlighted the substantial work ahead with regard to the need for deep industry engagement on training content and the basis for awarding credentials. Key input included:

- Credentials are essential for some jobs. In some cases, industry not only values and recognizes credentials, it absolutely requires it. Barbers must be licensed. Truck drivers must be licensed. RNs must have an Associate's Degree or higher and pass the state registry exam. In fact, business leaders and others identified many occupations (including many "professional" jobs) that require a specific degree, license or certification.
- Credentials are optional in many cases: For other jobs, many indicated that certificates may be required, but they were not universally valued due to inconsistency in performance among workers who held them. Stakeholders commented that inconsistent course content, instructor knowledge and other factors deflate the value of certificates for some businesses. Many agreed that a certificate does not universally equate to skills and competency and that many skilled and competent workers and job candidates do not have certificates.

More Intensive Industry-Led Planning on Post-Secondary Credentials is Needed: The foregoing observations made clear the need for the regional partners (particularly workforce, education and economic development) to implement a structured process for engagement with business on credentialing, which will also serve as a means to discuss key content issues for regional sector pathway programs. The local WDBs will:

- Convene an industry steering committee for each of the region's six target sectors to discuss work-related credentials. The committees will include a diverse cross section of businesses in terms of company size, location in the region and niches within the industry. Committees may meet on multiple occasions.
- The committees will:
  - ✓ Review and recommend metrics for determining the value of credentials.
  - ✓ Review existing credentials awarded in the region that pertain to their sector and determine their value
  - ✓ Identify credentials that would be desirable for the industry
  - ✓ Develop a process for re-confirming the value of credentials over time
  - ✓ Provide recommendations on course content for regional sector pathway programs and other training that will produce the credentials.

These are enumerated as Regional Plan goals under Section L. Updates to the Regional Plan will include information on industry-valued credentials that result from this engagement process.

II. Existing Industry-Valued and Recognized Postsecondary Credentials and Maintaining their Relevance for Businesses in Key Sectors: As indicated, the partners have not reached a point in the planning process where any specific credential is being officially deemed "industry-valued and recognized." Presumably, required licenses and degrees will make their way onto this list, but the partners will complete the planned industry engagement meetings described above prior to identifying the list of credentials.

III. Determining the Value of Credentials to Industry: The process that will be used to determine the value that industry places on credentials is described, under Item I, above.

IV. Principal Providers of Credentials with the Region: Section B, Item IV of this Regional Plan provides a description of the principal providers of training and education programs throughout the SJVAC RPU. Given the focus of the Regional Plan on middle-skill jobs (and entry-level employment with a path to middle-skill jobs), the community colleges and adult schools will likely be the providers of training for most credentials. Again, this cannot be definitively stated until the industry engagement on valued credentials is completed.

V. Identifying, Recording and Tracking Credential Attainment within the Region: Because the goal of producing the region's share of the State target of a million industry-recognized credentials over the next ten years applies to the entire system (community colleges, adult schools, 4-year institutions, registered apprenticeships, etc.) and not just the WDBs, the stakeholders will form a workgroup to address the apportionment of goals among local areas and, within each area, the various partners. The stakeholders may look to the California Partnership for the San Joaquin Valley to reinstate its Higher Education and Workforce Development Work Group to convene discussions around both goals for credentials and the development of a process to track their attainment.

Given the population of the region relative to the state as a whole, it is anticipated that the RPU would be responsible for ten percent of the state goal or 100,000 credentials.

E. Workforce System Accessibility and Inclusiveness

This portion of the plan addresses system accessibility and inclusiveness on two levels. The first concerns the approach used to ensure that a wide range of viewpoints were expressed during the planning process, where the second level describes various ways in which the workforce system makes services accessible to all job seekers, including those with barriers to employment. As with nearly all other features of the plan, information provided represents past accomplishments, the current status of the system and plans for moving forward. Where specific aspirations are described, corresponding statements are found in Section L, which summarizes regional goals.

I. Stakeholder Input on Regional Planning: All stakeholders were invited to and included in planning forums held across the RPU to discuss workforce issues. As described in Section A, individual meetings were also held with representatives of a number of mandatory partners, such as the community colleges, economic development and DOR. The 16 planning forums that were held became a centerpiece of the planning process and intelligence gathering about where opportunities for improvements exist, including increasing system accessibility for individuals with limited English proficiency, the re-entry population, persons with disabilities and others from high need and historically disadvantaged communities. The forums are described in detail below.

Outreach to Stakeholders Representing Target Groups: The planning process has been inclusive by design, with all points of view, experiences and priorities valued and taken into consideration. The eight WDBs reached out (largely through email notices) to community organizations representing target populations. Examples of stakeholders representing the interests of key populations include: Proteus on behalf of farmworkers; Friends Outside for returning offenders; and the Fresno Bridge Academy for disconnected youth. Attachment 8 is a list of all organizations invited to participate in the forums and Attachment 9 indicates all of the individuals who attended.

Insights on System Accessibility: Across the various stakeholder gatherings, many issues were raised and opinions expressed. An unexpected outcome of these sessions was a series of common themes that developed, despite differences in location and composition of participants. Even more interesting is the fact that many of the themes directly reflect or touch upon the needs of those with employment barriers. Themes include:

- The need for English language skills training. While, as noted, opinions varied about levels of need and best training methods, there was widespread agreement about the effects of English fluency on earning potential.
- The value of work experience, internships, job shadowing and other forms of work-based learning for all job seekers, but, particularly, for individuals lacking work history. According to stakeholders, exposure to work not only helps to inform job and career decisions, but has a significant impact on the confidence and performance of individuals in post-training employment.
- Begin career education and exploration early. In fact, according to those working most closely with disadvantaged communities, start it very early. In communities historically disconnected from the labor market, children with insufficient exposure to and understanding of jobs, become adults with the same lack of familiarity. Information about jobs, careers, and key sectors should be contextualized within every aspect of K-12 learning.
- Treat digital literacy as a foundational skill for employment on par with numeracy and literacy.
- Deepen the workforce systems' relationships with CBOs not only as on-ramps, but as partners in removing barriers to employment.

Each of the foregoing approaches is woven into one or more of the goals and action steps that conclude the Regional Plan.

System Stakeholder Forums: Over a six-week period in November and December 2016, a total of 16 forums were conducted, with nearly 400 stakeholders (representing a wide cross-section of partners from business, education, economic development, organized labor, community-based agencies and the workforce system) participating and sharing their knowledge, experiences and opinions. Each forum covered one or more of seven topics addressing critical elements covered by the regional workforce plan: 1) the focus upon priority sectors and career pathways and fostering demand-driven skills attainment; 2) creating opportunities for upward mobility; 3) aligning, coordinating, and integrating programs and services; 4) promoting workers' attainment of industry-valued and recognized post-secondary credentials; 5) focus on quality jobs; 6) leveraging community resources; and 7) system accessibility and inclusiveness.

The forums generally lasted 2 hours and provided participating stakeholders with a brief overview of the regional planning process and background on the session's topic. The consultants acted as facilitators and posed 3 to 5 broad questions to the participants, facilitating discussions to solicit input to inform regional planning efforts. Each of the local boards hosted one or more forums, as outlined in Attachment 7.

The forums were structured around the following five topics:

Sectors and Career Pathways: Participants were introduced to the definition of career pathways as a combination of education, training and other employment-supporting services. Questions posed to individuals attending the forums included:

- What are the "hard-to-fill" jobs and occupations in demand sectors?
- Where are the skill gaps?
- What career pathways exist to help workers enter and succeed in these jobs and occupations?
- What can we do as a community to improve career pathway opportunities?

Pathways to the Middle Class: The facilitators started off these sessions by introducing stakeholders to a key objective of the State Plan - enabling upward mobility for all Californians, including populations with barriers to employment. The emphasis that the State Plan places on job quality was also discussed. Those attending the forums provided responses to these questions:

- What is a "mid-level" or "middle class" job in our community?
- Which "mid-level" jobs are hard to fill due to local skills shortages?
- What skills and prior experience do these jobs require?
- What is the career pathway to land and succeed in these jobs?
- What can we do as a community to see that local people who have major barriers to employment can get on and succeed in these career pathways?

Aligning and Leveraging Workforce and Education Resources: The focus of these forums was on the full range of workforce and training resources, with training being defined in the broadest terms to cover foundational skills, academic skills, job skills (hard skills) and essential skills (work readiness and work maturity skills). Participants shared their thoughts on:

- What education, training and workforce resources does our community currently have?
- Do these resources provide trainees the skills needed for in-demand jobs in key sectors?
- How can we improve the ways in which these educational and workforce resources are used to help all jobseekers (including youth and those with barriers to employment) succeed in the identified, highest priority career pathways?
- How can we ensure that youth and job seekers with serious barriers to employment have access to and succeed on these career pathways?

Industry-Valued Credentials: Building upon the proposition that only industry can determine what credentials it values, the facilitators described content from the State Plan concerning the attainment of credentials by those participating in regional sector pathway programs. Stakeholders provided their responses to several questions including:

- What credentials are currently available that fit the critical career pathways?
  - Do these credentials meet business/industry expectations? How could they be improved?
  - Are methods to get these credentials reasonably accessible to potential members of our workforce with significant barriers to employment? English Language Learners? People with minimum wage jobs? Others?
- How can we improve access to credentials along career pathways?

System Accessibility: For context, sessions on this topic opened with a discussion of populations likely to face one or more barriers to employment and with description of various services they most often need to prepare for work. Stakeholders were asked to consider the following in terms of building a more accessible, inclusive and responsive workforce system throughout the Central Valley:

- Are basic skills training and other pre-vocational services available in sufficient quantity to meet the demands for these services?
- How can workforce and education services be made more accessible to all job seekers?
- What groups are most at risk of being left behind?
- For foreign born individuals and English Language Learners, what workforce and education services are available to address workforce challenges?
- What role do community-based organizations play in providing accessibility to the system?

The forums became a focal point of the regional planning process and a milestone in developing broader and more inclusive regional partnerships. They yielded substantive input both from individuals and organizations that are integral to the daily operations of the system and from those who have little familiarity with it. While commentary expectedly varied from session to session, common themes emerged across the region. Several of these are summarized under Item I, above.

II. Adult Education Block Grant ("AEBG") Consortia in the SJVAC RPU: There are eight AEBG consortia, representing 81 distinct education agencies, linked to the SJVAC RPU. Some of the districts and institutions within these consortia lie outside the RPU, their boundaries stretching into adjacent workforce regions. The consortia aligned to the regions are: Delta Sierra Regional Alliance, Gateway Adult Education Network, Kern AEBG Consortium, Sequoias Adult Education Consortium, State Center Adult Education Consortium, West Hills College Consortium, West Kern Consortium, and Yosemite (Stanislaus Mother Lode) Consortium.

Participation of AEBG Leadership and Representatives: Leadership from six of the AEBG consortia participated in one or more of the regional planning forums. For the two consortia whose leaders did not attend, member institutions sent representatives. The consultants met one on one with Executive Directors of two consortia: Sequoias Adult Education Consortium and State Center Adult Education Consortium. Input from AEBG representatives was extremely valuable, especially with regard to the capacity of the adult education system to provide vital training for English language learners and job seekers needing basic skills remediation or support to earn a high school diploma or equivalency. Participation of consortia representatives also shed light on the substantial capacity of some adult education programs to provide skills training for high-demand sectors including construction, healthcare and manufacturing.

Review of Consortia Plans: Among the eight consortia, planning documents are voluminous. The SJVAC's regional planning consultants have reviewed some of the consortia plans (which include AB 86 Plans, Consortium 3-Year Plans and Annual Plans) and have reported that there is significant alignment with the Regional Workforce in terms of priorities, such as the need for resources and effective strategies for ESL and basic skills instruction. As described

in Section J, Exhibit 2 of this Regional Plan includes a list of links to the web page where the plans for all eight consortia can be found.

III. Need for and Availability of Basic Skills Education: Information on the need for basic skills education services is principally available from two sources: demographic data and system stakeholders, including educators and those representing public agencies and community programs that work most closely with individuals needing basic skills training. Data available for the SJVAC RPU indicates that nearly one in five Central Valley residents speaks English "less than very well." In addition, the US Census Bureau's American Community Survey data for 2010 – 2014 indicates that 12.8% of the adult population has less than a 9th grade education with an additional 10.6% that have an education levels between 9th and 12th grade, but no diploma. Together these numbers suggest that there is substantial need for services. Those in the field provided mixed input. According to many, structural capacity exists among the network of providers to deliver all the basic education services needed, but financial resources were too few to meet a 100% of the need. Still others reported that some education programs had to publicize their programs to get enough student participation to spend their allocations. While no one would estimate the number of individuals receiving basic skills services in the region (due largely to definition issues), information suggests that programs in some communities have developed very strong reputations and are, therefore, able to attract learners to the basic skills training they need to participate effectively in career pathway training and in the workplace. The partners need to further examine this issue to determine what regional strategies could be developed to ensure programs and resources are aligned with need.

Demography and Languages Spoken in the RPU: The Central Valley is home to a variety of ethnic groups. Non-Hispanic whites accounted for just over half of the valley's population, and Latinos were the largest minority group. With regard to languages spoken in the Central Valley, although Spanish is the most common language after English, the Central Valley is host to dozens of languages such as Hmong, Romanian, Farsi and Punjabi.

IV. Contextualizing Basic Skills into Regional Sector Pathway Strategies: As indicated earlier, a number of models exist for building basic skills into vocational training programs, and some work-based learning models. One such strategy is Integrated Basic Education and Skills Training (I-BEST), which pairs Adult Basic Education and/or English Language Acquisition instructors with professional-technical instructors in the classroom to provide students with literacy education and workforce skills at the same time. I-BEST challenges the traditional notion that students must first complete all levels of basic education before they can begin workforce training. As new career pathway programs are developed and existing ones are assessed for improvement, the partners will evaluate options to effectively integrate basic skills training into pathway programs.

Strategies to Address Limited English Proficiency (LEP): In the same way that basic skills can be integrated into sector pathway programs, so can English language skills training. A September 2014 Brookings Institution report examined the effect of being non-English speaking on Central Valley residents and offered a number of suggestions for addressing a lack of English fluency. According to the report's author, English proficiency is the most essential means of opening doors to economic opportunity for immigrant workers. The report's recommendations for reducing limited English proficiency include:

- Employer-initiated English education programs, particularly in industries such as agriculture, accommodations and food service, and manufacturing, where the percentage of LEP workers is highest.
- Targeting outreach based on the LEP population size, growth and period of arrival, as well as knowledge of languages spoken.
- Instructional innovation enabling LEP adults to access educational tools online and by mobile device.
- The most effective classes and programs combine English education with community integration and vocational training.

In working to develop and expand sector pathway programs, the partners will work to identify strategies and opportunities to test their effectiveness. As discussed, stakeholders participating in the planning process remarked

repeatedly on difficulties in recruiting many LEP individuals to English skills training. By implementing more accessible methods of training delivery, some of these obstacles can likely be overcome.

V. Streamlining Access to Foundational Skills: Making basic and foundational skills training easily accessible is a system priority in the San Joaquin Valley. Opportunity abounds and businesses, especially those in high growth sectors, are looking for employees ready to take on the challenges of the workplace. To meet such challenges, workers must have basic reading/communications, math and digital literacy skills. The local boards in the SJVAC RPU will develop a regional protocol to ensure expediency in making basic skills training referrals for those needing these services to accelerate their participation in vocational skills and work readiness training.

Intake and Assessment Process: WIOA is uniquely prescriptive concerning intake and assessment. Programs and funding streams governing system partner programs are much less so. The partners are committed to minimizing and, where possible, completely removing barriers to participation. The Central Valley WDBs will work with partners to identify and adopt strategies to promote rapid access to services for all job seekers, particularly those with barriers to employment.

VI. Ensuring System Accessibility for People with Disabilities: All major system partners providing training (local WDBs, the community colleges, AEBG institutions, etc.) are subject to federal requirements under the American's with Disabilities Act (ADA) and provisions of the California Civil code ensuring access for persons with disabilities. All surveyed reported no compliance issues with physical accessibility. Each of the eight local boards is required by WIOA to form a "disability accessibility" workgroup or committee. These workgroups will share concerns, "best practices" and solutions across the RPU.

Access to Training and Regional Sector Pathway Programs: Program accessibility is governed by many of the same statutes protecting physical accessibility. However, the partners are committed to more than access. The goal is inclusiveness. WIOA defines career pathways to include counseling to support an individual in achieving his/her education and career goals and indicates that such programs should organize education, training and other services to meet the particular needs of the individual. Under the Regional Plan, this definition will serve the partners well to ensure that persons with disabilities have access to services, that partners will seek to expand programs and strategies such as the use of Disability Resource Coordinators (DRC) who coordinate training and education for staff, organize and facilitate collaborations with local, state, and federal agencies, as well as non-local areas and organizations. The DRC develops strategies to create systemic change to improve employment outcomes for people with disabilities. They are currently in place in Madera and Merced counties.

VII. Promoting Regional Sector Pathway Participation among CalWORKS Participants: Each of the local boards works closely with its corresponding county welfare agency(cies). CalWORKS participants are indeed an appropriate target group for regional sector pathway programs. As discussed throughout Section B, which describes both the regional economy and key characteristics of the labor force, the region's growth sectors need talent! No worker is disposable. CalWORKS participants are, almost by definition, reliable. They are parents, which suggests that many are accustomed to managing multiple priorities, operating with limited resources, and making quick decisions – all traits used every day in the workplace and coveted by employers. CalWORKS participants also typically lack extensive resumes. Therefore, they need to bring especially strong workforce preparation to the table in order to compete successfully for jobs. Regionally, the boards will develop and deploy uniform recruitment messaging to broadcast to county welfare agencies to promote the benefits of CalWORKS participants enrolling in sector pathway training. As applicable, local workforce boards will "flag" case files for these participants as being likely to benefit from assistance by a workforce system navigator (see Item IX, below).

VIII. Regional Collaboration to Ensure Support for System Customers: The regional partners are committed to ensuring that a full range of services are available to support every trainee's/participant's completion of his/her services plan, including regional sector pathway programs. In a geographic area as large as the San Joaquin Valley, support services are likely to be managed and delivered by local providers. But across the region, the partners can

agree to a protocol under which comprehensive support is provided to participants enrolled in sector pathway programs. The need for services is typically identified following assessment, when a service plan is developed. At this time, resources are identified to address comprehensive need, including significant barriers to employment. The partners have no expectation that all job seekers will progress at the same pace through services. Some, for instance, will need assistance with basic education services prior to training and others may require the use of assistive technology throughout participation. Under WIOA, participants enrolled in training are assigned a case manager to monitor their progress toward completion of services and to intervene with additional support as obstacles arise.

IX. Incorporating Community-Based Organizations into the Network of Regional Workforce System Providers: One of the major themes arising during over 30 hours of intensive engagement with nearly 400 stakeholders throughout the Central Valley was the belief that community-based organizations need to play a greater role in the overall workforce system. Several stakeholders have commented on the importance of CBOs to the communities they serve and have highlighted the fact that most community-based agencies were established to address unmet needs. Based on stakeholder input during the planning process, the RPU partners will explore opportunities to better integrate local and regional non-profits into the workforce development system. These opportunities may include:

- Expanding the role of CBOs as on-ramps to the workforce system by enabling individuals to access a full range of workforce information at their sites
- Holding orientations to workforce system services at CBO facilities
- Bringing classes (basic skills, ESL, employment readiness, etc.) to community locations
- Utilizing CBO representatives as workforce system navigators for the populations they represent

X. Creating Pathways to the Middle Class: The system is made up of partner organizations that provide services to respond to a wide range of needs, including basic skills education, demand-driven skills training, support services, referrals to jobs and much more. Most individuals seeking career preparation and employment assistance come to the system for one or more particular services that culminate in the best job opportunity that their new skills and work history can leverage. For some, this will be a middle skill job paying family supporting wages. For many more, including those who are entering the job market for the first time, it will be an entry-level job that will serve as a stepping stone to better opportunities that will become available with experience and the acquisition of more advanced skills. Job seekers will disengage with training programs to concentrate more on gaining or maintaining employment to fulfill short term economic needs Many people will carry more than one part time job to fulfill basic needs.

While a particular service may have a beginning and an end date, the availability of the system to those who need it is constant. The system's best tool for ensuring that individuals remain connected to the system as they progress from entry-level jobs to better jobs is to heavily promote the multiple on-and-off ramps to additional training and services. Some individuals will enter and exit services many times. The workforce system cannot expect to retain individuals in programs once they secure a job, but can work to ensure that participants are aware of services that are available to support their progress toward higher wages and career goals. A goal of this Regional Plan is for the system partners to develop a protocol for promoting career pathway opportunities for upskilling and stackable credentials.

F. Regional Focus on Job Quality

Job quality and quality jobs have dominated several discussions during the regional planning process. Of interest has been the universal decision by stakeholders not to define quality jobs more precisely than the State Plan and regional planning guidance. Based on California statute, this "definition" advises the workforce system to emphasize "placement in a job providing economic security or job placement in an entry-level job that has a well–articulated

career pathway or career ladder to providing economic security." As described below, the partners embraced this notion and recognized that starter jobs must represent a means to an end rather than a dead end. The strategy of the RPU's workforce system with respect to job quality is directly connected to the region's emphasis on high-demand sectors. These sectors have not only the greatest likelihood of offering career advancement leading to higher wages, companies in these sectors have the capability to grow and expand, enabling them to use revenues, in part, to offer good wages and benefits to employees. Following is a discussion of entry-level and middle skill wages associated with jobs in priority sectors, along with plans to target business where quality jobs are available. In addition, the regional partners have identified incumbent worker training strategies with great potential to be replicated throughout the SJVAC RPU, likely in partnership with the community colleges.

I. Employment and Earnings Potential Associated with Target Sectors and Regional Sector Pathways: As discussed in Section C of this plan, the partners have begun a process to work with system stakeholders on the development of career pathway programs that will be implemented regionally. Within the next two years, partners expect to have one or more demand-driven sector pathway programs designed for each of the region's six target sectors. Some of these regional sector programs will be based on existing efforts, both regional and locally, such as advanced manufacturing training that is currently under design as part of the SlingShot initiative and the multi-craft core curriculum and pre-apprenticeship training currently in use within several local areas. Other regional sector pathway programs will be those for which planning is only conceptual at this point. Nevertheless, given industry input to date, the partners anticipate implementing training programs that will prepare completers for employment in a variety of entry-level and middle skill jobs including the following.

Earning for Occupations Directly Related to Regional Sector Pathway Programs

Advanced Manufacturing		
Entry Level Occupations		
Job Title	***Employed in 2016***	***Median Wage***
Team Assemblers	2,614	$ 13.07
Welders, Cutters, Solderers, and Brazers	2,078	$ 21.33
Middle Skill Occupations		
Job Title	***Employed in 2016***	***Median Wage***
Electrical and Electronics Engineering Technicians	220	$ 37.74
Bookkeeping, Accounting, and Auditing Clerks	503	$ 17.90
Agriculture (particularly, Value-Added Agriculture)		
Entry Level Occupations		
Job Title	***Employed in 2016***	***Median Wage***
Packaging and Filling Machine Operators and Tenders	6,495	$ 13.63
Farmworkers, Farm, Ranch, and Agricultural Animals	5,087	$ 12.88
Middle Skill Occupations		
Job Title	***Employed in 2016***	***Median Wage***
Agricultural and Food Science Technicians	719	$ 17.33
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	71	$ 21.54
Construction (including Public Infrastructure)		
Entry Level Occupations		
Job Title	***Employed in 2016***	***Median Wage***

Construction Laborers	6,702	$ 16.39
Carpenters	4,698	$ 21.35
Middle Skill Occupations		
Job Title	***Employed in 2016***	***Median Wage***
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	1,719	$ 21.54
Telecommunications Equipment Installers and Repairers, Except Line Installers	387	$ 25.78
Healthcare		
Entry Level Occupations		
Job Title	***Employed in 2016***	***Median Wage***
Medical Secretaries	5,512	$ 15.81
Office Clerks, General	5,121	$ 14.52
Middle Skill Occupations		
Job Title	***Employed in 2016***	***Median Wage***
Nursing Assistants	10,291	$ 12.75
Licensed Practical and Licensed Vocational Nurses	5,134	$ 24.48
Transportation and Logistics		
Entry Level Occupations		
Job Title	***Employed in 2016***	***Median Wage***
Laborers and Freight, Stock, and Material Movers, Hand	8,101	$ 12.35
Industrial Truck and Tractor Operators	3,688	$ 15.87
Middle Skill Occupations		
Job Title	***Employed in 2016***	***Median Wage***
Heavy and Tractor-Trailer Truck Drivers	14,868	$ 18.85
Aircraft Mechanics and Service Technicians	535	$ 28.63
Energy (including Green Energy)		
Entry Level Occupations		
Job Title	***Employed in 2016***	***Median Wage***
Electrical Power-Line Installers and Repairers	279	$ 46.34
Control and Valve Installers and Repairers, Except Mechanical Door	225	$ 22.58
Middle Skill Occupations		
Job Title	***Employed in 2016***	***Median Wage***
Wind Turbine Service Technicians	144	$ 23.44
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	61	$ 38.73

II. Regional Wages: EDD LMID's September 2016 Labor Market Data Summary does not provide aggregate median wage data for the RPU, but does provide the following "median household income" data for each of the ten associated counties.

Median Household Income by County	Median Household Income
Fresno	$45,201
Inyo	$45,625
Kern	$48,574
Kings	$47,341
Madera	$45,490
Merced	$43,066
Mono	$61,814
San Joaquin	$53,253
Stanislaus	$49,573
Tulare	$42,863

The data does not indicate the number of wage earners in a given household.

III. Emphasis on Quality Jobs: All boards within the region prioritize training and employment preparation activities leading to jobs in high-growth and other demand industries. This reflects a commitment to quality jobs, as the target industries each boast career paths to well-paid middle skill jobs, which have entry-level employment opportunities that serve as on-ramps. Plans to emphasize quality jobs are described below.

Reaching Regional Consensus on a Quality Jobs Focus: Stakeholders engaged in the planning process, including those representing individuals with barriers to employment, generally agreed with the language of the state statute pertaining to "good jobs." They did offer a number of suggestions that helped frame the issue toward the development of regional goals. As a baseline, there was broad agreement that jobs into which partners place participants should pay a self-sufficiency wage, even for first time workers. Generally, the job characteristics that stakeholders believe speak to quality are: good wages (family supporting); benefits; flexibility; stability; advancement potential; and fulfillment/likeability. Acknowledging that job quality is not a fixed concept, there was significant agreement that entry-level jobs demonstrate quality when there are discernable next steps for training and skills acquisition that enable workers to move up and earn better wages.

Current Efforts by Local Boards to Focus on Quality Jobs: The system partners, including local WDB's, community colleges and other workforce and training providers currently have relationships with business (including many large employers and business where workers are represented under collective bargaining agreements) that offer good wages and career opportunities. Jobs with such companies are the most competitive and workers with a combination of the best experience, most training, recognized credentials, and demonstrable skills are those who are hired. Specific actions the partners will take with regard to prioritizing jobs with good wages and benefits and increase opportunities for all job seekers include:

- Providing training that produces workers with high demand skills
- Working with organized labor, industry associations and others to identify companies that pay competitive wages, provide benefits and offer opportunities for career advancement.
- Building relationships with identified companies to promote their understanding of the value of training and credentials that the system's candidates possess. Also, working with these businesses to understand where entry- level on-ramps exist to position workers for advancement to higher paying jobs.

IV. Incumbent Worker and Career Pathway Strategies: Many of the partners have substantial experience in working with employed individuals to retrain them in new skills or otherwise upgrade their skill sets. Expanded use of these strategies within the region will bolster the system's ability to move workers from entry positions to middle-skill jobs paying higher wages. Progress in this area and plans to increase incumbent worker training are described below.

Current Regional Initiatives: Several of the local boards are working with incumbent workers on a project-by-project basis. However, Tulare County has implemented an incumbent worker initiative that is gaining momentum and holds promise for creating opportunities for new hires, as current workers upgrade skills and move to higher positions. UpSkill Tulare County builds upon the Aspen Institute's "UpSkill America" vision, encouraging businesses to invest in the existing workforce, which, in turn, is likely to improve internal career ladders and makes career pathways more visible. UpSkill represents a shift from the typical WIOA strategy of trying to fill higher skilled openings ("good jobs") with recently trained unemployed individuals to filling these positions with entry-level workers currently employed by the business. A benefit of this approach, as workers move up, is often the creation of entry-level openings that require little or no training for new workers. UpSkill is gaining traction with Tulare County businesses that have expressed that they prefer to hire from within for skilled positions, as current workers have generally demonstrated their value and are familiar with company culture.

Under the UpSkill initiative, Tulare County is currently focusing on 3 priority sectors: Health Care; Logistics; and Manufacturing. At present, training for incumbent workers is being provided in cohort format by the Training Resource Center at College of the Sequoias and includes: Essential Workplace Skills: First Line Supervisor Training, and Advanced Technical Skills (customized by industry need). Additional training options for incumbent workers, including work-based learning, may soon be offered to broaden the interest of businesses in the UpSkill initiative. Tulare County is using a combination of WIOA Incumbent Worker Training (IWT), ETP, and other specialized funding to pilot the UpSkill initiative.

Expanding Regional Capacity for Incumbent Worker Training: All other local boards have expressed interest in the UpSkill model. Working through the CCWC structure, the boards are committed to developing a protocol for rolling out the initiative throughout the region, and to developing common processes that would enable the initiative to be marketed under a uniform message across the entire Central Valley.

G. Recording and Tracking Training-Related Employment

Within federally-funded workforce development programs, identifying, recording, tracking and reporting of training-related placements has long been a practice at the local level no matter the requirements of U.S. DOL performance measures or statewide reporting systems. Determining whether jobs secured by participants are within the field for which they trained, provides workforce administrators and staff critical information in several areas, including the value of training provided, true labor market demand and the effectiveness of career exploration/preparedness participants received prior to training. It also speaks to return on investment, indicating the relative worth of a particular program in terms of producing job ready candidates. As part of the RPU stakeholder's commitment to a demand-driven training system, the local WDBs will lead a process to examine how training-related employment can be determined for individuals trained by all education and workforce partners, including those not funded by WIOA.

Tracking Training-Related Placement under WIOA: The local boards with the SJVAC RPU currently track and record training-related placements. Within CalJOBS, when an individual enters employment at closure or follow-up, WDBs and their agents are able document employment within the Entered Employment Form. As job information is recorded, the system will confirm if the job is considered "Training Related Employment." This information is based on Occupation Codes.

Working with Stakeholders to Track Training-Related Placement throughout the Region: The State Plan requires regional partners to determine the extent to which individuals receiving sector-focused and demand-driven training are actually securing jobs in fields and sectors directly related to their programs of study. As stated, this is currently being identified and tracked for those receiving training funded by the Workforce Investment and Opportunity Act ("WIOA"). As a goal of this plan, the CCWC, in cooperation with the CPSJV, will convene representatives from training and education providers across the region (including 4-year institutions, community colleges, adult education, private vocational, institutions and others) to discuss options for establishing a

"denominator" of trainees, the basis for determining training-relatedness and methods for tracking and recording training activities and placement outcomes. The CalJOBS system holds promise for scalability and application to this issue and will likely serve as a jumping off point for dialog among the partners.

H. Adherence to Federal Requirements for Regional Planning

The RPU's Regional Workforce Plan addresses WIOA's "regional coordination" requirements by adopting the goals of California's Strategic Workforce Development Plan and via the following approaches:

Development of a Regional Plan: The SJVAC RPU's Plan complies with WIOA Section 106(c)(2), by describing the partners' approach to the A-H activities and by incorporating the Local Plans developed by the eight local boards as of the Regional Plan.

Regional Service Strategies: Much of the regional planning process has focused on opportunities for implementing strategies across two or more local areas or throughout the entire region. Various regional strategies and approaches being piloted, in development, or under consideration are discussed throughout this plan. These include options for incumbent worker training, industry engagement, training for English language learners, courses for emerging skill areas and more. Goals pertaining to various regional service strategies are indicated in Section L, below.

Development and Implementation of Sector Initiatives: Sector initiatives are underway at the regional level for manufacturing under the RPU's SlingShot initiative. Various local construction, manufacturing and healthcare career pathway programs have crossed boundaries and are being scaled up among multiple boards. Local boards have focused training resources nearly exclusively on targeted demand sectors. New levels of collaboration with the community colleges (arising from SlingShot, long-term cooperation on numerous projects, and this planning process) will result in more demand-driven training for the RPU's six target sectors. The regional goals established in this plan will accelerate development and implementation of regional sector pathway programs and related initiatives.

Collection and Analysis of Regional Labor Market Data: While EDD's LMID has unrivaled capacity with regard to data about the labor market and the workforce, SJVAC's regional planning process serves as testimony to the ability of the regional partners to gather intelligence from the field, including information about industries, businesses, and workers and those seeking employment. As a goal of the Plan, we will explore opportunities to share information with LMID, with the hope that such information will help to inform the data collection and analysis it performs on behalf of the Central Valley. In addition, the RPU will request support from LMID with regard to defining the green energy sector.

Administrative Collaboration: At this stage of regional planning, local boards have agreed that opportunities may exist for collaboration on administrative functions, such as monitoring. Further review is planned.

Collaboration on Supportive Services: Given the vastness of the region and the fact that many support services providers (both public and private) are place-based, regional coordination of support activities and services is a daunting task. However, this matter will remain on the "regional radar" and will be included in on discussions among the partners.

Coordination with Regional Economic Development: Locally, the eight WBDs work closely with their economic development counterparts and, through county-level economic development agencies, connect to the California Central Valley Economic Development Corporation, which serves the RPU counties (absent Inyo and Mono). As the California Partnership for the Central Valley has responsibility for the Regional Industry Cluster Action Plan, it is situated as an ideal platform for furthering discussion on regional economic development. As the manager of a countywide Economic Development Corporation; the Kings County WDB Director serves as the local EDC President, and is the conduit for exchange between the regional EDC and the RPU.

Agreement on Performance Measures: The local boards have completed joint negotiations with the State on performance measures.

In addition, as expressed throughout this narrative, the Regional Plan meets State Plan requirements pertaining to the partners' development of regional sector pathways.

I. Regional Agreements Among RPU Partners

For nearly a decade, the boards that comprise the SJVAC have had a memorandum of understanding (MOU) in place that create a framework for collaboration among the local workforce areas and opportunities to coordinate, especially with regard to special projects and initiatives that cross the boundaries that define the local area. This agreement is currently being reviewed and updated, confirming the value that the boards place on cooperation and bringing greater capacity and resources to the region.

Central Valley Workforce Collaborative Regional Agreement: The purpose of the current MOU among the eight San Joaquin Valley WDBs is to maintain cooperative and mutually beneficial relationships. In 2007, an original MOU created the Central California Workforce Collaborative as "a confederation of equals," that operates under a general working structure, rather than as an entity. Both the current and prior MOUs stress the importance of collaboration with regard to securing regional funding and the leveraging of resources to strengthen the workforce system throughout the Central Valley. The MOU emphasizes the independence of the eight boards and the fact that all parties agree to respect one another's organizational practices and management structures in the execution of collaborative activities. The agreement empowers the boards to: develop and implement collaborative efforts at a regional level; conduct formal and informal meetings under the CCWC name to discuss best practices; utilize the CCWC name in sponsorship materials for third party organizations; and, project by project, designate local workforce development boards as the "lead agency" for regional initiatives.

Furthermore, the CCWC MOU establishes a format for meetings, which may be held in person, via electronic media or through conference calls, and for keeping minutes of scheduled meetings. Responsibilities for organizing meetings rotate among the boards.

Having the CCWC MOU in place has not only resulted in the award of numerous special grants and cross-county collaborations in the Central Valley, it has provided a huge head start in the regional planning process.

Expansion of Existing MOU: The current CCWC MOU provides clear parameters under which the local boards collaborate, communicate and work in unison on particular projects and activities. As the WDBs and RPU partners work toward the system goals outlined under section L (below), it is possible that adoption of new procedures and strategies across the region, such as consolidating "Eligible Training Provider List" administration or the use of joint incumbent worker training protocols, could result in the development of one or more separate cooperative agreements among the eight boards.

Other Agreements among Local Workforce Development Boards and System Stakeholders: Each of the eight local boards within the RPU maintains various MOUs and agreements between partner organizations, including the one-stop MOUs prescribed by WIOA. As planning for regional coordination and system alignment continues across the Central Valley, the WDBs will consider the value of scaling up local partnership/collaborative agreements across the region. Discussions around such opportunities may be led by CCWC, CPSJV or other system partners that identify prospects for structured agreements to support enhanced regional coordination.

J. Related Plans and Analyses

The following items are included as exhibits to the SJVAC Regional Plan:

Community College Strong Workforce Program Plan for the Central Valley/Mother Lode Region: The Plan, completed on January 17, 2017 is included as Exhibit 1.

Adult Education Block Grant Consortium: The Plans for the eight AEBG consortia are too voluminous to attach to the plan. However, included as Exhibit 2, is a list of links to the web page where AB 86 Plans, Consortium 3-Year Plans and Annual Plans can be located.

K. Attachments

In addition to the above mentioned reports from education partners, the following materials are included as attachments to supplement information provided within the narrative.

I: Principal Resources for Economic Analysis

a. Regional Economic Sector and Skills Gap Analysis: CCWC Region, Applied Development Economics, Inc. (ADE), October 10, 2016 (Attachment 1)
b. Supplemental Information and Analysis, ADE Memorandum, December 5, 2016 (Attachment 2)
c. Regional Planning Unit Summary: San Joaquin Valley and Associated Counties, California Employment Development Department, Labor Market Information Division (EDD LMID), September 1, 2016 – Revised (Attachment 3)
d. Regional Economic Analysis Profile, EDD LMID, April 2015 (Attachment 4)
e. Labor Market Overview: Central Valley/Mother Lode Region, California Community Colleges' Center of Excellence Mother Lode Region, May 2016 (Attachment 5)
f. San Joaquin Valley Regional Industry Cluster Analysis and Action Plan, Applied Development Economics, September 2012 (Attachment 6)

II: Workforce System Stakeholder Forums

a. List of Forums – Dates, Topics, Locations (Attachment 7)
b. List of Individuals/Organizations Invited to Forums (Attachment 8)
c. List of Individuals/Organizations that Attended Forums (Attachment 9)

III. Regional Agreements

Central California Workforce Collaborative Memorandum of Understanding (MOU) (Attachment 10)

L. Regional Collaboration: Goals and Associated Action Steps

Throughout the foregoing narrative, numerous strategies, approaches and processes are described as "aspirational" or are represented as planned or "in progress." On behalf of the myriad of regional stakeholders that have contributed to the Plan by providing recommendations and sharing both resources and insights, the eight LWDBs comprising the SJVAC RPU have established the following 2017–2020 goals for the regional workforce system.

I. Economic Analysis

a. Collaborate with EDD LMID to develop a clear industry cluster description for the energy sector, including green energy
b. Establish a protocol for to share "intelligence" about demand industries and other high growth sectors with EDD LMID for the purpose of data analysis to support regional sector pathway programs.

II. Engagement with Economic Development

a. Revisit the Regional Industry Cluster Action Plan
b. Explore opportunities for stronger regional coordination with economic development

III. Regional Sector Pathway Programs

a. Implement intensive industry engagement processes to: discuss industry needs for skills in various classifications, including middle skills jobs and entry-level employment that provides a path to these jobs; identify new classifications or skills sets for which training is needed and provide direction on content requirements; review new and existing career pathway programs (including the one's under Item III, below), which have been developed throughout the region, and provide input on the relevance of content and what changes are necessary to reflect current skill needs of business; and determine the frequency with which regional sector pathway program content should be reviewed to ensure it remains relevant.
b. Following intensive engagement processes, update the Regional Plan to include priority regional sector pathway programs.

IV. Industry-Valued Credential Attainment

a. Implement intensive industry engagement processes to: review and recommend metrics for determining the value of credentials; review existing credentials awarded in the region and determine their value; identify credentials that would be desirable for each target industry; and develop a process for re-confirming the value of credentials.
b. Following the intensive engagement process, update the Regional Plan to include industry-valued credentials linked to regional sector pathway programs
c. Credential attainment: Form a workgroup to address the apportionment of goals among local areas and, within each area, the various partners.

V. System Accessibility and Inclusiveness

a. English language skills training: convene a workgroup to develop strategies around the following challenges and issues: communicating the value of English language skills acquisition in terms of employment opportunities; making services accessible in terms of location, schedule and instructional methods; broadcasting the availability of programs and services; linking language skills to work requirements, and; offering various on-ramps to beginning, intermediate and advanced English skills training.
b. Develop a regional protocol: Expand use of work experience, internships, job shadowing and other forms of work- based learning.
c. Develop a regional protocol: Promote early career education and exploration via K-12 system.
d. Develop a regional protocol: Treat digital literacy as a foundational skill for employment on par with numeracy and literacy.
e. Survey workforce system partners regarding the availability of resources to support needed levels of basic skills training.
f. Work with education partners to evaluate options for integrating basic skills training (including ESL) into regional sector pathway programs.
g. Develop a regional protocol: Ensure expediency on referrals to basic skills training.
h. Develop a regional protocol: Ensure rapid access to services.
i. Examine opportunities to enhance the role of CBOs in the workforce development system.

VI. Focus on Job Quality

a. Provide training that produces workers with high demand skills.
b. Work with organized labor, industry associations and others to identify companies that pay competitive wages,

provide benefits and offer opportunities for career advancement.

c. Build relationships with identified companies to promote their understanding of the value of training and credentials that the system's candidates possess.
d. Work with these businesses to understand where entry-level on-ramps exist to position workers for advancement to higher paying jobs.
e. Develop a regional protocol for the roll-out of the UpSkill model throughout the region.

VII. Tracking Training-Related Placements:

Convene representatives from training and education providers across the region (including 4-year institutions, community colleges, adult education, private vocational, institutions and others) to discuss options for establishing a "denominator" of trainees, the basis for determining training-relatedness and methods for tracking and recording training activities and placement outcomes.

VIII. Administrative and Operational Coordination

a. Hold periodic regional convenings across disciplines, perhaps using a neutral convener.
b. Explore opportunities for coordination of functions.

IX. Workforce System Development and Collaboration with System Partners:

Work with education partners to identify strategies to improve: capacity to receive on-going input from industry; turn-around time to implement new and updated courses; consistency of training content from institution to institution; collaboration with system stakeholders in engaging industry; and, on-ramps for individuals with barriers to employment.

ATTACHMENT 1

October 10, 2016

Regional Economic Sector and Skills Gap Analysis: CCWC Region

Prepared for:

Workforce Development Board of Madera County

Prepared by:

Applied Development Economics, Inc.
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SUMMARY

Prepared under the auspices of the Central California Workforce Collaborative (CCWC), this report provides trend information and projections for jobs in CCWC region by industry sector, industry clusters, and occupational openings.[1] The analysis also provides a description of key labor force characteristics in the region and discusses the match between education and occupational background for the unemployed and part time workforce in relation to projected job openings.

SUMMARY OF FINDINGS

JOB GROWTH

- The regional unemployment rate has declined to 9.9 percent in 2015, down from the peak of 16.5 percent in 2010, but still well above the low point before the recession of 7.9 percent in 2006.

- Before the recession, total jobs in the region peaked at 1,361,550 in 2007 and did not reach that level again until late 2014. Jobs have grown to 1,405,122 (annual average) in 2015.

- Health Care is projected to see the highest growth in jobs between 2015 and 2025 (49,000 new jobs), followed by Retail (27,400 new jobs) and Food Service (18,000 new jobs).

- The CCWC region is also expected to see relatively strong growth in Education (16,400 new jobs), and Professional, Scientific and Technical services (8,700 new jobs).

- The Logistics sector, including Wholesale, Warehousing and Transportation, are projected to grow by a combined 22,700 new jobs.

- Manufacturing is projected to increase by 7,000 jobs, but this trend masks considerable turbulence within the sector, with some industries growing while others decline. Wineries (NAICS 312230) are projected to grow by 1,400 new jobs and a number of other food processing industries are projected to grow by at least 500 new jobs each, such as roasted nuts and peanut butter (NAICS 311911), poultry processing (NAICS 311615), animal slaughtering (NAICS 311611), and cheese manufacturing (NAICS 311513). At the same time, dried and dehydrated food manufacturing (NAICS 311423) and fruit and vegetable canning (NAICS 311423) are expected to each decline by more than 600 jobs. Breakfast cereal manufacturing (NAICS 311230) and commercial bakeries (NAICS 311812) are expected to decline by approximately 300 jobs each.

- Construction recovered more than 12,800 jobs over the past five years but is projected to continue at less than half that rate of job growth, with 11,200 new jobs created between 2015 and 2025.

[1] For purposes of this report, the CCWC region includes the following counties: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, Kern, Inyo, and Mono.

- Consistent with the above trends, the Health and Wellness industry cluster is projected to have the highest job growth over the next ten years. The Health and Wellness cluster is projected to add 51,000 jobs by 2025. About 26,700 (52 percent) of the new jobs will occur in the Health Care Delivery sub-cluster. Within this sub-cluster, the number of jobs in hospitals and HMO Centers is projected to increase by 8,500 new jobs. In contrast, services to elderly and disabled persons are projected to increase by 20,800 new jobs.

- The projections of job openings show a concentration in transportation and materials handling (4,900 annual openings), food services and retail (12,600 combined annual openings), office and admin support (5,900 annual openings) and farm occupations (6,300 annual openings).

- For each of the occupational categories, the report also indicates the number of unemployed and part time workers in the region that meet the minimum educational requirements for the projected job openings. These workers may need more specialized training in order to transition into these jobs.

LABOR FORCE CHARACTERISTICS

- The labor force in CCWC region is fairly evenly concentrated among the age groups. Workers in the 16-24 age group are about 16.6 percent of the total while nearly 25 percent are in the 25-34 age group. The prime working age group of 35-54 has 41 percent of the workforce. Workers over 55 constitute about 16.9 percent of the workforce and a number of employers report that impending retirements are a significant issue for them in terms of anticipated openings in the future.

- Non-citizen workers constitute 18.9 percent of the workforce in CCWC region, though the rate varies with age. At 23.7 percent of the prime working age (35 to 54) labor force, non-citizens are more concentrated in this age cohort relative to their overall concentration level.

- Educational attainment in the CCWC region is slightly lower than the statewide averages, with 22 percent of workers 25 years and older not holding a high school diploma or equivalent, compared to 18.5 percent for the state as a whole. Statewide, 38.8 percent have a college degree, compared to 28.5 percent for the CCWC region.

- However, in the San Joaquin Valley there is a stark contrast in the educational attainment levels of the labor force when citizenship status is taken into account. Among US citizens in the CCWC workforce, only 12 percent do not have a high school diploma or GED and 33.7 percent have a college degree. Non-citizens 25 and over exhibit high rates of less than high school attainment level: 62.8 percent of the non-citizens in the labor force have not obtained a high school diploma or a GED.

- This accounts in part for the differences in educational attainment between Latino workers and other workers in the labor force, as the non-citizen group is 87.1 percent Latino. Overall, Latinos have earned high school diplomas and GEDs at rates slightly surpassing Whites and Others, at 25.9 percent versus 24.5 percent (Whites) and 21.7 percent (Others). However, Whites and Others are over two and a half times more likely than Latinos to have earned a

college degree: 14.9 percent of the Latinos in the labor force have earned a college degree versus 39.6 percent for Whites and 40.8 percent for Others.

- Veterans in CCWC region tend to have high levels of overall educational attainment, with 3.5 percent not achieving a high school diploma. Among disabled workers, however, 24.5 percent do not have a high school diploma, compared to 22 percent for the workforce as a whole.

CONCLUSION

At 1.4 percent a year, jobs in CCWC region is expected to grow modestly from now to 2025, although analysts project a number of sectors (Construction, Health, Logistics, Professional, Scientific and Technical Services, Administrative Support, Education, Health Care and Food Services) to exceed this overall annual growth rate. However, qualified workers are in short supply for certain key job categories. Based on the analysis presented in this report and discussions with key employers and workforce training organizations, the following can be identified as potential priorities for additional training efforts.

- Medical Technicians
- Electricians
- Maintenance Mechanics
- Ability to use computer operated processing controls and instruments (and related English competency)
- Workers with supervisory and management skills
- Business skills

ECONOMIC TRENDS

POPULATION AND EMPLOYMENT TRENDS

The region unemployment rate has declined to 9.9 percent in 2015, down from the peak of 16.5 percent in 2010, but still well above the low point before the recession of 7.9 percent in 2006 (Table 1). While job levels have been increasing since 2010, the size of the labor force peaked in 2012 at 1,843,740, then declined to 1,840,270 by 2014 and finally increased slightly to 1,840,828 in 2015.

Table 1 — Annual Labor Force Trends, 2000-2015: CCWC Region

Period	Labor Force Trends	Employed Labor Force	Unemploy-ment Rate
08-15 Annual Growth Rate	0.7%	0.8%	13.3%
00-08 Annual Growth Rate	1.7%	1.5%	9.4%
2015	1,840,828	1,658,656	9.9%
2014	1,840,270	1,631,640	11.3%
2013	1,841,530	1,604,680	12.9%
2012	1,843,740	1,573,100	14.7%
2011	1,836,380	1,539,960	16.1%
2010	1,820,700	1,519,850	16.5%
2009	1,782,730	1,520,320	14.7%
2008	1,755,800	1,570,990	10.5%
2007	1,708,420	1,563,190	8.5%
2006	1,674,650	1,542,670	7.9%
2005	1,659,420	1,516,370	8.6%
2004	1,633,040	1,471,030	9.9%
2003	1,622,970	1,450,440	10.6%
2002	1,600,080	1,434,690	10.3%
2001	1,554,940	1,409,570	9.3%
2000	1,532,760	1,396,410	8.9%

Source: Applied Development Economics, based on CA EDD LMID. Note: Unemployment rates for 2000-2008 and 2008-2015 in the table above are annual averages, not annual growth rate.

Household population growth in the San Joaquin Valley exceeded statewide growth rates between 2011 and 2013, but has slowed in the past two years (Table 2). As shown in Figure 1, CCWC region is projected to grow significantly faster than the state as a whole over the next five years (2015-2020), which will have implications for some employment sectors, as discussed below.

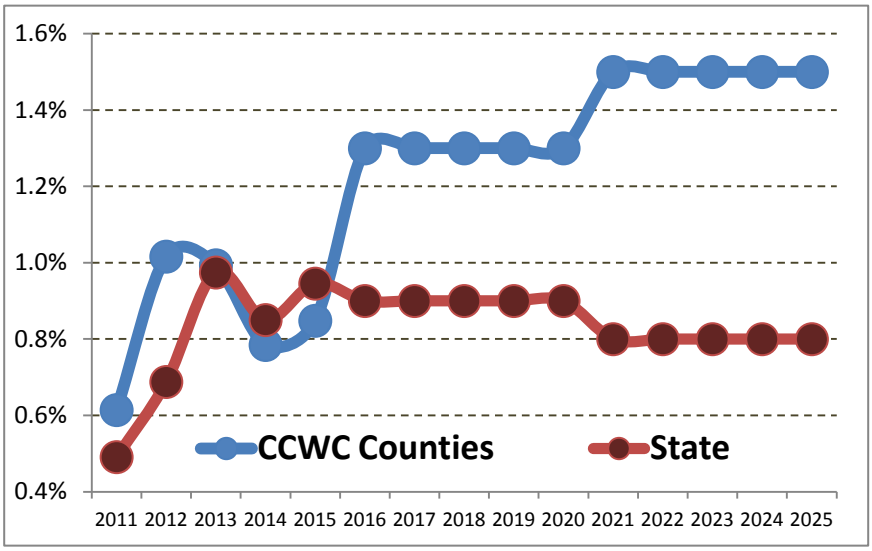
Table 2 – Total and Household Population Trends: CCWC Region, CCWC Region, and California

Year	Household Population			
	CCWC Counties	Growth Rate	State ('000)	Growth Rate
2010	3,888,941		36,412	
2011	3,912,829	0.6%	36,591	0.5%
2012	3,952,595	1.0%	36,843	0.7%
2013	3,991,868	1.0%	37,202	1.0%
2014	4,023,198	0.8%	37,518	0.9%
2015	4,057,322	0.8%	37,873	0.9%
10-15	168,381	0.9%	1,461	0.8%

Year	Total Population			
	CCWC Counties	Growth Rate	State ('000)	Growth Rate
2010	4,004,407		37,254	
2011	4,025,282	0.5%	37,428	0.5%
2012	4,058,833	0.8%	37,681	0.7%
2013	4,094,785	0.9%	38,031	0.9%
2014	4,129,749	0.9%	38,357	0.9%
2015	4,165,560	0.9%	38,715	0.9%
10-15	161,153	0.8%	1,461	0.8%

Source: CA Dept. of Finance

Figure 1 - Annual Past and Projected Household Population Growth Rates



Source: CA Dept. of Finance

Before the recession, total jobs in the region peaked at 1,361,550 in 2007 and did not reach that level again until 2014. The annual average number of jobs in 2015 is estimated at 1,405,122 (Table 3). Through 2008, total jobs in the County were growing at a 1.4 annual percentage rate, while since 2008, the number of jobs have grown at a much lower 0.5 percent per year.

Table 3 — Trends in Total Number of Jobs: 2000-2015: CCWC Region

Period	Total Employment
08-15 Annual Growth Rate	0.5%
00-08 Annual Growth Rate	1.4%
2015	1,405,122
2014	1,385,599
2013	1,356,973
2012	1,316,991
2011	1,284,842
2010	1,271,214
2009	1,287,708
2008	1,357,592
2007	1,361,550
2006	1,341,399
2005	1,306,916
2004	1,268,476
2003	1,249,284
2002	1,235,969
2001	1,218,992
2000	1,214,461

Source: Applied Development Economics, based on CA EDD LMID

Farm employment grew at a 2.2 percent annual rate between 2010 and 2015 but is projected to increase at a slower rate of 0.5 percent over the next ten years (Table 4). Much of the agricultural job growth is projected in farm support (NAICS 115), especially from farm labor contractors (NAICS 115115) (Table 5). A number of factors affect farm employment including availability of water and continued mechanization of farming operations. In addition, employers interviewed for this study indicated that the new state minimum wage law will affect employment opportunities in both farming and food processing and related industries.

Manufacturing industries in CCWC region are mainly in food processing. Manufacturing jobs increased by more than 5,100 jobs between 2010 and 2015, from 101,451 in 2010 to 105,607 in 2015. This sector is expected to slow its growth over the next ten years, adding about 7,000 jobs. Within manufacturing, food processing (NAICS 311-312) is expected to increase annually by 0.8 percent

Table 4 — Employment Trends and Projections By Sectors: CCWC Region

NAICS Code	Industry Sector	2010 Jobs	2015 Jobs	2025 Projected	15-25 Change	10-15 Annual Growth Rate	15-25 Annual Growth Rate
	Total	**1,316,427**	**1,457,520**	**1,666,961**	**209,444**	**2.1%**	**1.4%**
11	Agriculture	186,738	208,225	219,800	11,575	2.2%	0.5%
21	Mining	9,991	10,518	11,234	717	1.0%	0.7%
22	Utilities	6,214	6,746	7,084	338	1.7%	0.5%
23	Construction	48,579	61,365	72,607	11,242	4.8%	1.7%
31-33	Manufacturing	101,451	105,607	112,637	7,030	0.8%	0.6%
42	Wholesale	42,299	48,849	60,685	11,836	2.9%	2.2%
44-45	Retail	131,984	151,397	178,823	27,426	2.8%	1.7%
48	Warehousing	27,552	34,702	43,197	8,494	4.7%	2.2%
49	Transportation	19,150	20,677	23,042	2,366	1.5%	1.1%
51	Information	12,587	11,358	12,284	927	-2.0%	0.8%
52	Finance and Insurance	29,252	28,637	30,847	2,210	-0.4%	0.7%
53	Real Estate and Leasing	14,946	15,877	17,983	2,106	1.2%	1.3%
54	Prof., Scientific, Technical	35,543	37,908	46,560	8,652	1.3%	2.1%
55	Mgt. of Companies	10,568	10,953	9,469	-1,484	0.7%	-1.4%
561	Admin Support	47,214	56,111	70,618	14,506	3.5%	2.3%
562	Waste Mgt.	3,829	4,279	5,903	1,624	2.2%	3.3%
61	Education	143,868	154,138	170,580	16,441	1.4%	1.0%
62	Health	167,766	192,884	241,950	49,066	2.8%	2.3%
71	Arts, Rec. and Enter.	10,595	12,290	14,021	1,731	3.0%	1.3%
721	Accommodations	9,580	9,245	10,668	1,423	-0.7%	1.4%
722	Food and Drinking Services	81,536	98,907	116,854	17,947	3.9%	1.7%
81	Other Services	40,191	44,135	50,937	6,802	1.9%	1.4%
92	Public Admin.	118,226	114,402	121,561	7,159	-0.7%	0.6%
98	Nat'l Security/Military	14,950	14,535	13,442	-1,093	-0.6%	-0.8%
99	Misc.	1,817	3,775	4,174	400	15.7%	1.0%

*Source: Applied Development Economics, based on EMSI 2015 Q4 QCEW and Non-QCEW Industry Employment Data. (Internal file: P:\CCWC Labor Force 2015\03_NEXT-TASKS\TABLES\06_draft_Fresno-update.xlsx **T3r**)*

between 2015 and 2025. Overall, food processing is projected to grow by more than 5,700 jobs in the coming years, led by food manufacturing industries such as animal slaughtering (NAICS 311611), meat processed from carcasses (NAICS 311612), perishable prepared foods (NAICS 311991) and wineries (NAICS 312130) (Table 5).

A number of non-food processing manufacturing industries are also projected to produce new jobs. Paint and coatings (NAICS 325510), plastics pipe and pipe fittings (NAICS 326122), urethane ad other foam products (NAICS 326150), glass products (NAICS 327215), fabricated structural metal (NAICS 332312) and search and detection instruments (NAICS 334511) are projected to have a combined growth of 1,825 jobs between 2015 and 2025.

The construction industry continued to grow coming out of the recession over the past five years, and is projected to grow over the next ten years as well (Table 4). Residential construction (NAICS 236116), residential remodelers (NAICS 236118), electrical and plumbing specialties (NAICS 238210 and 238220) and water and sewer line construction (NAICS 237110) are expected to grow during this period, which is consistent with expected population growth for the region over the next ten years (Table 5). In addition, the High Speed Rail (HSR) project and a variety of highway improvement projects are projected to add significant heavy construction jobs in the region. The HSR project is estimate to support an average of nearly 3,000 jobs over the ten year period to 2025, with peaks of 6,000 jobs during the height of construction.

The Health Services sector is projected to see strong employment growth over the next ten years. This is a consistent finding throughout the state as well as nationally and reflects both demographic trends with the aging Baby Boomer population as well as industry trends to institute managed care with more outpatient and home health care. Employment in Health Services is projected to grow to 241,950 in 2025 from 192,884 in 2015, for an annual rate of growth of 2.8 percent (Table 4). In an effort to accurately characterize the state of employment in the sector in CCWC Region, employment in Health Services includes employed persons in the public sector, who for purposes of analysis were moved out of NAICS 92 (Public Administration) and into NAICS 62 (Health Services). Another population based trend is the increase in retail and food services jobs. Both these sectors have been recovering from the recession over the past five years, and are projected to see more moderate growth over the next ten years.

Table 5 provides more detail on projected fast growing industries in CCWC region.

Table 5 — Employment Projections For Industries Expected to Grow By 50 or More Jobs Between 2015 and 2025: CCWC Region

NAICS	Industry	2015	2025 Proj.	15-25 Change	15-25 CAGR
115112	Soil Preparation, Planting, and Cultivating	4,825	5,265	441	0.9%
115114	Postharvest Crop Activities (except Cotton Ginning)	19,667	21,250	1,583	0.8%
115115	Farm Labor Contractors and Crew Leaders	92,059	104,398	12,340	1.3%
115116	Farm Management Services	5,091	6,276	1,185	2.1%
115310	Support Activities for Forestry	142	199	58	3.5%
11 Agric.		**121,783**	**137,389**	**15,606**	**1.2%**
212321	Construction Sand and Gravel Mining	223	285	62	2.5%
21 Mining		**223**	**285**	**62**	**2.5%**
221112	Fossil Fuel Electric Power Generation	1,977	2,518	541	2.4%
221310	Water Supply and Irrigation Systems	1,053	1,385	332	2.8%
22 Utilities		**3,030**	**3,903**	**872**	**2.6%**
236116	New Multifamily Housing Construction (except For-Sale Builders)	274	468	194	5.5%
236118	Residential Remodelers	1,880	2,922	1,042	4.5%
236220	Commercial and Institutional Building Construction	4,169	5,261	1,092	2.4%
237110	Water and Sewer Line and Related Structures Construction	2,582	3,179	597	2.1%
237990	Other Heavy and Civil Engineering Construction	772	4,044	3,271	18.0%

NAICS	Industry	2015	2025 Proj.	15-25 Change	15-25 CAGR
238120	Structural Steel and Precast Concrete Contractors	782	1,008	225	2.6%
238140	Masonry Contractors	1,023	1,335	313	2.7%
238150	Glass and Glazing Contractors	358	529	171	4.0%
238170	Siding Contractors	111	166	55	4.1%
238190	Other Foundation, Structure, and Building Exterior Contractors	396	518	122	2.7%
238210	Electrical Contractors and Other Wiring Installation Contractors	7,300	8,765	1,465	1.8%
238220	Plumbing, Heating, and Air-Conditioning Contractors	7,413	9,240	1,826	2.2%
238290	Other Building Equipment Contractors	894	1,298	404	3.8%
238320	Painting and Wall Covering Contractors	2,002	2,101	99	0.5%
238330	Flooring Contractors	676	873	197	2.6%
238390	Other Building Finishing Contractors	458	771	314	5.4%
238910	Site Preparation Contractors	2,020	2,605	586	2.6%
238990	All Other Specialty Trade Contractors	4,022	6,129	2,107	4.3%
23 Const.		**41,788**	**55,868**	**14,080**	**3.3%**
311119	Other Animal Food Manufacturing	1,413	1,675	262	1.7%
311221	Wet Corn Milling	425	675	250	4.7%
311340	Nonchocolate Confectionery Manufacturing	100	215	115	7.9%
311412	Frozen Specialty Food Manufacturing	1,934	2,042	108	0.5%
311511	Fluid Milk Manufacturing	2,493	2,955	461	1.7%
311513	Cheese Manufacturing	4,334	4,887	553	1.2%
311520	Ice Cream and Frozen Dessert Manufacturing	1,447	1,808	361	2.3%
311611	Animal (except Poultry) Slaughtering	2,563	3,150	587	2.1%
311612	Meat Processed from Carcasses	1,815	2,340	525	2.6%
311615	Poultry Processing	7,895	8,568	673	0.8%
311830	Tortilla Manufacturing	854	946	92	1.0%
311911	Roasted Nuts and Peanut Butter Manufacturing	4,399	5,104	704	1.5%
311919	Other Snack Food Manufacturing	1,346	1,433	87	0.6%
311991	Perishable Prepared Food Manufacturing	2,119	2,544	425	1.8%
311999	All Other Miscellaneous Food Manufacturing	892	1,216	324	3.1%
312111	Soft Drink Manufacturing	996	1,186	191	1.8%
312120	Breweries	102	157	54	4.3%
312130	Wineries	6,334	7,745	1,411	2.0%
313110	Fiber, Yarn, and Thread Mills	92	196	105	7.9%
321920	Wood Container and Pallet Manufacturing	822	1,029	207	2.3%
322211	Corrugated and Solid Fiber Box Manufacturing	2,307	3,090	784	3.0%
322219	Other Paperboard Container Manufacturing	749	894	145	1.8%
322299	All Other Converted Paper Product Manufacturing	367	416	49	1.3%
323113	Commercial Screen Printing	190	267	77	3.5%
324110	Petroleum Refineries	877	1,013	136	1.5%
325193	Ethyl Alcohol Manufacturing	76	155	79	7.4%
325211	Plastics Material and Resin Manufacturing	87	164	77	6.5%
325314	Fertilizer (Mixing Only) Manufacturing	337	407	70	1.9%
325411	Medicinal and Botanical Manufacturing	114	199	85	5.7%

NAICS	Industry	2015	2025 Proj.	15-25 Change	15-25 CAGR
325510	Paint and Coating Manufacturing	199	328	129	5.1%
326111	Plastics Bag and Pouch Manufacturing	120	201	81	5.3%
326112	Plastics Packaging Film and Sheet (including Laminated) Manufacturing	491	814	323	5.2%
326130	Laminated Plastics Plate, Sheet (except Packaging), and Shape Manufacturing	91	142	51	4.5%
326150	Urethane and Other Foam Product (except Polystyrene) Manufacturing	455	733	279	4.9%
326199	All Other Plastics Product Manufacturing	1,085	1,324	239	2.0%
326299	All Other Rubber Product Manufacturing	284	393	109	3.3%
327213	Glass Container Manufacturing	1,586	1,711	125	0.8%
327215	Glass Product Manufacturing Made of Purchased Glass	340	441	101	2.6%
327310	Cement Manufacturing	380	503	123	2.8%
327331	Concrete Block and Brick Manufacturing	148	227	79	4.4%
327390	Other Concrete Product Manufacturing	567	970	403	5.5%
332119	Metal Crown, Closure, and Other Metal Stamping (except Automotive)	240	306	66	2.5%
332312	Fabricated Structural Metal Manufacturing	1,664	1,974	310	1.7%
332322	Sheet Metal Work Manufacturing	651	821	170	2.3%
332323	Ornamental and Architectural Metal Work Manufacturing	240	320	80	2.9%
332613	Spring Manufacturing	128	245	117	6.7%
332710	Machine Shops	1,326	1,390	64	0.5%
332722	Bolt, Nut, Screw, Rivet, and Washer Manufacturing	124	183	58	3.9%
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	622	856	234	3.2%
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	490	653	163	2.9%
333111	Farm Machinery and Equipment Manufacturing	1,527	1,599	72	0.5%
333132	Oil and Gas Field Machinery and Equipment Manufacturing	545	644	99	1.7%
333249	Other Industrial Machinery Manufacturing	146	239	93	5.0%
333318	Other Commercial and Service Industry Machinery Manufacturing	153	206	53	3.0%
333993	Packaging Machinery Manufacturing	723	790	67	0.9%
334413	Semiconductor and Related Device Manufacturing	256	320	65	2.3%
334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	679	1,044	365	4.4%
334519	Other Measuring and Controlling Device Manufacturing	78	131	53	5.3%
335129	Other Lighting Equipment Manufacturing	108	179	71	5.2%
336211	Motor Vehicle Body Manufacturing	543	707	164	2.7%
336212	Truck Trailer Manufacturing	508	617	109	2.0%
336370	Motor Vehicle Metal Stamping	73	152	79	7.6%
336413	Other Aircraft Parts and Auxiliary Equipment Manufacturing	770	1,110	340	3.7%
337910	Mattress Manufacturing	122	235	113	6.8%
339112	Surgical and Medical Instrument Manufacturing	184	248	64	3.0%
31-33 Man.		**65,125**	**79,231**	**14,107**	**2.0%**
423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers	1,492	1,710	217	1.4%

NAICS	Industry	2015	2025 Proj.	15-25 Change	15-25 CAGR
423130	Tire and Tube Merchant Wholesalers	276	438	161	4.7%
423210	Furniture Merchant Wholesalers	588	943	355	4.8%
423220	Home Furnishing Merchant Wholesalers	315	555	239	5.8%
423430	Computer and Computer Peripheral Equipment and Software Merchant Wholesalers	281	418	137	4.0%
423440	Other Commercial Equipment Merchant Wholesalers	171	233	62	3.2%
423510	Metal Service Centers and Other Metal Merchant Wholesalers	1,384	1,872	488	3.1%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	989	1,156	167	1.6%
423710	Hardware Merchant Wholesalers	409	517	108	2.4%
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	851	1,050	199	2.1%
423740	Refrigeration Equipment and Supplies Merchant Wholesalers	79	157	78	7.1%
423820	Farm and Garden Machinery and Equipment Merchant Wholesalers	2,374	2,436	62	0.3%
423830	Industrial Machinery and Equipment Merchant Wholesalers	3,287	3,788	501	1.4%
423850	Service Establishment Equipment and Supplies Merchant Wholesalers	299	367	68	2.1%
423860	Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers	239	413	174	5.6%
423910	Sporting and Recreational Goods and Supplies Merchant Wholesalers	213	289	76	3.1%
423930	Recyclable Material Merchant Wholesalers	1,122	1,372	250	2.0%
423990	Other Miscellaneous Durable Goods Merchant Wholesalers	253	328	75	2.6%
424130	Industrial and Personal Service Paper Merchant Wholesalers	504	690	186	3.2%
424210	Drugs and Druggists' Sundries Merchant Wholesalers	664	979	315	4.0%
424320	Men's and Boys' Clothing and Furnishings Merchant Wholesalers	218	325	107	4.1%
424330	Women's, Children's, and Infants' Clothing and Accessories Merchant Wholesalers	217	267	50	2.1%
424410	General Line Grocery Merchant Wholesalers	2,825	3,385	560	1.8%
424420	Packaged Frozen Food Merchant Wholesalers	231	289	58	2.3%
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	717	889	171	2.2%
424450	Confectionery Merchant Wholesalers	744	808	65	0.8%
424460	Fish and Seafood Merchant Wholesalers	99	168	70	5.5%
424470	Meat and Meat Product Merchant Wholesalers	500	599	99	1.8%
424480	Fresh Fruit and Vegetable Merchant Wholesalers	3,586	4,329	743	1.9%
424490	Other Grocery and Related Products Merchant Wholesalers	3,797	5,097	1,300	3.0%
424510	Grain and Field Bean Merchant Wholesalers	287	408	121	3.6%
424590	Other Farm Product Raw Material Merchant Wholesalers	286	345	59	1.9%
424690	Other Chemical and Allied Products Merchant Wholesalers	734	926	192	2.3%
424710	Petroleum Bulk Stations and Terminals	651	851	200	2.7%
424810	Beer and Ale Merchant Wholesalers	1,024	1,105	81	0.8%
424820	Wine and Distilled Alcoholic Beverage Merchant	1,123	2,013	889	6.0%

NAICS	Industry	2015	2025 Proj.	15-25 Change	15-25 CAGR
	Wholesalers				
424910	Farm Supplies Merchant Wholesalers	3,611	4,520	909	2.3%
424990	Other Miscellaneous Nondurable Goods Merchant Wholesalers	472	530	58	1.2%
425120	Wholesale Trade Agents and Brokers	4,747	7,335	2,588	4.4%
42 Wholesale		**41,661**	**53,901**	**12,240**	**2.6%**
441110	New Car Dealers	9,727	10,022	295	0.3%
441120	Used Car Dealers	1,670	2,673	1,002	4.8%
441228	Motorcycle, ATV, and All Other Motor Vehicle Dealers	616	666	50	0.8%
441310	Automotive Parts and Accessories Stores	4,979	5,716	737	1.4%
441320	Tire Dealers	2,154	2,341	187	0.8%
442110	Furniture Stores	1,596	1,661	65	0.4%
442299	All Other Home Furnishings Stores	1,048	1,415	366	3.0%
443142	Electronics Stores	4,283	6,290	2,007	3.9%
444110	Home Centers	7,741	10,014	2,273	2.6%
444130	Hardware Stores	2,063	2,448	385	1.7%
445110	Supermarkets and Other Grocery (except Convenience) Stores	24,530	27,540	3,010	1.2%
445120	Convenience Stores	1,797	2,201	404	2.0%
445210	Meat Markets	701	822	121	1.6%
445230	Fruit and Vegetable Markets	290	368	78	2.4%
445291	Baked Goods Stores	200	321	121	4.8%
445292	Confectionery and Nut Stores	260	387	127	4.1%
446110	Pharmacies and Drug Stores	7,650	9,022	1,372	1.7%
446120	Cosmetics, Beauty Supplies, and Perfume Stores	1,086	1,702	616	4.6%
446130	Optical Goods Stores	471	681	210	3.7%
446191	Food (Health) Supplement Stores	350	434	84	2.2%
448110	Men's Clothing Stores	441	517	76	1.6%
448120	Women's Clothing Stores	2,661	4,132	1,471	4.5%
448130	Children's and Infants' Clothing Stores	614	1,049	435	5.5%
448140	Family Clothing Stores	4,194	5,433	1,239	2.6%
448150	Clothing Accessories Stores	361	545	184	4.2%
448190	Other Clothing Stores	908	1,125	217	2.2%
448210	Shoe Stores	1,975	2,315	341	1.6%
451110	Sporting Goods Stores	2,686	3,280	593	2.0%
451120	Hobby, Toy, and Game Stores	2,652	3,923	1,271	4.0%
451130	Sewing, Needlework, and Piece Goods Stores	713	889	176	2.2%
452112	Discount Department Stores	15,669	20,045	4,376	2.5%
452910	Warehouse Clubs and Supercenters	10,328	15,807	5,479	4.3%
452990	All Other General Merchandise Stores	5,075	6,890	1,814	3.1%
453310	Used Merchandise Stores	1,537	1,715	177	1.1%
453910	Pet and Pet Supplies Stores	1,183	1,457	274	2.1%
454111	Electronic Shopping	181	245	64	3.1%
454113	Mail-Order Houses	169	242	73	3.7%
454210	Vending Machine Operators	241	309	68	2.5%

NAICS	Industry	2015	2025 Proj.	15-25 Change	15-25 CAGR
454310	Fuel Dealers	546	610	64	1.1%
44-45 Retail		**125,345**	**157,252**	**31,907**	**2.3%**
482110	Rail transportation	1,757	2,007	250	1.3%
484110	General Freight Trucking, Local	5,455	6,215	760	1.3%
484121	General Freight Trucking, Long-Distance, Truckload	6,170	8,314	2,144	3.0%
484122	General Freight Trucking, Long-Distance, Less Than Truckload	2,349	2,656	307	1.2%
484220	Specialized Freight (except Used Goods) Trucking, Local	7,260	9,134	1,874	2.3%
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	1,265	1,962	698	4.5%
485113	Bus and Other Motor Vehicle Transit Systems	488	873	386	6.0%
485991	Special Needs Transportation	1,241	1,911	671	4.4%
486110	Pipeline Transportation of Crude Oil	419	474	55	1.2%
488210	Support Activities for Rail Transportation	578	789	211	3.2%
488410	Motor Vehicle Towing	1,000	1,394	394	3.4%
488490	Other Support Activities for Road Transportation	258	350	92	3.1%
488510	Freight Transportation Arrangement	872	1,270	398	3.8%
488991	Packing and Crating	593	923	330	4.5%
488999	All Other Support Activities for Transportation	356	501	145	3.5%
48 Trans.		**30,059**	**38,772**	**8,714**	**2.6%**
492110	Couriers and Express Delivery Services	2,926	3,045	120	0.4%
492210	Local Messengers and Local Delivery	574	771	197	3.0%
493110	General Warehousing and Storage	11,234	13,773	2,539	2.1%
493120	Refrigerated Warehousing and Storage	1,414	1,644	230	1.5%
493190	Other Warehousing and Storage	151	226	75	4.1%
49 Warehousing		**16,298**	**19,459**	**3,161**	**1.8%**
511120	Periodical Publishers	192	367	175	6.7%
511130	Book Publishers	137	271	134	7.1%
511210	Software Publishers	296	378	82	2.5%
515120	Television Broadcasting	1,114	1,470	356	2.8%
517110	Wired Telecommunications Carriers	3,651	5,682	2,031	4.5%
517919	All Other Telecommunications	35	138	103	14.6%
518210	Data Processing, Hosting, and Related Services	527	628	101	1.8%
51 Information		**5,952**	**8,935**	**2,983**	**4.1%**
522110	Commercial Banking	5,621	5,705	84	0.1%
522130	Credit Unions	2,461	2,996	536	2.0%
522298	All Other Nondepository Credit Intermediation	362	453	91	2.3%
522390	Other Activities Related to Credit Intermediation	485	622	137	2.5%
523120	Securities Brokerage	387	462	75	1.8%
523140	Commodity Contracts Brokerage	52	102	51	7.1%
523910	Miscellaneous Intermediation	83	161	78	6.8%
523991	Trust, Fiduciary, and Custody Activities	80	140	61	5.8%
524114	Direct Health and Medical Insurance Carriers	2,781	3,596	815	2.6%
524126	Direct Property and Casualty Insurance Carriers	2,547	2,889	342	1.3%

NAICS	Industry	2015	2025 Proj.	15-25 Change	15-25 CAGR
524210	Insurance Agencies and Brokerages	6,209	7,005	796	1.2%
524292	Third Party Administration of Insurance and Pension Funds	1,339	1,680	341	2.3%
52 Fin. And Insr.		**22,406**	**25,812**	**3,405**	**1.4%**
531130	Lessors of Miniwarehouses and Self-Storage Units	891	1,059	168	1.7%
531190	Lessors of Other Real Estate Property	821	879	58	0.7%
531210	Offices of Real Estate Agents and Brokers	2,466	2,561	95	0.4%
531311	Residential Property Managers	3,200	3,835	635	1.8%
531390	Other Activities Related to Real Estate	216	286	71	2.9%
532111	Passenger Car Rental	638	926	288	3.8%
532120	Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing	562	642	80	1.3%
532299	All Other Consumer Goods Rental	701	908	207	2.6%
532310	General Rental Centers	405	608	203	4.1%
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	1,085	1,417	332	2.7%
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	603	930	328	4.4%
533110	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	188	241	52	2.5%
53 R.E. and Leasing		**11,776**	**14,293**	**2,517**	2.0%
541110	Offices of Lawyers	4,834	5,412	577	1.1%
541199	All Other Legal Services	156	229	73	3.9%
541213	Tax Preparation Services	1,337	1,506	168	1.2%
541219	Other Accounting Services	2,660	3,315	656	2.2%
541310	Architectural Services	711	822	111	1.5%
541320	Landscape Architectural Services	297	446	150	4.2%
541330	Engineering Services	4,376	4,883	506	1.1%
541350	Building Inspection Services	194	323	129	5.2%
541370	Surveying and Mapping (except Geophysical) Services	291	482	191	5.2%
541380	Testing Laboratories	1,687	2,495	808	4.0%
541410	Interior Design Services	110	181	72	5.1%
541490	Other Specialized Design Services	95	161	66	5.4%
541511	Custom Computer Programming Services	1,524	1,889	365	2.2%
541512	Computer Systems Design Services	1,319	1,748	428	2.9%
541519	Other Computer Related Services	401	514	114	2.5%
541611	Administrative Management and General Management Consulting Services	913	1,174	261	2.5%
541612	Human Resources Consulting Services	215	266	51	2.1%
541613	Marketing Consulting Services	242	357	115	4.0%
541614	Process, Physical Distribution, and Logistics Consulting Services	607	1,150	543	6.6%
541618	Other Management Consulting Services	863	978	115	1.3%
541620	Environmental Consulting Services	486	771	285	4.7%
541690	Other Scientific and Technical Consulting Services	3,185	4,857	1,672	4.3%
541712	Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology)	986	1,405	419	3.6%
541720	Research and Development in the Social Sciences and	500	819	319	5.1%

NAICS	INDUSTRY	2015	2025 PROJ.	15-25 CHANGE	15-25 CAGR
	Humanities				
541890	Other Services Related to Advertising	861	1,075	214	2.2%
541910	Marketing Research and Public Opinion Polling	280	383	103	3.2%
541940	Veterinary Services	2,621	3,119	498	1.8%
54 Prof.,Sci., Tech.		**31,748**	**40,759**	**9,010**	**2.5%**
55 Mgt of Cos.					
561110	Office Administrative Services	2,448	2,680	232	0.9%
561210	Facilities Support Services	1,717	2,333	616	3.1%
561311	Employment Placement Agencies	1,937	3,202	1,265	5.2%
561320	Temporary Help Services	21,618	29,190	7,572	3.0%
561422	Telemarketing Bureaus and Other Contact Centers	2,295	3,780	1,485	5.1%
561439	Other Business Service Centers (including Copy Shops)	387	459	72	1.7%
561520	Tour Operators	93	257	164	10.7%
561612	Security Guards and Patrol Services	5,170	6,169	999	1.8%
561621	Security Systems Services (except Locksmiths)	759	824	65	0.8%
561710	Exterminating and Pest Control Services	1,381	1,497	116	0.8%
561720	Janitorial Services	5,710	7,682	1,972	3.0%
561790	Other Services to Buildings and Dwellings	753	1,000	247	2.9%
561920	Convention and Trade Show Organizers	885	1,332	447	4.2%
561990	All Other Support Services	1,047	1,360	313	2.7%
562111	Solid Waste Collection	1,614	2,413	799	4.1%
562112	Hazardous Waste Collection	165	249	84	4.2%
562119	Other Waste Collection	240	349	109	3.8%
562219	Other Nonhazardous Waste Treatment and Disposal	242	336	94	3.3%
562910	Remediation Services	401	477	76	1.8%
562920	Materials Recovery Facilities	300	387	86	2.6%
562991	Septic Tank and Related Services	602	1,150	548	6.7%
562998	All Other Miscellaneous Waste Management Services	187	282	95	4.2%
56 Admin,Support,Waste		**49,952**	**67,410**	**17,458**	**3.0%**
611110	Elementary and Secondary Schools	116,022	126,102	10,080	0.8%
611310	Colleges, Universities, and Professional Schools	31,519	35,958	4,438	1.3%
611430	Professional and Management Development Training	367	625	258	5.5%
611511	Cosmetology and Barber Schools	367	630	262	5.5%
611513	Apprenticeship Training	208	266	58	2.5%
611519	Other Technical and Trade Schools	450	605	155	3.0%
611610	Fine Arts Schools	561	630	69	1.2%
611620	Sports and Recreation Instruction	925	1,310	385	3.5%
611691	Exam Preparation and Tutoring	1,205	1,844	639	4.3%
611710	Educational Support Services	1,056	1,308	252	2.2%
61 Education		**152,680**	**169,277**	**16,598**	**1.0%**
621111	Offices of Physicians (except Mental Health Specialists)	24,492	28,302	3,810	1.5%
621210	Offices of Dentists	9,175	10,157	982	1.0%
621320	Offices of Optometrists	1,489	1,858	369	2.2%
621330	Offices of Mental Health Practitioners (except	908	1,293	385	3.6%

NAICS	Industry	2015	2025 Proj.	15-25 Change	15-25 CAGR
	Physicians)				
621340	Offices of Physical, Occupational and Speech Therapists, and Audiologists	2,010	2,629	619	2.7%
621399	Offices of All Other Miscellaneous Health Practitioners	309	448	139	3.8%
621410	Family Planning Centers	541	660	119	2.0%
621420	Outpatient Mental Health and Substance Abuse Centers	1,433	1,880	447	2.8%
621491	HMO Medical Centers	5,260	8,443	3,183	4.8%
621492	Kidney Dialysis Centers	1,495	2,138	643	3.6%
621493	Freestanding Ambulatory Surgical and Emergency Centers	732	855	123	1.6%
621498	All Other Outpatient Care Centers	1,502	2,394	892	4.8%
621511	Medical Laboratories	896	970	74	0.8%
621512	Diagnostic Imaging Centers	1,019	1,589	570	4.5%
621610	Home Health Care Services	6,422	9,917	3,495	4.4%
621910	Ambulance Services	2,345	3,062	718	2.7%
621999	All Other Miscellaneous Ambulatory Health Care Services	191	328	137	5.5%
622110	General Medical and Surgical Hospitals	50,893	56,248	5,355	1.0%
622210	Psychiatric and Substance Abuse Hospitals	283	426	143	4.2%
623110	Nursing Care Facilities (Skilled Nursing Facilities)	14,236	17,015	2,779	1.8%
623220	Residential Mental Health and Substance Abuse Facilities	2,062	2,457	396	1.8%
623311	Continuing Care Retirement Communities	2,515	3,451	935	3.2%
623312	Assisted Living Facilities for the Elderly	4,596	5,402	807	1.6%
624110	Child and Youth Services	2,818	3,424	606	2.0%
624120	Services for the Elderly and Persons with Disabilities	36,547	57,396	20,849	4.6%
624190	Other Individual and Family Services	2,563	2,625	62	0.2%
624210	Community Food Services	305	391	86	2.5%
624221	Temporary Shelters	498	560	62	1.2%
624229	Other Community Housing Services	275	332	57	1.9%
624310	Vocational Rehabilitation Services	4,200	4,493	293	0.7%
624410	Child Day Care Services	4,863	5,218	355	0.7%
62 Health		**186,876**	**236,363**	**49,487**	**2.4%**
711211	Sports Teams and Clubs	515	655	140	2.4%
712110	Museums	176	234	59	2.9%
712130	Zoos and Botanical Gardens	167	250	83	4.1%
713210	Casinos (except Casino Hotels)	999	1,253	254	2.3%
713290	Other Gambling Industries	592	886	294	4.1%
713910	Golf Courses and Country Clubs	2,231	2,412	181	0.8%
713940	Fitness and Recreational Sports Centers	4,525	5,149	624	1.3%
713950	Bowling Centers	532	596	64	1.1%
713990	All Other Amusement and Recreation Industries	1,162	1,218	56	0.5%
71 Arts, Enter., Rec.		**10,900**	**12,654**	**1,754**	**1.5%**
721110	Hotels (except Casino Hotels) and Motels	8,433	9,663	1,230	1.4%
721191	Bed-and-Breakfast Inns	139	236	98	5.5%

NAICS	Industry	2015	2025 Proj.	15-25 Change	15-25 CAGR
721214	Recreational and Vacation Camps (except Campgrounds)	298	397	98	2.9%
722320	Caterers	1,166	1,404	238	1.9%
722330	Mobile Food Services	127	208	80	5.0%
722511	Full-Service Restaurants	37,457	43,496	6,038	1.5%
722513	Limited-Service Restaurants	49,000	58,939	9,939	1.9%
722514	Cafeterias, Grill Buffets, and Buffets	1,600	1,763	163	1.0%
722515	Snack and Nonalcoholic Beverage Bars	6,599	8,146	1,548	2.1%
72 Accommodations and Food		**104,820**	**124,252**	**19,431**	**1.7%**
811111	General Automotive Repair	3,568	4,455	887	2.2%
811121	Automotive Body, Paint, and Interior Repair and Maintenance	2,390	2,913	522	2.0%
811192	Car Washes	2,474	3,519	1,045	3.6%
811198	All Other Automotive Repair and Maintenance	483	764	281	4.7%
811212	Computer and Office Machine Repair and Maintenance	155	242	87	4.6%
811219	Other Electronic and Precision Equipment Repair and Maintenance	164	249	85	4.3%
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	3,230	4,172	942	2.6%
812113	Nail Salons	810	1,373	563	5.4%
812199	Other Personal Care Services	449	607	158	3.1%
812220	Cemeteries and Crematories	351	446	95	2.4%
812310	Coin-Operated Laundries and Drycleaners	227	298	71	2.8%
812331	Linen Supply	818	1,055	237	2.6%
812332	Industrial Launderers	1,002	1,259	257	2.3%
812910	Pet Care (except Veterinary) Services	540	773	232	3.6%
813110	Religious Organizations	12,941	14,186	1,245	0.9%
813211	Grantmaking Foundations	846	1,075	229	2.4%
813212	Voluntary Health Organizations	251	376	125	4.1%
813312	Environment, Conservation and Wildlife Organizations	400	540	140	3.0%
813410	Civic and Social Organizations	1,789	2,013	224	1.2%
813930	Labor Unions and Similar Labor Organizations	791	856	65	0.8%
81 Other Svcs.		**33,682**	**41,172**	**7,490**	**2.0%**
902999	State Government, Excluding Education and Hospitals	24,623	27,500	2,877	1.1%
903999	Local Government, Excluding Education and Hospitals	67,483	73,674	6,190	0.9%
90 Public		**92,106**	**101,173**	**9,067**	**0.9%**
999999	Unclassified Industry	3,775	4,174	400	1.0%
99 Unclass.		**3,775**	**4,174**	**400**	**1.0%**

Source: ADE Inc., based on data provided by EMSI

Note: CAGR = Compound annual growth rate.

INDUSTRY CLUSTERS

The San Joaquin Valley has defined a number of regional industry clusters that are significant components of the regional economic base, which are listed in Table 6 below.[2] Industry clusters represent traded sectors in the regional economy and typically are the source of most of the income and wealth for the region as well as the areas where innovation occurs most frequently. In CCWC region, Agriculture and Health Care are the two largest industry clusters. For this study, we have also included the retail sector and the accommodations and food services sector to reflect job opportunities in the local-serving and tourism industries.

The Agriculture cluster includes not only farm production, but also food processing, related distribution and logistics, and a variety of agricultural services that include fertilizers, irrigation, soil testing, veterinary services, and marketing among others (Detailed cluster and sub-cluster employment data are in the in the beginning of the Appendix). This cluster cuts across several of the major industry groups shown in Table 4 above. Within the broader Agricultural cluster, there continues to be a shift away from jobs employed directly at farms and increased reliance on farm labor contractors. In addition, a number of food processing industries are projected to increase employment, including poultry processing (NAICS 311615), animal slaughtering (NAICS 311611), meat processed from carcasses (NAICS 311612), wineries (NAICS 312130), corrugated and solid fiber box (NAICS 322211), perishable prepared foods (NAICS 311991), and wood containers and pallets (NAICS 321920)(see Table A-2 in the Appendix). In addition, the agriculture related distribution (logistics) sector is projected to add about 3,900 jobs over the next ten years.

The Health and Wellness cluster is projected to add 51,000 jobs by 2025 (Table 6). Of the 51,000 new jobs, almost 26,700 (52 percent) will occur in the Health Care – Delivery sub-cluster. Within this sub-cluster, the number of jobs in hospitals is projected to increase by 5,400 new jobs, with another 4,200 new jobs projected for services to elderly and disabled persons. In addition to the 4,200 new service-related jobs in the Health Care – Delivery sub-cluster, there is another 20,800 new jobs in the Health Care – Other Services sub-cluster pertaining to services for the elderly and disabled (NAICS 624120). Some of the new jobs will occur in hospital settings but many will be in outpatient facilities and various types of nursing and residential care facilities. (see Appendix Tables-6 and -7 for detail on industries in this cluster).

In addition to tracking growing industries, our analysis also identifies industries that are expected to decline. Table 7 lists industries within various clusters expected to decline by 50 or more workers between 2015 and 2025. While food processing generally exhibits strong growth over the next ten years, there are several food processing industries within the Ag Cluster that expected to decline, such as breakfast cereal manufacturing (NAICS 311230), fruit and vegetable canning (NAICS 311421), and dried and dehydrated food manufacturing (NAICS 311423).

[2] ADE Inc., *San Joaquin Valley Regional Industry Cluster Analysis and Action Plan*, prepared for the Office of Community and Economic Development, CSU Fresno, on behalf of the California Partnership for the San Joaquin Valley. September 2012.

Table 6 — Employment Projections By Industry Clusters: CCWC Region: 2015 - 2025

NAICS	2015 JOBS	2025 PROJECTED	15-25 CHANGE	15-25 ANNUAL GROWTH RATE
Total	**1,031,426**	**1,203,144**	**171,718**	**1.6%**
Energy	47,762	53,517	5,755	1.1%
Diversified Manufacturing	30,277	30,777	500	0.2%
Health and Wellness	203,489	254,499	51,010	2.3%
Agriculture	418,394	469,406	51,012	1.2%
Water Flow Technology	9,934	11,480	1,546	1.5%
Logistics	51,436	63,324	11,888	2.1%
Retail	151,397	178,823	27,426	1.7%
Accommodations and Food Services	106,314	125,619	19,305	1.7%
Heavy Construction	12,423	15,699	3,276	2.4%

Source: Applied Development Economics, based on EMSI Q4 2015 QCEW and Non-QCEW Industry Employment. Note: Energy Cluster excludes employment data for NAICS 541 (Professional, Scientific and Technical), Health and Wellness Cluster excludes employment data for NAICS 9012 (Military); Manufacturing Cluster is only for "manufacturing – other" industries

Table 7 — Industries Within Various Clusters That Are Expected to Decline Significantly Between 2015 and 2025 (50 or more): CCWC Region

Cluster	NAICS	Industries	2015	2025	Change	CAGR
Ag Cluster - Distribution	445299	All Other Specialty Food Stores	561	201	-360	-9.8%
Ag Cluster - Distribution	481111	Scheduled Passenger Air Transportation	379	168	-211	-7.8%
Ag Cluster - Processing	311111	Dog and Cat Food Manufacturing	287	187	-100	-4.2%
Ag Cluster - Processing	311211	Flour Milling	356	229	-127	-4.3%
Ag Cluster - Processing	311230	Breakfast Cereal Manufacturing	359	57	-302	-16.8%
Ag Cluster - Processing	311411	Frozen Fruit, Juice, and Vegetable Manufacturing	2,598	2,462	-136	-0.5%
Ag Cluster - Processing	311421	Fruit and Vegetable Canning	7,588	6,985	-603	-0.8%
Ag Cluster - Processing	311422	Specialty Canning	55	0	-55	-100.0%
Ag Cluster - Processing	311423	Dried and Dehydrated Food Manufacturing	2,261	1,632	-629	-3.2%
Ag Cluster - Processing	311613	Rendering and Meat Byproduct Processing	178	83	-95	-7.3%
Ag Cluster - Processing	311812	Commercial Bakeries	1,093	834	-259	-2.7%
Ag Cluster - Processing	316110	Leather and Hide Tanning and Finishing	56	6	-50	-20.0%
Ag Cluster - Processing	326160	Plastics Bottle Manufacturing	229	145	-84	-4.5%
Ag Cluster - Processing	332431	Metal Can Manufacturing	664	394	-270	-5.1%
Ag Cluster - Production	111000	Crop Production	46,809	45,545	-1,264	-0.3%
Ag Cluster - Production	112000	Animal Production and Aquaculture	18,521	17,793	-728	-0.4%
Ag Cluster - Support	115111	Cotton Ginning	188	9	-179	-26.2%
Ag Cluster - Support	325311	Nitrogenous Fertilizer Manufacturing	67	6	-61	-21.4%
Ag Cluster - Support	332311	Prefabricated Metal Building and Component Manufacturing	714	585	-129	-2.0%
Ag Cluster - Support	444210	Outdoor Power Equipment Stores	209	76	-133	-9.6%
Ag Cluster - Support	522292	Real Estate Credit	898	569	-329	-4.5%

Cluster	NAICS	Industries	2015	2025	Change	CAGR
Ag Cluster - Support	551112	Offices of Other Holding Companies	112	15	-97	-18.2%
Ag Cluster - Support	551114	Corporate, Subsidiary, and Regional Managing Offices	10838	9454	-1384	-1.4%
Energy Core--Alt Energy Production	238160	Roofing Contractors	1378	1100	-278	-2.2%
Energy Core--Energy Efficiency	238310	Drywall and Insulation Contractors	4015	3937	-78	-0.2%
Energy Core--Petroleum	212399	All Other Nonmetallic Mineral Mining	57	3	-54	-25.5%
Energy Core--Power Generation	221111	Hydroelectric Power Generation	150	0	-150	-100.0%
Energy Core--Power Generation	221210	Natural Gas Distribution	2864	2503	-361	-1.3%
Energy related--Manufacturing	311613	Rendering and Meat Byproduct Processing	178	83	-95	-7.3%
Health Care--Delivery	621310	Offices of Chiropractors	997	937	-60	-0.6%
Health Care--Delivery	622310	Specialty (except Psychiatric and Substance Abuse) Hospitals	265	152	-113	-5.4%
Health Care--Delivery	623210	Residential Intellectual and Developmental Disability Facilities	2507	2453	-54	-0.2%
Health Care--Delivery	623990	Other Residential Care Facilities	1423	1152	-271	-2.1%
Health Care--Medical devices manufacturing	339113	Surgical Appliance and Supplies Manufacturing	556	457	-99	-1.9%
Health Care--Medical devices manufacturing	339116	Dental Laboratories	246	158	-88	-4.3%
Health Care--Wellness and Fitness	532291	Home Health Equipment Rental	167	83	-84	-6.8%
Health Care--Wellness and Fitness	812191	Diet and Weight Reducing Centers	134	82	-52	-4.8%
Heavy Construction	237130	Power and Communication Line and Related Structures Construction	1060	862	-198	-2.0%
Heavy Construction	237210	Land Subdivision	444	125	-319	-11.9%
Heavy Construction	237310	Highway, Street, and Bridge Construction	1880	1779	-101	-0.6%
Logistics	336612	Boat Building	202	6	-196	-29.6%
Logistics	481111	Scheduled Passenger Air Transportation	379	168	-211	-7.8%
Logistics	484210	Used Household and Office Goods Moving	477	423	-54	-1.2%
Logistics	485410	School and Employee Bus Transportation	861	776	-85	-1.0%
Logistics	485510	Charter Bus Industry	297	222	-75	-2.9%
Logistics	493130	Farm Product Warehousing and Storage	132	79	-53	-5.0%
Manufacturing - Other	321214	Truss Manufacturing	344	142	-202	-8.5%
Manufacturing - Other	321918	Other Millwork (including Flooring)	219	73	-146	-10.4%
Manufacturing - Other	321991	Manufactured Home (Mobile Home) Manufacturing	281	0	-281	-100.0%
Manufacturing - Other	323111	Commercial Printing (except Screen and Books)	1594	910	-684	-5.5%
Manufacturing - Other	323117	Books Printing	227	52	-175	-13.7%
Manufacturing - Other	325311	Nitrogenous Fertilizer Manufacturing	67	6	-61	-21.4%
Manufacturing - Other	326140	Polystyrene Foam Product Manufacturing	385	223	-162	-5.3%

Cluster	NAICS	Industries	2015	2025	Change	CAGR
Manufacturing - Other	327211	Flat Glass Manufacturing	227	3	-224	-35.1%
Manufacturing - Other	327320	Ready-Mix Concrete Manufacturing	990	875	-115	-1.2%
Manufacturing - Other	327332	Concrete Pipe Manufacturing	364	184	-180	-6.6%
Manufacturing - Other	332311	Prefabricated Metal Building and Component Manufacturing	714	585	-129	-2.0%
Manufacturing - Other	332321	Metal Window and Door Manufacturing	243	183	-60	-2.8%
Manufacturing - Other	332618	Other Fabricated Wire Product Manufacturing	184	94	-90	-6.5%
Manufacturing - Other	332813	Electroplating, Plating, Polishing, Anodizing, and Coloring	197	128	-69	-4.2%
Manufacturing - Other	332919	Other Metal Valve and Pipe Fitting Manufacturing	118	61	-57	-6.4%
Manufacturing - Other	334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	1018	665	-353	-4.2%
Manufacturing - Other	334412	Bare Printed Circuit Board Manufacturing	200	81	-119	-8.6%
Manufacturing - Other	336214	Travel Trailer and Camper Manufacturing	122	12	-110	-20.7%
Manufacturing - Other	336411	Aircraft Manufacturing	73	9	-64	-18.9%
Manufacturing - Other	336612	Boat Building	202	6	-196	-29.6%
Manufacturing - Other	337110	Wood Kitchen Cabinet and Countertop Manufacturing	1059	978	-81	-0.8%
Manufacturing - Other	337122	Nonupholstered Wood Household Furniture Manufacturing	324	79	-245	-13.2%

PROJECTED JOB OPENINGS

Labor force demand is not only affected by new jobs growth but also by changes in the labor force. As discussed in the next chapter, as the Baby Boomer generation ages out of the labor force, there will be an increasing need for replacement workers. In addition, job turnover occurs for a number of other reasons. As shown in Table 8, more than 51,200 average annual openings are projected between 2015 and 2025 (512,600 total openings), of which approximately 21,000 annual openings would be due to new job growth.

Table 8 — Annual Opening To Number of Unemployed Who Satisfy Minimum Educational Requirements By Occupation: CCWC Region

Occupational Group	Annual Openings	Unemployed Whose Educational Attainment Matches Occupational Requirements	Part-Time Labor Whose Educational Attainment Matches Occupational Requirements
Total	**51,263**	**80,373**	**232,966**
53 Transportation and Material Moving	4,952	15,468	27,840
51 Production	1,726	3,447	5,983
49 Installation, Maintenance, and Repair	1,650	1,683	4,182
47 Construction and Extraction	1,713	7,322	12,481
45 Farming, Fishing, and Forestry	6,333	9,087	18,102
43 Office and Administrative Support	5,934	12,889	31,743
41 Sales and Related	6,337	7,814	25,382
39 Personal Care and Service	1,737	3,600	14,881
37 Building and Maintenance	1,308	3,342	10,387
35 Food Preparation and Serving Related	6,281	6,416	27,993
33 Protective Service	1,335	1,391	3,875
31 Healthcare Support	1,767	2,113	5,324
29 Healthcare Practitioners and Technical	2,298	521	7,731
27 Arts, Enter. and Media	195	101	1,096
25 Education, Training, and Library	3,087	2,351	25,120
23 Legal	129	143	645
21 Community and Social Services	824	218	1,467
19 Life, Physical, and Social Science	256	43	466
17 Architecture and Engineering	321	129	443
15 Computer and Mathematical	323	542	733
13 Business and Financial Operations	1,132	770	2,597
11 Management	1,626	982	4,497

Source: Applied Development Economics, based on EMSI Annual Openings Q4 2015 QCEW and non-QCEW and US Census ACS 3-Year Sample 2012-2014 (from iPUMS) (internal file: P:\CCWC Labor Force 2015\03_NEXT-TASKS\TABLES\06_draft_Fresno-update.xlsx T7r)

LABOR FORCE CHARACTERISTICS

The analysis of labor force characteristics includes details about the following groups:

- Race and Ethnicity: White, Latino, Other
- Gender
- Veteran Status
- Disability Status
- Citizenship

The characteristics include:

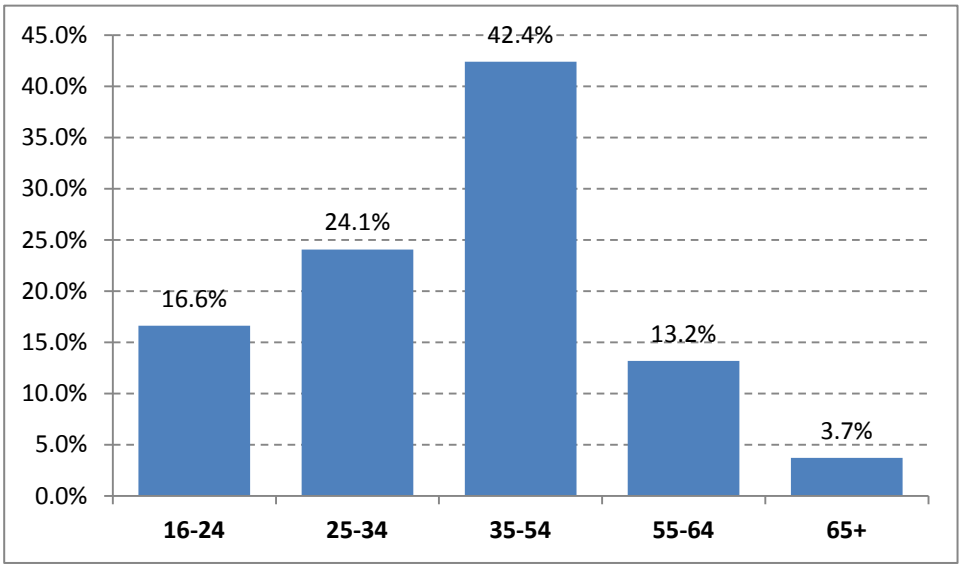
- Age
- Educational Attainment
- Employment status: full time, part time, unemployed
- Occupation

The discussion is organized around a number of graphical charts that summarize the information; however, Tables 9-25 at the end of the chapter provide more detail for these groups and demographic characteristics.

AGE DEMOGRAPHICS

The labor force in CCWC region is fairly evenly concentrated among the age groups. Workers in the 16-24 age group are about 16.6 percent of the total while nearly 25 percent are in the 25-34 age group. The prime working age group of 35-54 has 42 percent of the workforce. Workers over 55 constitute about 16.9 percent of the workforce and a number of employers report that impending retirements are a significant issue for them in terms of anticipated openings in the future.

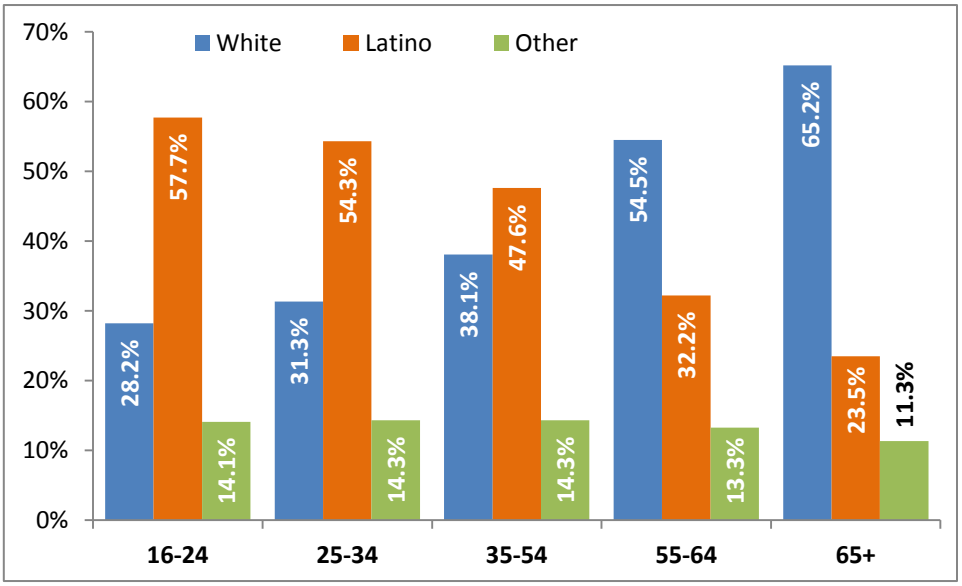
Figure 2 – Labor Force Age Distribution (Persons 16 and Over)



Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

As shown in Figure 3, younger age groups tend to have a higher proportion of Latino workers while older age groups have higher percentages of white workers. Of the labor force between 16 and 24, 57.6 percent are Latino, while 28.2 percent are White. Similarly for the 25-34 age cohort, 54.3 percent are Latino and 31.3 percent are White. At 47.6 percent of the 35 to 54 workforce, Latinos comprise the largest segment of prime working-age adults in the labor force, with Whites numbering 38.1 percent. However, Whites constitute 56.8 percent of workers 55+ years old.

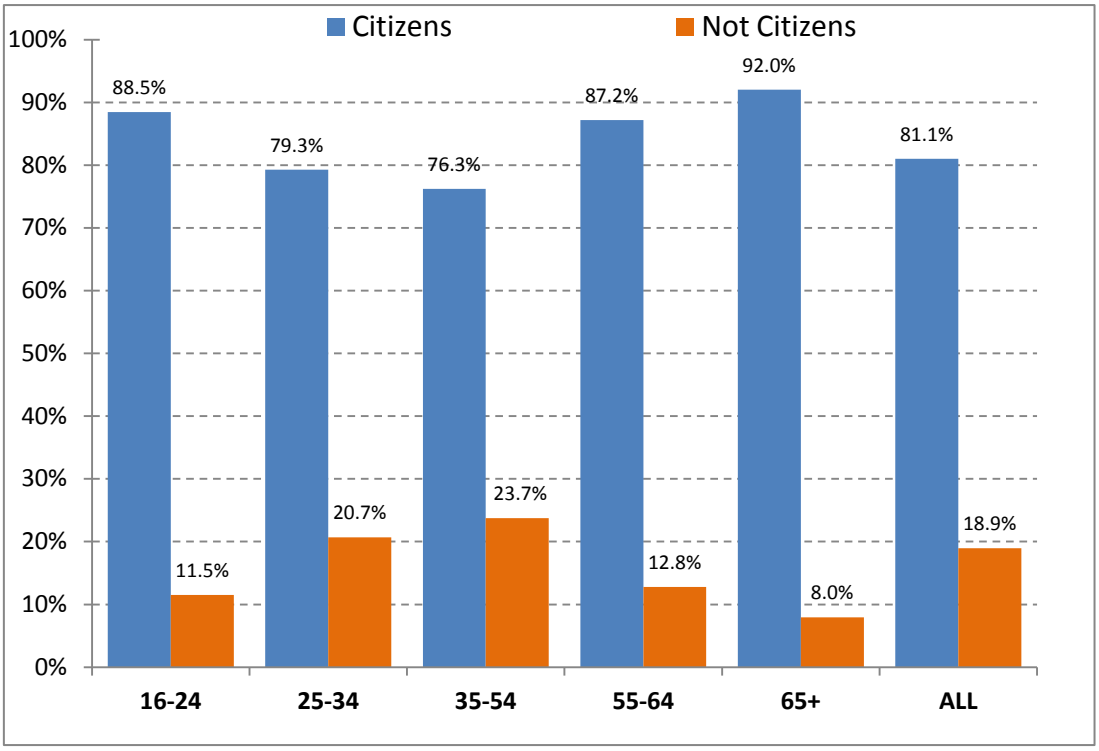
Figure 3 – Age Distribution by Race/Ethnicity (Persons 16 and Over)



Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Non-citizen workers constitute 18.9 percent of the workforce in CCWC region, though the rate varies with age (Figure 4). At 20.7 percent of the 25-34 age cohort and 23.7 percent of the prime working age (35 to 54) labor force, non-citizens are more concentrated in these two sub-populations relative to their overall concentration level. In contrast, non-citizens comprise only 11.5 percent of the labor force between 16 and 24.

Figure 4 – Labor Force By Age and By Citizenship Status (16 and over)



Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

UNEMPLOYMENT

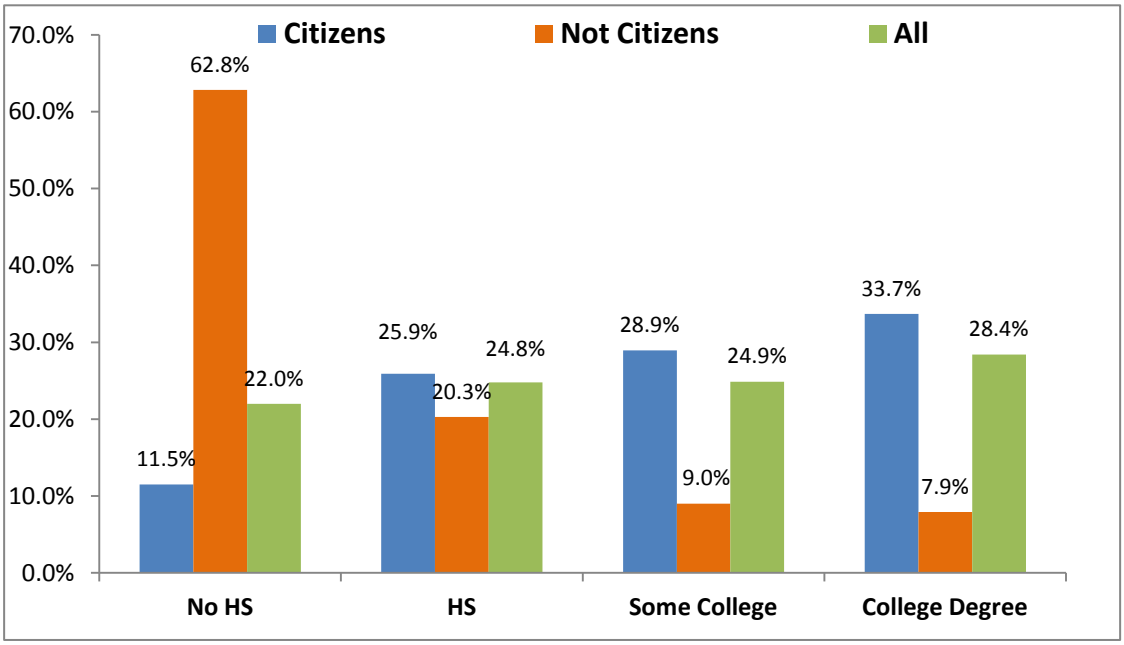
In CCWC region, about 48 percent of the labor force is Latino, at 870,562 persons out of a labor force of 1,814,685 (see Table 11 at the end of the Chapter). Thirty-eight percent is White. Unemployment for Latino workers 25 and older is 12.4 percent compared to 8.6 percent for Whites (Table 14). Unemployment is 14.2 percent for workers in other racial and ethnic groups. Unemployment affects workers 25 and older with no college degree much more, at 13.2 percent, than those with a college degree (6.1 percent). Veterans' unemployment level is at 8.8 percent. Disabled workers have relatively high unemployment, at slightly over 22.0 percent (Table 9).

EDUCATIONAL ATTAINMENT

Educational attainment in the CCWC region is slightly lower than the statewide averages, with 22 percent of workers 25 years and older not holding a high school diploma or equivalent, compared to 18.5 percent for the state as a whole. Statewide, 38.8 percent have a college degree, compared to 28.5 percent for the CCWC region. However, in the San Joaquin Valley there is a stark contrast in the educational attainment levels of the labor force when citizenship status is taken into account. Among

US citizens in the CCWC workforce, only 12 percent do not have a high school diploma or GED and 33.7 percent have a college degree. However, it is important to recognize that many non-citizens have not had the same educational opportunities in their home countries and many have not achieved the equivalent of a high school diploma. As shown in Figure 5, 63 percent of the non-citizens 25 and over in the labor force have not obtained a high school diploma or a GED. Twenty percent of non-citizens in the labor force have earned a high school diploma or equivalent, which is five percentage points lower than the rate for citizens (i.e. 25.9 percent). This accounts in part for the differences in educational attainment between Latino workers and other workers in the labor force (Figure 6), as the non-citizen group is 87.1 percent Latino; slightly over 39 percent of all Latinos in the workforce have no high school diploma or GED. It is also important to note that Latinos have earned high school diplomas and GEDs at rates slightly surpassing Whites and Others, at 25.9 percent versus 24.5 percent (Whites) and 21.7 percent (Others). However, Whites and Others are over two times more likely than Latinos to have earned a college degree: 14.9 percent of the Latinos in the labor force have earned a college degree versus 40 percent for Whites and 41 percent for Others (Figure 6).

Figure 5 – Labor Force Educational Attainment by Citizenship Status (25 and over)



Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

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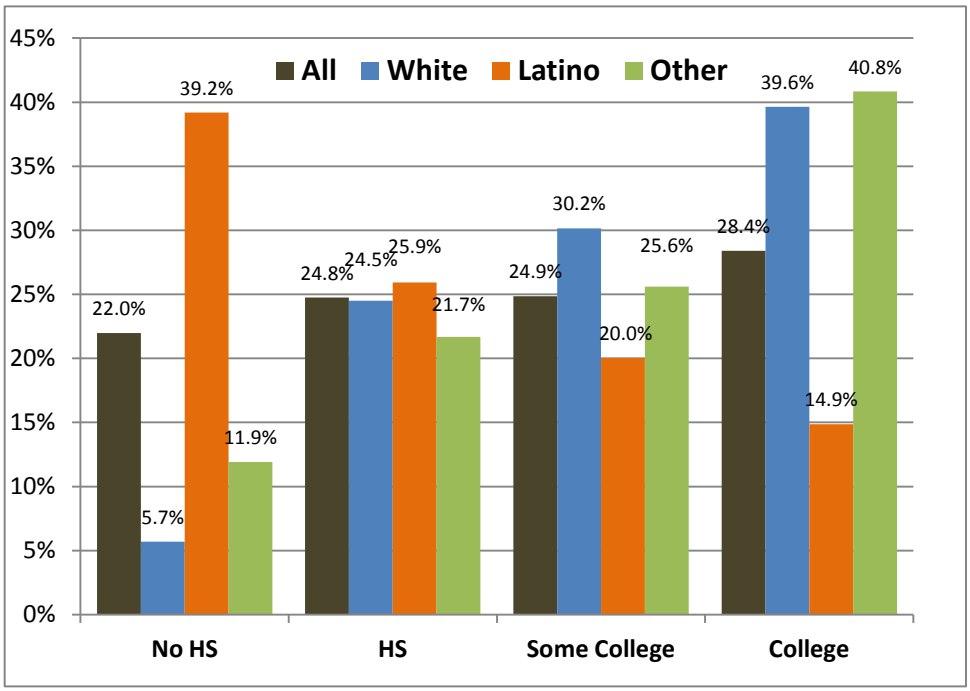
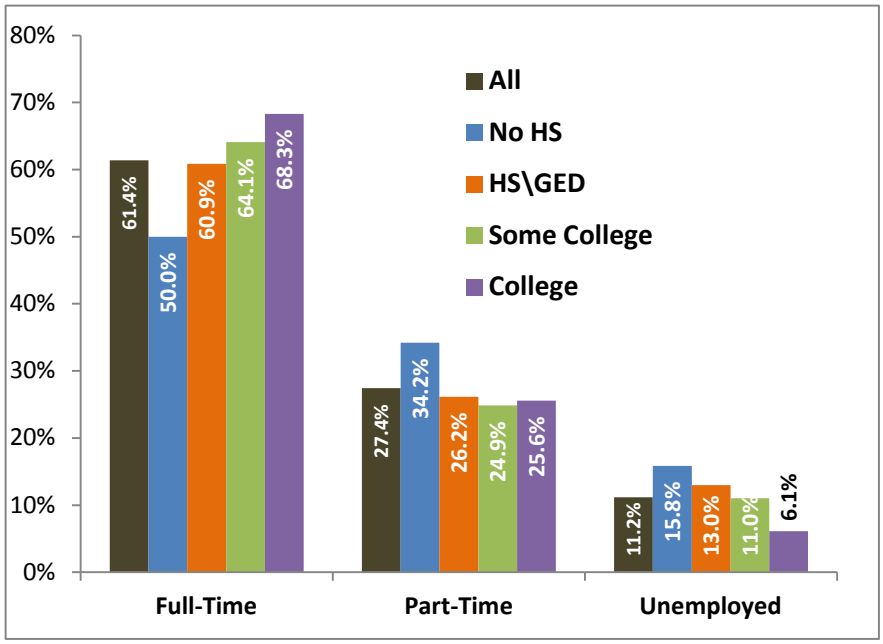
Educational attainment also affects employment status. Persons with no high school diploma exhibit rates of unemployment that more than double unemployment levels for persons with a college degree, or 15.8 percent versus 6.1 percent. Of the persons with a college degree, almost 68 percent work full-time, resulting in a full-time employment rate that is 18 percentage points greater than the rate for persons without a high school diploma (i.e. 68.3 percent versus 50.0 percent).

Figure 6 – Educational Attainment by Race/Ethnicity



Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

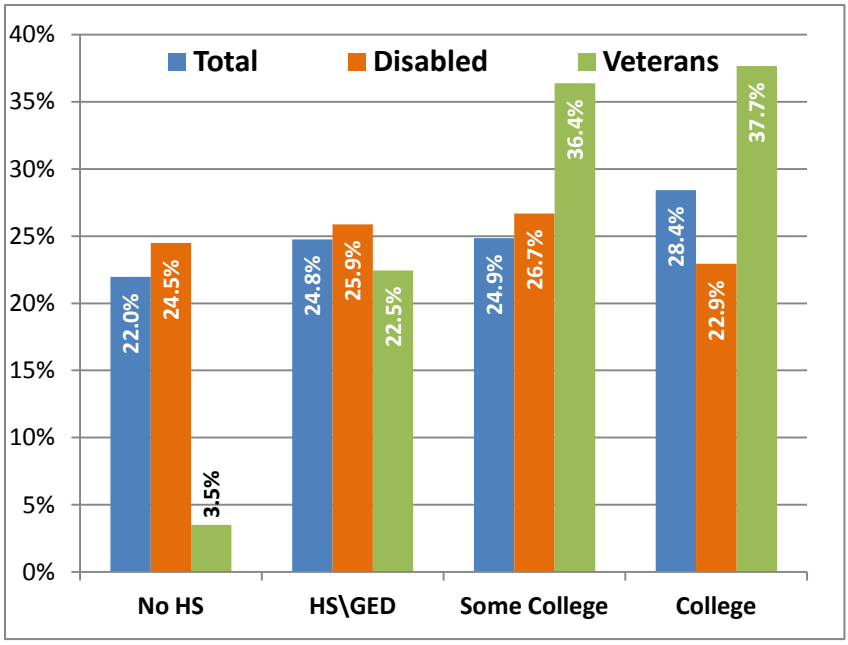
Figure 7 – Employment Status By Educational Attainment



Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Veterans in CCWC region tend to have high levels of overall educational attainment, with 3.5 percent not achieving a high school diploma (Figure 8). For the workforce as a whole, 22.0 percent do not have a high school diploma or equivalent degree. Among disabled workers, however, nearly 264.5 percent do not have a high school diploma.

Figure 8 – Educational Attainment for Disabled Workers and Veterans

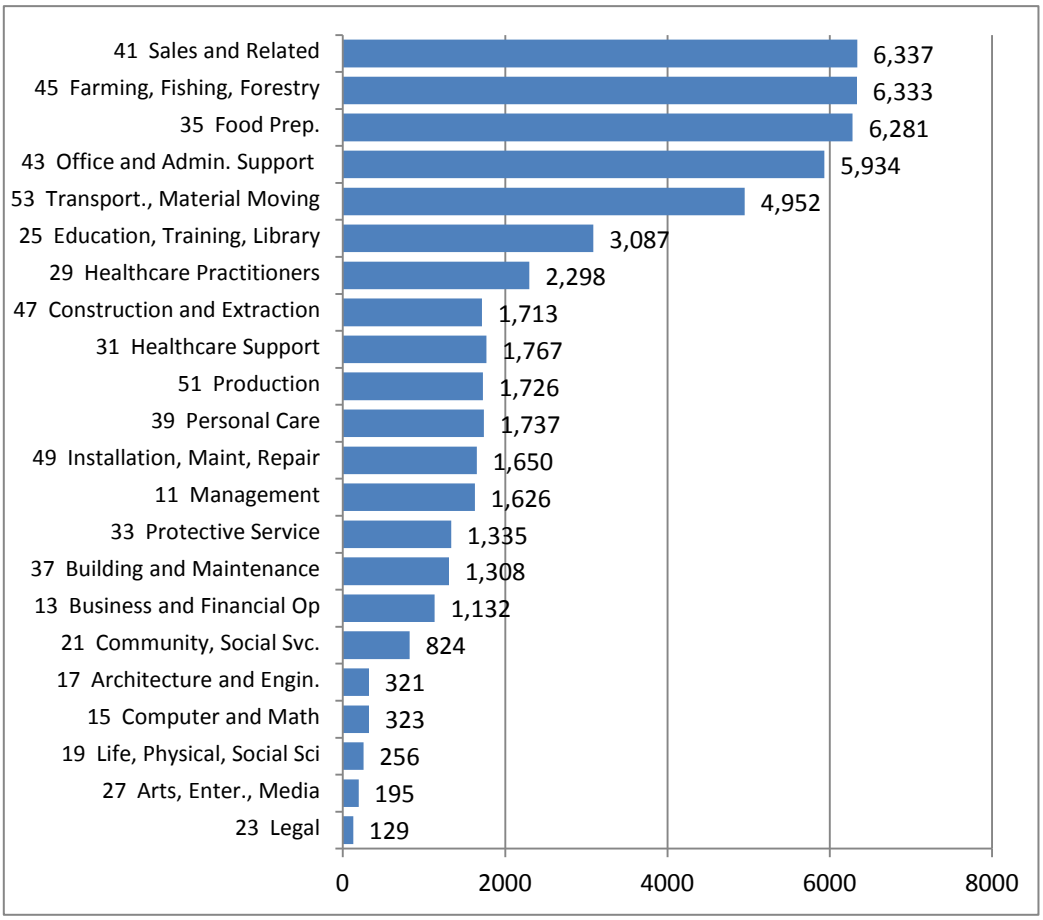


Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

UNDERUTILIZED WORKFORCE

This part of report provides a focus on part time and unemployed labor force in terms of how their educational attainment and prior occupational background matches projected annual job openings. Figure 9 reproduces the major categories of job openings listed earlier in Table 8. The largest numbers of openings are in lower skilled occupations such as farming, food service, sales and administrative office occupations. However, significant number so openings are also projected in education, production, healthcare practitioners and personal care services, which are followed closely by management and healthcare positions. Comparing these categories to the availability of currently unemployed and part time workers in Figure 10, there are substantial numbers of workers who would seemingly be available to fill these positions. However, they may need training to help upgrade their skill sets or they may need other services to help them be available for full time employment.

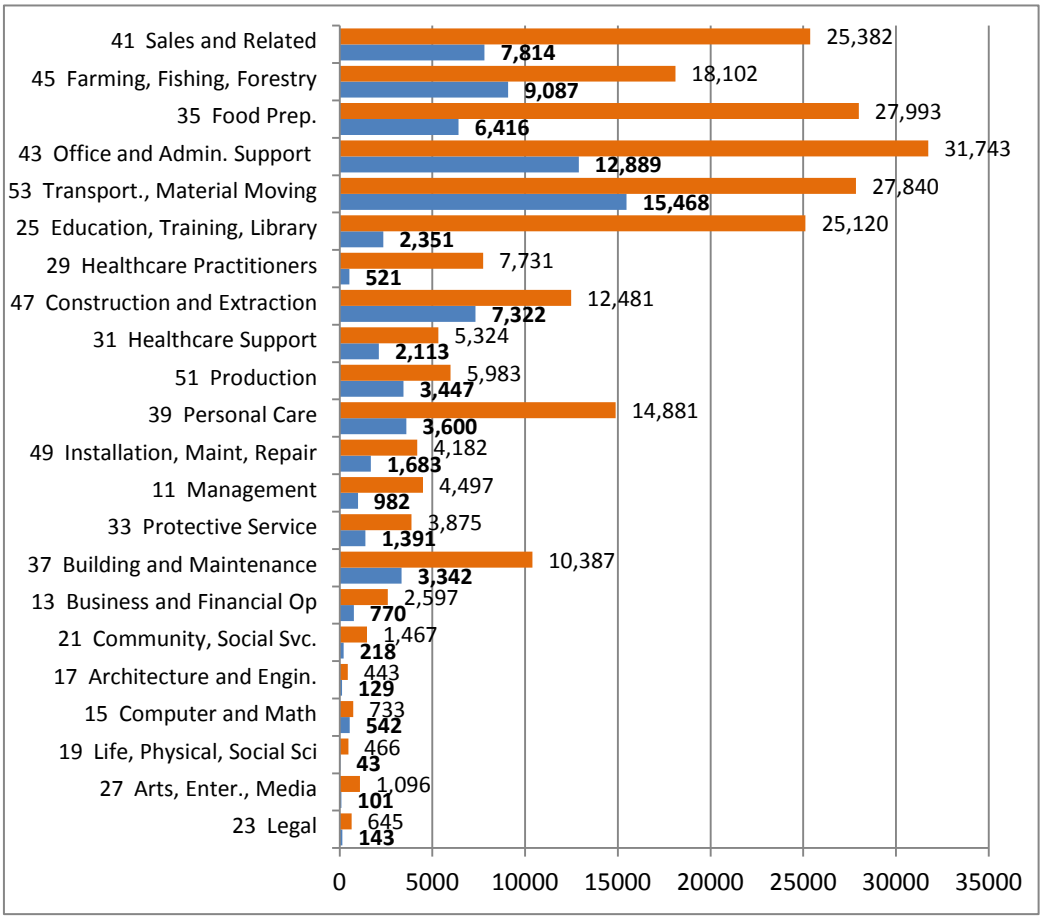
Figure 9 – Annual Openings By Major Occupational Groups



Source: ADE, Inc., based on data provided by EMSI.

Figure 11 groups job openings by three main categories of occupational level: managers and supervisory personnel; workers with specialty or higher level skills; and support positions that are more entry level or have a lower required skill set. At this level, the unemployed and part time workforce combined exceeds the available openings (shown in blue) for each category, reinforcing the notion that retraining and skills transfer may help improve the availability of workers for positions in demand by employers.

Figure 10 - Number of Unemployed and Part-Time Labor Force by Major Occupational Group



Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

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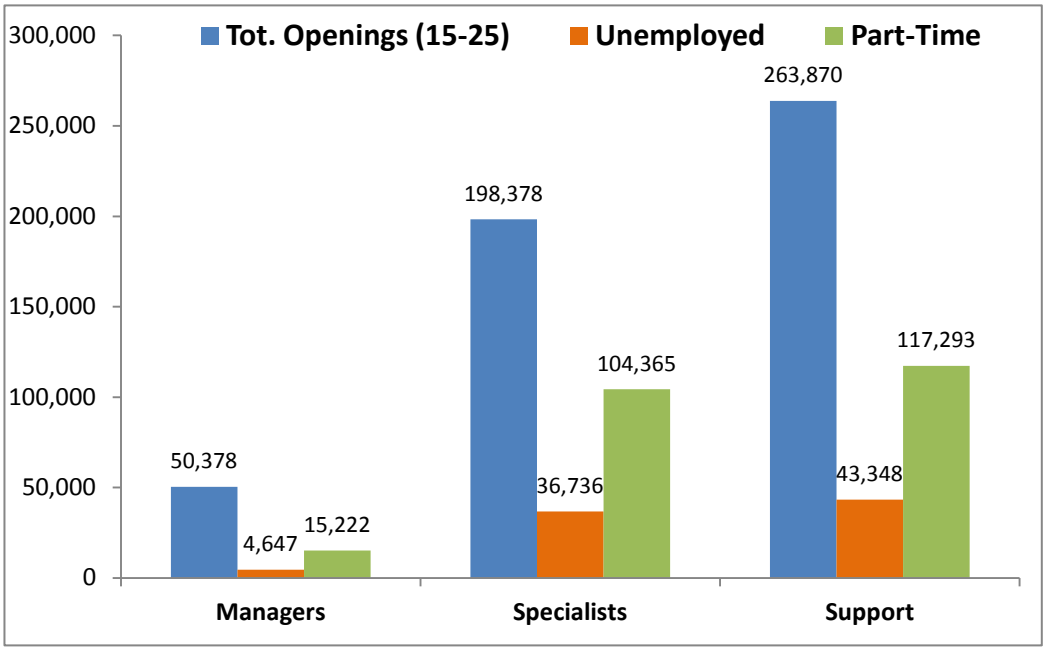
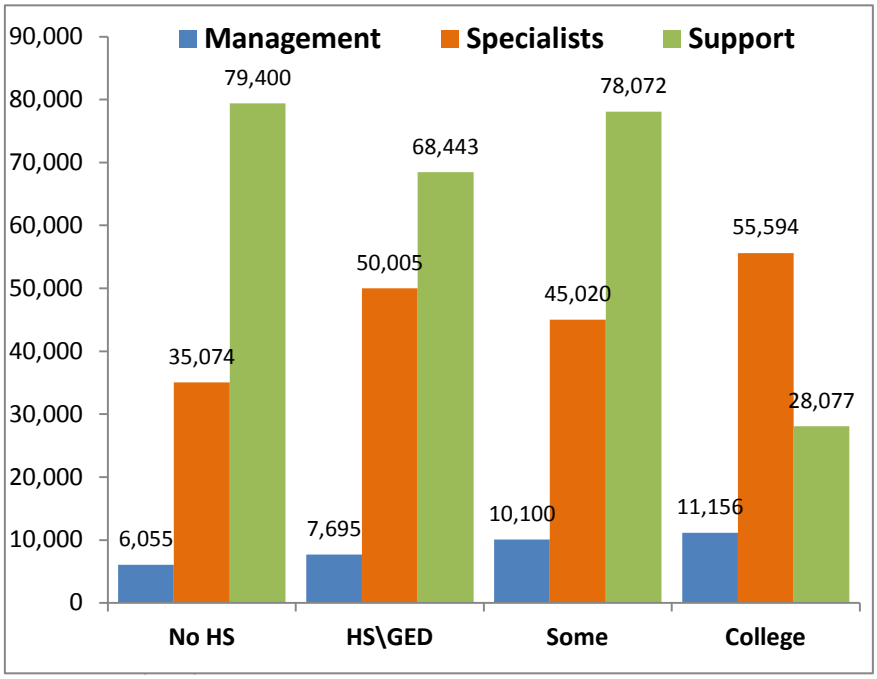
Figure 12 shows the educational level for the unemployed and part time workforce, categorized by occupational background. This figure tracks all unemployed and part-time workers, not just those who minimally qualify for the annually open positions. There are relatively few managers who have not achieved a high school diploma and the greatest number do have a high school diploma; of the 120,528 persons with no high school diploma, 6,055 (5 percent) are managers. Interestingly, the 6,055 managers with no high school diploma represent 17 percent of all managers (6,055 out of 35,006), although more than likely these persons hold lower-level managerial positions. Among mid-level workers with some special skills, most have either a college degree (55,594), or have had some college courses (45,020). Almost 28,077 workers who most recently worked in support positions also have a college degree.

Figure 11 – Part Time and Unemployment Workers By Occupational Class Compared To Annual Openings (Persons 25 and Over): Only Persons Whose Educational Attainment Commensurate With Opening Position: CCWC Region



Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Figure 12 – Part Time and Unemployed Workers By Educational Attainment and Occupational Class: CCWC Region



Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS and EMSI.

Table 9 — Summary of Overall Labor Force Trends for Select Demographic Categories (Persons 16 and Over): CCWC Region

	Labor Force Trends By Race and Ethnicity	Labor Force Trends By Gender	Labor Force Trends By Citizenship Status	Labor Force Trends By Educational Attainment (25 and Over)	Labor Force Trends By Veteran Status	Labor Force Trends By Disability Status
	White	**Women**	**Citizen**	**College Degree**	**Veterans**	**At least One Disability**
Labor Force	689,327	810,184	1,470,856	429,785	85,680	117,130
Unemployed	71,290	113,984	191,809	26,248	7,511	25,927
Unemployment Rate	10.3%	14.1%	13.0%	6.1%	8.8%	22.1%
	Latino	**Men**	**Not Citizens**	**Persons with No College Degree**	**Not Veterans**	**Persons with No Reported Disability**
Labor Force	870,562	1,004,502	343,829	1,083,078	1,729,005	1,697,555
Unemployed	128,560	127,175	49,350	142,738	233,648	215,232
Unemployment Rate	14.8%	12.7%	14.4%	13.2%	13.5%	12.7%
	Other					
Labor Force	254,797					
Unemployed	41,310					
Unemployment Rate	16.2%					
	Total	**Total**	**Total**	**Total**	**Total**	**Total**
Labor Force	1,814,685	1,814,685	1,814,685	1,512,863	1,814,685	1,814,685
Unemployed	241,159	241,159	241,159	168,986	241,159	241,159
Unemployment Rate	13.3%	13.3%	13.3%	11.2%	13.3%	13.3%

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 10 — Population by Age, Race\Ethnicity, and Educational Attainment: CCWC Region

	0-15	16-19	20-24	25-29	30-34	35-54	55-64	65+	TOTAL
Total	1,065,791	252,987	328,701	298,217	284,180	1,023,563	416,184	441,796	4,111,420
White	240,526	63,017	89,363	90,155	86,883	382,109	220,119	274,009	1,446,183
Did not earn HSD\GED	197,887	37,974	7,384	7,008	7,329	32,976	17,141	38,599	346,299
HSD\GED	14	11,838	28,252	23,961	22,556	104,145	56,658	82,917	330,340
Some college -- not attending	0	1,027	16,902	23,272	24,109	107,305	63,506	72,622	308,743
Some college -- attending	44	12,058	23,080	7,670	3,736	7,135	958	550	55,231
AA	0	45	6,468	8,196	9,269	38,237	25,186	21,140	108,541
BA+	0	76	7,277	20,049	19,884	92,311	56,670	58,181	254,448
NA	42,581	0	0	0	0	0	0	0	42,581
Latino	670,501	148,156	186,934	162,231	155,040	482,866	134,849	108,796	2,049,372
Did not earn HSD\GED	547,701	94,123	35,695	45,041	56,993	224,683	69,478	70,126	1,143,838
HSD\GED	0	28,109	60,802	50,699	44,551	118,309	26,449	18,037	346,954
Some college -- not attending	0	2,691	30,614	32,174	25,942	75,922	22,333	12,661	202,338
Some college -- attending	231	22,900	43,474	10,514	6,147	6,177	556	130	90,129
AA	0	311	10,049	12,061	9,870	23,749	7,696	3,987	67,723
BA+	0	22	6,301	11,742	11,537	34,027	8,337	3,855	75,820
NA	122,570	0	0	0	0	0	0	0	122,570
Other	154,764	41,814	52,404	45,830	42,257	158,589	61,217	58,992	615,865
Did not earn HSD\GED	128,320	24,720	6,970	5,587	6,023	26,601	16,472	21,144	235,836
HSD\GED	0	8,697	13,368	11,989	11,101	37,361	12,636	11,435	106,587
Some college -- not attending	0	1,001	8,954	10,399	8,996	35,522	12,294	9,211	86,377
Some college -- attending	0	6,891	14,684	3,128	1,853	4,366	512	192	31,627
AA	0	505	3,901	4,628	4,974	13,878	5,123	4,992	38,001
BA+	0	0	4,527	10,098	9,309	40,861	14,179	12,018	90,993
NA	26,444	0	0	0	0	0	0	0	26,444

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 11 — Labor Force by Age, Race\Ethnicity, and Educational Attainment (Persons 16 and Over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	73,189	228,633	224,535	212,155	769,337	239,252	67,586	1,512,863	1,814,685
White	19,098	66,041	69,470	67,359	292,851	130,444	44,063	604,187	689,327
Did not earn HSD\GED	NA	NA	3,401	4,382	16,709	7,093	2,759	34,344	NA
HSD\GED	NA	NA	17,224	16,229	75,421	29,873	9,339	148,086	NA
Some college -- not attending	NA	NA	18,621	19,013	82,720	36,231	11,443	168,028	NA
Some college -- attending	NA	NA	5,641	2,600	5,306	496	128	14,171	NA
AA	NA	NA	7,086	7,795	30,930	15,127	5,504	66,442	NA
BA+	NA	NA	17,497	17,340	81,765	41,624	14,891	173,117	NA
Latino	43,509	130,678	122,484	114,752	366,197	77,078	15,865	696,376	870,562
Did not earn HSD\GED	NA	NA	28,309	39,039	160,686	36,187	8,638	272,859	NA
HSD\GED	NA	NA	39,548	32,460	89,997	15,744	2,791	180,540	NA
Some college -- not attending	NA	NA	26,882	20,417	60,795	13,520	2,370	123,984	NA
Some college -- attending	NA	NA	7,024	4,024	3,983	340	84	15,455	NA
AA	NA	NA	10,481	8,323	20,614	4,773	717	44,908	NA
BA+	NA	NA	10,241	10,488	30,121	6,515	1,265	58,630	NA
Other	10,583	31,914	32,581	30,043	110,289	31,730	7,658	212,300	254,797
Did not earn HSD\GED	NA	NA	2,411	2,829	12,718	5,976	1,334	25,267	NA
HSD\GED	NA	NA	7,753	7,372	23,413	6,361	1,100	45,999	NA
Some college -- not attending	NA	NA	8,179	6,561	25,563	6,360	1,418	48,082	NA
Some college -- attending	NA	NA	1,981	1,192	2,872	178	41	6,263	NA
AA	NA	NA	4,031	4,108	10,689	2,854	1,102	22,784	NA
BA+	NA	NA	8,226	7,980	35,034	10,001	2,663	63,905	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 12 — Part-Time Employed Labor Force by Age, Race\Ethnicity, and Educational Attainment (Persons 16 and Over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	42,442	110,237	71,128	56,915	194,119	61,854	31,082	415,098	567,777
White	12,501	34,079	21,889	16,676	65,208	31,777	20,568	156,119	202,699
Did not earn HSD\GED	NA	NA	890	1,086	4,744	1,891	1,163	9,775	NA
HSD\GED	NA	NA	4,674	3,863	17,095	7,790	4,737	38,159	NA
Some college -- not attending	NA	NA	5,359	4,618	17,195	8,517	5,232	40,920	NA
Some college -- attending	NA	NA	2,599	1,059	1,355	139	70	5,222	NA
AA	NA	NA	2,892	2,205	7,066	4,128	2,445	18,736	NA
BA+	NA	NA	5,475	3,845	17,754	9,312	6,921	43,308	NA
Latino	24,196	60,244	39,194	32,507	103,830	21,841	7,280	204,652	289,092
Did not earn HSD\GED	NA	NA	10,309	14,622	54,634	12,463	3,990	96,019	NA
HSD\GED	NA	NA	12,247	7,744	22,550	4,081	1,144	47,765	NA
Some college -- not attending	NA	NA	6,946	4,252	13,840	2,763	1,023	28,825	NA
Some college -- attending	NA	NA	3,587	1,182	993	130	67	5,959	NA
AA	NA	NA	2,783	2,200	5,395	1,262	511	12,153	NA
BA+	NA	NA	3,322	2,506	6,417	1,141	545	13,932	NA
Other	5,745	15,914	10,045	7,732	25,081	8,236	3,233	54,327	75,985
Did not earn HSD\GED	NA	NA	624	932	3,362	2,072	876	7,867	NA
HSD\GED	NA	NA	2,396	1,739	5,834	1,640	456	12,065	NA
Some college -- not attending	NA	NA	2,430	1,514	5,210	1,367	416	10,937	NA
Some college -- attending	NA	NA	439	449	699	42	0	1,629	NA
AA	NA	NA	1,283	1,127	2,093	642	548	5,694	NA
BA+	NA	NA	2,872	1,971	7,883	2,473	937	16,136	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 13 — Unemployed Labor Force by Age, Race\Ethnicity, and Educational Attainment (Persons 16 and Over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	25,774	46,400	31,363	26,936	82,204	22,600	5,882	168,986	241,159
White	5,622	13,497	7,855	7,764	24,775	8,943	2,834	52,171	71,290
Did not earn HSD\GED	NA	NA	920	1,192	3,032	978	243	6,366	NA
HSD\GED	NA	NA	2,833	2,251	8,259	2,134	524	16,001	NA
Some college -- not attending	NA	NA	2,120	2,270	6,883	3,369	953	15,595	NA
Some college -- attending	NA	NA	710	450	1,005	101	51	2,317	NA
AA	NA	NA	439	851	2,597	764	411	5,062	NA
BA+	NA	NA	833	752	2,998	1,596	652	6,831	NA
Latino	15,920	26,040	17,089	13,944	43,326	9,814	2,425	86,599	128,560
Did not earn HSD\GED	NA	NA	4,679	5,357	23,733	6,222	1,546	41,537	NA
HSD\GED	NA	NA	6,221	4,619	10,247	1,751	538	23,376	NA
Some college -- not attending	NA	NA	3,004	2,049	5,445	1,022	235	11,754	NA
Some college -- attending	NA	NA	1,239	616	723	45	0	2,623	NA
AA	NA	NA	1,311	814	1,550	418	82	4,174	NA
BA+	NA	NA	635	490	1,629	357	24	3,136	NA
Other	4,231	6,863	6,420	5,227	14,102	3,843	624	30,216	41,310
Did not earn HSD\GED	NA	NA	677	805	2,420	817	50	4,768	NA
HSD\GED	NA	NA	2,183	1,889	4,167	830	150	9,219	NA
Some college -- not attending	NA	NA	1,525	1,344	3,417	821	106	7,212	NA
Some college -- attending	NA	NA	856	476	539	91	10	1,972	NA
AA	NA	NA	393	151	1,294	286	16	2,141	NA
BA+	NA	NA	786	563	2,266	998	292	4,905	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 14 — Unemployment Rates by Age, Race\Ethnicity, and Educational Attainment: CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	35.2%	20.3%	14.0%	12.7%	10.7%	9.4%	8.7%	11.2%	13.3%
White	29.4%	20.4%	11.3%	11.5%	8.5%	6.9%	6.4%	8.6%	10.3%
Did not earn HSD\GED	NA	NA	27.1%	27.2%	18.1%	13.8%	8.8%	18.5%	NA
HSD\GED	NA	NA	16.4%	13.9%	11.0%	7.1%	5.6%	10.8%	NA
Some college -- not attending	NA	NA	11.4%	11.9%	8.3%	9.3%	8.3%	9.3%	NA
Some college -- attending	NA	NA	12.6%	17.3%	18.9%	20.4%	40.2%	16.4%	NA
AA	NA	NA	6.2%	10.9%	8.4%	5.1%	7.5%	7.6%	NA
BA+	NA	NA	4.8%	4.3%	3.7%	3.8%	4.4%	3.9%	NA
Latino	36.6%	19.9%	14.0%	12.2%	11.8%	12.7%	15.3%	12.4%	14.8%
Did not earn HSD\GED	NA	NA	16.5%	13.7%	14.8%	17.2%	17.9%	15.2%	NA
HSD\GED	NA	NA	15.7%	14.2%	11.4%	11.1%	19.3%	12.9%	NA
Some college -- not attending	NA	NA	11.2%	10.0%	9.0%	7.6%	9.9%	9.5%	NA
Some college -- attending	NA	NA	17.6%	15.3%	18.1%	13.2%	0.0%	17.0%	NA
AA	NA	NA	12.5%	9.8%	7.5%	8.8%	11.4%	9.3%	NA
BA+	NA	NA	6.2%	4.7%	5.4%	5.5%	1.9%	5.3%	NA
Other	40.0%	21.5%	19.7%	17.4%	12.8%	12.1%	8.1%	14.2%	16.2%
Did not earn HSD\GED	NA	NA	28.1%	28.4%	19.0%	13.7%	3.7%	18.9%	NA
HSD\GED	NA	NA	28.2%	25.6%	17.8%	13.0%	13.7%	20.0%	NA
Some college -- not attending	NA	NA	18.6%	20.5%	13.4%	12.9%	7.4%	15.0%	NA
Some college -- attending	NA	NA	43.2%	39.9%	18.8%	51.4%	25.2%	31.5%	NA
AA	NA	NA	9.8%	3.7%	12.1%	10.0%	1.5%	9.4%	NA
BA+	NA	NA	9.6%	7.1%	6.5%	10.0%	11.0%	7.7%	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 15 — Unemployment Rates By Age, Gender, and Educational Attainment: CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	35.2%	20.3%	14.0%	12.7%	10.7%	9.4%	8.7%	11.2%	13.3%
Men	37.5%	21.2%	13.1%	12.0%	9.6%	8.4%	9.3%	10.3%	12.7%
Did not earn HSD\GED	NA	NA	16.0%	13.9%	12.3%	14.0%	13.0%	13.2%	NA
HSD\GED	NA	NA	16.2%	14.3%	10.6%	7.8%	10.3%	11.9%	NA
Some college -- not attending	NA	NA	9.3%	11.3%	8.3%	8.7%	8.2%	8.9%	NA
Some college -- attending	NA	NA	19.5%	21.7%	17.0%	18.2%	20.1%	19.1%	NA
AA	NA	NA	8.8%	7.7%	7.8%	6.2%	9.5%	7.8%	NA
BA+	NA	NA	6.5%	4.8%	5.1%	3.7%	6.8%	5.0%	NA
Women	32.7%	19.2%	15.2%	13.6%	12.0%	10.7%	8.0%	12.3%	14.1%
Did not earn HSD\GED	NA	NA	24.7%	20.6%	20.6%	20.1%	16.6%	20.7%	NA
HSD\GED	NA	NA	19.6%	18.0%	14.1%	10.4%	7.9%	14.6%	NA
Some college -- not attending	NA	NA	16.0%	13.4%	10.4%	10.0%	8.8%	11.6%	NA
Some college -- attending	NA	NA	18.7%	18.3%	20.0%	27.0%	30.8%	19.4%	NA
AA	NA	NA	10.8%	9.9%	9.4%	6.7%	4.4%	9.0%	NA
BA+	NA	NA	6.1%	5.3%	4.4%	6.6%	2.2%	5.0%	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 16 — Labor Force By Age, Citizen Status, and Educational Attainment (Persons 16 and over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	73,189	228,633	224,535	212,155	769,337	239,252	67,586	1,512,863	1,814,685
Citizen	66,562	200,460	183,504	162,778	586,680	208,664	62,207	1,203,834	1,470,856
Did not earn HSD\GED	NA	NA	15,126	16,875	70,924	26,655	8,788	138,368	NA
HSD\GED	NA	NA	52,414	44,688	154,609	47,711	12,519	311,941	NA
Some college -- not attending	NA	NA	48,183	42,119	155,214	54,321	14,878	314,713	NA
Some college – attending	NA	NA	13,796	7,159	11,261	1,014	253	33,483	NA
AA	NA	NA	20,090	19,032	58,694	22,193	7,255	127,264	NA
BA+	NA	NA	33,896	32,905	135,978	56,771	18,516	278,065	NA
Not Citizen	6,628	28,173	41,030	49,376	182,657	30,587	5,378	309,029	343,829
Did not earn HSD\GED	NA	NA	18,995	29,375	119,189	22,600	3,943	194,102	NA
HSD\GED	NA	NA	12,111	11,373	34,222	4,267	710	62,684	NA
Some college -- not attending	NA	NA	5,500	3,873	13,864	1,790	353	25,380	NA
Some college – attending	NA	NA	849	657	900	0	0	2,407	NA
AA	NA	NA	1,507	1,195	3,539	560	67	6,869	NA
BA+	NA	NA	2,068	2,903	10,942	1,369	304	17,587	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 17 — Unemployed Labor Force By Age, Citizen Status, and Educational Attainment (Persons 16 and over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	25,774	46,400	31,363	26,936	82,204	22,600	5,882	168,986	241,159
Citizen	23,919	41,471	26,370	20,707	57,849	17,041	4,453	126,419	191,809
Did not earn HSD\GED	NA	NA	4,534	3,867	11,183	3,499	922	24,005	NA
HSD\GED	NA	NA	9,452	6,832	18,625	4,232	817	39,959	NA
Some college -- not attending	NA	NA	5,946	5,135	14,630	4,976	1,224	31,911	NA
Some college -- attending	NA	NA	2,608	1,458	2,121	238	62	6,487	NA
AA	NA	NA	1,995	1,770	5,098	1,388	460	10,711	NA
BA+	NA	NA	1,835	1,643	6,193	2,708	968	13,346	NA
Not Citizen	1,855	4,929	4,993	6,229	24,355	5,559	1,430	42,567	49,350
Did not earn HSD\GED	NA	NA	1,741	3,486	18,003	4,518	918	28,666	NA
HSD\GED	NA	NA	1,785	1,926	4,047	484	394	8,636	NA
Some college -- not attending	NA	NA	703	527	1,115	236	69	2,650	NA
Some college -- attending	NA	NA	196	83	146	0	0	425	NA
AA	NA	NA	148	45	343	80	48	665	NA
BA+	NA	NA	420	162	700	242	0	1,525	NA

Table 18 — Labor Force By Citizen Status, Age, and Educational Attainment: Unemployment Rates: CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	35.2%	20.3%	14.0%	12.7%	10.7%	9.4%	8.7%	11.2%	13.3%
Citizen	35.9%	20.7%	14.4%	12.7%	9.9%	8.2%	7.2%	10.5%	13.0%
Did not earn HSD\GED	NA	NA	30.0%	22.9%	15.8%	13.1%	10.5%	17.3%	NA
HSD\GED	NA	NA	18.0%	15.3%	12.0%	8.9%	6.5%	12.8%	NA
Some college -- not attending	NA	NA	12.3%	12.2%	9.4%	9.2%	8.2%	10.1%	NA
Some college -- attending	NA	NA	18.9%	20.4%	18.8%	23.4%	24.4%	19.4%	NA
AA	NA	NA	9.9%	9.3%	8.7%	6.3%	6.3%	8.4%	NA
BA+	NA	NA	5.4%	5.0%	4.6%	4.8%	5.2%	4.8%	NA
Not Citizen	28.0%	17.5%	12.2%	12.6%	13.3%	18.2%	26.6%	13.8%	14.4%
Did not earn HSD\GED	NA	NA	9.2%	11.9%	15.1%	20.0%	23.3%	14.8%	NA
HSD\GED	NA	NA	14.7%	16.9%	11.8%	11.3%	55.5%	13.8%	NA
Some college -- not attending	NA	NA	12.8%	13.6%	8.0%	13.2%	19.5%	10.4%	NA
Some college -- attending	NA	NA	23.1%	12.6%	16.2%	NA	NA	17.6%	NA
AA	NA	NA	9.8%	3.8%	9.7%	14.3%	71.8%	9.7%	NA
BA+	NA	NA	20.3%	5.6%	6.4%	17.7%	0.1%	8.7%	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 19 — Labor Force By Age, Disability Status, and Educational Attainment (Persons 16 and over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	73,189	228,633	224,535	212,155	769,337	239,252	67,586	1,512,863	1,814,685
No Reported Disability	70,040	220,060	215,711	202,038	721,989	214,139	53,579	1,407,455	1,697,555
Did not earn HSD\GED	NA	NA	32,877	43,713	176,709	43,514	9,839	306,653	NA
HSD\GED	NA	NA	61,393	53,421	176,639	45,723	10,171	347,347	NA
Some college -- not attending	NA	NA	51,645	42,938	158,472	49,817	11,529	314,401	NA
Some college -- attending	NA	NA	13,909	7,303	11,249	833	161	33,455	NA
AA	NA	NA	20,978	19,574	58,374	20,168	5,880	124,974	NA
BA+	NA	NA	34,909	35,088	140,546	54,084	15,999	280,625	NA
At Least One Disability	3,150	8,572	8,823	10,117	47,348	25,113	14,006	105,408	117,130
Did not earn HSD\GED	NA	NA	1,243	2,537	13,404	5,741	2,891	25,817	NA
HSD\GED	NA	NA	3,132	2,641	12,192	6,255	3,058	27,278	NA
Some college -- not attending	NA	NA	2,037	3,054	10,606	6,294	3,702	25,693	NA
Some college -- attending	NA	NA	736	513	912	181	92	2,434	NA
AA	NA	NA	620	652	3,860	2,585	1,442	9,159	NA
BA+	NA	NA	1,055	720	6,374	4,056	2,821	15,027	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 20 — Unemployed Labor Force By Age, Disability Status, and Educational Attainment (Persons 16 and over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	25,774	46,400	31,363	26,936	82,204	22,600	5,882	168,986	241,159
No Reported Disability	23,908	43,238	28,963	24,137	72,341	18,561	4,085	148,086	215,232
Did not earn HSD\GED	NA	NA	6,013	6,382	25,611	6,647	1,309	45,963	NA
HSD\GED	NA	NA	10,046	7,933	19,752	3,926	804	42,460	NA
Some college -- not attending	NA	NA	6,059	5,107	13,628	4,368	877	30,039	NA
Some college -- attending	NA	NA	2,561	1,370	2,079	215	31	6,256	NA
AA	NA	NA	2,081	1,669	5,016	1,045	327	10,139	NA
BA+	NA	NA	2,202	1,676	6,254	2,360	737	13,229	NA
At Least One Disability	1,865	3,162	2,400	2,799	9,863	4,039	1,797	20,900	25,927
Did not earn HSD\GED	NA	NA	262	971	3,575	1,370	530	6,708	NA
HSD\GED	NA	NA	1,191	825	2,921	789	408	6,134	NA
Some college -- not attending	NA	NA	590	556	2,117	843	416	4,521	NA
Some college -- attending	NA	NA	243	171	187	23	31	656	NA
AA	NA	NA	62	147	425	423	181	1,238	NA
BA+	NA	NA	52	130	639	591	231	1,642	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 21 — Labor Force By Disability Status, Age, and Educational Attainment: Unemployment Rates: CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	35.2%	20.3%	14.0%	12.7%	10.7%	9.4%	8.7%	11.2%	13.3%
No Reported Disability	34.1%	19.6%	13.4%	11.9%	10.0%	8.7%	7.6%	10.5%	12.7%
Did not earn HSD\GED	NA	NA	18.3%	14.6%	14.5%	15.3%	13.3%	15.0%	NA
HSD\GED	NA	NA	16.4%	14.8%	11.2%	8.6%	7.9%	12.2%	NA
Some college -- not attending	NA	NA	11.7%	11.9%	8.6%	8.8%	7.6%	9.6%	NA
Some college -- attending	NA	NA	18.4%	18.8%	18.5%	25.8%	19.0%	18.7%	NA
AA	NA	NA	9.9%	8.5%	8.6%	5.2%	5.6%	8.1%	NA
BA+	NA	NA	6.3%	4.8%	4.4%	4.4%	4.6%	4.7%	NA
At Least One Disability	59.2%	36.9%	27.2%	27.7%	20.8%	16.1%	12.8%	19.8%	22.1%
Did not earn HSD\GED	NA	NA	21.1%	38.3%	26.7%	23.9%	18.3%	26.0%	NA
HSD\GED	NA	NA	38.0%	31.2%	24.0%	12.6%	13.3%	22.5%	NA
Some college -- not attending	NA	NA	28.9%	18.2%	20.0%	13.4%	11.2%	17.6%	NA
Some college -- attending	NA	NA	33.0%	33.4%	20.5%	12.7%	33.8%	26.9%	NA
AA	NA	NA	10.0%	22.5%	11.0%	16.4%	12.6%	13.5%	NA
BA+	NA	NA	4.9%	18.0%	10.0%	14.6%	8.2%	10.9%	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 22 — Labor Force By Age, Veteran Status, and Educational Attainment (Persons 16 and over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	73,189	228,633	224,535	212,155	769,337	239,252	67,586	1,512,863	1,814,685
Not Veterans	73,146	225,677	219,302	204,679	734,820	218,142	53,239	1,430,182	1,729,005
Did not earn HSD\GED	NA	NA	34,078	46,145	189,361	48,195	11,785	329,565	NA
HSD\GED	NA	NA	63,162	54,446	179,990	47,612	10,852	356,062	NA
Some college -- not attending	NA	NA	51,719	43,126	157,633	49,223	10,988	312,690	NA
Some college -- attending	NA	NA	13,916	7,387	10,899	854	162	33,218	NA
AA	NA	NA	21,018	19,092	57,302	19,240	5,284	121,936	NA
BA+	NA	NA	35,408	34,483	139,635	53,018	14,168	276,712	NA
Veterans	44	2,955	5,233	7,476	34,516	21,110	14,347	82,681	85,680
Did not earn HSD\GED	NA	NA	43	105	751	1,060	945	2,905	NA
HSD\GED	NA	NA	1,363	1,616	8,841	4,366	2,378	18,563	NA
Some college -- not attending	NA	NA	1,963	2,866	11,445	6,887	4,242	27,404	NA
Some college -- attending	NA	NA	729	429	1,262	160	91	2,671	NA
AA	NA	NA	579	1,134	4,932	3,513	2,038	12,197	NA
BA+	NA	NA	555	1,325	7,285	5,122	4,652	18,941	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 23 — Unemployed Labor Force By Age, Veteran Status, and Educational Attainment (Persons 16 and over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	25,774	46,400	31,363	26,936	82,204	22,600	5,882	168,986	241,159
Not Veterans	25,774	45,630	30,673	26,270	79,623	20,949	4,729	162,244	233,648
Did not earn HSD\GED	NA	NA	6,275	7,353	29,062	7,878	1,739	52,308	NA
HSD\GED	NA	NA	11,022	8,574	21,870	4,319	1,089	46,874	NA
Some college -- not attending	NA	NA	6,354	5,406	15,090	4,650	914	32,414	NA
Some college -- attending	NA	NA	2,743	1,444	2,030	212	31	6,460	NA
AA	NA	NA	2,113	1,816	5,112	1,282	241	10,563	NA
BA+	NA	NA	2,166	1,677	6,457	2,608	716	13,625	NA
Veterans	0	770	690	666	2,581	1,651	1,153	6,742	7,511
Did not earn HSD\GED	NA	NA	0	0	124	139	100	363	NA
HSD\GED	NA	NA	215	184	802	396	123	1,720	NA
Some college -- not attending	NA	NA	294	256	655	561	379	2,146	NA
Some college -- attending	NA	NA	62	98	236	26	30	451	NA
AA	NA	NA	30	0	329	186	268	813	NA
BA+	NA	NA	88	128	436	342	253	1,247	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 24 — Labor Force By Veteran Status, Age, and Educational Attainment: Unemployment Rates: CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total 25+ Only	Total
Total	35.2%	20.3%	14.0%	12.7%	10.7%	9.4%	8.7%	11.2%	13.3%
Not Veterans	35.2%	20.2%	14.0%	12.8%	10.8%	9.6%	8.9%	11.3%	13.5%
Did not earn HSD\GED	NA	NA	18.4%	15.9%	15.3%	16.3%	14.8%	15.9%	NA
HSD\GED	NA	NA	17.4%	15.7%	12.2%	9.1%	10.0%	13.2%	NA
Some college -- not attending	NA	NA	12.3%	12.5%	9.6%	9.4%	8.3%	10.4%	NA
Some college -- attending	NA	NA	19.7%	19.5%	18.6%	24.8%	19.3%	19.4%	NA
AA	NA	NA	10.1%	9.5%	8.9%	6.7%	4.6%	8.7%	NA
BA+	NA	NA	6.1%	4.9%	4.6%	4.9%	5.1%	4.9%	NA
Veterans	0.0%	26.0%	13.2%	8.9%	7.5%	7.8%	8.0%	8.2%	8.8%
Did not earn HSD\GED	NA	NA	0.0%	0.0%	16.5%	13.1%	10.6%	12.5%	NA
HSD\GED	NA	NA	15.8%	11.4%	9.1%	9.1%	5.2%	9.3%	NA
Some college -- not attending	NA	NA	15.0%	8.9%	5.7%	8.2%	8.9%	7.8%	NA
Some college -- attending	NA	NA	8.5%	22.8%	18.7%	16.0%	33.3%	16.9%	NA
AA	NA	NA	5.2%	0.0%	6.7%	5.3%	13.1%	6.7%	NA
BA+	NA	NA	15.9%	9.7%	6.0%	6.7%	5.4%	6.6%	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Table 25 — Employed and Unemployed Labor Force By College Degree Status and Economic Sector (Persons 25 and Over): CCWC Region

	College Degree				No College Degree			
	Full-Time	Part-Time	Unem-ployed	UER	Full-Time	Part-Time	Unem-ployed	UER
Total	293,637	109,958	26,248	6.1%	635,199	305,140	142,738	13.2%
11 Agriculture	7,469	1,965	715	7.0%	75,080	64,851	25,230	15.3%
21 Mining	3,330	434	48	1.3%	11,441	1,454	693	5.1%
22 Utilities	4,090	334	128	2.8%	7,901	709	144	1.6%
23 Construction	9,538	3,425	1,128	8.0%	51,068	22,676	12,829	14.8%
31 Manufacturing	20,027	3,217	2,077	8.2%	79,291	17,082	13,097	12.0%
42 Wholesale	8,081	1,742	482	4.7%	30,457	9,275	4,928	11.0%
43 Retail	17,593	8,704	2,438	8.5%	70,213	33,153	11,626	10.1%
48 Transportation	4,436	1,791	532	7.9%	29,218	9,036	3,543	8.5%
49 Warehousing	1,705	818	293	10.4%	9,968	4,163	1,401	9.0%
51 Information	4,921	930	586	9.1%	8,488	1,675	1,625	13.8%
52 Finance	12,279	2,723	892	5.6%	17,213	3,645	2,174	9.4%
53 Real Estate	4,689	2,454	460	6.0%	11,249	4,425	1,362	8.0%
54 Professional Technical	21,598	7,540	1,591	5.2%	15,275	6,190	2,559	10.7%
55 MCE	369	32	0	0.0%	338	253	0	0.0%
56 Admin Support	5,312	3,668	1,621	15.3%	26,093	19,817	9,069	16.5%
56 Waste Mgt	400	91	0	0.0%	4,076	1,375	653	10.7%
61 Education	50,913	31,732	3,189	3.7%	19,282	18,914	2,837	6.9%
62 Health	64,023	23,654	3,394	3.7%	62,477	30,425	10,116	9.8%
71 Arts, Entrmnt, etc.	2,809	2,033	521	9.7%	6,840	4,086	1,771	13.9%
72 Accommodations	1,177	416	177	10.0%	4,772	2,636	903	10.9%
72 Food Services	4,055	3,244	787	9.7%	23,985	23,098	6,209	11.7%
81 Other Services	8,485	5,278	1,104	7.4%	28,530	18,931	4,627	8.9%
92 Public Sector	30,163	3,365	1,357	3.9%	34,486	6,846	3,187	7.2%

	College Degree				No College Degree			
	Full-Time	**Part-Time**	**Unem-ployed**	**UER**	**Full-Time**	**Part-Time**	**Unem-ployed**	**UER**
98 Military	6,175	367	187	2.8%	7,458	423	370	4.5%
99 Long-Term Unemployed			2,541				21,787	

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS (Internal: file = H:\zTEMPORARY\2016_projects\CCWC--2016\01_DATA\PUMS\06_EZ-TAG--OUTPUTS\05_Fresno\EZ-TAGS--zSector-05_Fresno--25+.xlsx

CONCLUSION

At 1.4 percent a year, jobs in CCWC region is expected to grow modestly from now to 2025, although analysts project a number of sectors (Construction, Health, Logistics, Professional, Scientific and Technical Services, Administrative Support, Education, Health Care and Food Services) to exceed this overall annual growth rate. However, qualified workers are in short supply for certain key job categories. Based on the analysis presented in this report and discussions with key employers and workforce training organizations, the following can be identified as potential priorities for additional training efforts.

- Medical Technicians
- Electricians
- Maintenance Mechanics
- Ability to use computer operated processing controls and instruments (and related English competency)
- Workers with supervisory and management skills
- Business skills

APPENDIX

The following tables provide more detailed information on the topics discussed in the report.

Appendix Table 1 - Employment Projections By Industry Clusters: Agriculture: Distribution: CCWC Region

NAICS	Description	2015	2025	Chg	CAGR	Rank Chg
Total		**89,574**	**107,789**	**18,215**	**2%**	
424410	General Line Grocery Merchant Wholesalers	2,825	3,385	560	2%	11
424420	Packaged Frozen Food Merchant Wholesalers	231	289	58	2%	30
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	717	889	172	2%	19
424440	Poultry and Poultry Product Merchant Wholesalers	96	77	-19	-2%	45
424450	Confectionery Merchant Wholesalers	744	808	64	1%	28
424460	Fish and Seafood Merchant Wholesalers	99	168	69	5%	27
424470	Meat and Meat Product Merchant Wholesalers	500	599	99	2%	24
424480	Fresh Fruit and Vegetable Merchant Wholesalers	3,586	4,329	743	2%	9
424490	Other Grocery and Related Products Merchant Wholesalers	3,797	5,097	1,300	3%	5
424510	Grain and Field Bean Merchant Wholesalers	287	408	121	4%	21
424520	Livestock Merchant Wholesalers	259	218	-41	-2%	47
424590	Other Farm Product Raw Material Merchant Wholesalers	286	345	59	2%	29
424810	Beer and Ale Merchant Wholesalers	1,024	1,105	81	1%	25
424820	Wine and Distilled Alcoholic Beverage Merchant Wholesalers	1,123	2,013	890	6%	7
424910	Farm Supplies Merchant Wholesalers	3,611	4,520	909	2%	6
424930	Flower, Nursery Stock, and Florists' Supplies Merchant Wholesalers	196	182	-14	-1%	44
445110	Supermarkets and Other Grocery (except Convenience) Stores	24,530	27,540	3,010	1%	1
445120	Convenience Stores	1,797	2,201	404	2%	12
445210	Meat Markets	701	822	121	2%	21
445220	Fish and Seafood Markets	6	6	0	0%	41
445291	Baked Goods Stores	200	321	121	5%	21
445292	Confectionery and Nut Stores	260	387	127	4%	20
445299	All Other Specialty Food Stores	561	201	-360	-10%	49
445310	Beer, Wine, and Liquor Stores	992	1,028	36	0%	32
481111	Scheduled Passenger Air Transportation	379	168	-211	-8%	48
481112	Scheduled Freight Air Transportation	107	130	23	2%	34

NAICS	Description	2015	2025	Chg	CAGR	Rank Chg
481211	Nonscheduled Chartered Passenger Air Transportation	171	216	45	2%	31
481212	Nonscheduled Chartered Freight Air Transportation	20	21	1	0%	39
482110	Rail transportation	1,757	2,007	250	1%	16
483111	Deep Sea Freight Transportation	16	26	10	5%	37
483113	Coastal and Great Lakes Freight Transportation	9	27	18	12%	36
483212	Inland Water Passenger Transportation	21	22	1	0%	39
484110	General Freight Trucking, Local	5,455	6,215	760	1%	8
484121	General Freight Trucking, Long-Distance, Truckload	6,170	8,314	2,144	3%	3
484122	General Freight Trucking, Long-Distance, Less Than Truckload	2,349	2,656	307	1%	15
484220	Specialized Freight (except Used Goods) Trucking, Local	7,260	9,134	1,874	2%	4
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	1,265	1,962	697	4%	10
488111	Air Traffic Control	12	0	-12	-100%	43
488119	Other Airport Operations	128	148	20	1%	35
488190	Other Support Activities for Air Transportation	904	910	6	0%	38
488210	Support Activities for Rail Transportation	578	789	211	3%	18
488310	Port and Harbor Operations	224	186	-38	-2%	46
488320	Marine Cargo Handling	54	81	27	4%	33
488390	Other Support Activities for Water Transportation	3	3	0	0%	41
488510	Freight Transportation Arrangement	872	1,270	398	4%	13
488991	Packing and Crating	593	923	330	5%	14
493110	General Warehousing and Storage	11,234	13,773	2,539	2%	2
493120	Refrigerated Warehousing and Storage	1,414	1,644	230	2%	17
493190	Other Warehousing and Storage	151	226	75	4%	26

Source: Applied Development Economics, based on EMSI 2015 Q4 QCEW and Non-QCEW Industry Employment Data

Appendix Table 2 — Employment Projections by Industry Clusters: Agriculture: Processing: CCWC Region

NAICS	Description	2015	2025	Chg	CAGR	Rank Chg
Total		**64,091**	**69,887**	**5,796**	**1%**	
311111	Dog and Cat Food Manufacturing	287	187	-100	-4%	52
311119	Other Animal Food Manufacturing	1,413	1,675	262	2%	12
311211	Flour Milling	356	229	-127	-4%	53
311212	Rice Milling	9	9	0	0%	32
311221	Wet Corn Milling	425	675	250	5%	13
311225	Fats and Oils Refining and Blending	6	6	0	0%	32
311230	Breakfast Cereal Manufacturing	359	57	-302	-17%	57
311313	Beet Sugar Manufacturing	27	0	-27	-100%	46
311340	Nonchocolate Confectionery Manufacturing	100	215	115	8%	17
311352	Confectionery Manufacturing from Purchased Chocolate	13	3	-10	-14%	42
311411	Frozen Fruit, Juice, and Vegetable Manufacturing	2,598	2,462	-136	-1%	54
311412	Frozen Specialty Food Manufacturing	1,934	2,042	108	1%	18
311421	Fruit and Vegetable Canning	7,588	6,985	-603	-1%	58
311422	Specialty Canning	55	0	-55	-100%	49
311423	Dried and Dehydrated Food Manufacturing	2,261	1,632	-629	-3%	59
311511	Fluid Milk Manufacturing	2,493	2,955	462	2%	8
311512	Creamery Butter Manufacturing	101	141	40	3%	26
311513	Cheese Manufacturing	4,334	4,887	553	1%	6
311514	Dry, Condensed, and Evaporated Dairy Product Manufacturing	420	437	17	0%	27
311520	Ice Cream and Frozen Dessert Manufacturing	1,447	1,808	361	2%	10
311611	Animal (except Poultry) Slaughtering	2,563	3,150	587	2%	5
311612	Meat Processed from Carcasses	1,815	2,340	525	3%	7
311613	Rendering and Meat Byproduct Processing	178	83	-95	-7%	51
311615	Poultry Processing	7,895	8,568	673	1%	4
311811	Retail Bakeries	424	408	-16	0%	43
311812	Commercial Bakeries	1,093	834	-259	-3%	55
311813	Frozen Cakes, Pies, and Other Pastries Manufacturing	14	6	-8	-8%	41
311821	Cookie and Cracker Manufacturing	53	6	-47	-20%	47

NAICS	Description	2015	2025	Chg	CAGR	Rank Chg
311824	Dry Pasta, Dough, and Flour Mixes Mfg from Purchased Flour	28	43	15	4%	28
311830	Tortilla Manufacturing	854	946	92	1%	19
311911	Roasted Nuts and Peanut Butter Manufacturing	4,399	5,104	705	1%	3
311919	Other Snack Food Manufacturing	1,346	1,433	87	1%	20
311920	Coffee and Tea Manufacturing	6	14	8	9%	31
311930	Flavoring Syrup and Concentrate Manufacturing	3	3	0	0%	32
311941	Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing	30	29	-1	0%	38
311942	Spice and Extract Manufacturing	12	12	0	0%	32
311991	Perishable Prepared Food Manufacturing	2,119	2,544	425	2%	9
311999	All Other Miscellaneous Food Manufacturing	892	1,216	324	3%	11
312111	Soft Drink Manufacturing	996	1,186	190	2%	15
312112	Bottled Water Manufacturing	124	167	43	3%	25
312113	Ice Manufacturing	100	99	-1	0%	38
312120	Breweries	102	157	55	4%	23
312130	Wineries	6,334	7,745	1,411	2%	1
312140	Distilleries	92	76	-16	-2%	43
313210	Broadwoven Fabric Mills	31	43	12	3%	29
313230	Nonwoven Fabric Mills	3	3	0	0%	32
316110	Leather and Hide Tanning and Finishing	56	6	-50	-20%	48
321113	Sawmills	165	210	45	2%	24
321920	Wood Container and Pallet Manufacturing	822	1,029	207	2%	14
322211	Corrugated and Solid Fiber Box Manufacturing	2,307	3,090	783	3%	2
322212	Folding Paperboard Box Manufacturing	159	158	-1	0%	38
322291	Sanitary Paper Product Manufacturing	13	23	10	6%	30
325411	Medicinal and Botanical Manufacturing	114	199	85	6%	21
325414	Biological Product (except Diagnostic) Manufacturing	3	3	0	0%	32
326111	Plastics Bag and Pouch Manufacturing	120	201	81	5%	22
326160	Plastics Bottle Manufacturing	229	145	-84	-4%	50
327213	Glass Container Manufacturing	1,586	1,711	125	1%	16
332431	Metal Can Manufacturing	664	394	-270	-5%	56

NAICS	Description	2015	2025	Chg	CAGR	Rank Chg
332439	Other Metal Container Manufacturing	121	98	-23	-2%	45

Source: Applied Development Economics, based on EMSI 2015 Q4 QCEW and Non-QCEW Industry Employment Data (CAGR = compound annual growth rate)

Appendix Table 3 — Employment Projections by Industry Clusters: Agriculture: Production: CCWC Region

Industry	NAICS	2015	2025p	Change	CAGR
Total		**65,522**	**63,514**	**-2,008**	**-0.3%**
111000	Crop Production	46,809	45,545	-1,264	-0.3%
112000	Animal Production and Aquaculture	18,521	17,793	-728	-0.4%
113210	Forest Nurseries and Gathering of Forest Products	177	164	-13	-0.8%
114111	Finfish Fishing	3	3	0	0.0%
114112	Shellfish Fishing	3	3	0	0.0%
114210	Hunting and Trapping	9	6	-3	-4.0%

Source: Applied Development Economics, based on EMSI 2015 Q4 QCEW and Non-QCEW Industry Employment Data

Appendix Table 4 — Employment Projections by Industry Clusters: Agriculture: Support: CCWC Region

NAICS	Description	2015	2025p	Chg	CAGR
Total		**199,207**	**228,216**	**29,009**	**1.4%**
115111	Cotton Ginning	188	9	-179	-26.2%
115112	Soil Preparation, Planting, and Cultivating	4,825	5,265	440	0.9%
115113	Crop Harvesting, Primarily by Machine	2,474	2,442	-32	-0.1%
115114	Postharvest Crop Activities (except Cotton Ginning)	19,667	21,250	1,583	0.8%
115115	Farm Labor Contractors and Crew Leaders	92,059	104,398	12,339	1.3%
115116	Farm Management Services	5,091	6,276	1,185	2.1%
115210	Support Activities for Animal Production	512	495	-17	-0.3%
115310	Support Activities for Forestry	142	199	57	3.4%
221310	Water Supply and Irrigation Systems	1,053	1,385	332	2.8%
237110	Water and Sewer Line and Related Structures Construction	2,582	3,179	597	2.1%
325311	Nitrogenous Fertilizer Manufacturing	67	6	-61	-21.4%

NAICS	Description	2015	2025p	Chg	CAGR
325312	Phosphatic Fertilizer Manufacturing	202	172	-30	-1.6%
325314	Fertilizer (Mixing Only) Manufacturing	337	407	70	1.9%
325320	Pesticide and Other Agricultural Chemical Manufacturing	104	79	-25	-2.7%
326291	Rubber Product Manufacturing for Mechanical Use	116	85	-31	-3.1%
326299	All Other Rubber Product Manufacturing	284	393	109	3.3%
332311	Prefabricated Metal Building and Component Manufacturing	714	585	-129	-2.0%
332420	Metal Tank (Heavy Gauge) Manufacturing	180	221	41	2.1%
333111	Farm Machinery and Equipment Manufacturing	1,527	1,599	72	0.5%
333911	Pump and Pumping Equipment Manufacturing	653	687	34	0.5%
333924	Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing	92	92	0	0.0%
333992	Welding and Soldering Equipment Manufacturing	33	54	21	5.0%
333993	Packaging Machinery Manufacturing	723	790	67	0.9%
423820	Farm and Garden Machinery and Equipment Merchant Wholesalers	2,374	2,436	62	0.3%
423830	Industrial Machinery and Equipment Merchant Wholesalers	3,287	3,788	501	1.4%
423840	Industrial Supplies Merchant Wholesalers	757	799	42	0.5%
423850	Service Establishment Equipment and Supplies Merchant Wholesalers	302	367	65	2.0%
423860	Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers	239	413	174	5.6%
444210	Outdoor Power Equipment Stores	209	76	-133	-9.6%
444220	Nursery, Garden Center, and Farm Supply Stores	1,457	1,499	42	0.3%
522292	Real Estate Credit	898	569	-329	-4.5%
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	603	930	327	4.4%
541360	Geophysical Surveying and Mapping Services	47	83	36	5.9%
541370	Surveying and Mapping (except Geophysical) Services	291	482	191	5.2%
541380	Testing Laboratories	1,687	2,495	808	4.0%
541613	Marketing Consulting Services	242	357	115	4.0%
541614	Process, Physical Distribution, and Logistics Consulting Services	607	1,147	540	6.6%
541620	Environmental Consulting Services	486	771	285	4.7%
541690	Other Scientific and Technical Consulting Services	3,185	4,857	1,672	4.3%
541810	Advertising Agencies	358	394	36	1.0%
541820	Public Relations Agencies	67	74	7	1.0%

NAICS	Description	2015	2025p	Chg	CAGR
541830	Media Buying Agencies	9	9	0	0.0%
541840	Media Representatives	129	124	-5	-0.4%
541850	Outdoor Advertising	60	19	-41	-10.9%
541870	Advertising Material Distribution Services	65	18	-47	-12.0%
541890	Other Services Related to Advertising	858	1,072	214	2.3%
541940	Veterinary Services	2,621	3,119	498	1.8%
551111	Offices of Bank Holding Companies	3	0	-3	-100.0%
551112	Offices of Other Holding Companies	112	15	-97	-18.2%
551114	Corporate, Subsidiary, and Regional Managing Offices	10,838	9,454	-1,384	-1.4%
561110	Office Administrative Services	2,448	2,680	232	0.9%
561320	Temporary Help Services	21,618	29,190	7,572	3.0%
561710	Exterminating and Pest Control Services	1,381	1,497	116	0.8%
561730	Landscaping Services	4,526	4,510	-16	0.0%
562213	Solid Waste Combustors and Incinerators	46	9	-37	-15.1%
562219	Other Nonhazardous Waste Treatment and Disposal	242	336	94	3.3%
562920	Materials Recovery Facilities	300	387	87	2.6%
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	3,230	4,172	942	2.6%

Source: Applied Development Economics, based on EMSI 2015 Q4 QCEW and Non-QCEW Industry Employment Data

Appendix Table 5 — Employment Projections by Industry Clusters: Energy: CCWC Region

NAICS	Description	Sub-Cluster	2015	2025p	Chg	CAGR
Total			**85,670**	**100,077**	**14,407**	**1.6%**
211111	Crude Petroleum and Natural Gas Extraction	01 Energy Core--01Petroleum	2,778	2,778	0	0.0%
211112	Natural Gas Liquid Extraction	01 Energy Core--01Petroleum	32	32	0	0.0%
212399	All Other Nonmetallic Mineral Mining	01 Energy Core--01Petroleum	57	3	-54	-25.5%
213111	Drilling Oil and Gas Wells	01 Energy Core--01Petroleum	1,453	1,453	0	0.0%
213112	Support Activities for Oil and Gas Operations	01 Energy Core--01Petroleum	5,132	5,132	0	0.0%
324110	Petroleum Refineries	01 Energy Core--01Petroleum	877	1,013	136	1.5%
424710	Petroleum Bulk Stations and Terminals	01 Energy Core--02 Petroelum Distribution	651	851	200	2.7%
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	01 Energy Core--02 Petroelum Distribution	874	875	1	0.0%
486110	Pipeline Transportation of Crude Oil	01 Energy Core--02 Petroelum Distribution	419	474	55	1.2%
486210	Pipeline Transportation of Natural Gas	01 Energy Core--02 Petroelum Distribution	50	31	-19	-4.7%
486910	Pipeline Transportation of Refined Petroleum Products	01 Energy Core--02 Petroelum Distribution	104	106	2	0.2%
221111	Hydroelectric Power Generation	01 Energy Core--03 Power Generation	150	0	-150	-100.0%
221112	Fossil Fuel Electric Power Generation	01 Energy Core--03 Power Generation	1,977	2,518	541	2.4%
221121	Electric Bulk Power Transmission and Control	01 Energy Core--03 Power Generation	38	59	21	4.5%
221122	Electric Power Distribution	01 Energy Core--03 Power Generation	3	3	0	0.0%
221210	Natural Gas Distribution	01 Energy Core--03 Power Generation	2,864	2,503	-361	-1.3%
221113	Nuclear Electric Power Generation	01 Energy Core--04 Alt Energy Production	44	58	14	2.8%
237110	Water and Sewer Line and Related Structures Construction	01 Energy Core--04 Alt Energy Production	2,582	3,179	597	2.1%
238160	Roofing Contractors	01 Energy Core--04 Alt Energy Production	1,378	1,100	-278	-2.2%
325193	Ethyl Alcohol Manufacturing	01 Energy Core--04 Alt Energy Production	76	155	79	7.4%
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	01 Energy Core--05 Alt Energy Distribution	989	1,156	167	1.6%
423690	Other Electronic Parts and Equipment Merchant Wholesalers	01 Energy Core--05 Alt Energy Distribution	165	180	15	0.9%
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	01 Energy Core--05 Alt Energy Distribution	851	1,050	199	2.1%

NAICS	Description	Sub-Cluster	2015	2025p	Chg	CAGR
238210	Electrical Contractors and Other Wiring Installation Contractors	01 Energy Core--06 Energy Efficiency	7,300	8,765	1,465	1.8%
238220	Plumbing, Heating, and Air-Conditioning Contractors	01 Energy Core--06 Energy Efficiency	7,413	9,240	1,827	2.2%
238310	Drywall and Insulation Contractors	01 Energy Core--06 Energy Efficiency	4,015	3,937	-78	-0.2%
333132	Oil and Gas Field Machinery and Equipment Manufacturing	01 Energy Core--07 Energy Equipment Mfg	545	644	99	1.7%
333414	Heating Equipment (except Warm Air Furnaces) Manufacturing	01 Energy Core--07 Energy Equipment Mfg	3	3	0	0.0%
333611	Turbine and Turbine Generator Set Units Manufacturing	01 Energy Core--07 Energy Equipment Mfg	48	9	-39	-15.4%
334512	Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use	01 Energy Core--07 Energy Equipment Mfg	85	74	-11	-1.4%
334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals	01 Energy Core--07 Energy Equipment Mfg	6	9	3	4.1%
335110	Electric Lamp Bulb and Part Manufacturing	01 Energy Core--07 Energy Equipment Mfg	17	21	4	2.1%
335121	Residential Electric Lighting Fixture Manufacturing	01 Energy Core--07 Energy Equipment Mfg	3	3	0	0.0%
335122	Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing	01 Energy Core--07 Energy Equipment Mfg	74	52	-22	-3.5%
335129	Other Lighting Equipment Manufacturing	01 Energy Core--07 Energy Equipment Mfg	108	179	71	5.2%
335311	Power, Distribution, and Specialty Transformer Manufacturing	01 Energy Core--07 Energy Equipment Mfg	3	3	0	0.0%
311225	Fats and Oils Refining and Blending	02 Energy related--01 Manufacturing	6	6	0	0.0%
311613	Professional, Scientific and Technical	02 Energy related--01 Manufacturing	178	83	-95	-7.3%
322299	All Other Converted Paper Product Manufacturing	02 Energy related--01 Manufacturing	367	416	49	1.3%
334413	Semiconductor and Related Device Manufacturing	02 Energy related--01 Manufacturing	256	320	64	2.3%
334519	Other Measuring and Controlling Device Manufacturing	02 Energy related--01 Manufacturing	78	131	53	5.3%
335312	Motor and Generator Manufacturing	02 Energy related--01 Manufacturing	9	17	8	6.6%
335314	Relay and Industrial Control Manufacturing	02 Energy related--01 Manufacturing	14	28	14	7.2%
335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing	02 Energy related--01 Manufacturing	3	3	0	0.0%
523910	Miscellaneous Intermediation	02 Energy related--02 Services	83	161	78	6.9%
523999	Miscellaneous Financial Investment	02 Energy related--02 Services	22	42	20	6.7%

NAICS	Description	Sub-Cluster	2015	2025p	Chg	CAGR
	Activities					
533110	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	02 Energy related--02 Services	188	241	53	2.5%
811219	Other Electronic and Precision Equipment Repair and Maintenance	02 Energy related--02 Services	164	249	85	4.3%
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	02 Energy related--02 Services	3,230	4,172	942	2.6%
541	Prof., Tech., Scien.	02 Energy related--03 Research	37,908	46,560	8,652	2.1%

Source: Applied Development Economics, based on EMSI Industry Employment Trends Data Q4 2015 QCEW and non-QCEW

Appendix Table 6 — Employment Projections by Industry Clusters: Health and Wellness: Other: CCWC Region

NAICS	Description	Sub-Cluster	2015	2025p	Chg	CAGR
Total			**59,065**	**83,369**	**24,304**	**3.5%**
325411	Medicinal and Botanical Manufacturing	Health Care--02 Pharmaceuticals	114	199	85	5.7%
325412	Pharmaceutical Preparation Manufacturing	Health Care--02 Pharmaceuticals	53	37	-16	-3.5%
325413	In-Vitro Diagnostic Substance Manufacturing	Health Care--02 Pharmaceuticals	19	37	18	6.9%
325414	Biological Product (except Diagnostic) Manufacturing	Health Care--02 Pharmaceuticals	3	3	0	0.0%
446110	Pharmacies and Drug Stores	Health Care--03 Wellness and Fitness	7,650	9,022	1,372	1.7%
446130	Optical Goods Stores	Health Care--03 Wellness and Fitness	471	681	210	3.8%
446191	Food (Health) Supplement Stores	Health Care--03 Wellness and Fitness	350	434	84	2.2%
446199	All Other Health and Personal Care Stores	Health Care--03 Wellness and Fitness	420	447	27	0.6%
532291	Home Health Equipment Rental	Health Care--03 Wellness and Fitness	167	83	-84	-6.8%
621399	Offices of All Other Miscellaneous Health Practitioners	Health Care--03 Wellness and Fitness	309	448	139	3.8%
621999	All Other Miscellaneous Ambulatory Health Care Services	Health Care--03 Wellness and Fitness	191	328	137	5.6%
812191	Diet and Weight Reducing Centers	Health Care--03 Wellness and Fitness	134	82	-52	-4.8%
339112	Surgical and Medical Instrument Manufacturing	Health Care--04 Medical devices manufacturing	184	248	64	3.0%
339113	Surgical Appliance and Supplies	Health Care--04 Medical devices	556	457	-99	-1.9%

	Manufacturing	manufacturing				
339114	Dental Equipment and Supplies Manufacturing	Health Care--04 Medical devices manufacturing	29	20	-9	-3.6%
339115	Ophthalmic Goods Manufacturing	Health Care--04 Medical devices manufacturing	104	86	-18	-1.9%
339116	Dental Laboratories	Health Care--04 Medical devices manufacturing	246	158	-88	-4.3%
423450	Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers	Health Care--05 Supplies and Services	373	385	12	0.3%
423460	Ophthalmic Goods Merchant Wholesalers	Health Care--05 Supplies and Services	6	6	0	0.0%
423490	Other Professional Equipment and Supplies Merchant Wholesalers	Health Care--05 Supplies and Services	144	150	6	0.4%
424210	Drugs and Druggists' Sundries Merchant Wholesalers	Health Care--05 Supplies and Services	664	979	315	4.0%
813212	Voluntary Health Organizations	Health Care--05 Supplies and Services	251	376	125	4.1%
624110	Child and Youth Services	Health Care--06 Other Services	2,818	3,424	606	2.0%
624120	Services for the Elderly and Persons with Disabilities	Health Care--06 Other Services	36,547	57,396	20,849	4.6%
624190	Other Individual and Family Services	Health Care--06 Other Services	2,563	2,625	62	0.2%
624210	Community Food Services	Health Care--06 Other Services	305	391	86	2.5%
624221	Temporary Shelters	Health Care--06 Other Services	498	560	62	1.2%
624229	Other Community Housing Services	Health Care--06 Other Services	272	329	57	1.9%
624230	Emergency and Other Relief Services	Health Care--06 Other Services	87	95	8	0.9%
624410	Child Day Care Services	Health Care--06 Other Services	3,537	3,883	346	0.9%

Source: Applied Development Economics, based on EMSI Industry Employment Trends Data Q4 2015 QCEW and non-QCEW

Appendix Table 7 — Employment Projections by Industry Clusters: Health and Wellness: Delivery: CCWC Region

NAICS	Description	2015	2025	Chg	CAGR
Total		**144,424**	**171,130**	**26,706**	**1.7%**
621111	Offices of Physicians (except Mental Health Specialists)	24,492	28,302	3,810	1.5%
621112	Offices of Physicians, Mental Health Specialists	204	224	20	0.9%
621210	Offices of Dentists	9,175	10,157	982	1.0%

NAICS	Description	2015	2025	Chg	CAGR
621310	Offices of Chiropractors	997	937	-60	-0.6%
621320	Offices of Optometrists	1,489	1,858	369	2.2%
621330	Offices of Mental Health Practitioners (except Physicians)	908	1,293	385	3.6%
621340	Offices of Physical, Occupational and Speech Therapists, and Audiologists	2,010	2,629	619	2.7%
621391	Offices of Podiatrists	217	235	18	0.8%
621410	Family Planning Centers	541	660	119	2.0%
621420	Outpatient Mental Health and Substance Abuse Centers	1,433	1,880	447	2.8%
621491	HMO Medical Centers	5,260	8,443	3,183	4.8%
621492	Kidney Dialysis Centers	1,495	2,138	643	3.6%
621493	Freestanding Ambulatory Surgical and Emergency Centers	732	855	123	1.6%
621498	All Other Outpatient Care Centers	1,502	2,394	892	4.8%
621511	Medical Laboratories	896	970	74	0.8%
621512	Diagnostic Imaging Centers	1,019	1,589	570	4.5%
621610	Home Health Care Services	6,422	9,917	3,495	4.4%
621910	Ambulance Services	2,345	3,062	717	2.7%
621991	Blood and Organ Banks	307	338	31	1.0%
622110	General Medical and Surgical Hospitals	50,893	56,248	5,355	1.0%
622210	Psychiatric and Substance Abuse Hospitals	283	426	143	4.2%
622310	Specialty (except Psychiatric and Substance Abuse) Hospitals	265	152	-113	-5.4%
623110	Nursing Care Facilities (Skilled Nursing Facilities)	14,236	17,015	2,779	1.8%
623210	Residential Intellectual and Developmental Disability Facilities	2,507	2,453	-54	-0.2%
623220	Residential Mental Health and Substance Abuse Facilities	2,062	2,457	395	1.8%
623311	Continuing Care Retirement Communities	2,515	3,451	936	3.2%
623312	Assisted Living Facilities for the Elderly	4,596	5,402	806	1.6%
623990	Other Residential Care Facilities	1,423	1,152	-271	-2.1%
624310	Vocational Rehabilitation Services	4,200	4,493	293	0.7%

Source: Applied Development Economics, based on EMSI Industry Employment Trends Data Q4 2015 QCEW and non-QCEW

Appendix Table 8 — Employment Projections by Industry Clusters: Logistics: CCWC Region

NAICS	Description	2015	2025	Chg	CAGR
Total		**51,436**	**63,324**	**11,888**	**2.1%**
336120	Heavy Duty Truck Manufacturing	60	93	33	4.5%
336612	Boat Building	202	6	-196	-29.6%
481111	Scheduled Passenger Air Transportation	379	168	-211	-7.8%
481112	Scheduled Freight Air Transportation	107	130	23	2.0%
481211	Nonscheduled Chartered Passenger Air Transportation	171	216	45	2.4%
481212	Nonscheduled Chartered Freight Air Transportation	20	21	1	0.5%
482110	Rail transportation	1,757	2,007	250	1.3%
483111	Deep Sea Freight Transportation	16	26	10	5.0%
483113	Coastal and Great Lakes Freight Transportation	9	27	18	11.6%
483212	Inland Water Passenger Transportation	21	22	1	0.5%
484110	General Freight Trucking, Local	5,455	6,215	760	1.3%
484121	General Freight Trucking, Long-Distance, Truckload	6,170	8,314	2,144	3.0%
484122	General Freight Trucking, Long-Distance, Less Than Truckload	2,349	2,656	307	1.2%
484210	Used Household and Office Goods Moving	477	423	-54	-1.2%
484220	Specialized Freight (except Used Goods) Trucking, Local	7,260	9,134	1,874	2.3%
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	1,265	1,962	697	4.5%
485111	Mixed Mode Transit Systems	165	173	8	0.5%
485112	Commuter Rail Systems	92	100	8	0.8%
485113	Bus and Other Motor Vehicle Transit Systems	488	873	385	6.0%
485119	Other Urban Transit Systems	25	36	11	3.7%
485210	Interurban and Rural Bus Transportation	147	135	-12	-0.8%
485310	Taxi Service	15	26	11	5.7%
485410	School and Employee Bus Transportation	861	776	-85	-1.0%
485510	Charter Bus Industry	297	222	-75	-2.9%
485991	Special Needs Transportation	1,241	1,911	670	4.4%
485999	All Other Transit and Ground Passenger Transportation	96	132	36	3.2%
488111	Air Traffic Control	12	0	-12	-100.0%

NAICS	Description	2015	2025	Chg	CAGR
488119	Other Airport Operations	128	148	20	1.5%
488190	Other Support Activities for Air Transportation	904	910	6	0.1%
488210	Support Activities for Rail Transportation	578	789	211	3.2%
488310	Port and Harbor Operations	224	186	-38	-1.8%
488320	Marine Cargo Handling	54	81	27	4.1%
488330	Navigational Services to Shipping	3	3	0	0.0%
488390	Other Support Activities for Water Transportation	3	3	0	0.0%
488410	Motor Vehicle Towing	1,000	1,394	394	3.4%
488490	Other Support Activities for Road Transportation	258	350	92	3.1%
488510	Freight Transportation Arrangement	872	1,270	398	3.8%
488991	Packing and Crating	593	923	330	4.5%
488999	All Other Support Activities for Transportation	356	501	145	3.5%
492110	Couriers and Express Delivery Services	2,926	3,045	119	0.4%
492210	Local Messengers and Local Delivery	574	771	197	3.0%
493110	General Warehousing and Storage	11,234	13,773	2,539	2.1%
493120	Refrigerated Warehousing and Storage	1,414	1,644	230	1.5%
493130	Farm Product Warehousing and Storage	132	79	-53	-5.0%
493190	Other Warehousing and Storage	151	226	75	4.1%
541614	Process, Physical Distribution, and Logistics Consulting Services	607	1,150	543	6.6%
561910	Packaging and Labeling Services	268	274	6	0.2%

Source: Applied Development Economics, based on EMSI Industry Employment Trends Data Q4 2015 QCEW and non-QCEW

Appendix Table 9 — Employment Projections by Industry Clusters: Diversified Manufacturing: CCWC Region

NAICS	Description	2015	2025	Chg	CAGR
Total		30,277	30,777	500	0.2%
314110	Carpet and Rug Mills	13	3	-10	-13.6%
314999	All Other Miscellaneous Textile Product Mills	76	121	45	4.8%
321114	Wood Preservation	98	146	48	4.1%
321213	Engineered Wood Member (except Truss) Mfg	17	0	-17	-100.0%
321214	Truss Manufacturing	344	142	-202	-8.5%

NAICS	Description	2015	2025	Chg	CAGR
321219	Reconstituted Wood Product Manufacturing	3	0	-3	-100.0%
321911	Wood Window and Door Manufacturing	495	473	-22	-0.5%
321912	Cut Stock, Resawing Lumber, and Planing	222	174	-48	-2.4%
321918	Other Millwork (including Flooring)	219	73	-146	-10.4%
321991	Manufactured Home (Mobile Home) Manufacturing	281	0	-281	-100.0%
321992	Prefabricated Wood Building Manufacturing	39	6	-33	-17.1%
321999	All Other Miscellaneous Wood Product Manufacturing	38	6	-32	-16.9%
322121	Paper (except Newsprint) Mills	6	6	0	0.0%
323111	Commercial Printing (except Screen and Books)	1,594	910	-684	-5.5%
323113	Commercial Screen Printing	190	267	77	3.5%
323117	Books Printing	227	52	-175	-13.7%
324121	Asphalt Paving Mixture and Block Manufacturing	33	9	-24	-12.2%
324122	Asphalt Shingle and Coating Materials Manufacturing	84	49	-35	-5.2%
324191	Petroleum Lubricating Oil and Grease Manufacturing	6	14	8	8.8%
325120	Industrial Gas Manufacturing	18	6	-12	-10.4%
325199	All Other Basic Organic Chemical Manufacturing	104	124	20	1.8%
325211	Plastics Material and Resin Manufacturing	87	164	77	6.5%
325311	Nitrogenous Fertilizer Manufacturing	67	6	-61	-21.4%
325312	Phosphatic Fertilizer Manufacturing	202	172	-30	-1.6%
325314	Fertilizer (Mixing Only) Manufacturing	337	407	70	1.9%
325320	Pesticide and Other Agricultural Chemical Manufacturing	104	79	-25	-2.7%
325510	Paint and Coating Manufacturing	199	328	129	5.1%
325520	Adhesive Manufacturing	144	163	19	1.2%
325611	Soap and Other Detergent Manufacturing	96	117	21	2.0%
325612	Polish and Other Sanitation Good Manufacturing	65	64	-1	-0.2%
325613	Surface Active Agent Manufacturing	3	0	-3	-100.0%
325910	Printing Ink Manufacturing	13	3	-10	-13.6%
325992	Photographic Film, Paper, Plate, and Chemical Manufacturing	16	3	-13	-15.4%
325998	All Other Miscellaneous Chemical Product and Preparation Mfg	140	174	34	2.2%
326112	Plastics Packaging Film and Sheet (including Laminated) Mfg	491	814	323	5.2%
326113	Unlaminated Plastics Film and Sheet (except Packaging) Mfg	3	3	0	0.0%

NAICS	Description	2015	2025	Chg	CAGR
326121	Unlaminated Plastics Profile Shape Manufacturing	23	27	4	1.6%
326130	Laminated Plastics Plate, Sheet (except Packaging), and Shape Mfg	91	142	51	4.6%
326140	Polystyrene Foam Product Manufacturing	385	223	-162	-5.3%
326150	Urethane and Other Foam Product (except Polystyrene) Mfg	455	733	278	4.9%
326191	Plastics Plumbing Fixture Manufacturing	27	25	-2	-0.8%
326199	All Other Plastics Product Manufacturing	1,085	1,324	239	2.0%
326211	Tire Manufacturing (except Retreading)	3	0	-3	-100.0%
326212	Tire Retreading	67	63	-4	-0.6%
326220	Rubber and Plastics Hoses and Belting Manufacturing	57	103	46	6.1%
326291	Rubber Product Manufacturing for Mechanical Use	116	85	-31	-3.1%
326299	All Other Rubber Product Manufacturing	284	393	109	3.3%
327211	Flat Glass Manufacturing	227	3	-224	-35.1%
327212	Other Pressed and Blown Glass and Glassware Manufacturing	3	3	0	0.0%
327215	Glass Product Manufacturing Made of Purchased Glass	340	441	101	2.6%
327310	Cement Manufacturing	380	503	123	2.8%
327320	Ready-Mix Concrete Manufacturing	990	875	-115	-1.2%
327331	Concrete Block and Brick Manufacturing	148	227	79	4.4%
327332	Concrete Pipe Manufacturing	364	184	-180	-6.6%
327390	Other Concrete Product Manufacturing	567	970	403	5.5%
327420	Gypsum Product Manufacturing	6	23	17	14.4%
327991	Cut Stone and Stone Product Manufacturing	53	33	-20	-4.6%
327992	Ground or Treated Mineral and Earth Manufacturing	3	0	-3	-100.0%
327993	Mineral Wool Manufacturing	275	279	4	0.1%
327999	All Other Miscellaneous Nonmetallic Mineral Product Mfg	15	3	-12	-14.9%
331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel	35	76	41	8.1%
331221	Rolled Steel Shape Manufacturing	12	0	-12	-100.0%
331222	Steel Wire Drawing	29	50	21	5.6%
331314	Secondary Smelting and Alloying of Aluminum	65	30	-35	-7.4%
331315	Aluminum Sheet, Plate, and Foil Manufacturing	19	0	-19	-100.0%
331491	Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding	0	3	3	#NUM!

NAICS	Description	2015	2025	Chg	CAGR
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	28	41	13	3.9%
331511	Iron Foundries	63	41	-22	-4.2%
331513	Steel Foundries (except Investment)	64	83	19	2.6%
331524	Aluminum Foundries (except Die-Casting)	56	43	-13	-2.6%
332111	Iron and Steel Forging	32	3	-29	-21.1%
332114	Custom Roll Forming	307	289	-18	-0.6%
332311	Prefabricated Metal Building and Component Manufacturing	714	585	-129	-2.0%
332312	Fabricated Structural Metal Manufacturing	1,664	1,974	310	1.7%
332313	Plate Work Manufacturing	201	178	-23	-1.2%
332321	Metal Window and Door Manufacturing	243	183	-60	-2.8%
332322	Sheet Metal Work Manufacturing	651	821	170	2.3%
332323	Ornamental and Architectural Metal Work Manufacturing	240	320	80	2.9%
332410	Power Boiler and Heat Exchanger Manufacturing	11	11	0	0.0%
332420	Metal Tank (Heavy Gauge) Manufacturing	180	221	41	2.1%
332510	Hardware Manufacturing	17	3	-14	-15.9%
332618	Other Fabricated Wire Product Manufacturing	184	94	-90	-6.5%
332710	Machine Shops	1,326	1,390	64	0.5%
332721	Precision Turned Product Manufacturing	61	41	-20	-3.9%
332722	Bolt, Nut, Screw, Rivet, and Washer Manufacturing	124	183	59	4.0%
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	622	856	234	3.2%
332813	Electroplating, Plating, Polishing, Anodizing, and Coloring	197	128	-69	-4.2%
332911	Industrial Valve Manufacturing	135	114	-21	-1.7%
332912	Fluid Power Valve and Hose Fitting Manufacturing	3	3	0	0.0%
332913	Plumbing Fixture Fitting and Trim Manufacturing	74	51	-23	-3.7%
332919	Other Metal Valve and Pipe Fitting Manufacturing	118	61	-57	-6.4%
332991	Ball and Roller Bearing Manufacturing	27	33	6	2.0%
332993	Ammunition (except Small Arms) Manufacturing	3	0	-3	-100.0%
332994	Small Arms, Ordnance, and Ordnance Accessories Manufacturing	32	68	36	7.8%
332996	Fabricated Pipe and Pipe Fitting Manufacturing	77	39	-38	-6.6%
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	490	653	163	2.9%

NAICS	Description	2015	2025	Chg	CAGR
333120	Construction Machinery Manufacturing	231	217	-14	-0.6%
333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	453	492	39	0.8%
333511	Industrial Mold Manufacturing	18	25	7	3.3%
333514	Special Die and Tool, Die Set, Jig, and Fixture Manufacturing	103	120	17	1.5%
333515	Cutting Tool and Machine Tool Accessory Manufacturing	38	50	12	2.8%
333517	Machine Tool Manufacturing	23	22	-1	-0.4%
333611	Turbine and Turbine Generator Set Units Manufacturing	3	3	0	0.0%
333612	Speed Changer, Industrial High-Speed Drive, and Gear Manufacturing	6	6	0	0.0%
333613	Mechanical Power Transmission Equipment Manufacturing	3	3	0	0.0%
333911	Pump and Pumping Equipment Manufacturing	3	3	0	0.0%
333921	Elevator and Moving Stairway Manufacturing	3	3	0	0.0%
333922	Conveyor and Conveying Equipment Manufacturing	159	199	40	2.3%
333923	Overhead Traveling Crane, Hoist, and Monorail System Manufacturing	40	36	-4	-1.0%
333924	Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing	92	92	0	0.0%
333991	Power-Driven Handtool Manufacturing	19	22	3	1.5%
333992	Welding and Soldering Equipment Manufacturing	33	54	21	5.0%
333993	Packaging Machinery Manufacturing	723	790	67	0.9%
333995	Fluid Power Cylinder and Actuator Manufacturing	67	24	-43	-9.8%
333997	Scale and Balance Manufacturing	0	3	3	#NUM!
333999	All Other Miscellaneous General Purpose Machinery Manufacturing	265	222	-43	-1.8%
334111	Electronic Computer Manufacturing	64	102	38	4.8%
334118	Computer Terminal and Other Computer Peripheral Equipment Manufacturing	3	3	0	0.0%
334210	Telephone Apparatus Manufacturing	6	3	-3	-6.7%
334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	1,018	665	-353	-4.2%
334290	Other Communications Equipment Manufacturing	9	6	-3	-4.0%
334310	Audio and Video Equipment Manufacturing	44	47	3	0.7%
334412	Bare Printed Circuit Board Manufacturing	200	81	-119	-8.6%
334416	Capacitor, Resistor, Coil, Transformer, and Other Inductor Manufacturing	45	54	9	1.8%
334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	34	43	9	2.4%

NAICS	Description	2015	2025	Chg	CAGR
334419	Other Electronic Component Manufacturing	43	53	10	2.1%
334510	Electromedical and Electrotherapeutic Apparatus Manufacturing	3	3	0	0.0%
334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	679	1,044	365	4.4%
334513	Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables	158	164	6	0.4%
334516	Analytical Laboratory Instrument Manufacturing	14	25	11	6.0%
335221	Household Cooking Appliance Manufacturing	3	3	0	0.0%
335313	Switchgear and Switchboard Apparatus Manufacturing	143	152	9	0.6%
335911	Storage Battery Manufacturing	3	3	0	0.0%
335912	Primary Battery Manufacturing	3	3	0	0.0%
335929	Other Communication and Energy Wire Manufacturing	35	47	12	3.0%
336111	Automobile Manufacturing	39	53	14	3.1%
336211	Motor Vehicle Body Manufacturing	543	707	164	2.7%
336212	Truck Trailer Manufacturing	508	617	109	2.0%
336214	Travel Trailer and Camper Manufacturing	122	12	-110	-20.7%
336330	Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing	19	9	-10	-7.2%
336340	Motor Vehicle Brake System Manufacturing	316	283	-33	-1.1%
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	43	62	19	3.7%
336360	Motor Vehicle Seating and Interior Trim Manufacturing	62	14	-48	-13.8%
336370	Motor Vehicle Metal Stamping	73	152	79	7.6%
336411	Aircraft Manufacturing	73	9	-64	-18.9%
336412	Aircraft Engine and Engine Parts Manufacturing	53	28	-25	-6.2%
336413	Other Aircraft Parts and Auxiliary Equipment Manufacturing	770	1,110	340	3.7%
336414	Guided Missile and Space Vehicle Manufacturing	18	3	-15	-16.4%
336415	Guided Missile and Space Vehicle Propulsion Unit and Propulsion Unit Parts Manufacturing	3	3	0	0.0%
336419	Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	6	15	9	9.6%
336612	Boat Building	202	6	-196	-29.6%
336991	Motorcycle, Bicycle, and Parts Manufacturing	6	6	0	0.0%
336992	Military Armored Vehicle, Tank, and Tank Component Manufacturing	35	44	9	2.3%

NAICS	Description	2015	2025	Chg	CAGR
336999	All Other Transportation Equipment Manufacturing	9	9	0	0.0%
337110	Wood Kitchen Cabinet and Countertop Manufacturing	1,059	978	-81	-0.8%
337121	Upholstered Household Furniture Manufacturing	13	3	-10	-13.6%
337122	Nonupholstered Wood Household Furniture Manufacturing	324	79	-245	-13.2%
337124	Metal Household Furniture Manufacturing	3	3	0	0.0%
337127	Institutional Furniture Manufacturing	43	51	8	1.7%
337211	Wood Office Furniture Manufacturing	6	6	0	0.0%
337212	Custom Architectural Woodwork and Millwork Manufacturing	13	23	10	5.9%
337214	Office Furniture (except Wood) Manufacturing	27	17	-10	-4.5%
337215	Showcase, Partition, Shelving, and Locker Manufacturing	74	77	3	0.4%
337910	Mattress Manufacturing	122	235	113	6.8%
337920	Blind and Shade Manufacturing	19	6	-13	-10.9%
339920	Sporting and Athletic Goods Manufacturing	117	153	36	2.7%
339950	Sign Manufacturing	406	431	25	0.6%
339991	Gasket, Packing, and Sealing Device Manufacturing	36	51	15	3.5%
339992	Musical Instrument Manufacturing	3	3	0	0.0%
339994	Broom, Brush, and Mop Manufacturing	9	20	11	8.3%
339999	All Other Miscellaneous Manufacturing	172	203	31	1.7%

Source: Applied Development Economics, based on EMSI Industry Employment Trends Data Q4 2015 QCEW and non-QCEW

Appendix Table 10 — Employment Projections By Industry Clusters: Water Flow Technologies: CCWC Region

NAICS	Description	2015	2025p	Chg	CAGR
Total		**9,934**	**11,480**	**1,546**	**1.5%**
326122	Plastics Pipe and Pipe Fitting Manufacturing	856	886	30	0.3%
333111	Farm Machinery and Equipment Manufacturing	1,527	1,599	72	0.5%
333911	Pump and Pumping Equipment Manufacturing	653	687	34	0.5%
423830	Industrial Machinery and Equipment Merchant Wholesalers	3,287	3,788	501	1.4%
424910	Farm Supplies Merchant Wholesalers	3,611	4,520	909	2.3%

Source: Applied Development Economics, based on EMSI Industry Employment Trends Data Q4 2015 QCEW and non-QCEW (Internal file: P:\CCWC Labor Force 2015\03_NEXT-TASKS\TABLES\06_draft_Fresno-update.xlsx T19r)

Appendix Table 11 — Employment Projections by Industry Clusters: Heavy Construction: CCWC Region

NAICS	Description	2015	2025	Chg	CAGR
Total		12,423	18,930	6,507	4.3%
237000	Local govt hvy cons.	1,029	1,054	25	0.2%
237110	Water and Sewer Line and Related Structures Construction	2,582	3,179	597	2.1%
237120	Oil and Gas Pipeline and Related Structures Construction	4,656	4,656	0	0.0%
237130	Power and Communication Line and Related Structures Construction	1,060	862	-198	-2.0%
237210	Land Subdivision	444	125	-319	-11.9%
237310	Highway, Street, and Bridge Construction	1,880	1,779	-101	-0.6%
237990	Other Heavy and Civil Engineering Construction	772	4,044	3,272	18.0%

Source: Applied Development Economics, based on EMSI Industry Employment Trends Data Q4 2015 QCEW and non-QCEW (Note: high speed rail employment projections included in NAICS 237990)

Appendix Table 12 — Employment Projections by Industry Clusters: Accommodations and Food Services, and Retail: CCWC Region

NAICS	Description	2015	2025p	Chg	CAGR
44-45	Retail	151,397	178,823	27,426	1.7%
721	Accommodations	9,245	10,668	1,423	1.4%
722	Food services	97,069	114,951	17,882	1.7%

Source: Applied Development Economics, based on EMSI Industry Employment Trends Data Q4 2015 QCEW and non-QCEW

Appendix Table 13 — Employed Labor Force by Age, Race\Ethnicity, and Educational Attainment (Persons 16 and Over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Labor Force (25+)	Total Labor Force
Total	47,441	182,278	193,169	185,219	687,143	216,664	61,739	1,343,934	1,573,652
White	13,507	52,588	61,612	59,595	268,079	121,506	41,265	552,058	618,152
Did not earn HSD\GED	NA	NA	2,481	3,190	13,671	6,111	2,516	27,969	NA
HSD\GED	NA	NA	14,387	13,977	67,142	27,746	8,820	132,073	NA
Some college -- not attending	NA	NA	16,503	16,746	75,832	32,867	10,497	152,444	NA
Some college -- attending	NA	NA	4,929	2,149	4,301	396	77	11,852	NA
AA	NA	NA	6,647	6,943	28,338	14,361	5,098	61,386	NA
BA+	NA	NA	16,666	16,590	78,794	40,026	14,258	166,334	NA
Latino	27,583	104,650	105,395	100,808	322,878	67,268	13,441	609,791	742,024
Did not earn HSD\GED	NA	NA	23,631	33,683	136,958	29,968	7,092	231,330	NA
HSD\GED	NA	NA	33,327	27,841	79,751	13,993	2,253	157,165	NA
Some college -- not attending	NA	NA	23,879	18,369	55,355	12,500	2,135	112,238	NA
Some college -- attending	NA	NA	5,783	3,408	3,260	295	84	12,831	NA
AA	NA	NA	9,170	7,510	19,062	4,354	635	40,730	NA
BA+	NA	NA	9,606	9,997	28,492	6,160	1,242	55,497	NA
Other	6,351	25,040	26,161	24,816	96,186	27,889	7,033	182,085	213,476
Did not earn HSD\GED	NA	NA	1,734	2,024	10,299	5,159	1,284	20,500	NA
HSD\GED	NA	NA	5,570	5,484	19,244	5,531	951	36,780	NA
Some college -- not attending	NA	NA	6,655	5,218	22,144	5,540	1,309	40,865	NA
Some college -- attending	NA	NA	1,125	716	2,333	86	30	4,291	NA
AA	NA	NA	3,637	3,957	9,397	2,569	1,086	20,646	NA
BA+	NA	NA	7,440	7,417	32,769	9,004	2,373	59,003	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Appendix Table 14 — Full-Time Employed Labor Force by Age, Race\Ethnicity, and Educational Attainment (Persons 16 and Over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Labor Force (25+)	Total Labor Force
Total	4,999	72,041	122,041	128,304	493,024	154,810	30,657	928,836	1,005,876
White	1,006	18,508	39,723	42,919	202,871	89,729	20,696	395,938	415,453
Did not earn HSD\GED	NA	NA	1,590	2,105	8,927	4,219	1,353	18,194	NA
HSD\GED	NA	NA	9,713	10,114	50,047	19,957	4,083	93,913	NA
Some college -- not attending	NA	NA	11,145	12,127	58,638	24,349	5,265	111,524	NA
Some college -- attending	NA	NA	2,330	1,090	2,947	257	7	6,631	NA
AA	NA	NA	3,755	4,738	21,272	10,232	2,653	42,650	NA
BA+	NA	NA	11,191	12,745	61,040	30,715	7,336	123,026	NA
Latino	3,386	44,407	66,201	68,301	219,048	45,428	6,161	405,139	452,932
Did not earn HSD\GED	NA	NA	13,321	19,060	82,323	17,504	3,102	135,311	NA
HSD\GED	NA	NA	21,081	20,097	57,201	9,912	1,109	109,400	NA
Some college -- not attending	NA	NA	16,933	14,117	41,515	9,737	1,112	83,414	NA
Some college -- attending	NA	NA	2,196	2,226	2,268	165	18	6,872	NA
AA	NA	NA	6,387	5,309	13,666	3,092	124	28,577	NA
BA+	NA	NA	6,284	7,491	22,075	5,018	697	41,565	NA
Other	606	9,126	16,117	17,084	71,105	19,653	3,800	127,759	137,491
Did not earn HSD\GED	NA	NA	1,110	1,093	6,937	3,087	408	12,634	NA
HSD\GED	NA	NA	3,174	3,744	13,411	3,891	496	24,716	NA
Some college -- not attending	NA	NA	4,224	3,703	16,934	4,174	893	29,928	NA
Some college -- attending	NA	NA	686	267	1,635	45	30	2,662	NA
AA	NA	NA	2,354	2,830	7,304	1,927	537	14,952	NA
BA+	NA	NA	4,568	5,446	24,886	6,531	1,436	42,867	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Appendix Table 15 – Population by Age, gender, and Educational Attainment

	0-15	16-19	20-24	25-29	30-34	35-54	55-64	65+	TOTAL
Total	**1,065,791**	**252,987**	**328,701**	**298,217**	**284,180**	**1,023,5**	**416,184**	**441,796**	**4,111,42**
Men	544,868	130,873	170,798	156,174	146,725	517,403	204,469	197,119	2,068,430
Did not earn HSD\GED	447,119	82,819	31,084	34,537	41,843	153,619	52,333	56,550	899,904
HSD\GED	14	25,277	57,952	50,302	45,445	141,769	46,263	43,276	410,297
Some college -- not attending	-	2,555	27,260	32,235	28,381	107,160	48,752	42,341	288,684
Some college -- attending	86	19,629	38,886	11,163	4,335	7,806	832	368	83,105
AA	-	496	8,290	10,353	9,019	31,106	17,309	15,309	91,882
BA+	-	97	7,327	17,583	17,702	75,942	38,980	39,276	196,909
NA	97,649	-	-	-	-	-	-	-	97,649
Women	520,923	122,114	157,902	142,043	137,455	506,160	211,716	244,677	2,042,990
Did not earn HSD\GED	426,788	73,997	18,965	23,099	28,502	130,641	50,757	73,318	826,069
HSD\GED	-	23,367	44,469	36,348	32,763	118,044	49,480	69,113	373,584
Some college -- not attending	-	2,164	29,209	33,609	30,667	111,589	49,381	52,154	308,774
Some college -- attending	189	22,220	42,352	10,150	7,401	9,872	1,194	504	93,881
AA	-	366	12,129	14,532	15,094	44,757	20,697	14,810	122,384
BA+	-	-	10,778	24,306	23,028	91,257	40,206	34,778	224,352
NA	93,946	-	-	-	-	-	-	-	93,946

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Appendix Table 16 — Labor Force by Age, Gender, and Educational Attainment (Persons 16 and Over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Labor Force (25+)	Total Labor Force
Total	73,189	228,633	224,535	212,155	769,337	239,252	67,586	1,512,863	1,814,685
Men	38,327	124,680	128,548	120,884	424,195	129,654	38,214	841,495	1,004,502
Did not earn HSD\GED	NA	NA	24,580	32,456	119,917	30,688	7,533	215,173	NA
HSD\GED	NA	NA	41,409	36,035	113,003	26,856	6,838	224,141	NA
Some college -- not attending	NA	NA	29,180	23,967	88,535	30,330	8,004	180,016	NA
Some college -- attending	NA	NA	8,209	3,309	5,532	411	151	17,612	NA
AA	NA	NA	9,492	8,475	26,514	11,071	3,695	59,246	NA
BA+	NA	NA	15,678	16,643	70,694	30,297	11,993	145,306	NA
Women	34,862	103,953	95,987	91,270	345,142	109,598	29,372	671,368	810,184
Did not earn HSD\GED	NA	NA	9,541	13,795	70,196	18,567	5,198	117,297	NA
HSD\GED	NA	NA	23,116	20,026	75,828	25,122	6,392	150,484	NA
Some college -- not attending	NA	NA	24,502	22,025	80,543	25,780	7,226	160,078	NA
Some college -- attending	NA	NA	6,436	4,507	6,629	603	102	18,277	NA
AA	NA	NA	12,106	11,751	35,719	11,682	3,628	74,886	NA
BA+	NA	NA	20,285	19,166	76,226	27,843	6,827	150,347	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Appendix Table 17 — Employed Labor Force by Age, Gender, and Educational Attainment (Persons 16 and Over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Labor Force (25+)	Total Labor Force
Total	47,416	182,233	193,172	185,219	687,133	216,651	61,703	1,343,878	1,573,526
Men	23,957	98,279	111,746	106,347	383,554	118,771	34,673	755,090	877,327
Did not earn HSD\GED	NA	NA	20,659	27,949	105,215	26,405	6,557	186,785	NA
HSD\GED	NA	NA	34,699	30,872	101,009	24,762	6,131	197,473	NA
Some college -- not attending	NA	NA	26,463	21,264	81,178	27,698	7,345	163,948	NA
Some college -- attending	NA	NA	6,609	2,591	4,591	337	121	14,248	NA
AA	NA	NA	8,656	7,819	24,441	10,382	3,345	54,643	NA
BA+	NA	NA	14,661	15,852	67,120	29,187	11,175	137,994	NA
Women	23,459	83,953	81,426	78,872	303,579	97,880	27,030	588,787	696,200
Did not earn HSD\GED	NA	NA	7,187	10,948	55,712	14,834	4,334	93,014	NA
HSD\GED	NA	NA	18,589	16,431	65,150	22,500	5,887	128,557	NA
Some college -- not attending	NA	NA	20,571	19,066	72,155	23,201	6,593	141,586	NA
Some college -- attending	NA	NA	5,232	3,684	5,304	440	70	14,730	NA
AA	NA	NA	10,799	10,592	32,351	10,903	3,469	68,114	NA
BA+	NA	NA	19,049	18,151	72,908	26,002	6,677	142,787	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Appendix Table 18 — Full-Time Employed Labor Force by Age, Gender, and Educational Attainment (Persons 16 and Over) CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Labor Force (25+)	Total Labor Force
Total	4,974	71,996	122,044	128,304	493,014	154,797	30,621	928,780	1,005,750
Men	3,334	43,422	75,966	78,950	298,088	92,183	19,123	564,310	611,066
Did not earn HSD\GED	NA	NA	12,439	17,649	70,324	17,478	3,460	121,350	NA
HSD\GED	NA	NA	24,124	23,451	78,741	19,629	3,259	149,204	NA
Some college -- not attending	NA	NA	19,904	17,277	67,531	23,158	4,359	132,228	NA
Some college -- attending	NA	NA	3,063	1,791	3,333	231	30	8,447	NA
AA	NA	NA	6,200	6,133	21,178	7,839	1,702	43,052	NA
BA+	NA	NA	10,235	12,650	56,982	23,848	6,314	110,028	NA
Women	1,640	28,574	46,077	49,354	194,926	62,615	11,498	364,470	394,684
Did not earn HSD\GED	NA	NA	3,582	4,609	27,862	7,333	1,402	44,789	NA
HSD\GED	NA	NA	9,847	10,507	41,939	14,123	2,422	78,837	NA
Some college -- not attending	NA	NA	12,395	12,668	49,558	15,094	2,908	92,623	NA
Some college -- attending	NA	NA	2,152	1,794	3,515	235	25	7,722	NA
AA	NA	NA	6,295	6,746	21,060	7,414	1,607	43,122	NA
BA+	NA	NA	11,805	13,031	50,991	18,415	3,135	97,377	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Appendix Table 19 — Part-Time Employed Labor Force By Age, Gender, and Educational Attainment (Persons 16 and Over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Labor Force (25+)	Total Labor Force
Total	42,442	110,237	71,128	56,915	194,119	61,854	31,082	415,098	567,777
Men	20,623	54,857	35,779	27,397	85,466	26,589	15,550	190,781	266,261
Did not earn HSD\GED	NA	NA	8,219	10,301	34,891	8,926	3,097	65,435	NA
HSD\GED	NA	NA	10,575	7,422	22,268	5,133	2,872	48,269	NA
Some college -- not attending	NA	NA	6,559	3,987	13,648	4,541	2,985	31,720	NA
Some college -- attending	NA	NA	3,546	800	1,258	106	91	5,801	NA
AA	NA	NA	2,455	1,686	3,263	2,544	1,643	11,591	NA
BA+	NA	NA	4,426	3,202	10,138	5,339	4,862	27,966	NA
Women	21,819	55,380	35,349	29,518	108,653	35,265	15,532	224,317	301,516
Did not earn HSD\GED	NA	NA	3,604	6,339	27,849	7,501	2,932	48,225	NA
HSD\GED	NA	NA	8,742	5,924	23,210	8,378	3,466	49,720	NA
Some college -- not attending	NA	NA	8,176	6,398	22,597	8,106	3,685	48,962	NA
Some college -- attending	NA	NA	3,080	1,890	1,788	204	46	7,008	NA
AA	NA	NA	4,503	3,847	11,291	3,489	1,862	24,992	NA
BA+	NA	NA	7,244	5,121	21,917	7,587	3,542	45,409	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Appendix Table 20 — Unemployed Labor Force By Age, Gender, and Educational Attainment (Persons 16 and Over): CCWC Region

	16-19	20-24	25-29	30-34	35-54	55-64	65+	Labor Force (25+)	Total Labor Force
Total	25,774	46,400	31,363	26,936	82,204	22,600	5,882	168,986	241,159
Men	14,371	26,400	16,802	14,538	40,641	10,883	3,541	86,404	127,175
Did not earn HSD\GED	NA	NA	3,921	4,506	14,701	4,284	976	28,389	NA
HSD\GED	NA	NA	6,710	5,163	11,994	2,094	707	26,668	NA
Some college -- not attending	NA	NA	2,717	2,703	7,357	2,632	660	16,068	NA
Some college -- attending	NA	NA	1,600	718	941	75	30	3,364	NA
AA	NA	NA	836	656	2,073	689	349	4,604	NA
BA+	NA	NA	1,018	791	3,575	1,110	818	7,312	NA
Women	11,403	20,000	14,561	12,398	41,563	11,718	2,342	82,581	113,984
Did not earn HSD\GED	NA	NA	2,354	2,847	14,484	3,733	864	24,282	NA
HSD\GED	NA	NA	4,527	3,595	10,679	2,622	504	21,927	NA
Some college -- not attending	NA	NA	3,931	2,959	8,388	2,580	633	18,492	NA
Some college -- attending	NA	NA	1,205	823	1,325	163	31	3,547	NA
AA	NA	NA	1,307	1,159	3,368	779	159	6,773	NA
BA+	NA	NA	1,237	1,014	3,318	1,841	150	7,560	NA

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Appendix Table 21 — Population By Age, Citizen Status, and Educational Attainment: CCWC Region

	0-15	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total
Total	1,065,79	252,987	328,701	298,217	284,180	1,023,56	416,184	441,796	4,111,42
Citizen	1,033,06	230,737	288,833	240,350	216,498	776,636	362,627	401,883	3,550,62
Did not earn HSD\GED	842,342	143,277	34,031	29,254	29,712	121,018	62,422	98,076	1,360,13
HSD\GED	14	43,352	89,767	69,996	62,503	214,924	89,578	108,324	678,458
Some college -- not attending	0	4,347	53,146	59,294	54,226	201,028	94,833	92,470	559,344
Some college -- attending	275	38,848	75,814	19,936	10,671	15,859	2,002	817	164,222
AA	0	815	19,125	22,853	22,623	71,010	36,948	29,710	203,084
BA+	0	97	16,951	39,015	36,763	152,797	76,844	72,487	394,956
NA	190,430	0	0	0	0	0	0	0	190,430
Not Citizen	32,730	22,250	39,867	57,867	67,682	246,928	53,557	39,913	560,795
Did not earn HSD\GED	31,566	13,539	16,018	28,382	40,633	163,242	40,668	31,793	365,840
HSD\GED	0	5,292	12,655	16,653	15,705	44,890	6,165	4,065	105,424
Some college -- not attending	0	371	3,324	6,550	4,821	17,722	3,301	2,025	38,114
Some college -- attending	0	3,001	5,424	1,376	1,066	1,819	24	55	12,765
AA	0	47	1,294	2,032	1,490	4,853	1,058	408	11,182
BA+	0	0	1,153	2,874	3,967	14,402	2,342	1,567	26,305
NA	1,165	0	0	0	0	0	0	0	1,165

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Appendix Table 22 — Population By Age, Disability Status, and Educational Attainment: CCWC Region

	0-15	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total
Total	1,065,791	252,987	328,701	298,217	284,180	1,023,563	416,184	441,796	4,111,420
No Reported Disability	1,053,031	238,230	307,046	277,534	259,979	898,164	321,117	247,836	3,602,936
Did not earn HSD\GED	861,195	146,785	43,699	51,561	62,693	241,413	72,928	59,851	1,540,123
HSD\GED	0	45,607	95,526	79,437	70,681	226,893	71,747	60,382	650,273
Some college -- not attending	0	4,334	53,583	62,164	53,835	189,881	74,193	55,280	493,270
Some college -- attending	241	40,545	76,948	20,139	10,669	15,394	1,414	547	165,898
AA	0	861	19,606	23,932	22,651	67,988	30,196	19,919	185,153
BA+	0	97	17,684	40,301	39,452	156,595	70,639	51,856	376,624
NA	191,595	0	0	0	0	0	0	0	191,595
At Least One Disability	12,761	14,757	21,655	20,683	24,201	125,400	95,068	193,961	508,485
Did not earn HSD\GED	12,713	10,032	6,349	6,076	7,652	42,847	30,162	70,018	185,850
HSD\GED	14	3,037	6,895	7,212	7,527	32,920	23,996	52,006	133,609
Some college -- not attending	0	384	2,887	3,680	5,213	28,869	23,940	39,215	104,188
Some college -- attending	33	1,304	4,290	1,173	1,068	2,284	613	324	11,089
AA	0	0	812	953	1,463	7,875	7,809	10,200	29,112
BA+	0	0	421	1,588	1,279	10,604	8,547	22,198	44,637
NA	0	0	0	0	0	0	0	0	0

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Appendix Table 23 — Population By Age, Veteran Status, and Educational Attainment: CCWC Region

	0-15	16-19	20-24	25-29	30-34	35-54	55-64	65+	Total
Total	1,065,791	252,987	328,701	298,217	284,180	1,023,563	416,184	441,796	4,111,420
Not Veterans	0	186,654	325,186	291,295	275,054	980,556	377,201	357,851	2,793,797
Did not earn HSD\GED	0	91,189	49,971	57,509	70,104	282,947	100,403	118,971	771,096
HSD\GED	0	48,280	100,934	84,811	76,257	248,886	86,934	91,755	737,858
Some college -- not attending	0	4,683	55,241	63,344	55,325	204,697	84,779	69,847	537,915
Some college -- attending	0	41,543	80,723	20,080	11,151	15,822	1,630	679	171,628
AA	0	861	20,325	24,308	22,887	69,363	31,834	20,982	190,560
BA+	0	97	17,992	41,244	39,329	158,840	71,620	55,617	384,740
NA	0	0	0	0	0	0	0	0	0
Veterans	0	159	3,515	6,922	9,126	43,007	38,984	83,945	185,658
Did not earn HSD\GED	0	0	77	127	241	1,313	2,687	10,897	15,342
HSD\GED	0	98	1,487	1,838	1,951	10,928	8,809	20,633	45,743
Some college -- not attending	0	0	1,229	2,501	3,723	14,052	13,355	24,648	59,508
Some college -- attending	0	61	515	1,233	585	1,856	396	193	4,839
AA	0	0	93	577	1,226	6,500	6,172	9,137	23,705
BA+	0	0	113	645	1,401	8,359	7,565	18,437	36,521
NA	0	0	0	0	0	0	0	0	0
Ineligible (i.e. youth < 17)	1,065,791	66,174	0	0	0	0	0	0	1,131,966
Did not earn HSD\GED	873,908	65,627	0	0	0	0	0	0	939,535
HSD\GED	14	266	0	0	0	0	0	0	281
Some college -- not attending	0	35	0	0	0	0	0	0	35
Some college -- attending	275	245	0	0	0	0	0	0	520
AA	0	0	0	0	0	0	0	0	0
BA+	0	0	0	0	0	0	0	0	0
NA	191,595	0	0	0	0	0	0	0	191,595

Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS

Appendix Table 24 — Part-Time Employed Labor Force By Broad Occupation Categories, Educational Attainment and Management Status CCWC Region

Part-Time Management	Total	01 < HS\GED	02 HS\GED	03 Some College-OUT	04 Some College-ATTENDING	05 AA	06 BA or up
Total	42,576	6,731	8,451	9,539	2,525	3,451	11,879
11 Management Occupations	21,783	4,334	3,841	4,131	1,318	1,851	6,309
13 Business Operations Specialists	0	0	0	0	0	0	0
13 Financial Specialists	0	0	0	0	0	0	0
15 Computer and Mathematical Occupations	0	0	0	0	0	0	0
17 Architecture and Engineering Occupations	0	0	0	0	0	0	0
19 Life, Physical, and Social Science Occupations	131	39	0	0	0	0	92
21 Community and Social Science Occupations	0	0	0	0	0	0	0
23 Legal	894	0	0	0	0	18	875
25 Education	0	0	0	0	0	0	0
27 Arts, Design, Entertainment, Sports, and Media	0	0	0	0	0	0	0
29 Healthcare Practitioners and Technical Occupations	2,071	0	14	0	0	0	2,058
31 Healthcare Support Occupations	0	0	0	0	0	0	0
33 Protective Service Occupations	224	0	96	28	2	0	98
35 Food Preparation and Serving Occupations	3,160	286	747	1,096	602	230	199
37 Building and Ground Cleaning and Maintenance	817	152	216	271	23	134	22
39 Personal Care and Service Occupations	611	27	408	60	98	0	18
41 Sales Occupations	7,195	744	1,625	2,372	280	870	1,305
43 Office and Administrative Support Occupations	1,787	111	385	592	159	211	330
45 Farming, Fishing, and Forestry Occupations	944	554	285	63	31	0	10
47 Construction Trades	1,441	233	384	444	12	110	257
47 Extraction Workers	0	0	0	0	0	0	0
49 Installation, Maintenance, and Repair Workers	58	50	0	0	0	8	0
51 Production Occupations	1,224	201	288	412	0	19	304
53 Transportation and Material Moving Occupations	233	0	163	70	0	0	0

55 Military Specific Occupations	0	0	0	0	0	0	0

Part-Time Specialists	Total	01 < HS\GED	02 HS\GED	03 Some College-OUT	04 Some College-ATTENDING	05 AA	06 BA or up
Total	220,901	39,291	53,939	38,465	17,252	20,579	51,374
11 Management Occupations	0	0	0	0	0	0	0
13 Business Operations Specialists	4,654	282	634	1,206	636	514	1,382
13 Financial Specialists	4,225	103	289	766	323	740	2,004
15 Computer and Mathematical Occupations	3,077	141	473	578	481	366	1,039
17 Architecture and Engineering Occupations	2,752	96	214	399	139	322	1,583
19 Life, Physical, and Social Science Occupations	2,174	105	66	187	243	241	1,332
21 Community and Social Science Occupations	6,287	355	460	999	246	882	3,345
23 Legal	0	0	0	0	0	0	0
25 Education	32,639	387	884	2,457	2,379	3,070	23,462
27 Arts, Design, Entertainment, Sports, and Media	8,842	743	1,601	1,792	960	1,024	2,722
29 Healthcare Practitioners and Technical Occupations	17,341	51	1,261	2,441	634	5,817	7,137
31 Healthcare Support Occupations	0	0	0	0	0	0	0
33 Protective Service Occupations	3,051	202	587	971	660	348	283
35 Food Preparation and Serving Occupations	23,068	5,755	7,639	3,849	3,986	844	995
37 Building and Ground Cleaning and Maintenance	67	12	34	21	0	0	0
39 Personal Care and Service Occupations	8,953	674	2,964	2,595	858	949	912
41 Sales Occupations	5,397	153	1,206	1,637	297	694	1,410
43 Office and Administrative Support Occupations	210	0	22	27	98	0	63
45 Farming, Fishing, and Forestry Occupations	43	0	23	17	0	0	3
47 Construction Trades	22,770	8,364	7,523	3,950	882	939	1,111
47 Extraction Workers	820	298	201	286	35	0	0
49 Installation, Maintenance, and Repair Workers	9,708	2,326	3,757	2,204	613	561	248
51 Production Occupations	20,050	6,456	7,668	3,342	988	1,053	543

53 Transportation and Material Moving Occupations	44,742	12,788	16,403	8,741	2,795	2,215	1,800
55 Military Specific Occupations	31	0	31	0	0	0	0

Part-Time Support	Total	01 < HS\GED	02 HS\GED	03 Some College-OUT	04 Some College-ATTENDING	05 AA	06 BA or up
Total	304,300	91,753	80,432	54,563	39,762	19,707	18,083
11 Management Occupations	0	0	0	0	0	0	0
13 Business Operations Specialists	0	0	0	0	0	0	0
13 Financial Specialists	0	0	0	0	0	0	0
15 Computer and Mathematical Occupations	0	0	0	0	0	0	0
17 Architecture and Engineering Occupations	0	0	0	0	0	0	0
19 Life, Physical, and Social Science Occupations	0	0	0	0	0	0	0
21 Community and Social Science Occupations	0	0	0	0	0	0	0
23 Legal	1,064	0	88	371	205	44	356
25 Education	10,157	545	2,073	3,184	1,136	2,054	1,165
27 Arts, Design, Entertainment, Sports, and Media	0	0	0	0	0	0	0
29 Healthcare Practitioners and Technical Occupations	0	0	0	0	0	0	0
31 Healthcare Support Occupations	15,446	1,362	3,964	5,095	847	2,619	1,559
33 Protective Service Occupations	5,247	611	1,377	1,489	854	295	621
35 Food Preparation and Serving Occupations	27,419	4,970	8,600	4,258	7,304	1,223	1,064
37 Building and Ground Cleaning and Maintenance	29,801	13,210	9,198	3,538	1,752	1,190	913
39 Personal Care and Service Occupations	28,951	7,167	8,724	5,482	3,670	2,237	1,670
41 Sales Occupations	52,752	7,716	15,274	10,303	12,362	3,481	3,616
43 Office and Administrative Support Occupations	62,916	4,661	17,748	17,875	10,101	6,033	6,498
45 Farming, Fishing, and Forestry Occupations	68,984	51,214	12,822	2,809	1,405	323	410
47 Construction Trades	0	0	0	0	0	0	0
47 Extraction Workers	0	0	0	0	0	0	0
49 Installation, Maintenance, and Repair Workers	1,318	298	466	75	126	207	145

51 Production Occupations	0	0	0	0	0	0	0
53 Transportation and Material Moving Occupations	23	0	0	23	0	0	0
55 Military Specific Occupations	222	0	95	61	0	0	65

Appendix Table 25 — Unemployed Labor Force By Broad Occupation Categories, Educational Attainment and Management Status (Excluding Long-Term Unemployed)

Unemployed Management	Total	01 < HS\GED	02 HS\GED	03 Some College-OUT	04 Some College-ATTENDING	05 AA	06 BA or up
Total	12,740	1,468	3,267	4,198	655	1,329	1,823
11 Management Occupations	5,176	413	1,270	1,825	228	532	909
13 Business Operations Specialists	0	0	0	0	0	0	0
13 Financial Specialists	0	0	0	0	0	0	0
15 Computer and Mathematical Occupations	0	0	0	0	0	0	0
17 Architecture and Engineering Occupations	0	0	0	0	0	0	0
19 Life, Physical, and Social Science Occupations	0	0	0	0	0	0	0
21 Community and Social Science Occupations	0	0	0	0	0	0	0
23 Legal	58	0	0	0	0	0	58
25 Education	0	0	0	0	0	0	0
27 Arts, Design, Entertainment, Sports, and Media	0	0	0	0	0	0	0
29 Healthcare Practitioners and Technical Occupations	74	0	0	0	0	0	74
31 Healthcare Support Occupations	0	0	0	0	0	0	0
33 Protective Service Occupations	121	0	0	53	67	0	0
35 Food Preparation and Serving Occupations	1,135	171	250	387	84	220	23
37 Building and Ground Cleaning and Maintenance	166	72	77	0	16	0	2
39 Personal Care and Service Occupations	145	0	43	27	21	55	0
41 Sales Occupations	2,683	179	1,143	803	43	160	356
43 Office and Administrative Support Occupations	1,040	0	183	402	77	239	139

45 Farming, Fishing, and Forestry Occupations	355	247	12	51	0	45	0
47 Construction Trades	772	179	130	250	119	52	42
47 Extraction Workers	0	0	0	0	0	0	0
49 Installation, Maintenance, and Repair Workers	216	18	65	106	0	27	0
51 Production Occupations	563	104	30	294	0	0	135
53 Transportation and Material Moving Occupations	227	85	57	0	0	0	85
55 Military Specific Occupations	7	0	7	0	0	0	0

Unemployed Specialists	Total	01 < HS\GED	02 HS\GED	03 Some College-OUT	04 Some College-ATTENDING	05 AA	06 BA or up
Total	78,526	20,991	24,382	14,282	5,783	4,843	8,245
11 Management Occupations	0	0	0	0	0	0	0
13 Business Operations Specialists	2,008	106	741	358	113	240	450
13 Financial Specialists	1,443	25	121	564	0	169	565
15 Computer and Mathematical Occupations	1,433	0	146	478	215	229	366
17 Architecture and Engineering Occupations	566	105	63	92	0	62	244
19 Life, Physical, and Social Science Occupations	674	40	96	204	134	43	157
21 Community and Social Science Occupations	934	16	100	148	70	160	440
23 Legal	0	0	0	0	0	0	0
25 Education	4,279	171	150	396	594	643	2,325
27 Arts, Design, Entertainment, Sports, and Media	2,521	222	334	391	378	605	590
29 Healthcare Practitioners and Technical Occupations	1,959	148	184	408	237	468	514
31 Healthcare Support Occupations	0	0	0	0	0	0	0
33 Protective Service Occupations	1,475	47	285	261	634	126	122
35 Food Preparation and Serving Occupations	4,925	1,057	2,013	981	432	184	257
37 Building and Ground Cleaning and Maintenance	145	0	62	83	0	0	0
39 Personal Care and Service Occupations	1,084	230	536	134	143	25	16
41 Sales Occupations	1,280	162	226	186	365	60	282

43 Office and Administrative Support Occupations	210	33	31	40	0	105	0
45 Farming, Fishing, and Forestry Occupations	63	0	37	0	0	0	26
47 Construction Trades	13,043	5,209	3,903	2,679	465	421	366
47 Extraction Workers	947	389	247	277	0	33	0
49 Installation, Maintenance, and Repair Workers	4,637	1,394	1,913	746	126	301	157
51 Production Occupations	12,503	4,090	4,759	1,971	522	419	742
53 Transportation and Material Moving Occupations	22,362	7,546	8,435	3,850	1,357	549	626
55 Military Specific Occupations	35	0	0	35	0	0	0

Unemployed Support	Total	01 < HS\GED	02 HS\GED	03 Some College-OUT	04 Some College-ATTENDING	05 AA	06 BA or up
Total	99,066	31,612	28,862	19,409	8,229	6,284	4,670
11 Management Occupations	0	0	0	0	0	0	0
13 Business Operations Specialists	0	0	0	0	0	0	0
13 Financial Specialists	0	0	0	0	0	0	0
15 Computer and Mathematical Occupations	0	0	0	0	0	0	0
17 Architecture and Engineering Occupations	0	0	0	0	0	0	0
19 Life, Physical, and Social Science Occupations	0	0	0	0	0	0	0
21 Community and Social Science Occupations	0	0	0	0	0	0	0
23 Legal	424	43	35	148	0	106	92
25 Education	1,298	179	451	120	182	256	111
27 Arts, Design, Entertainment, Sports, and Media	0	0	0	0	0	0	0
29 Healthcare Practitioners and Technical Occupations	0	0	0	0	0	0	0
31 Healthcare Support Occupations	4,551	599	1,371	1,380	448	509	244
33 Protective Service Occupations	1,695	193	656	340	201	179	125
35 Food Preparation and Serving Occupations	5,502	772	1,990	1,397	1,047	210	85
37 Building and Ground Cleaning and Maintenance	8,996	3,494	3,393	1,257	496	257	98
39 Personal Care and Service Occupations	6,455	1,061	2,520	1,617	354	461	443

41 Sales Occupations	15,992	2,309	4,434	3,947	2,456	1,491	1,354
43 Office and Administrative Support Occupations	23,877	2,224	7,630	7,648	2,254	2,246	1,876
45 Farming, Fishing, and Forestry Occupations	29,048	20,653	5,925	1,148	712	441	170
47 Construction Trades	0	0	0	0	0	0	0
47 Extraction Workers	0	0	0	0	0	0	0
49 Installation, Maintenance, and Repair Workers	838	84	179	408	39	128	0
51 Production Occupations	0	0	0	0	0	0	0
53 Transportation and Material Moving Occupations	0	0	0	0	0	0	0
55 Military Specific Occupations	390	0	278	0	40	0	72

Appendix Table 26 — Long-Term Unemployed Labor Force By Educational Attainment

	Total	**<HS**	**HS**	**Some Coll OUT**	**Some Coll IN**	**AA**	**BA or up**
Long-Term Unemployed persons	50,827	16,697	17,794	5,580	7,054	1,771	1,931
Source: Applied Development Economics, based on US Census ACS Public Use Microdata 2012-2014 from iPUMS							

Appendix Table 27 — Unemployed Labor Force-to-Job Openings Skills Match

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Unemployed in Target Occupations	Unemployed in Target Occupations With Required background
Total			**51,619**	**516,190**	**151,907**	**80,374**
53-70XX	Conveyor operators and tenders, and hoist and winch operators	Less than high school	7	70	0	0
53-7081	Refuse and Recyclable Material Collectors	Less than high school	41	410	197	163
53-7070	Pumping Station Operators	Less than high school	6	60	0	0
53-7064	Packers and Packagers, Hand	Less than high school	596	5960	4,820	4,159
53-7063	Machine Feeders and Offbearers	Less than high school	19	190	64	64

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Unemployed in Target Occupations	Unemployed in Target Occupations With Required background
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	Less than high school	1,471	14710	6,631	4,528
53-7061	Cleaners of Vehicles and Equipment	Less than high school	298	2980	1,067	919
53-7051	Industrial Truck and Tractor Operators	Less than high school	287	2870	2,247	1,417
53-7030	Dredge, Excavating, and Loading Machine Operators	Less than high school	5	50	12	12
53-7021	Crane and Tower Operators	High school diploma or equivalent	33	330	0	0
53-6031	Service Station Attendants	Less than high school	44	440	193	167
53-6021	Parking Lot Attendants	Less than high school	14	140	32	32
53-3099	Motor Vehicle Operators, All Other	High school diploma or equivalent	19	190	0	0
53-3041	Taxi Drivers and Chauffeurs	Less than high school	39	390	63	0
53-3030	Driver/Sales Workers and Truck Drivers	High school diploma or equivalent	1,711	17110	5,783	3,702
53-3020	Bus Drivers	High school diploma or equivalent	160	1600	274	248
53-2020	Air Traffic Controllers and Airfield Operations Specialists	Associate's degree	12	120	0	0
53-2010	Aircraft Pilots and Flight Engineers	Bachelor's degree	7	70	0	0
53-1000	Supervisors of Transportation and Material Moving Workers	High school diploma or equivalent	166	1660	227	57
51-91XX	Other production workers including semiconductor processors and cooling and freezing equipment operators	Associate's degree	76	760	1,143	22
51-9198	Helpers--Production Workers	Less than high school	130	1300	96	96
51-9196	Paper Goods Machine Setters, Operators, and Tenders	High school diploma or equivalent	14	140	0	0
51-9111	Packaging and Filling Machine Operators and Tenders	High school diploma or equivalent	321	3210	1,409	720
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	High school diploma or equivalent	129	1290	1,319	849
51-9020	Crushing, Grinding, Polishing, Mixing, and Blending Workers	High school diploma or equivalent	32	320	28	28
51-9010	Chemical Processing Machine Setters, Operators, and Tenders	High school diploma or equivalent	44	440	26	26
51-8090	Miscellaneous Plant and System Operators	High school diploma or equivalent	18	180	0	0
51-8031	Water and Wastewater Treatment Plant and System Operators	High school diploma or equivalent	53	530	39	0
51-8010	Power Plant Operators, Distributors, and Dispatchers	High school diploma or equivalent	13	130	0	0
51-6011	Laundry and Dry-Cleaning Workers	Less than high school	56	560	44	21

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Unemployed in Target Occupations	Unemployed in Target Occupations With Required background
51-4XXX	Misc. metal workers\plastic workers incl. milling and planing mach. setters, and multiple mach. tool setters, and lay-out workers	High school diploma or equivalent	6	60	92	68
51-4120	Welding, Soldering, and Brazing Workers	High school diploma or equivalent	132	1320	655	537
51-4041	Machinists	High school diploma or equivalent	68	680	7	7
51-4010	Computer Control Programmers and Operators	High school diploma or equivalent	6	60	0	0
51-3099	Food Processing Workers, All Other	Less than high school	9	90	16	16
51-3093	Food Cooking Machine Operators and Tenders	High school diploma or equivalent	14	140	0	0
51-3092	Food Batchmakers	High school diploma or equivalent	81	810	263	114
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	Less than high school	6	60	0	0
51-3020	Butchers and Other Meat, Poultry, and Fish Processing Workers	Less than high school	219	2190	210	199
51-3011	Bakers	Less than high school	45	450	152	96
51-2090	Miscellaneous Assemblers and Fabricators	High school diploma or equivalent	156	1560	814	566
51-2041	Structural Metal Fabricators and Fitters	High school diploma or equivalent	12	120	0	0
51-1011	First-Line Supervisors of Production and Operating Workers	Postsecondary non-degree award	106	1060	352	83
49-90XX	Miscellaneous Installation, Maintenance, and Repair Workers, Including Wind Turbine Service Technicians	Some college, no degree	24	240	267	53
49-9098	Helpers--Installation, Maintenance, and Repair Workers	High school diploma or equivalent	51	510	0	0
49-9071	Maintenance and Repair Workers, General	High school diploma or equivalent	419	4190	745	333
49-9060	Precision Instrument and Equipment Repairers	Associate's degree	12	120	0	0
49-9052	Telecommunications Line Installers and Repairers	High school diploma or equivalent	36	360	0	0
49-9051	Electrical Power-Line Installers and Repairers	High school diploma or equivalent	47	470	0	0
49-904X	Industrial and Refractory Machinery Mechanic	High school diploma or equivalent	192	1920	393	295
49-9043	Maintenance Workers, Machinery	High school diploma or equivalent	21	210	0	0
49-9031	Home Appliance Repairers	High school diploma or equivalent	12	120	0	0
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Postsecondary non-degree award	96	960	234	31
49-3090	Miscellaneous Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	High school diploma or equivalent	60	600	23	19
49-3040	Heavy Vehicle and Mobile Equipment Service Technicians and Mechanics	High school diploma or equivalent	111	1110	121	39

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Unemployed in Target Occupations	Unemployed in Target Occupations With Required background
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	High school diploma or equivalent	82	820	223	148
49-3023	Automotive Service Technicians and Mechanics	High school diploma or equivalent	219	2190	1,020	512
49-3021	Automotive Body and Related Repairers	High school diploma or equivalent	38	380	0	0
49-3011	Aircraft Mechanics and Service Technicians	Postsecondary non-degree award	31	310	22	0
49-209X	Electrical and electronics repairers, transportation equipment, and industrial and utility	Postsecondary non-degree award	6	60	0	0
49-2092	Electric Motor, Power Tool, and Related Repairers	Postsecondary non-degree award	6	60	0	0
49-2020	Radio and Telecommunications Equipment Installers and Repairers	Associate's degree	72	720	287	0
49-2011	Computer, Automated Teller, and Office Machine Repairers	Some college, no degree	15	150	137	108
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	High school diploma or equivalent	148	1480	191	146
47-XXXX	Miscellaneous Construction Workers Including Solar Photovoltaic Installers, and Septic Tank Servicers and Sewer Pipe Cleaners	High school diploma or equivalent	281	2810	140	76
47-5021	Earth Drillers, Except Oil and Gar	High school diploma or equivalent	19	190	0	0
47-4051	Highway Maintenance Workers	High school diploma or equivalent	12	120	85	57
47-4041	Hazardous Materials Removal Workers	High school diploma or equivalent	17	170	0	0
47-4031	Fence Erectors	High school diploma or equivalent	9	90	12	12
47-4011	Construction and Building Inspectors	High school diploma or equivalent	18	180	0	0
47-3010	Helpers, Construction Trades	Less than high school	24	240	96	96
47-2221	Structural Iron and Steel Workers	High school diploma or equivalent	13	130	126	126
47-2211	Sheet Metal Workers	High school diploma or equivalent	24	240	105	105
47-2181	Roofers	Less than high school	17	170	98	98
47-2150	Pipelayers, Plumbers, Pipefitters, and Steamfitters	Less than high school	96	960	503	402
47-2140	Painters and Paperhangers	Less than high school	57	570	838	617
47-2111	Electricians	High school diploma or equivalent	155	1550	414	250
47-2080	Drywall Installers, Ceiling Tile Installers, and Tapers	Less than high school	28	280	155	155
47-207X	Construction equipment operators except paving, surfacing, and tamping equipment operators	High school diploma or equivalent	210	2100	236	160
47-2071	Paving, Surfacing, and Tamping Equipment Operators	High school diploma or equivalent	7	70	0	0

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Unemployed in Target Occupations	Unemployed in Target Occupations With Required background
47-2061	Construction Laborers	Less than high school	558	5580	4,835	3,671
47-2050	Cement Masons, Concrete Finishers, and Terrazzo Workers	Less than high school	51	510	182	155
47-2040	Carpet, Floor, and Tile Installers and Finishers	Less than high school	8	80	264	236
47-2031	Carpenters	High school diploma or equivalent	135	1350	1,707	898
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	High school diploma or equivalent	168	1680	477	209
45-4011	Forest and Conservation Workers	High school diploma or equivalent	6	60	0	0
45-20XX	Miscellaneous agricultural workers including animal breeders	High school diploma or equivalent	6,033	60330	23,134	4,939
45-2041	Graders and Sorters, Agricultural Products	Less than high school	158	1580	4,376	4,085
45-2011	Agricultural Inspectors	Bachelor's degree	9	90	37	0
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	High school diploma or equivalent	128	1280	333	63
43-9XXX	Miscellaneous office and administrative support workers including desktop publishers	High school diploma or equivalent	119	1190	326	145
43-9061	Office Clerks, General	High school diploma or equivalent	816	8160	2,075	1,341
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	High school diploma or equivalent	14	140	27	27
43-9041	Insurance Claims and Policy Processing Clerks	High school diploma or equivalent	96	960	185	158
43-9022	Word Processors and Typists	High school diploma or equivalent	5	50	0	0
43-9021	Data Entry Keyers	High school diploma or equivalent	9	90	387	184
43-6010	Secretaries and Administrative Assistants	High school diploma or equivalent	732	7320	2,490	1,747
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	High school diploma or equivalent	46	460	273	209
43-5081	Stock Clerks and Order Fillers	Less than high school	903	9030	4,177	2,491
43-5071	Shipping, Receiving, and Traffic Clerks	High school diploma or equivalent	241	2410	600	397
43-5061	Production, Planning, and Expediting Clerks	High school diploma or equivalent	57	570	197	21
43-5052	Postal Service Mail Carriers	High school diploma or equivalent	56	560	28	28
43-5030	Dispatchers	High school diploma or equivalent	113	1130	204	67
43-5011	Cargo and Freight Agents	High school diploma or equivalent	8	80	0	0
43-4XXX	Correspondent clerks and order clerks	High school diploma or equivalent	33	330	119	113
43-4199	Information and Record Clerks, All Other	High school diploma or equivalent	30	300	82	20

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Unemployed in Target Occupations	Unemployed in Target Occupations With Required background
43-4171	Receptionists and Information Clerks	High school diploma or equivalent	325	3250	1,628	1,206
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	High school diploma or equivalent	22	220	37	37
43-4121	Library Assistants, Clerical	High school diploma or equivalent	30	300	37	0
43-4111	Interviewers, Except Eligibility and Loan	High school diploma or equivalent	36	360	469	283
43-4081	Hotel, Motel, and Resort Desk Clerks	High school diploma or equivalent	99	990	169	26
43-4071	File Clerks	High school diploma or equivalent	41	410	357	261
43-4061	Eligibility Interviewers, Government Programs	High school diploma or equivalent	59	590	39	20
43-4051	Customer Service Representatives	High school diploma or equivalent	727	7270	3,660	2,180
43-4031	Court, Municipal, and License Clerks	High school diploma or equivalent	24	240	0	0
43-3071	Tellers	High school diploma or equivalent	150	1500	249	124
43-3061	Procurement Clerks	High school diploma or equivalent	14	140	0	0
43-3051	Payroll and Timekeeping Clerks	High school diploma or equivalent	70	700	23	0
43-3031	Bookkeeping, Accounting, and Auditing Clerks	High school diploma or equivalent	356	3560	920	671
43-3021	Billing and Posting Clerks	High school diploma or equivalent	135	1350	459	336
43-3011	Bill and Account Collectors	High school diploma or equivalent	84	840	182	182
43-2011	Switchboard Operators, Including Answering Service	High school diploma or equivalent	6	60	29	29
43-1011	First-Line Supervisors of Office and Administrative Support Workers	High school diploma or equivalent	508	5080	1,040	585
41-9099	Sales and Related Workers, All Other	High school diploma or equivalent	21	210	32	18
41-9041	Telemarketers	Less than high school	46	460	348	116
41-9020	Real Estate Brokers and Sales Agents	High school diploma or equivalent	6	60	121	0
41-9010	Models, Demonstrators, and Product Promoters	High school diploma or equivalent	54	540	217	55
41-4010	Sales Representatives, Wholesale and Manufacturing	Bachelor's degree	515	5150	931	154
41-3099	Sales Representatives, Services, All Other	High school diploma or equivalent	299	2990	446	146
41-3031	Securities, Commodities, and Financial Services Sales Agents	Bachelor's degree	29	290	59	40
41-3021	Insurance Sales Agents	High school diploma or equivalent	95	950	189	102
41-3011	Advertising Sales Agents	High school diploma or equivalent	19	190	260	95
41-2031	Retail Salespersons	Less than high school	2,207	22070	4,485	1,557
41-2022	Parts Salespersons	Less than high school	86	860	148	148

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Unemployed in Target Occupations	Unemployed in Target Occupations With Required background
41-2021	Counter and Rental Clerks	Less than high school	203	2030	73	29
41-2010	Cashiers	Less than high school	2,206	22060	8,089	3,684
41-1012	First-Line Supervisors of Non-Retail Sales	High school diploma or equivalent	38	380	62	3
41-1011	First-Line Supervisors of Retail Sales Workers	High school diploma or equivalent	516	5160	2,267	1,668
39-9041	Residential Advisors	High school diploma or equivalent	13	130	0	0
39-9030	Recreation and Fitness Workers	High school diploma or equivalent	87	870	156	123
39-9021	Personal Care Aides	Less than high school	1,089	10890	3,625	2,251
39-9011	Childcare Workers	High school diploma or equivalent	281	2810	1,826	917
39-7010	Tour and Travel Guides	High school diploma or equivalent	5	50	0	0
39-5090	Miscellaneous Personal Appearance Workers	Postsecondary non-degree award	7	70	27	0
39-5012	Hairdressers, Hairstylists, and Cosmetologists	Postsecondary non-degree award	45	450	289	62
39-3090	Miscellaneous Entertainment Attendants and Related Workers	Less than high school	101	1010	166	22
39-3031	Ushers, Lobby Attendants, and Ticket Takers	Less than high school	23	230	0	0
39-3010	Gaming Services Workers	High school diploma or equivalent	34	340	0	0
39-2021	Nonfarm Animal Caretakers	Less than high school	21	210	224	224
39-1021	First-Line Supervisors of Personal Service Workers	High school diploma or equivalent	31	310	75	0
37-3010	Grounds Maintenance Workers	Less than high school	235	2350	2,297	1,993
37-2021	Pest Control Workers	High school diploma or equivalent	32	320	145	145
37-2012	Maids and Housekeeping Cleaners	Less than high school	242	2420	1,446	1,166
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	Less than high school	760	7600	53	37
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	High school diploma or equivalent	40	400	73	0
35-90XX	Miscellaneous food preparation and serving related workers incl. dining room\cafeteria attendants, bartender helpers	Less than high school	239	2390	485	305
35-9031	Host and Hostesses, Restaurant, Lounge, and Coffee Shop	Less than high school	200	2000	429	328
35-9021	Dishwashers	Less than high school	253	2530	652	297
35-3041	Food Servers, Nonrestaurant	Less than high school	73	730	154	64
35-3031	Waiters and Waitresses	Less than high school	966	9660	2,124	1,115

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Unemployed in Target Occupations	Unemployed in Target Occupations With Required background
35-3022	Counter Attendant, Cafeteria, Food Concession, and Coffee Shop	Less than high school	253	2530	684	339
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	Less than high school	2,339	23390	505	142
35-3011	Bartenders	Less than high school	165	1650	409	179
35-2021	Food Preparation Workers	Less than high school	365	3650	1,740	826
35-2010	Cooks	Less than high school	985	9850	3,043	2,285
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	High school diploma or equivalent	431	4310	714	461
35-1011	Chefs and Head Cooks	High school diploma or equivalent	14	140	155	74
33-909X	Lifeguards and Other Protective Service Workers	High school diploma or equivalent	132	1320	380	50
33-9091	Crossing Guards	High school diploma or equivalent	51	510	1	0
33-9030	Security Guards and Gaming Surveillance Officers	High school diploma or equivalent	301	3010	1,515	950
33-3050	Police Officers	High school diploma or equivalent	236	2360	266	177
33-3021	Detectives and Criminal Investigators	High school diploma or equivalent	22	220	0	0
33-3010	Bailiffs, Correctional Officers, and Jailers	High school diploma or equivalent	444	4440	519	159
33-2011	Firefighters	Postsecondary non-degree award	91	910	144	56
33-1012	First-Line Supervisors of Police and Detectives	High school diploma or equivalent	5	50	0	0
33-1011	First-Line Supervisors of Correctional Officers	High school diploma or equivalent	53	530	67	0
31-909X	Medical Assistants and Other Healthcare Support Occupations, except dental assistants	High school diploma or equivalent	25	250	18	18
31-9097	Phlebotmists	Postsecondary non-degree award	36	360	0	0
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	High school diploma or equivalent	13	130	22	0
31-9095	Pharmacy Aides	High school diploma or equivalent	10	100	44	1
31-9092	Medical Assistants	Postsecondary non-degree award	347	3470	1,073	288
31-9091	Dental Assistants	Postsecondary non-degree award	96	960	101	75
31-2020	Physical Therapist Assistants and Aides	Associate's degree	12	120	30	0
31-1010	Nursing, Psychiatric, and Home Health Aides	Less than high school	1,228	12280	3,368	1,731
29-9000	Other Healthcare Practitioners and Technical Occupations	Bachelor's degree	25	250	23	23
29-2090	Miscellaneous Health Technologists and Technicians	Master's degree	33	330	79	79
29-2081	Opticians, Dispensing	High school diploma or equivalent	32	320	46	46

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Unemployed in Target Occupations	Unemployed in Target Occupations With Required background
29-2071	Medical Records and Health Information Technicians	Postsecondary non-degree award	58	580	0	0
29-2061	Licensed Practical and Licensed Vocational Nurses	Postsecondary non-degree award	307	3070	453	197
29-2050	Health Diagnosing and Treating Practitioner Support Technicians	Associate's degree	144	1440	145	0
29-2041	Emergency Medical Technicians and Paramedics	Postsecondary non-degree award	86	860	45	38
29-2030	Diagnostic Related Technologists and Technicians	Associate's degree	60	600	93	93
29-2021	Dental Hygienists	Associate's degree	40	400	0	0
29-2010	Clinical Laboratory Technologists and Technicians	Associate's degree	51	510	40	0
29-11XX	Nurse Practitioners, and Nurse Midwives	Master's degree	71	710	0	0
29-1141	Nurse Practitioners, and Nurse Midwives	Associate's degree	989	9890	404	46
29-1131	Veterinarians	Doctoral or professional degree	16	160	0	0
29-1127	SpeechLanguage Pathologists	Master's degree	26	260	0	0
29-1126	Respiratory Therapists	Associate's degree	18	180	0	0
29-1123	Physical Therapists	Doctoral or professional degree	42	420	0	0
29-1122	Occupational Therapists	Master's degree	16	160	0	0
29-1071	Physician Assistants	Master's degree	30	300	0	0
29-1060	Physicians and Surgeons	Doctoral or professional degree	107	1070	0	0
29-1051	Pharmacists	Doctoral or professional degree	95	950	0	0
29-1041	Optometrists	Doctoral or professional degree	8	80	0	0
29-1031	Dieticians and Nutritionists	Bachelor's degree	8	80	0	0
29-1020	Dentists	Doctoral or professional degree	35	350	0	0
27-40XX	Broadcast and Sound Engineering Techs and Radio Operators, and media and commequipment workers, all other	Postsecondary non-degree award	18	180	0	0
27-3090	Miscellaneous Media and Communication Workers	Bachelor's degree	18	180	133	0
27-3031	Public Relations Specialists	Bachelor's degree	16	160	157	59
27-2040	Musicians, Singers, and Related Workers	Bachelor's degree	16	160	19	0
27-2020	Athletes, Coaches, Umpires, and Related Workers	High school diploma or equivalent	68	680	144	40
27-2012	Producers and Directors	Bachelor's degree	10	100	0	0
27-1020	Designers	Bachelor's degree	50	500	182	3
25-90XX	Other Education, Training, and Library Workers	Bachelor's degree	50	500	0	0

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Unemployed in Target Occupations	Unemployed in Target Occupations With Required background
25-9041	Teacher Assistants	Some college, no degree	572	5720	1,298	301
25-4031	Library Technicians	Postsecondary non-degree award	57	570	0	0
25-4021	Librarians	Master's degree	13	130	44	0
25-3000	Other Teachers and Instructors	Bachelor's degree	502	5020	965	448
25-2050	Elementary and Middle School Teachers	Bachelor's degree	69	690	29	29
25-2030	Secondary School Teachers	Bachelor's degree	391	3910	208	147
25-2020	Elementary and Middle School Teachers	Bachelor's degree	918	9180	1,313	1,005
25-2010	Preschool and Kindergarten Teachers	Associate's degree	225	2250	349	79
25-1000	Postsecondary Teachers	Doctoral or professional degree	291	2910	535	341
23-2011	Paralegals and Legal Assistants	Associate's degree	53	530	279	106
23-10XX	Lawyers, and judges, magistrates, and other judicial workers	Doctoral or professional degree	75	750	36	36
21-2099	Religious Workers, All Other	Bachelor's degree	6	60	0	0
21-2021	Directors, Religious Activities and Education	Bachelor's degree	18	180	0	0
21-2011	Clergy	Bachelor's degree	23	230	0	0
21-109X	Miscellaneous Community and Social Service Specialists	Bachelor's degree	65	650	54	54
21-1093	Social and Human Service Assistants	High school diploma or equivalent	219	2190	57	49
21-1092	Probation Officers and Correctional Treatment Specialists	Bachelor's degree	44	440	0	0
21-1020	Social Workers	Bachelor's degree	245	2450	218	53
21-1010	Counselors	High school diploma or equivalent	204	2040	406	63
19-40YY	Miscellaneous Life, Physical, and Social Science Technicians, Including Social Science Research Assistants	Associate's degree	58	580	127	19
19-40XX	Misc. life, physical, social science technicians, incl social science RAs & nuclear techs	Associate's degree	18	180	0	0
19-4031	Chemical Technicians	Associate's degree	19	190	19	0
19-4021	Biological Technicians	Bachelor's degree	6	60	40	0
19-4011	Agricultural and Food Science Technicians	Associate's degree	19	190	142	0
19-3051	Urban and Regional Planners	Master's degree	17	170	0	0
19-3030	Market and Survey Researchers	Doctoral or professional degree	56	560	0	0

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Unemployed in Target Occupations	Unemployed in Target Occupations With Required background
19-2040	Environmental Scientists and Geoscientists	Bachelor's degree	37	370	24	24
19-2030	Chemists and Materials Scientists	Bachelor's degree	16	160	0	0
19-10XX	General and Operations Managers	Master's degree	14	140	0	0
17-3020	Engineering Technicians, Except Drafters	Associate's degree	36	360	0	0
17-3010	Drafters	Associate's degree	6	60	0	0
17-21YY	Miscellaneous engineeers including nuclear engineers	Bachelor's degree	35	350	0	0
17-2141	Mechanical Engineers	Bachelor's degree	39	390	55	55
17-2110	Industrial Engineers, including Health and Safety	Bachelor's degree	45	450	21	0
17-20XX	Biomedical and agricultural engineers	Bachelor's degree	30	300	0	0
17-2081	Environmental Engineers	Bachelor's degree	7	70	0	0
17-2070	Electrical and Electronics Engineers	Bachelor's degree	22	220	0	0
17-2051	Civil Engineers	Bachelor's degree	76	760	37	30
17-2011	Aerospace Engineers	Bachelor's degree	25	250	33	33
17-1010	Architects, Except Naval	Bachelor's degree	21	210	15	11
15-20XX	Misc. mathematical science occupations, including mathematicians and statisticians	Master's degree	6	60	0	0
15-2031	Operations Research Analysts	Bachelor's degree	6	60	0	0
15-1199	Computer Occupations, All Other	Bachelor's degree	16	160	20	0
15-1150	Computer Support Specialists	Some college, no degree	90	900	471	378
15-1143	Computer Network Architects	Bachelor's degree	6	60	0	0
15-1142	Network and Computer Systems Administrators	Bachelor's degree	43	430	0	0
15-1141	Database Administrators	Bachelor's degree	5	50	0	0
15-113X	Software Developers, Applications and Systems Software	Bachelor's degree	66	660	119	119
15-1131	Computer Programmers	Bachelor's degree	25	250	55	0
15-1121	Computer Programmers	Bachelor's degree	61	610	85	46
13-2099	Financial Specialists, All Other	Bachelor's degree	5	50	44	44
13-2082	Tax Preparers	High school diploma or equivalent	7	70	47	0
13-2081	Tax Examiners and Collectors, and Revenue Agents	Bachelor's degree	60	600	432	0
13-2070	Credit Counselors and Loan Officers	Bachelor's degree	18	180	87	0

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Unemployed in Target Occupations	Unemployed in Target Occupations With Required background
13-2053	Insurance Underwriters	Bachelor's degree	6	60	0	0
13-2051	Financial Analysts	Bachelor's degree	19	190	0	0
13-2031	Budget Analysts	Bachelor's degree	14	140	0	0
13-2011	Accountants and Auditors	Bachelor's degree	340	3400	325	282
13-1199	Business Operations Specialists, All Other	High school diploma or equivalent	144	1440	161	68
13-1161	Market Research Analysts and Marketing Specialists	Bachelor's degree	71	710	59	42
13-1151	Training and Development Specialists	Bachelor's degree	34	340	95	0
13-1141	Compensation, Benefits, and Job Analysis Specialists	Bachelor's degree	7	70	0	0
13-1131	Fundraisers	Bachelor's degree	7	70	22	0
13-1121	Meeting and Convention Planners	Bachelor's degree	7	70	47	19
13-1111	Management Analysts	Bachelor's degree	84	840	192	64
13-1081	Logisticians	Bachelor's degree	15	150	29	0
13-1070	Human Resources, Training, and Labor Relations Specialists	Bachelor's degree	78	780	244	75
13-1051	Cost Estimators	Bachelor's degree	102	1020	0	0
13-1041	Compliance Officers, Except Ag., Construction, Health and SAfety, and Transport.	Bachelor's degree	25	250	34	34
13-1030	Claims Adjusters, Appraisers, Examiners, and Investigators	High school diploma or equivalent	47	470	0	0
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	High school diploma or equivalent	33	330	109	109
13-1022	Wholesale and Retail Buyers, Except Farm Products	High school diploma or equivalent	28	280	107	32
11-9XXX	Miscellaneous managers including postmansters and mail superintendents	Associate's degree	43	430	740	22
11-9151	Social and Community Service Managers	Bachelor's degree	51	510	36	13
11-9141	Property, Real Estate, and Community Association Managers	High school diploma or equivalent	27	270	262	212
11-9111	Medical and Health Services Managers	Bachelor's degree	109	1090	0	0
11-9081	Lodging Managers	High school diploma or equivalent	6	60	0	0
11-9051	Food Service Managers	High school diploma or equivalent	55	550	313	199
11-9041	Architectural and Engineering Managers	Bachelor's degree	25	250	0	0
11-9030	Education Administrators	Bachelor's degree	114	1140	304	139
11-9021	Constructions Managers	Bachelor's degree	59	590	148	23

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Unemployed in Target Occupations	Unemployed in Target Occupations With Required background
11-9013	Farmers, Ranchers, and Other Agricultural Managers	High school diploma or equivalent	118	1180	323	29
11-3121	Human Resources Managers	Bachelor's degree	19	190	20	20
11-3071	Transportation, Storage, and Distribution Managers	High school diploma or equivalent	34	340	47	47
11-3051	Industrial Production Managers	Bachelor's degree	29	290	31	0
11-3031	Financial Managers	Bachelor's degree	83	830	361	102
11-3021	Computer and Information Systems Managers	Bachelor's degree	25	250	104	47
11-3011	Administrative Services Managers	Bachelor's degree	54	540	13	0
11-2031	Public Relations Managers	Bachelor's degree	6	60	0	0
11-2020	Marketing and Sales Managers	Bachelor's degree	102	1020	188	40
11-10XX	Chief executives and legislators	Bachelor's degree	47	470	294	60
11-1021	General and Operations Managers	Bachelor's degree	648	6480	342	29

Appendix Table 28 — Part-Time Labor Force-to-Job Openings Skills Match CCWC Region

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
Total			**51,619**	**516,190**	**464,933**	**232,968**
53-70XX	Conveyor operators and tenders, and hoist and winch operators	Less than high school	7	70	0	0
53-7081	Refuse and Recyclable Material Collectors	Less than high school	41	410	485	246
53-7070	Pumping Station Operators	Less than high school	6	60	39	39
53-7064	Packers and Packagers, Hand	Less than high school	596	5,960	6,753	5,398
53-7063	Machine Feeders and Offbearers	Less than high school	19	190	21	21
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	Less than high school	1,471	14,710	11,757	8,365
53-7061	Cleaners of Vehicles and Equipment	Less than high school	298	2,980	2,906	1,643
53-7051	Industrial Truck and Tractor Operators	Less than high school	287	2,870	3,234	2,397

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
53-7030	Dredge, Excavating, and Loading Machine Operators	Less than high school	5	50	0	0
53-7021	Crane and Tower Operators	High school diploma or equivalent	33	330	20	20
53-6031	Service Station Attendants	Less than high school	44	440	437	149
53-6021	Parking Lot Attendants	Less than high school	14	140	104	60
53-3099	Motor Vehicle Operators, All Other	High school diploma or equivalent	19	190	22	22
53-3041	Taxi Drivers and Chauffeurs	Less than high school	39	390	880	410
53-3030	Driver/Sales Workers and Truck Drivers	High school diploma or equivalent	1,711	17,110	14,230	7,762
53-3020	Bus Drivers	High school diploma or equivalent	160	1,600	1,364	1,034
53-2020	Air Traffic Controllers and Airfield Operations Specialists	Associate's degree	12	120	0	0
53-2010	Aircraft Pilots and Flight Engineers	Bachelor's degree	7	70	97	41
53-1000	Supervisors ofTransportation and Material Moving Workers	High school diploma or equivalent	166	1,660	233	233
51-91XX	Other production workers including semiconductor processors and cooling and freezing equipment operators	Associate's degree	76	760	1,869	115
51-9198	Helpers--Production Workers	Less than high school	130	1,300	256	217
51-9196	Paper Goods Machine Setters, Operators, and Tenders	High school diploma or equivalent	14	140	112	112
51-9111	Packaging and Filling Machine Operators and Tenders	High school diploma or equivalent	321	3,210	2,089	746
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	High school diploma or equivalent	129	1,290	1,816	1,049
51-9020	Crushing, Grinding, Polishing, Mixing, and Blending Workers	High school diploma or equivalent	32	320	54	0
51-9010	Chemical Processing Machine Setters, Operators, and Tenders	High school diploma or equivalent	44	440	25	0
51-8090	Miscellaneous Plant and System Operators	High school diploma or equivalent	18	180	0	0
51-8031	Water and Wastewater Treatment Plant and System Operators	High school diploma or equivalent	53	530	0	0
51-8010	Power Plant Operators, Distributors, and Dispatchers	High school diploma or equivalent	13	130	45	45

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
51-6011	Laundry and Dry-Cleaning Workers	Less than high school	56	560	630	323
51-4XXX	Misc. metal workers\plastic workers incl. milling and planing mach. setters, and multiple mach. tool setters, and lay-out workers	High school diploma or equivalent	6	60	0	0
51-4120	Welding, Soldering, and Brazing Workers	High school diploma or equivalent	132	1,320	1,224	945
51-4041	Machinists	High school diploma or equivalent	68	680	245	154
51-4010	Computer Control Programmers and Operators	High school diploma or equivalent	6	60	0	0
51-3099	Food Processing Workers, All Other	Less than high school	9	90	133	67
51-3093	Food Cooking Machine Operators and Tenders	High school diploma or equivalent	14	140	0	0
51-3092	Food Batchmakers	High school diploma or equivalent	81	810	290	153
51-3091	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	Less than high school	6	60	21	21
51-3020	Butchers and Other Meat, Poultry, and Fish Processing Workers	Less than high school	219	2,190	818	571
51-3011	Bakers	Less than high school	45	450	1,064	726
51-2090	Miscellaneous Assemblers and Fabricators	High school diploma or equivalent	156	1,560	958	411
51-2041	Structural Metal Fabricators and Fitters	High school diploma or equivalent	12	120	65	36
51-1011	First-Line Supervisors of Production and Operating Workers	Postsecondary non-degree award	106	1,060	986	292
49-90XX	Miscellaneous Installation, Maintenance, and Repair Workers, Including Wind Turbine Service Technicians	Some college, no degree	24	240	807	172
49-9098	Helpers--Installation, Maintenance, and Repair Workers	High school diploma or equivalent	51	510	22	0
49-9071	Maintenance and Repair Workers, General	High school diploma or equivalent	419	4,190	1,152	586
49-9060	Precision Instrument and Equipment Repairers	Associate's degree	12	120	0	0
49-9052	Telecommunications Line Installers and Repairers	High school diploma or equivalent	36	360	0	0
49-9051	Electrical Power-Line Installers and Repairers	High school diploma or equivalent	47	470	0	0

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
49-904X	Industrial and Refractory Machinery Mechanic	High school diploma or equivalent	192	1,920	845	594
49-9043	Maintenance Workers, Machinery	High school diploma or equivalent	21	210	97	97
49-9031	Home Appliance Repairers	High school diploma or equivalent	12	120	0	0
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Postsecondary non-degree award	96	960	425	43
49-3090	Miscellaneous Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	High school diploma or equivalent	60	600	464	247
49-3040	Heavy Vehicle and Mobile Equipment Service Technicians and Mechanics	High school diploma or equivalent	111	1,110	674	525
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	High school diploma or equivalent	82	820	321	166
49-3023	Automotive Service Technicians and Mechanics	High school diploma or equivalent	219	2,190	2,070	1,597
49-3021	Automotive Body and Related Repairers	High school diploma or equivalent	38	380	174	109
49-3011	Aircraft Mechanics and Service Technicians	Postsecondary non-degree award	31	310	7	0
49-209X	Electrical and electronics repairers, transportation equipment, and industrial and utility	Postsecondary non-degree award	6	60	0	0
49-2092	Electric Motor, Power Tool, and Related Repairers	Postsecondary non-degree award	6	60	0	0
49-2020	Radio and Telecommunications Equipment Installers and Repairers	Associate's degree	72	720	124	0
49-2011	Computer, Automated Teller, and Office Machine Repairers	Some college, no degree	15	150	254	46
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	High school diploma or equivalent	148	1,480	8	0
47-XXXX	Miscellaneous Construction Workers Including Solar Photovoltaic Installers, and Septic Tank Servicers and Sewer Pipe Cleaners	High school diploma or equivalent	281	2,810	126	126
47-5021	Earth Drillers, Except Oil and Gar	High school diploma or equivalent	19	190	0	0
47-4051	Highway Maintenance Workers	High school diploma or equivalent	12	120	35	35
47-4041	Hazardous Materials Removal Workers	High school diploma or equivalent	17	170	41	0

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
47-4031	Fence Erectors	High school diploma or equivalent	9	90	22	22
47-4011	Construction and Building Inspectors	High school diploma or equivalent	18	180	161	161
47-3010	Helpers, Construction Trades	Less than high school	24	240	57	52
47-2221	Structural Iron and Steel Workers	High school diploma or equivalent	13	130	277	90
47-2211	Sheet Metal Workers	High school diploma or equivalent	24	240	0	0
47-2181	Roofers	Less than high school	17	170	405	389
47-2150	Pipelayers, Plumbers, Pipefitters, and Steamfitters	Less than high school	96	960	1,282	917
47-2140	Painters and Paperhangers	Less than high school	57	570	1,418	1,004
47-2111	Electricians	High school diploma or equivalent	155	1,550	1,027	643
47-2080	Drywall Installers, Ceiling Tile Installers, and Tapers	Less than high school	28	280	129	50
47-207X	Construction equipment operators except paving, surfacing, and tamping equipment operators	High school diploma or equivalent	210	2,100	818	599
47-2071	Paving, Surfacing, and Tamping Equipment Operators	High school diploma or equivalent	7	70	0	0
47-2061	Construction Laborers	Less than high school	558	5,580	9,053	6,435
47-2050	Cement Masons, Concrete Finishers, and Terrazzo Workers	Less than high school	51	510	20	0
47-2040	Carpet, Floor, and Tile Installers and Finishers	Less than high school	8	80	144	144
47-2031	Carpenters	High school diploma or equivalent	135	1,350	2,056	1,096
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	High school diploma or equivalent	168	1,680	1,070	718
45-4011	Forest and Conservation Workers	High school diploma or equivalent	6	60	0	0
45-20XX	Miscellaneous agricultural workers including animal breeders	High school diploma or equivalent	6,033	60,330	62,768	13,808
45-2041	Graders and Sorters, Agricultural Products	Less than high school	158	1,580	4,401	3,946
45-2011	Agricultural Inspectors	Bachelor's degree	9	90	0	0
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	High school diploma or equivalent	128	1,280	870	349

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
43-9XXX	Miscellaneous office and administrative support workers including desktop publishers	High school diploma or equivalent	119	1,190	944	523
43-9061	Office Clerks, General	High school diploma or equivalent	816	8,160	6,864	2,956
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	High school diploma or equivalent	14	140	75	18
43-9041	Insurance Claims and Policy Processing Clerks	High school diploma or equivalent	96	960	279	159
43-9022	Word Processors and Typists	High school diploma or equivalent	5	50	0	0
43-9021	Data Entry Keyers	High school diploma or equivalent	9	90	387	220
43-6010	Secretaries and Administrative Assistants	High school diploma or equivalent	732	7,320	8,336	4,653
43-5111	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	High school diploma or equivalent	46	460	20	0
43-5081	Stock Clerks and Order Fillers	Less than high school	903	9,030	8,679	5,410
43-5071	Shipping, Receiving, and Traffic Clerks	High school diploma or equivalent	241	2,410	1,854	1,343
43-5061	Production, Planning, and Expediting Clerks	High school diploma or equivalent	57	570	319	113
43-5052	Postal Service Mail Carriers	High school diploma or equivalent	56	560	229	209
43-5030	Dispatchers	High school diploma or equivalent	113	1,130	297	138
43-5011	Cargo and Freight Agents	High school diploma or equivalent	8	80	12	0
43-4XXX	Correspondent clerks and order clerks	High school diploma or equivalent	33	330	278	134
43-4199	Information and Record Clerks, All Other	High school diploma or equivalent	30	300	36	36
43-4171	Receptionists and Information Clerks	High school diploma or equivalent	325	3,250	4,649	2,780
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	High school diploma or equivalent	22	220	145	145
43-4121	Library Assistants, Clerical	High school diploma or equivalent	30	300	321	89
43-4111	Interviewers, Except Eligibility and Loan	High school diploma or equivalent	36	360	595	359

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
43-4081	Hotel, Motel, and Resort Desk Clerks	High school diploma or equivalent	99	990	665	314
43-4071	File Clerks	High school diploma or equivalent	41	410	1,019	369
43-4061	Eligibility Interviewers, Government Programs	High school diploma or equivalent	59	590	11	11
43-4051	Customer Service Representatives	High school diploma or equivalent	727	7,270	10,395	5,544
43-4031	Court, Municipal, and License Clerks	High school diploma or equivalent	24	240	52	22
43-3071	Tellers	High school diploma or equivalent	150	1,500	1,643	1,152
43-3061	Procurement Clerks	High school diploma or equivalent	14	140	0	0
43-3051	Payroll and Timekeeping Clerks	High school diploma or equivalent	70	700	401	318
43-3031	Bookkeeping, Accounting, and Auditing Clerks	High school diploma or equivalent	356	3,560	4,654	3,371
43-3021	Billing and Posting Clerks	High school diploma or equivalent	135	1,350	439	191
43-3011	Bill and Account Collectors	High school diploma or equivalent	84	840	188	171
43-2011	Switchboard Operators, Including Answering Service	High school diploma or equivalent	6	60	20	20
43-1011	First-Line Supervisors of Office and Administrative Support Workers	High school diploma or equivalent	508	5,080	1,787	977
41-9099	Sales and Related Workers, All Other	High school diploma or equivalent	21	210	231	78
41-9041	Telemarketers	Less than high school	46	460	209	115
41-9020	Real Estate Brokers and Sales Agents	High school diploma or equivalent	6	60	845	479
41-9010	Models, Demonstrators, and Product Promoters	High school diploma or equivalent	54	540	521	449
41-4010	Sales Representatives, Wholesale and Manufacturing	Bachelor's degree	515	5,150	2,582	653
41-3099	Sales Representatives, Services, All Other	High school diploma or equivalent	299	2,990	886	489
41-3031	Securities, Commodities, and Financial Services Sales Agents	Bachelor's degree	29	290	0	0

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
41-3021	Insurance Sales Agents	High school diploma or equivalent	95	950	645	278
41-3011	Advertising Sales Agents	High school diploma or equivalent	19	190	158	110
41-2031	Retail Salespersons	Less than high school	2,207	22,070	16,559	5,358
41-2022	Parts Salespersons	Less than high school	86	860	699	78
41-2021	Counter and Rental Clerks	Less than high school	203	2,030	288	134
41-2010	Cashiers	Less than high school	2,206	22,060	26,922	13,639
41-1012	First-Line Supervisors of Non-Retail Sales	High school diploma or equivalent	38	380	1,084	682
41-1011	First-Line Supervisors of Retail Sales Workers	High school diploma or equivalent	516	5,160	5,411	2,840
39-9041	Residential Advisors	High school diploma or equivalent	13	130	51	0
39-9030	Recreation and Fitness Workers	High school diploma or equivalent	87	870	1,168	400
39-9021	Personal Care Aides	Less than high school	1,089	10,890	14,427	9,048
39-9011	Childcare Workers	High school diploma or equivalent	281	2,810	8,846	3,811
39-7010	Tour and Travel Guides	High school diploma or equivalent	5	50	70	20
39-5090	Miscellaneous Personal Appearance Workers	Postsecondary non-degree award	7	70	227	0
39-5012	Hairdressers, Hairstylists, and Cosmetologists	Postsecondary non-degree award	45	450	2,898	595
39-3090	Miscellaneous Entertainment Attendants and Related Workers	Less than high school	101	1,010	588	161
39-3031	Ushers, Lobby Attendants, and Ticket Takers	Less than high school	23	230	192	71
39-3010	Gaming Services Workers	High school diploma or equivalent	34	340	162	162
39-2021	Nonfarm Animal Caretakers	Less than high school	21	210	649	287
39-1021	First-Line Supervisors of Personal Service Workers	High school diploma or equivalent	31	310	422	326
37-3010	Grounds Maintenance Workers	Less than high school	235	2,350	6,377	5,149
37-2021	Pest Control Workers	High school diploma or equivalent	32	320	55	55

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
37-2012	Maids and Housekeeping Cleaners	Less than high school	242	2,420	6,575	4,820
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	Less than high school	760	7,600	376	235
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	High school diploma or equivalent	40	400	262	128
35-90XX	Miscellaneous food preparation and serving related workers incl. dining room\cafeteria attendants, bartender helpers	Less than high school	239	2,390	2,183	1,228
35-9031	Host and Hostesses, Restaurant, Lounge, and Coffee Shop	Less than high school	200	2,000	1,589	759
35-9021	Dishwashers	Less than high school	253	2,530	2,182	1,365
35-3041	Food Servers, Nonrestaurant	Less than high school	73	730	863	527
35-3031	Waiters and Waitresses	Less than high school	966	9,660	11,773	4,581
35-3022	Counter Attendant, Cafeteria, Food Concession, and Coffee Shop	Less than high school	253	2,530	1,825	907
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	Less than high school	2,339	23,390	3,209	2,079
35-3011	Bartenders	Less than high school	165	1,650	987	409
35-2021	Food Preparation Workers	Less than high school	365	3,650	7,706	4,320
35-2010	Cooks	Less than high school	985	9,850	16,858	10,427
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	High school diploma or equivalent	431	4,310	2,063	1,142
35-1011	Chefs and Head Cooks	High school diploma or equivalent	14	140	619	248
33-909X	Lifeguards and Other Protective Service Workers	High school diploma or equivalent	132	1,320	468	19
33-9091	Crossing Guards	High school diploma or equivalent	51	510	281	81
33-9030	Security Guards and Gaming Surveillance Officers	High school diploma or equivalent	301	3,010	4,592	2,697
33-3050	Police Officers	High school diploma or equivalent	236	2,360	486	143
33-3021	Detectives and Criminal Investigators	High school diploma or equivalent	22	220	83	18
33-3010	Bailiffs, Correctional Officers, and Jailers	High school diploma or equivalent	444	4,440	881	745

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
33-2011	Firefighters	Postsecondary non-degree award	91	910	527	143
33-1012	First-Line Supervisors of Police and Detectives	High school diploma or equivalent	5	50	28	28
33-1011	First-Line Supervisors of Correctional Officers	High school diploma or equivalent	53	530	65	0
31-909X	Medical Assistants and Other Healthcare Support Occupations, except dental assistants	High school diploma or equivalent	25	250	216	98
31-9097	Phlebotmists	Postsecondary non-degree award	36	360	381	196
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	High school diploma or equivalent	13	130	188	70
31-9095	Pharmacy Aides	High school diploma or equivalent	10	100	35	0
31-9092	Medical Assistants	Postsecondary non-degree award	347	3,470	2,516	640
31-9091	Dental Assistants	Postsecondary non-degree award	96	960	1,868	878
31-2020	Physical Therapist Assistants and Aides	Associate's degree	12	120	136	0
31-1010	Nursing, Psychiatric, and Home Health Aides	Less than high school	1,228	12,280	9,570	3,441
29-9000	Other Healthcare Practitioners and Technical Occupations	Bachelor's degree	25	250	60	17
29-2090	Miscellaneous Health Technologists and Technicians	Master's degree	33	330	264	35
29-2081	Opticians, Dispensing	High school diploma or equivalent	32	320	14	14
29-2071	Medical Records and Health Information Technicians	Postsecondary non-degree award	58	580	350	48
29-2061	Licensed Practical and Licensed Vocational Nurses	Postsecondary non-degree award	307	3,070	1,929	793
29-2050	Health Diagnosing and Treating Practitioner Support Technicians	Associate's degree	144	1,440	1,028	212
29-2041	Emergency Medical Technicians and Paramedics	Postsecondary non-degree award	86	860	293	136
29-2030	Diagnostic Related Technologists and Technicians	Associate's degree	60	600	563	279
29-2021	Dental Hygienists	Associate's degree	40	400	681	479
29-2010	Clinical Laboratory Technologists and Technicians	Associate's degree	51	510	231	37
29-11XX	Nurse Practitioners, and Nurse Midwives	Master's degree	71	710	38	38

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
29-1141	Nurse Practitioners, and Nurse Midwives	Associate's degree	989	9,890	7,589	3,232
29-1131	Veterinarians	Doctoral or professional degree	16	160	35	35
29-1127	SpeechLanguage Pathologists	Master's degree	26	260	125	125
29-1126	Respiratory Therapists	Associate's degree	18	180	79	79
29-1123	Physical Therapists	Doctoral or professional degree	42	420	421	288
29-1122	Occupational Therapists	Master's degree	16	160	104	104
29-1071	Physician Assistants	Master's degree	30	300	144	144
29-1060	Physicians and Surgeons	Doctoral or professional degree	107	1,070	648	648
29-1051	Pharmacists	Doctoral or professional degree	95	950	368	368
29-1041	Optometrists	Doctoral or professional degree	8	80	31	31
29-1031	Dieticians and Nutritionists	Bachelor's degree	8	80	75	75
29-1020	Dentists	Doctoral or professional degree	35	350	513	513
27-40XX	Broadcast and Sound Engineering Techs and Radio Operators, and media and commequipment workers, all other	Postsecondary non-degree award	18	180	41	0
27-3090	Miscellaneous Media and Communication Workers	Bachelor's degree	18	180	557	207
27-3031	Public Relations Specialists	Bachelor's degree	16	160	12	3
27-2040	Musicians, Singers, and Related Workers	Bachelor's degree	16	160	326	80
27-2020	Athletes, Coaches, Umpires, and Related Workers	High school diploma or equivalent	68	680	1,230	373
27-2012	Producers and Directors	Bachelor's degree	10	100	186	78
27-1020	Designers	Bachelor's degree	50	500	1,333	355
25-90XX	Other Education, Training, and Library Workers	Bachelor's degree	50	500	142	85
25-9041	Teacher Assistants	Some college, no degree	572	5,720	10,157	4,320
25-4031	Library Technicians	Postsecondary non-degree award	57	570	150	46
25-4021	Librarians	Master's degree	13	130	155	29

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
25-3000	Other Teachers and Instructors	Bachelor's degree	502	5,020	4,554	1,414
25-2050	Elementary and Middle School Teachers	Bachelor's degree	69	690	495	324
25-2030	Secondary School Teachers	Bachelor's degree	391	3,910	3,494	2,901
25-2020	Elementary and Middle School Teachers	Bachelor's degree	918	9,180	14,935	13,258
25-2010	Preschool and Kindergarten Teachers	Associate's degree	225	2,250	1,391	333
25-1000	Postsecondary Teachers	Doctoral or professional degree	291	2,910	2,868	2,410
23-2011	Paralegals and Legal Assistants	Associate's degree	53	530	275	18
23-10XX	Lawyers, and judges, magistrates, and other judicial workers	Doctoral or professional degree	75	750	627	627
21-2099	Religious Workers, All Other	Bachelor's degree	6	60	99	16
21-2021	Directors, Religious Activities and Education	Bachelor's degree	18	180	112	67
21-2011	Clergy	Bachelor's degree	23	230	370	142
21-109X	Miscellaneous Community and Social Service Specialists	Bachelor's degree	65	650	470	132
21-1093	Social and Human Service Assistants	High school diploma or equivalent	219	2,190	510	112
21-1092	Probation Officers and Correctional Treatment Specialists	Bachelor's degree	44	440	43	43
21-1020	Social Workers	Bachelor's degree	245	2,450	1,125	662
21-1010	Counselors	High school diploma or equivalent	204	2,040	1,223	292
19-40YY	Miscellaneous Life, Physical, and Social Science Technicians, Including Social Science Research Assistants	Associate's degree	58	580	243	5
19-40XX	Misc. life, physical, social science technicians, incl social science RAs & nuclear techs	Associate's degree	18	180	14	0
19-4031	Chemical Technicians	Associate's degree	19	190	0	0
19-4021	Biological Technicians	Bachelor's degree	6	60	0	0
19-4011	Agricultural and Food Science Technicians	Associate's degree	19	190	150	113
19-3051	Urban and Regional Planners	Master's degree	17	170	0	0
19-3030	Market and Survey Researchers	Doctoral or professional degree	56	560	264	264

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
19-2040	Environmental Scientists and Geoscientists	Bachelor's degree	37	370	23	23
19-2030	Chemists and Materials Scientists	Bachelor's degree	16	160	22	22
19-10XX	General and Operations Managers	Master's degree	14	140	78	39
17-3020	Engineering Technicians, Except Drafters	Associate's degree	36	360	206	0
17-3010	Drafters	Associate's degree	6	60	14	0
17-21YY	Miscellaneous engineeers including nuclear engineers	Bachelor's degree	35	350	63	63
17-2141	Mechanical Engineers	Bachelor's degree	39	390	0	0
17-2110	Industrial Engineers, including Health and Safety	Bachelor's degree	45	450	66	66
17-20XX	Biomedical and agricultural engineers	Bachelor's degree	30	300	0	0
17-2081	Environmental Engineers	Bachelor's degree	7	70	2	0
17-2070	Electrical and Electronics Engineers	Bachelor's degree	22	220	77	77
17-2051	Civil Engineers	Bachelor's degree	76	760	231	182
17-2011	Aerospace Engineers	Bachelor's degree	25	250	0	0
17-1010	Architects, Except Naval	Bachelor's degree	21	210	94	56
15-20XX	Misc. mathematical science occupations, including mathematicians and statisticians	Master's degree	6	60	0	0
15-2031	Operations Research Analysts	Bachelor's degree	6	60	0	0
15-1199	Computer Occupations, All Other	Bachelor's degree	16	160	462	57
15-1150	Computer Support Specialists	Some college, no degree	90	900	419	228
15-1143	Computer Network Architects	Bachelor's degree	6	60	0	0
15-1142	Network and Computer Systems Administrators	Bachelor's degree	43	430	113	39
15-1141	Database Administrators	Bachelor's degree	5	50	0	0
15-113X	Software Developers, Applications and Systems Software	Bachelor's degree	66	660	390	251
15-1131	Computer Programmers	Bachelor's degree	25	250	133	49
15-1121	Computer Programmers	Bachelor's degree	61	610	350	108
13-2099	Financial Specialists, All Other	Bachelor's degree	5	50	0	0
13-2082	Tax Preparers	High school diploma or	7	70	95	22

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
		equivalent				
13-2081	Tax Examiners and Collectors, and Revenue Agents	Bachelor's degree	60	600	226	61
13-2070	Credit Counselors and Loan Officers	Bachelor's degree	18	180	238	72
13-2053	Insurance Underwriters	Bachelor's degree	6	60	5	0
13-2051	Financial Analysts	Bachelor's degree	19	190	0	0
13-2031	Budget Analysts	Bachelor's degree	14	140	0	0
13-2011	Accountants and Auditors	Bachelor's degree	340	3,400	1,718	1,105
13-1199	Business Operations Specialists, All Other	High school diploma or equivalent	144	1,440	70	57
13-1161	Market Research Analysts and Marketing Specialists	Bachelor's degree	71	710	167	55
13-1151	Training and Development Specialists	Bachelor's degree	34	340	164	68
13-1141	Compensation, Benefits, and Job Analysis Specialists	Bachelor's degree	7	70	47	24
13-1131	Fundraisers	Bachelor's degree	7	70	20	20
13-1121	Meeting and Convention Planners	Bachelor's degree	7	70	44	0
13-1111	Management Analysts	Bachelor's degree	84	840	569	293
13-1081	Logisticians	Bachelor's degree	15	150	34	34
13-1070	Human Resources, Training, and Labor Relations Specialists	Bachelor's degree	78	780	656	174
13-1051	Cost Estimators	Bachelor's degree	102	1,020	61	0
13-1041	Compliance Officers, Except Ag., Construction, Health and SAfety, and Transport.	Bachelor's degree	25	250	316	259
13-1030	Claims Adjusters, Appraisers, Examiners, and Investigators	High school diploma or equivalent	47	470	78	24
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	High school diploma or equivalent	33	330	112	76
13-1022	Wholesale and Retail Buyers, Except Farm Products	High school diploma or equivalent	28	280	451	254
11-9XXX	Miscellaneous managers including postmansters and mail superintendents	Associate's degree	43	430	2,820	115
11-9151	Social and Community Service Managers	Bachelor's degree	51	510	487	223
11-9141	Property, Real Estate, and Community Association Managers	High school diploma or equivalent	27	270	977	373

OCCSOC	Occupation	Required Education	Annual Openings	Ten-Year Openings	Part-Time in Target Occupations	Part-Time in Target Occupations With Required background
11-9111	Medical and Health Services Managers	Bachelor's degree	109	1,090	624	483
11-9081	Lodging Managers	High school diploma or equivalent	6	60	8	4
11-9051	Food Service Managers	High school diploma or equivalent	55	550	1,683	516
11-9041	Architectural and Engineering Managers	Bachelor's degree	25	250	10	10
11-9030	Education Administrators	Bachelor's degree	114	1,140	1,417	664
11-9021	Constructions Managers	Bachelor's degree	59	590	258	21
11-9013	Farmers, Ranchers, and Other Agricultural Managers	High school diploma or equivalent	118	1,180	3,520	738
11-3121	Human Resources Managers	Bachelor's degree	19	190	224	61
11-3071	Transportation, Storage, and Distribution Managers	High school diploma or equivalent	34	340	48	7
11-3051	Industrial Production Managers	Bachelor's degree	29	290	106	0
11-3031	Financial Managers	Bachelor's degree	83	830	556	414
11-3021	Computer and Information Systems Managers	Bachelor's degree	25	250	73	51
11-3011	Administrative Services Managers	Bachelor's degree	54	540	23	0
11-2031	Public Relations Managers	Bachelor's degree	6	60	21	21
11-2020	Marketing and Sales Managers	Bachelor's degree	102	1,020	641	374
11-10XX	Chief executives and legislators	Bachelor's degree	47	470	367	172
11-1021	General and Operations Managers	Bachelor's degree	648	6,480	1,060	251

ATTACHMENT 2

MEMO

TO: Elaine Craig, Madera Workforce Development Board
Shermaene Roemhildt, Merced Workforce Development Board

FROM: Doug Svensson, AICP

DATE: December 5, 2016

SUBJECT: CCWC Regional Plan Narrative

As requested, we have prepared the following text to assist in the writing of the CCWC Regional Plan. We have copied the items David Shinder provided and have inserted narrative and references from the report where appropriate. Please let us know if anything further is needed.

A. Regional Economic and Background Analysis

i. Provide a regional analysis of economic conditions including existing and emerging in-demand industry sectors and occupations, and employment needs of employers in existing and emerging in-demand industry sectors and occupations. A local area may use an existing analysis, which is a timely current description of the regional economy, to meet the foregoing requirements.

The CCWC region has had a relatively slow recovery from the Great Recession. Before the recession, total jobs in the region peaked at 1,361,550 in 2007 and did not reach that level again until 2014. The annual average number of jobs in 2015 is estimated at 1,405,122. Through 2008, total jobs in the region were growing at a 1.4 annual percentage rate, while since 2008 the number of jobs has grown at a much lower 0.5 percent per year.

Farm employment, which constitutes 14 percent of total employment and is the largest industry cluster in the region, grew at a 2.2 percent annual rate between 2010 and 2015 but is projected to increase at a slower rate of 0.5 percent over the next ten years. Much of the agricultural job growth is projected in farm support (NAICS 115), especially from farm labor contractors (NAICS 115115). A number of factors affect farm employment including availability of water and continued mechanization of farming operations, accelerated by increased cost of labor due to the new state minimum wage.

Manufacturing industries in CCWC region are mainly in food processing. Manufacturing jobs increased by more than 5,100 jobs between 2010 and 2015, from 101,451 in 2010 to 105,607 in 2015. This sector is expected to slow its growth over the next ten years, adding about 7,000 jobs. Within

manufacturing, food processing (NAICS 311-312) is expected to increase annually by 0.8 percent between 2015 and 2025. Overall, food processing is projected to grow by more than 5,700 jobs in the coming ten years, led by food manufacturing industries such as animal slaughtering (NAICS 311611), meat processed from carcasses (NAICS 311612), perishable prepared foods (NAICS 311991) and wineries (NAICS 312130).

A number of non-food processing manufacturing industries are also projected to produce new jobs. Paint and coatings (NAICS 325510), plastics pipe and pipe fittings (NAICS 326122), urethane ad other foam products (NAICS 326150), glass products (NAICS 327215), fabricated structural metal (NAICS 332312) and search and detection instruments (NAICS 334511) are projected to have a combined growth of 1,825 jobs between 2015 and 2025.

Along with manufacturing and food production, the logistics sector is projected to add 22,000 jobs in the CCWC region between 2015 and 2025. This includes wholesale, warehousing and transportation jobs. Some of this growth reflects development of major consumer products wholesale distribution at both the northern and southern ends of the San Joaquin Valley serving the San Francisco and Los Angeles metropolitan areas.

The construction industry continued to grow coming out of the recession over the past five years, and is projected to grow over the next ten years as well. Residential construction (NAICS 236116), residential remodelers (NAICS 236118), electrical and plumbing specialties (NAICS 238210 and 238220) and water and sewer line construction (NAICS 237110) are expected to grow during this period, which is consistent with expected population growth for the region over the next ten years. In addition, the High Speed Rail (HSR) project and a variety of highway improvement projects are projected to add significant heavy construction jobs in the region. The HSR project is estimate to support an average of nearly 3,000 jobs over the ten year period to 2025, with peaks of 6,000 jobs during the height of construction.

The Health Services sector is projected to see strong employment growth over the next ten years. This is a consistent finding throughout the state as well as nationally and reflects both demographic trends with the aging Baby Boomer population as well as industry trends to institute managed care with more outpatient and home health care. Employment in Health Services is projected to grow to 241,950 in 2025 from 192,884 in 2015, for an annual rate of growth of 2.8 percent. Another population based trend is the increase in retail and food services jobs. Both these sectors have been recovering from the recession over the past five years, and are projected to see more moderate growth over the next ten years.

ii. Provide an analysis of the knowledge and skills needed to meet the employment needs of the employers in the region, including employment needs in in-demand industry sectors and occupations.

More than 51,200 average annual openings are projected between 2015 and 2025 (512,600 total openings), of which approximately 21,000 annual openings would be due to new job growth. The projections of job openings show a concentration in transportation and materials handling (4,900

annual openings), food services and retail (12,600 combined annual openings), office and admin support (5,900 annual openings) and farm occupations (6,300 annual openings).

The minimum educational requirements listed by the Department of Labor for more than three-quarters of the openings do not exceed a high school diploma. However, nearly 4,000 openings per year require more than a high school diploma, though less than a four year BA degree. This includes about 700 openings that require specialized training beyond high school, though not necessarily a certificate or AA degree. Of these jobs, 572 are teaching assistants and 105 are computer support specialists.

Nearly 1,400 annual opening are for jobs that do require a certificate in a specialized area of training. The largest occupational groups in this category include medical assistants (348 annual openings) and licensed practical and vocational nurses (308 openings per year). Other occupations requiring a certificate with 90-100 annual projected openings include dental assistants, emergency medical technician and paramedics, firefighters, supervisors of production and operating line workers, and heating, air conditioning and refrigeration mechanics.

About 2,000 projected openings per year would require an AA degree. The largest occupational group in this category is nurse practitioners (560 annual openings), followed by registered nurses (430 annual openings) and preschool teachers (203 annual openings). Another 331 projected annual openings are in other medical occupations, such as clinical technicians, health diagnosing support personnel, and respiratory therapists. The remaining openings in this category include a wide range of technical specialties including engineering and drafting technicians, agriculture and food science technicians and radio and telecommunications equipment installers.

iii. Provide an analysis of the regional workforce, including current labor force employment and unemployment data, information on labor market trends, and educational and skill levels of the workforce, including individuals with barriers to employment.

The region unemployment rate declined to 9.9 percent in 2015, down from the peak of 16.5 percent in 2010, but still well above the low point before the recession of 7.9 percent in 2006. While job levels have been increasing since 2010, the size of the labor force peaked in 2012 at 1,843,740, then declined to 1,840,270 by 2014 and finally increased slightly to 1,840,828 in 2015. Household population growth in the San Joaquin Valley exceeded statewide growth rates between 2011 and 2013, but has slowed in the past two years. CCWC region is projected to grow significantly faster than the state as a whole over the next five years (2015-2020), which will have implications for some employment sectors such as health care, retail, and local services.

In CCWC region, about 48 percent of the labor force is Latino, at 870,562 persons out of a labor force of 1,814,685, while 38 percent is White. Unemployment for Latino workers 25 and older is 12.4 percent compared to 8.6 percent for Whites. Unemployment is 14.2 percent for workers in other racial and ethnic groups. Unemployment affects workers 25 and older with no college degree much more, at 13.2 percent, than those with a college degree (6.1 percent). Veterans' unemployment level is at 8.8 percent. Disabled workers have relatively high unemployment, at slightly over 22.0 percent.

The labor force in CCWC region is fairly evenly concentrated among the age groups. Workers in the 16-24 age group are about 16.6 percent of the total while nearly 25 percent are in the 25-34 age group. The prime working age group of 35-54 has 41 percent of the workforce. Workers over 55 constitute about 16.9 percent of the workforce and a number of employers report that impending retirements are a significant issue for them in terms of anticipated openings in the future.

Non-citizen workers constitute 18.9 percent of the workforce in CCWC region, though the rate varies with age. At 23.7 percent of the prime working age (35 to 54) labor force, non-citizens are more concentrated in this age cohort relative to their overall concentration level.

Educational attainment in the CCWC region is slightly lower than the statewide averages, with 22 percent of workers 25 years and older not holding a high school diploma or equivalent, compared to 18.5 percent for the state as a whole. Statewide, 38.8 percent have a college degree, compared to 28.5 percent for the CCWC region.

However, in the San Joaquin Valley there is a stark contrast in the educational attainment levels of the labor force when citizenship status is taken into account. Among US citizens in the CCWC workforce, only 12 percent do not have a high school diploma or GED and 33.7 percent have a college degree. Non-citizens 25 and over exhibit high rates of less than high school attainment level: 62.8 percent of the non-citizens in the labor force have not obtained a high school diploma or a GED. This accounts in part for the differences in educational attainment between Latino workers and other workers in the labor force, as the non-citizen group is 87.1 percent Latino. Overall, Latinos have earned high school diplomas and GEDs at rates slightly surpassing Whites and Others, at 25.9 percent versus 24.5 percent (Whites) and 21.7 percent (Others). However, Whites and Others are over two and a half times more likely than Latinos to have earned a college degree: 14.9 percent of the Latinos in the labor force have earned a college degree versus 39.6 percent for Whites and 40.8 percent for others.

Veterans in CCWC region tend to have high levels of overall educational attainment, with 3.5 percent not achieving a high school diploma. Among disabled workers, however, 24.5 percent do not have a high school diploma, compared to 22 percent for the workforce as a whole.

iv. Provide an analysis of workforce development activities, including education and training, in the region. This analysis must include the strengths and weaknesses of workforce development activities and capacity to provide the workforce development activities to address the education and skill needs of the workforce, including individuals with barriers to employment, and the employment needs of employers. A significant share of the California population is foreign born, including several million individuals in the workforce who are limited English proficient. The following counties have a workforce that is at least 15 percent limited English proficient: Imperial, Monterey, San Benito, Los Angeles, Tulare, Merced, Santa Clara, Madera, Fresno, Orange, San Joaquin, San Mateo, Santa Barbara, Kern, Kings, Alameda, San Francisco, Napa, Stanislaus, San Bernardino, Ventura, Riverside, San Diego, Yolo, Sutter, Contra Costa, and Sacramento. RPUs containing one or more of these counties must assess and specify in their regional plans how they will address the needs of and provide services to those who are limited English proficient.

These RPUs are required to provide an assessment of the need to provide services to and how services will be provided to limited English proficient individuals.

[Note: ADE's analysis pertains to non-citizens but does not separate out workers with limited English proficiency].

B. Required Content on Regional Sector Pathways

i. A description of the way planning partners, including local economic development agencies, assessed regional industry workforce needs, including a description of the data sources utilized, the industry leaders engaged, and the manner in which industry engagement took place, including a summary of any relevant convening activities, the dates partners met, who attended, and what was decided.

<u>Industry/Educational Representatives Interviewed by ADE</u>

Rachelle Riggs, Human Resources Manager, Ball Metal Food Containers
Daryn Kumar, CEO, Memorial Medical Center
Steven Lillie, Senior Electrical/Facilities Mgr., Del Monte Foods Modesto
Jeff Grover, CEO, Solecon Industrial
Rosalinda Batsford, Human Resources Manager, Conagra
Dr. Kristen Clark, President, Westhills College, Lemoore campus
Dr. Kristin Robinson, Provost, College of the Sequoias. Hanford Center
Bill Fishbough, Superintendent, Hanford Joint Union High School District
Kes Andersen, Human Resources Manager, Leprino Foods
Glen Bach, General Manager, Pitman Family Farms
Randy Dodd, Vice President of Business Development, Adventist Health
Irene Gallegos, Human Resources Manager, Del Monte Foods, Hanford
Dusty Ference, Executive Director, Kings County Farm Bureau
Jay Irvine, President & CEO, Mar Vista Resources, LLC.
Gurminder Sangha, Deputy Sector Navigator, Advanced Manufacturing, California Community Colleges

[The following items were not a part of ADE's analysis]

ii. An analysis of the manner in which regional partners, including industry leaders, have determined, or will determine whether existing training and education programs in the region were/are meeting industry's workforce needs. This analysis should provide a description of any areas of identified training and education deficiency and what planning partners have committed to do to resolve relevant deficiencies.

iii. A description of any existing career pathway programs in the region that have been identified as meeting leading and emergent industry sector needs. This description should specifically articulate the manner in which industry participated in the identification of relevant pathways.

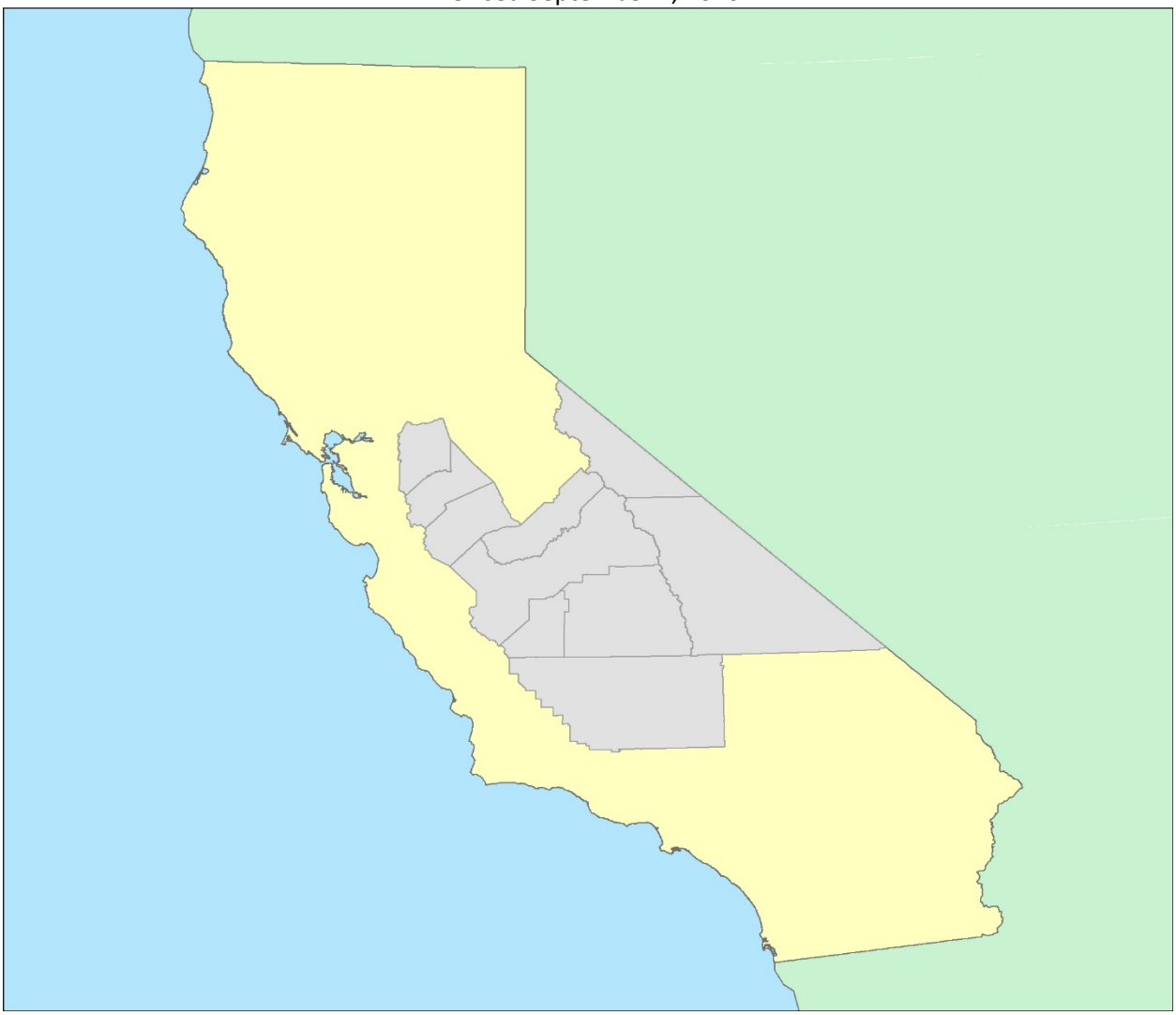
iv. A description of the work being done by industry, workforce boards, economic development agencies, and relevant faculty partners to recommend and implement any necessary adjustments to further develop career pathway programs that meet regional industry needs.

ATTACHMENT 3

Regional Planning Unit Summary: San Joaquin Valley and Associated Counties

Employment Development Department, Labor Market Information Division

Revised September 1, 2016



Fresno, Kern, Inyo, Mono, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties

Employment Development Department State of California

LaborMarketInfo www.labormarketinfo.edd.ca.gov

Regional Planning Unit: San Joaquin Valley and Associated Counties

Local Workforce Development Areas: Fresno County, Kern, Inyo, Mono Consortium, Kings County, Madera County, Merced County, San Joaquin County, Stanislaus County, and Tulare County

Counties: Fresno, Kern, Inyo, Mono, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare

Labor Market Profile

	May 2016	May 2015	Change	Percent
Labor Market	1,871,810	1,873,910	-2,100	-0.1%
Employed	1,710,720	1,689,870	20,850	1.2%
Unemployed	160,910	184,240	-23,330	-12.7%
Unemployment Rate	8.6%	9.8%	-1.2%	-

Source: Employment Development Department, Labor Market Information Division.
Data Note: Numbers may not add due to rounding.

Unemployment Insurance Claims

Unemployment Insurance Claims data is available by county here.

Source: Employment Development Department, Unemployment Insurance Division.

Commute Patterns

Living and Employed in the Area	Inflow	Outflow
991,078	223,636	321,863

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2014).

Regional Economic Growth

Major Industry Sector	May 2016 (preliminary)	May 2012	Change	Percent	Location Quotient
Total All Industries	1,514,200	1,368,720	145,480	10.6%	-
Total Farm	240,000	220,001	19,999	9.1%	5.6
Total Nonfarm	1,274,200	1,148,720	125,480	10.9%	0.9
Mining and Logging	9,930	13,451	-3,521	-26.2%	4.4
Construction	43,130	36,530	6,600	18.1%	0.6
Manufacturing	111,240	102,701	8,539	8.3%	1.0
Trade, Transportation and Utilities	268,450	235,200	33,250	14.1%	1.0
Information	11,840	11,660	180	1.5%	0.3
Financial Activities	42,940	42,540	400	0.9%	0.6
Professional and Business Services	110,120	101,620	8,500	8.4%	0.5
Educational and Health Services	205,460	181,400	24,060	13.3%	0.9
Leisure and Hospitality	126,430	106,960	19,470	18.2%	0.7
Other Services	38,790	35,700	3,090	8.7%	0.8
Government	287,380	266,760	20,620	7.7%	1.3

Source: Employment Development Department, Labor Market Information Division.
Data Note: Numbers may not add due to suppression. Location quotients (LQs) are ratios that allow a Regional Planning Unit (RPU)'s distribution of employment for an industry to be compared to California's distribution of employment for the same industry. Specifically, LQs are calculated by first dividing RPU industry employment by the all industry total of RPU employment. Second, California industry employment is divided by the all industry total for California. Finally, the RPU ratio (first calculation) is divided by the California ratio (second calculation). If an LQ is equal to 1, then the industry has the same share of RPU employment as it does in California. An LQ greater than 1 indicates an industry with a greater share of RPU employment than is the case statewide.

Demand Industry Sectors

Top Demand Industry Sub Sector	Total Projected Job Openings 2012-2022	Location Quotient
Support Activities for Crop Production	53,533	6.7
Restaurants and Other Eating Places	50,829	0.9
Elementary and Secondary Schools	35,929	1.5
Individual and Family Services	20,045	0.9
General Medical and Surgical Hospitals	18,716	1.1
Employment Services	14,915	0.8
Offices of Physicians	13,370	1.0
Grocery Stores	11,199	1.0
Other General Merchandise Stores	9,151	1.2
Fruit and Tree Nut Farming	8,615	4.8

Source: Employment Development Department, Labor Market Information Division.
Data Note: Total projected job openings are the sum of new and replacement job openings.

Emergent Industry Sectors

Top Emergent Industry Sub Sector	Numeric Change 2012-2022	Percent Change	Location Quotient
Motor Vehicle Parts Manufacturing	1,280	108.5%	1.0
Other General Merchandise Stores	6,320	73.4%	1.2
Social Advocacy Organizations	860	71.7%	0.7
Highway, Street, and Bridge Construction	1,200	71.0%	1.0
Other Support Services	1,420	68.9%	0.9
Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly	4,510	68.0%	0.9
Building Finishing Contractors	4,060	64.2%	0.9
Wired Telecommunications Carriers	1,090	63.4%	0.8
Petroleum and Coal Products Manufacturing	670	59.8%	1.1
Management, Scientific, and Technical Consulting Services	3,660	59.5%	0.3

Source: Employment Development Department, Labor Market Information Division.
Data Note: Emergent industry sectors are industries with the highest levels of growth as measured by percent change.

Top 25 Middle-Skill, Middle-Wage or Higher Occupations

Top 25 Middle-Skill, Middle-Wage or Higher Occupations	Total Projected Job Openings 2012-2022	HWOL Job Ads	Median Annual Wage 2016 1st Quarter
Heavy and Tractor-Trailer Truck Drivers	10,494	5,728	$40,041
Registered Nurses	9,600	6,196	$91,510
Teacher Assistants	5,245	872	$28,905
Nursing Assistants	4,863	411	$27,057
Medical Assistants	4,231	505	$30,558
Licensed Practical and Licensed Vocational Nurses	2,956	813	$51,343
Preschool Teachers, Except Special Education	1,935	349	$30,319
Dental Assistants	1,586	407	$31,716
First-Line Supervisors of Production and Operating Workers	1,478	909	$53,638
Firefighters	1,080	29	$55,844
Computer User Support Specialists	1,048	727	$47,185
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	1,025	367	$44,599
Dental Hygienists	966	105	$86,444
Emergency Medical Technicians and Paramedics	909	87	$33,149
Medical Records and Health Information Technicians	892	257	$38,238
Paralegals and Legal Assistants	828	129	$48,905
Aircraft Mechanics and Service Technicians	739	103	$57,758
Library Technicians	699	25	$35,389
Medical and Clinical Laboratory Technicians	671	50	$43,721
Telecommunications Equipment Installers and Repairers, Except Line Installers	621	202	$53,645
Phlebotomists	522	76	$36,274
Respiratory Therapists	503	88	$77,694
Radiologic Technologists	492	244	$74,594
Forest and Conservation Technicians	464	129	$32,406
Agricultural and Food Science Technicians	444	46	$37,365

Source: Employment Development Department, Labor Market Information Division; The Conference Board Help Wanted OnLine™ (HWOL) Data Series, 120-day period ending June 21, 2016.
Data Note: Middle-skill occupations typically require more than a high school diploma but less than a Bachelor's degree. Middle-wage occupations make at least 80 percent of the area's median annual wage ($33,796).

Demographic Data

Age	Population	Percent Share of Total Population
Under 5 Years	333,960	8.2%
5 to 9 Years	331,184	8.1%
10 to 14 Years	328,524	8.1%
15 to 17 Years	200,666	4.9%
18 and 19 Years	126,636	3.1%
20 Years	70,751	1.7%
21 Years	66,804	1.6%
22 to 24 Years	183,845	4.5%
25 to 29 Years	298,348	7.3%
30 to 34 Years	281,255	6.9%
35 to 39 Years	259,620	6.4%
40 to 44 Years	254,588	6.2%
45 to 49 Years	255,167	6.3%
50 to 54 Years	253,973	6.2%
55 to 59 Years	222,730	5.5%
60 and 61 Years	79,803	2.0%
62 to 64 Years	105,872	2.6%
65 and 66 Years	64,101	1.6%
67 to 69 Years	76,464	1.9%
70 to 74 Years	100,429	2.5%
75 to 79 Years	74,251	1.8%
80 to 84 Years	55,364	1.4%
85 Years and Older	55,274	1.4%
Total	4,079,609	100.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Gender	Population
Male	2,053,624
Female	2,025,985
Total	4,079,609

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Median Household Income by County	Median Household Income
Fresno	$45,201
Inyo	$45,625
Kern	$48,574
Kings	$47,341
Madera	$45,490
Merced	$43,066
Mono	$61,814
San Joaquin	$53,253
Stanislaus	$49,573
Tulare	$42,863

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Poverty Status	Population	Percentage
Income in the Past 12 Months Below Poverty Level	940,042	23.7%
Income in the Past 12 at or Above Poverty Level	3,030,436	76.3%
Total	3,970,478	100.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Race	Population	Percentage
Hispanic or Latino	2,018,605	100.0%
White Alone	1,332,905	66.0%
Black or African American Alone	13,492	0.7%
American Indian and Alaska Native Alone	20,737	1.0%
Asian Alone	7,720	0.4%
Native Hawaiian and Other Pacific Islander Alone	1,329	0.1%
Some Other Race Alone	548,857	27.2%
Two or More Races	93,565	4.6%
Non-Hispanic or Latino	2,061,004	100.0%
White Alone	1,452,229	70.5%
Black or African American Alone	180,518	8.8%
American Indian and Alaska Native Alone	24,507	1.2%
Asian Alone	296,367	14.4%
Native Hawaiian and Other Pacific Islander Alone	11,187	0.5%
Some Other Race Alone	6,589	0.3%
Two or More Races	89,607	4.3%

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Native and Foreign Born	Population	Percentage
Native	3,192,815	78.3%
Foreign Born	886,794	21.7%
Total	4,079,609	100.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

English Learners	Population	Percentage
Speaks English Less Than "Very Well"	711,447	19.0%
Speaks English "Very Well"	916,870	24.5%
Speaks Only English	2,117,332	56.5%
Total	3,745,649	100.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Veteran Status	Population	Percentage
Male Veterans	179,774	93.2%
Female Veterans	13,092	6.8%
Total	192,866	100.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Disability Status	Population	Percentage
With Any Disability	482,044	12.1%
No Disability	3,507,996	87.9%
Total	3,990,040	100.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Labor Force Participation	Population	Percentage
Employed or in Armed Forces	1,562,189	51.7%
Unemployed	261,676	8.7%
Not in labor force	1,196,002	39.6%
Total	3,019,867	100.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Individuals with Barriers to Employment	Total
Ethnic Minorities	2,627,380
Households with Cash Public Assistance or Food Stamps	227,663
Population 18 and Over with Less Than a 9th Grade Level Education	383,224
Single Parent Households	299,397
Speak English Less Than "Very Well"	711,447
Youth Ages 10 to 24	977,226

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Educational Attainment	Male	Percentage	Female	Percentage
Less than 9th grade	198,654	13.8%	184,570	12.8%
9th to 12th grade, no diploma	196,833	13.6%	153,414	10.6%
High school graduate (includes equivalency)	394,997	27.4%	366,649	25.4%
Some college, no degree	363,871	25.2%	397,218	27.6%
Associate's degree	92,503	6.4%	118,626	8.2%
Bachelor's degree	131,471	9.1%	154,746	10.7%
Graduate or professional degree	65,809	4.6%	65,914	4.6%
Total	1,444,138	100.0%	1,441,137	100.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Educational Attainment, 25 Years and Over	Hispanic or Latino	Percent of Hispanic or Latino, Total	White alone, not Hispanic or Latino	Percent of White alone, not Hispanic or Latino, Total
Less than high school diploma	465,066	45.5%	106,769	10.1%
High school graduate (includes equivalency)	249,071	24.3%	288,617	27.4%
Some college or associate's degree	240,004	23.5%	409,059	38.8%
Bachelor's degree or higher	68,756	6.7%	249,627	23.7%
Total	1,022,897	100.0%	1,054,072	100.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Educational Attainment by Race, 25 Years and Over	White Alone	Percent of White Alone, Total	Black or African American Alone	Percent of Black or African American Alone, Total	American Indian and Alaska Native Alone	Percent of American Indian and Alaska Native Alone, Total	Asian Alone	Percent of Asian Alone, Total	Native Hawaiian and Other Pacific Islander Alone	Percent of Native Hawaiian and Other Pacific Islander Alone, Total	Some Other Race Alone	Percent of Some Other Race Alone, Total	Two or More Races	Percent of Two or more races, Total
Less than high school diploma	409,495	23.7%	20,148	17.7%	6,927	25.2%	44,779	24.1%	1,557	19.9%	145,998	48.8%	17,118	22.6%
High school graduate (includes equivalency)	453,186	26.2%	29,249	25.7%	7,990	29.0%	35,705	19.2%	2,492	31.9%	70,944	23.7%	19,431	25.7%
Some college or associate's degree	567,212	32.8%	48,411	42.5%	9,907	36.0%	50,399	27.1%	3,082	39.5%	65,473	21.9%	26,872	35.5%
Bachelor's degree or higher	296,868	17.2%	16,067	14.1%	2,704	9.8%	55,247	29.7%	677	8.7%	16,978	5.7%	12,323	16.3%
Total	1,726,761	100.0%	113,875	100.0%	27,528	100.0%	186,130	100.0%	7,808	100.0%	299,393	100.0%	75,744	100.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey, 5-Year Estimates.

Gross Domestic Product (GDP) by Metropolitan Statistical Area (MSA)

The Bureau of Economic Analysis (BEA) estimates GDP at the State and MSA level only. Where applicable, the tables below display MSA data as a substitute for county level data.

GDP by Fresno MSA (substitute for Fresno County)

Major Industry Sector	**2014 Millions of Current Dollars**
Total All Industries	$37,149
Agriculture, Forestry, Fishing, and Hunting	$3,875
Mining	$157
Utilities	$964
Construction	$1,291
Manufacturing	$2,563
Wholesale Trade	$2,348
Retail Trade	$2,642
Transportation and Warehousing	$1,069
Information	$1,045
Finance, Insurance, Real Estate, Rental, and Leasing	$7,298
Professional and Business Services	$2,357
Educational Services, Health Care, and Social Assistance	$3,632
Arts, Entertainment, Recreation, Accommodation, and Food Services	$979
Other Services, Except Government	$958
Government	$5,971

Source: U.S. Department of Commerce, Bureau of Economic Analysis.
Data Note: Industry detail is based on the 2007 North American Industry Classification System (NAICS). Per capita real GDP statistics for 2001-2014 reflect Census Bureau mid-year population estimates available as of March 2015. Last updated: September 23, 2015.

GDP by Bakersfield MSA (substitute for Kern County)

Major Industry Sector	2014 Millions of Current Dollars
Total All Industries	$39,989
Agriculture, Forestry, Fishing, and Hunting	$5,083
Mining	$6,486
Utilities	$564
Construction	$1,724
Manufacturing	$3,294
Wholesale Trade	$2,057
Retail Trade	$2,327
Transportation and Warehousing	$1,131
Information	$439
Finance, Insurance, Real Estate, Rental, and Leasing	$3,948
Professional and Business Services	$2,589
Educational Services, Health Care, and Social Assistance	$2,137
Arts, Entertainment, Recreation, Accommodation, and Food Services	$789
Other Services, Except Government	$1,059
Government	$6,364

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Data Note: Industry detail is based on the 2007 North American Industry Classification System (NAICS). Per capita real GDP statistics for 2001-2014 reflect Census Bureau mid-year population estimates available as of March 2015. Last updated: September 23, 2015.

GDP by Hanford-Corcoran MSA (substitute for Kings County)

Major Industry Sector	2014 Millions of Current Dollars
Total All Industries	$5,275
Agriculture, Forestry, Fishing, and Hunting	$1,135
Mining	(L)
Utilities	$33
Construction	$86
Manufacturing	$556
Wholesale Trade	$132
Retail Trade	$277
Transportation and Warehousing	$88
Information	$36
Finance, Insurance, Real Estate, Rental, and Leasing	$272
Professional and Business Services	$137
Educational Services, Health Care, and Social Assistance	$340
Arts, Entertainment, Recreation, Accommodation, and Food Services	$90
Other Services, Except Government	$100
Government	$1,992

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Data Note: Industry detail is based on the 2007 North American Industry Classification System (NAICS). (L) Less than $500,000 in nominal or real GDP by metropolitan area. Per capita real GDP statistics for 2001-2014 reflect Census Bureau mid-year population estimates available as of March 2015. Last updated: September 23, 2015.

GDP by Madera MSA (substitute for Madera County)

Major Industry Sector	2014 Millions of Current Dollars
Total All Industries	$4,729
Agriculture, Forestry, Fishing, and Hunting	(D)
Mining	(D)
Utilities	$119
Construction	$135
Manufacturing	$501
Wholesale Trade	$143
Retail Trade	$294
Transportation and Warehousing	$77
Information	$103
Finance, Insurance, Real Estate, Rental, and Leasing	$308
Professional and Business Services	$199
Educational Services, Health Care, and Social Assistance	$529
Arts, Entertainment, Recreation, Accommodation, and Food Services	$105
Other Services, Except Government	$124
Government	$851

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Data Note: Industry detail is based on the 2007 North American Industry Classification System (NAICS). (D) Not shown in order to avoid the disclosure of confidential information; estimates are included in higher level totals. Per capita real GDP statistics for 2001-2014 reflect Census Bureau mid-year population estimates available as of March 2015. Last updated: September 23, 2015.

GDP by Merced MSA (substitute for Merced County)

Major Industry Sector	2014 Millions of Current Dollars
Total All Industries	$7,225
Agriculture, Forestry, Fishing, and Hunting	(D)
Mining	(D)
Utilities	(D)
Construction	$222
Manufacturing	$997
Wholesale Trade	(D)
Retail Trade	$539
Transportation and Warehousing	$226
Information	$58
Finance, Insurance, Real Estate, Rental, and Leasing	$621
Professional and Business Services	$310
Educational Services, Health Care, and Social Assistance	$517
Arts, Entertainment, Recreation, Accommodation, and Food Services	$168
Other Services, Except Government	$191
Government	$1,466

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Data Note: Industry detail is based on the 2007 North American Industry Classification System (NAICS). (D) Not shown in order to avoid the disclosure of confidential information; estimates are included in higher level totals. Per capita real GDP statistics for 2001-2014 reflect Census Bureau mid-year population estimates available as of March 2015. Last updated: September 23, 2015.

GDP by Stockton-Lodi MSA (substitute for San Joaquin County)

Major Industry Sector	**2014 Millions of Current Dollars**
Total All Industries	$23,491
Agriculture, Forestry, Fishing, and Hunting	$1,674
Mining	$228
Utilities	$523
Construction	$931
Manufacturing	$2,092
Wholesale Trade	$1,879
Retail Trade	$1,853
Transportation and Warehousing	$1,363
Information	$456
Finance, Insurance, Real Estate, Rental, and Leasing	$4,046
Professional and Business Services	$1,394
Educational Services, Health Care, and Social Assistance	$2,270
Arts, Entertainment, Recreation, Accommodation, and Food Services	$628
Other Services, Except Government	$627
Government	$3,527

Source: U.S. Department of Commerce, Bureau of Economic Analysis.
Data Note: Industry detail is based on the 2007 North American Industry Classification System (NAICS). Per capita real GDP statistics for 2001-2014 reflect Census Bureau mid-year population estimates available as of March 2015. Last updated: September 23, 2015.

GDP by Modesto MSA (substitute for Stanislaus County)

Major Industry Sector	2014 Millions of Current Dollars
Total All Industries	$18,094
Agriculture, Forestry, Fishing, and Hunting	$1,729
Mining	$7
Utilities	(D)
Construction	$645
Manufacturing	$2,662
Wholesale Trade	(D)
Retail Trade	$1,521
Transportation and Warehousing	$645
Information	$182
Finance, Insurance, Real Estate, Rental, and Leasing	$2,946
Professional and Business Services	$1,082
Educational Services, Health Care, and Social Assistance	$2,196
Arts, Entertainment, Recreation, Accommodation, and Food Services	$513
Other Services, Except Government	$453
Government	$2,392

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Data Note: Industry detail is based on the 2007 North American Industry Classification System (NAICS). (D) Not shown in order to avoid the disclosure of confidential information; estimates are included in higher level totals. Per capita real GDP statistics for 2001-2014 reflect Census Bureau mid-year population estimates available as of March 2015. Last updated: September 23, 2015.

GDP by Visalia-Porterville MSA (substitute for Tulare County)

Major Industry Sector	2014 Millions of Current Dollars
Total All Industries	$13,632
Agriculture, Forestry, Fishing, and Hunting	$2,977
Mining	$24
Utilities	$257
Construction	$429
Manufacturing	$1,339
Wholesale Trade	$696
Retail Trade	$1,185
Transportation and Warehousing	$507
Information	$256
Finance, Insurance, Real Estate, Rental, and Leasing	$1,096
Professional and Business Services	$695
Educational Services, Health Care, and Social Assistance	$768
Arts, Entertainment, Recreation, Accommodation, and Food Services	$329
Other Services, Except Government	$398
Government	$2,675

Source: U.S. Department of Commerce, Bureau of Economic Analysis.
Data Note: Industry detail is based on the 2007 North American Industry Classification System (NAICS). Per capita real GDP statistics for 2001-2014 reflect Census Bureau mid-year population estimates available as of March 2015. Last updated: September 23, 2015.

Skill Requirements for Top 25 Middle-Skill, Middle-Wage or Higher Occupations

Occupations	Skills																							
	Active Learning	Active Listening	Complex Problem Solving	Coordination	Critical Thinking	Equipment Maintenance	Installation	Instructing	Judgment and Decision Making	Learning Strategies	Management of Personnel Resources	Monitoring	Operation and Control	Operation Monitoring	Quality Control Analysis	Reading Comprehension	Repairing	Science	Service Orientation	Social Perceptiveness	Speaking	Time Management	Troubleshooting	Writing
Heavy and Tractor-Trailer Truck Drivers		●	●		●	●						●	●	●		●					●	●		
Registered Nurses	●	●		●	●			●				●				●			●	●	●			
Teacher Assistants		●		●	●			●		●		●				●			●	●	●			
Nursing Assistants	●	●		●	●							●				●			●	●	●			●
Medical Assistants	●	●		●	●							●				●			●	●	●			●
Licensed Practical and Licensed Vocational Nurses		●		●	●				●			●				●			●	●	●	●		
Preschool Teachers, Except Special Education		●		●	●					●		●				●			●	●	●	●		
Dental Assistants	●	●			●			●				●				●			●	●	●			●
First-Line Supervisors of Production and Operating Workers		●	●	●	●						●					●				●	●	●		●
Firefighters*		●		●	●				●			●		●		●			●	●	●			
Computer User Support Specialists	●	●		●	●			●				●				●			●		●			●
Heating, Air Conditioning, and Refrigeration Mechanics and Installers*		●		●	●	●	●						●		●	●	●						●	
Dental Hygienists	●	●	●	●	●							●				●			●		●			●
Emergency Medical Technicians and Paramedics	●	●		●	●				●			●				●			●	●	●			
Medical Records and Health Information Technicians		●	●		●				●	●		●				●					●	●		●
Paralegals and Legal Assistants	●	●		●	●							●				●				●	●	●		●
Aircraft Mechanics and Service Technicians		●	●		●	●			●					●	●	●	●						●	
Library Technicians	●	●		●	●			●				●				●			●		●			●
Medical and Clinical Laboratory Technicians	●	●	●	●	●					●		●				●		●			●			
Telecommunications Equipment Installers and Repairers, Except Line Installers	●	●	●		●							●		●	●	●	●						●	
Phlebotomists	●	●		●	●			●				●				●			●	●	●			
Respiratory Therapists	●	●			●				●			●				●		●	●	●	●			
Radiologic Technologists	●	●		●	●							●				●				●	●	●		●
Forest and Conservation Technicians		●	●	●	●				●	●	●	●				●					●			
Agricultural and Food Science Technicians*	●	●	●	●	●			●				●				●					●			●

Source: U.S. Department of Labor's Occupational Information Network (O*NET) at www.onetonline.org.

* Skills listed for the occupation represent a specialty occupation.

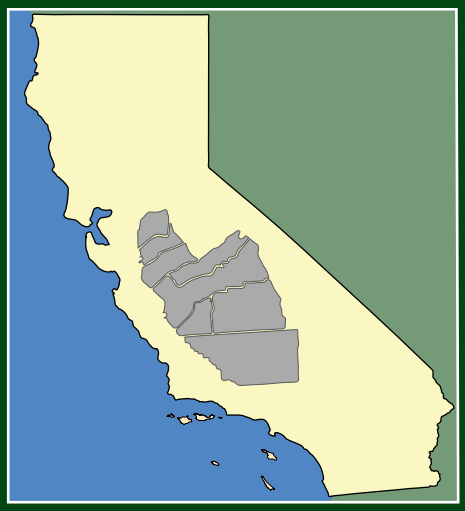
Knowledge Requirements for Top 25 Middle-Skill, Middle-Wage or Higher Occupations

Occupations	Knowledge																												
	Administration and Management	Biology	Building and Construction	Chemistry	Clerical	Communications and Media	Computers and Electronics	Customer and Personal Service	Design	Economics and Accounting	Education and Training	Engineering and Technology	English Language	Geography	Law and Government	Mathematics	Mechanical	Medicine and Dentistry	Personnel and Human Resources	Philosophy and Theology	Physics	Production and Processing	Psychology	Public Safety and Security	Sales and Marketing	Sociology and Anthropology	Telecommunications	Therapy and Counseling	Transportation
Heavy and Tractor-Trailer Truck Drivers	●							●			●		●	●	●	●	●							●					●
Registered Nurses		●			●			●			●		●			●		●					●			●		●	
Teacher Assistants					●		●	●			●		●	●		●							●			●		●	
Nursing Assistants					●		●	●			●		●					●	●				●	●				●	
Medical Assistants	●				●		●	●			●		●					●					●	●				●	
Licensed Practical and Licensed Vocational Nurses				●	●			●			●		●			●		●		●			●					●	
Preschool Teachers, Except Special Education	●							●			●		●	●						●			●	●		●		●	
Dental Assistants				●	●		●	●			●		●					●				●	●		●				
First-Line Supervisors of Production and Operating Workers	●				●		●		●		●	●				●	●		●			●							
Firefighters*	●		●	●				●			●		●		●		●				●			●					
Computer User Support Specialists	●				●	●	●	●			●	●	●			●											●		
Heating, Air Conditioning, and Refrigeration Mechanics and Installers*			●	●			●	●	●			●	●			●	●				●								
Dental Hygienists		●		●	●		●	●			●		●					●					●		●				
Emergency Medical Technicians and Paramedics				●				●			●		●			●		●					●	●				●	●
Medical Records and Health Information Technicians	●				●	●	●	●			●		●		●	●								●					
Paralegals and Legal Assistants	●				●	●	●	●			●		●		●	●							●						
Aircraft Mechanics and Service Technicians				●				●	●			●	●			●	●				●	●		●					●
Library Technicians	●				●	●	●	●		●	●		●		●	●													
Medical and Clinical Laboratory Technicians		●		●	●		●	●					●			●		●				●		●					
Telecommunications Equipment Installers and Repairers, Except Line Installers					●		●	●			●	●	●			●	●							●			●		
Phlebotomists				●	●		●	●			●		●					●		●			●	●					
Respiratory Therapists		●		●			●	●			●		●			●		●					●					●	
Radiologic Technologists		●			●		●	●			●		●			●		●			●		●						
Forest and Conservation Technicians		●					●	●			●		●	●	●	●	●							●					●
Agricultural and Food Science Technicians*	●	●		●	●		●				●		●	●		●			●										

Source: U.S. Department of Labor's Occupational Information Network (O*NET) at www.onetonline.org.

* Knowledge listed for the occupation represent a specialty occupation.

ATTACHMENT 4



Regional Economic Analysis Profile

San Joaquin Valley Economic Market

April 2015

Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties

Employment Development Department
State of California

LaborMarketinfo
www.labormarketinfo.edd.ca.gov

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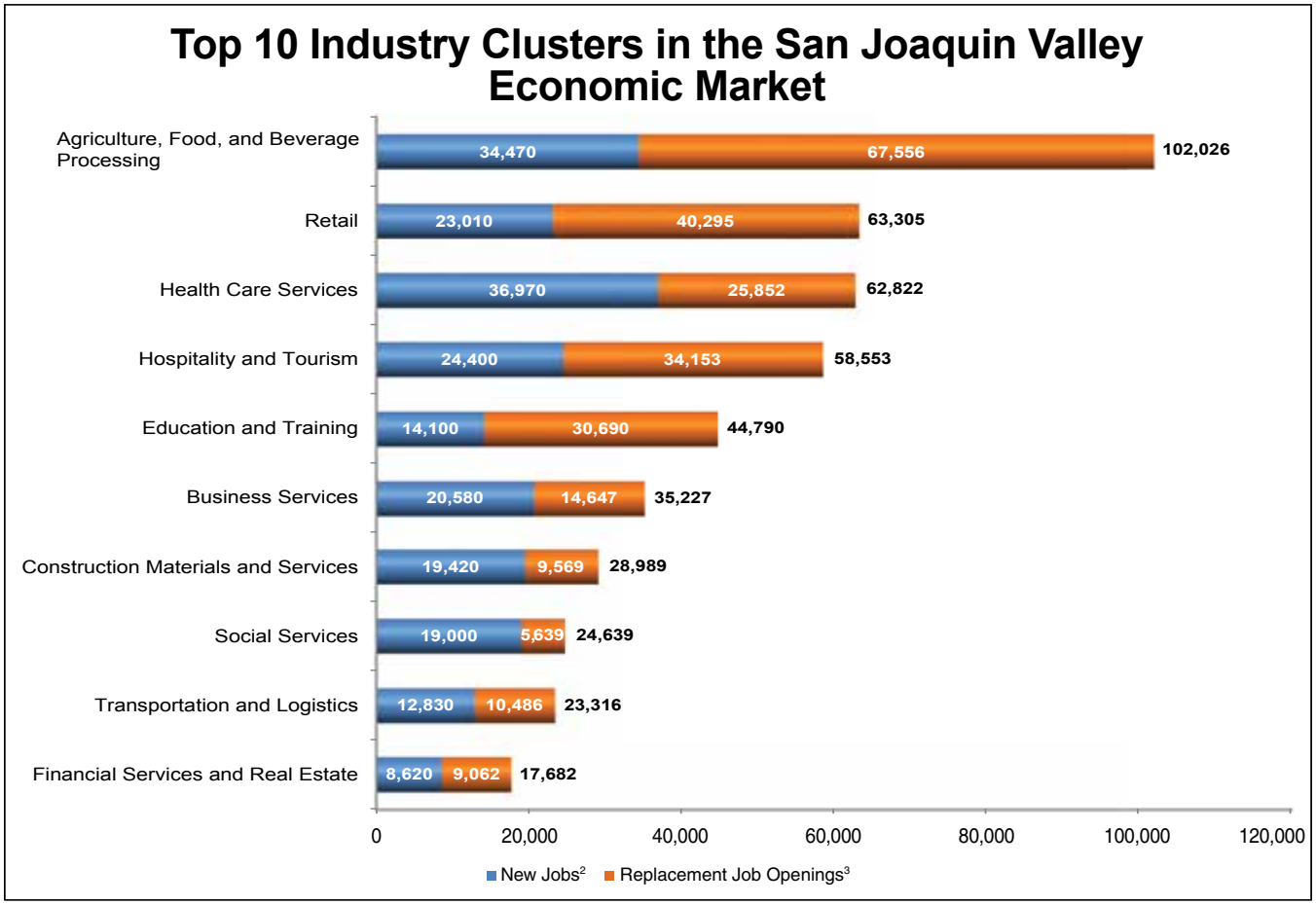
SUMMARY OF THE SAN JOAQUIN VALLEY ECONOMIC MARKET INDUSTRY CLUSTERS

What is an Industry Cluster?

Industry clusters are groups of associated industries in an economic market that stimulate the creation of new businesses and job opportunities in a particular field. The application of workforce and economic development resources toward the continual development of industry clusters will help stimulate economic growth and boost the number of employment opportunities for the labor force.

Purpose of this Report

The purpose of this report is to help align the state's workforce institutions and programs around the needs of economic market industry clusters. This report focuses on the future employment demand of economic market industry clusters and features them as primary investment opportunities for the California workforce development system. The goal of this report is to account for industry clusters with the largest number of projected total job openings[1] and help the California workforce development system prepare the state's workforce to compete for these future job opportunities.



Source: California Employment Development Department, Projections of Employment 2012-2022. Industry and occupational employment projections for 2012-2022 in this report may not be directly comparable to the published 2012-2022 employment projections available online at www.labormarketinfo.edd.ca.gov.

[1] Total job openings are the sum of new jobs and replacement job openings.
[2] New jobs are only openings due to growth and do not include job declines. If an occupation's employment change is negative, there is no job growth and new jobs are set to zero.
[3] Replacement job openings estimate the number of job openings created when workers retire or permanently leave an occupation and need to be replaced.

INDUSTRY CLUSTER DESCRIPTIONS

The following are descriptions of the San Joaquin Valley Economic Market's top 10 industry clusters followed by a list of the top industries with the highest total projected job openings in the cluster.

The **Agriculture, Food, and Beverage Processing** industry cluster includes establishments primarily engaged in growing crops, raising animals, and manufacturing food and beverages, as well as support activities for crop and animal production. This cluster employed almost 269,000 people during 2013-2014,* almost 21.7 percent of the economic market's workforce. Top industries in this cluster include:

- Support Activities for Crop Production
- Fruit and Tree Nut Farming
- Cattle Ranching and Farming
- Other Food Manufacturing
- Beverage Manufacturing

The **Retail** industry cluster includes grocery and department stores, dollar stores, retail pharmacies, and clothing specialty stores. During 2013-2014,* this cluster employed almost 135,000 workers, or about 10.9 percent of the economic market's total employment. Industries projected to have the largest number of jobs include:

- Grocery Stores
- Other General Merchandise Stores
- Department Stores
- Building Material and Supplies Dealers
- Automobile Dealers

The **Health Care Services** industry cluster includes acute care and outpatient hospitals, nursing homes and rehabilitation centers, adult day care centers, and community service agencies for the elderly. It employed nearly 134,000 people in the economic market during 2013-2014,* accounting for 10.8 percent of the workforce. Industries in this cluster may include both public and private employment. Top industries within this cluster include:

- General Medical and Surgical Hospitals
- Offices of Physicians
- Nursing Care Facilities (Skilled Nursing Facilities)
- Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly
- Outpatient Care Centers

The **Hospitality and Tourism** industry cluster includes interrelated industries such as eating establishments, hotels and motels, casinos, museums, and sightseeing transportation. During 2013-2014,* this cluster was comprised of almost 107,000 workers, or 8.6 percent of the economic market's employment. Industries within this cluster with the most projected job openings include:

- Restaurants and Other Eating Places
- Other Amusement and Recreation Industries
- Traveler Accommodation
- Special Food Services
- Drinking Places (Alcoholic Beverages)

The **Education and Training** industry cluster is comprised of public and private elementary and high schools, community colleges, universities, and professional schools with programs such as dental, law, and medical. Other establishments include English as Second Language (ESL) programs, test preparation and tutoring, or driving instruction. During 2013-2014,* this cluster employed nearly 134,000 people in the economic market, accounting for 10.8 percent of the workforce. Top industries within this cluster include:

- Elementary and Secondary Schools
- Colleges, Universities, and Professional Schools
- Junior Colleges
- Other Schools and Instruction
- Technical and Trade Schools

* Quarterly Census of Employment and Wages (QCEW), a federal-state cooperative program, for the period April 2013 through March 2014.

INDUSTRY CLUSTER DESCRIPTIONS

The **Business Services** industry cluster is comprised of industries that include temporary help agencies, employer organizations, janitorial services, security systems services, and carpet cleaning establishments. This cluster employed more than 71,000 people during 2013-2014,* or 5.8 percent of the economic market's workforce. Top industries in this cluster include:

- Employment Services
- Services to Buildings and Dwellings
- Management of Companies and Enterprises
- Business Support Services
- Investigation and Security Services

The **Construction Materials and Services** industry cluster is comprised of builders of mechanical systems such as electrical, heating, and water; specialty trades outfits such as drywall, flooring, and painting contractors; residential and commercial builders; and contractors who complete foundation and framing work. During 2013- 2014,* this cluster was comprised of more than 55,000 workers, or 4.5 percent of the economic market's employment. Industries showing the highest projected job openings include:

- Building Equipment Contractors
- Building Finishing Contractors
- Foundation, Structure, and Building Exterior Contractors
- Residential Building Construction
- Other Specialty Trade Contractors

The **Social Services** industry cluster is comprised of establishments and agencies (public and private) that provide non-residential services for the welfare of children, adults, the elderly, and disabled. Examples include nonmedical in-home care programs, day care centers, and community food banks. In total, the cluster employed more than 47,000 people and accounted for 3.8 percent of the economic market's workforce in 2013-2014,* Industries include:

- Individual and Family Services
- Child Day Care Services
- Vocational Rehabilitation Services
- Community Food and Housing, and Emergency and Other Relief Services

The **Transportation and Logistics** cluster is made up of interrelated industries such as refrigerated warehousing, self-storage facilities, freight transporting companies, and overnight delivery businesses. In 2013-2014,* over 50,000 workers were employed in this cluster, making up 4 percent of the economic market's workforce population. Industries showing the highest projected job openings include:

- Warehousing and Storage
- General Freight Trucking
- Specialized Freight Trucking
- Couriers and Express Delivery Services
- Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance

The **Financial Services and Real Estate** industry cluster includes commercial banks, savings institutions, credit unions, credit card companies, insurance firms, and real estate appraisers or property management companies. During 2013-2014,* this cluster was comprised of nearly 37,000 workers, or 3 percent of the economic market's employment. Industries showing the highest projected job openings include:

- Depository Credit Intermediation
- Lessors of Real Estate
- Agencies, Brokerages, and Other Insurance Related Activities
- Insurance Carriers
- Activities Related to Real Estate

* Quarterly Census of Employment and Wages (QCEW), a federal-state cooperative program, for the period April 2013 through March 2014.

INDUSTRY CLUSTER DEFINITIONS

The following is a list of the North American Industry Classification System (NAICS) codes and corresponding industries that fall under each of the top 10 industry clusters in the San Joaquin Valley Economic Market.

Agriculture, Food, and Beverage Processing

1111 Oilseed and Grain Farming
1112 Vegetable and Melon Farming
1113 Fruit and Tree Nut Farming
1114 Greenhouse, Nursery, and Floriculture Production
1119 Other Crop Farming
1121 Cattle Ranching and Farming
1122 Hog and Pig Farming
1123 Poultry and Egg Production
1124 Sheep and Goat Farming
1125 Aquaculture
1129 Other Animal Production
1151 Support Activities for Crop Production
1152 Support Activities for Animal Production
3111 Animal Food Manufacturing
3112 Grain and Oilseed Milling
3113 Sugar and Confectionery Product Manufacturing
3114 Fruit and Vegetable Preserving and Specialty Food Manufacturing
3115 Dairy Product Manufacturing
3116 Animal Slaughtering and Processing
3117 Seafood Product Preparation and Packaging
3118 Bakeries and Tortilla Manufacturing
3119 Other Food Manufacturing
3121 Beverage Manufacturing
3122 Tobacco Manufacturing
3253 Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing
3261 Plastics Product Manufacturing

Retail

4411 Automobile Dealers
4412 Other Motor Vehicle Dealers
4413 Automotive Parts, Accessories, and Tire Stores
4431 Electronics and Appliance Stores
4441 Building Material and Supplies Dealers
4451 Grocery Stores
4452 Specialty Food Stores
4453 Beer, Wine, and Liquor Stores
4461 Health and Personal Care Stores
4471 Gasoline Stations
4481 Clothing Stores
4482 Shoe Stores
4483 Jewelry, Luggage, and Leather Goods Stores
4511 Sporting Goods, Hobby, and Musical Instrument Stores
4521 Department Stores
4529 Other General Merchandise Stores

Retail (Continued)

4532 Office Supplies, Stationery, and Gift Stores
4533 Used Merchandise Stores
4542 Vending Machine Operators

Health Care Services

6211 Offices of Physicians
6212 Offices of Dentists
6213 Offices of Other Health Practitioners
6214 Outpatient Care Centers
6215 Medical and Diagnostic Laboratories
6216 Home Health Care Services
6219 Other Ambulatory Health Care Services
6221 General Medical and Surgical Hospitals
6222 Psychiatric and Substance Abuse Hospitals
6223 Specialty (except Psychiatric and Substance Abuse) Hospitals
6231 Nursing Care Facilities (Skilled Nursing Facilities)
6232 Residential Intellectual and Developmental Disability, Mental Health, and Substance Abuse Facilities
6233 Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly
6239 Other Residential Care Facilities

Hospitality and Tourism

4871 Scenic and Sightseeing Transportation, Land
4872 Scenic and Sightseeing Transportation, Water
4879 Scenic and Sightseeing Transportation, Other
5615 Travel Arrangement and Reservation Services
7121 Museums, Historical Sites, and Similar Institutions
7131 Amusement Parks and Arcades
7132 Gambling Industries
7139 Other Amusement and Recreation Industries
7211 Traveler Accommodation
7212 RV (Recreational Vehicle) Parks and Recreational Camps
7213 Rooming and Boarding Houses
7223 Special Food Services
7224 Drinking Places (Alcoholic Beverages)
7225 Restaurants and Other Eating Places

Education and Training

6111 Elementary and Secondary Schools
6112 Junior Colleges
6113 Colleges, Universities, and Professional Schools
6114 Business Schools and Computer and Management Training

Education and Training (Continued)

6115 Technical and Trade Schools
6116 Other Schools and Instruction
6117 Educational Support Services

Business Services

5511 Management of Companies and Enterprises
5611 Office Administrative Services
5612 Facilities Support Services
5613 Employment Services
5614 Business Support Services
5419 Other Professional, Scientific, and Technical
5616 Investigation and Security Services
5617 Services to Buildings and Dwellings
5619 Other Support Services
5621 Waste Collection
5622 Waste Treatment and Disposal
5629 Remediation and Other Waste Management Services

Construction Materials and Services

2123 Nonmetallic Mineral Mining and Quarrying
2213 Water, Sewage and Other Systems
2361 Residential Building Construction
2362 Nonresidential Building Construction
2372 Land Subdivision
2373 Highway, Street, and Bridge Construction
2379 Other Heavy and Civil Engineering Construction
2381 Foundation, Structure, and Building Exterior Contractors
2382 Building Equipment Contractors
2383 Building Finishing Contractors
2389 Other Specialty Trade Contractors
3211 Sawmills and Wood Preservation
3271 Clay Product and Refractory Manufacturing
3272 Glass and Glass Product Manufacturing
3273 Cement and Concrete Product Manufacturing
3274 Lime and Gypsum Product Manufacturing
3279 Other Nonmetallic Mineral Product Manufacturing
3339 Other General Purpose Machinery Manufacturing
3351 Electric Lighting Equipment Manufacturing

Social Services

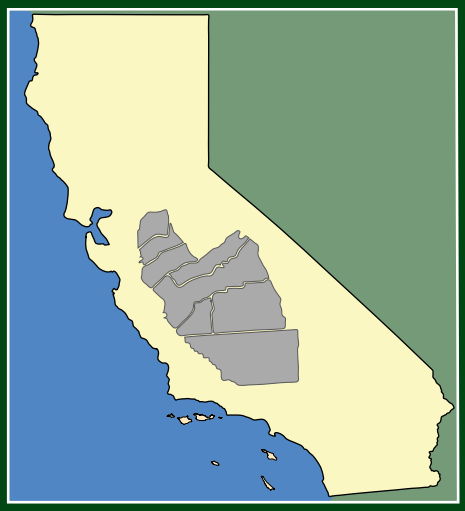
6241 Individual and Family Services
6242 Community Food and Housing, and Emergency and Other Relief Services
6243 Vocational Rehabilitation Services
6244 Child Day Care Services

Transportation and Logistics

3365 Railroad Rolling Stock Manufacturing
3366 Ship and Boat Building
4811 Scheduled Air Transportation
4812 Nonscheduled Air Transportation
4821 Rail Transportation
4831 Deep Sea, Coastal, and Great Lakes Water Transportation
4832 Inland Water Transportation
4841 General Freight Trucking
4842 Specialized Freight Trucking
4851 Urban Transit Systems
4852 Interurban and Rural Bus Transportation
4853 Taxi and Limousine Service
4854 School and Employee Bus Transportation
4855 Charter Bus Industry
4859 Other Transit and Ground Passenger Transportation
4881 Support Activities for Air Transportation
4882 Support Activities for Rail Transportation
4883 Support Activities for Water Transportation
4884 Support Activities for Road Transportation
4885 Freight Transportation Arrangement
4889 Other Support Activities for Transportation
4921 Couriers and Express Delivery Services
4922 Local Messengers and Local Delivery
4931 Warehousing and Storage
5321 Automotive Equipment Rental and Leasing
8113 Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance

Financial Services and Real Estate

5211 Monetary Authorities-Central Bank
5221 Depository Credit Intermediation
5222 Nondepository Credit Intermediation
5223 Activities Related to Credit Intermediation
5231 Securities and Commodity Contracts Intermediation and Brokerage
5232 Securities and Commodity Exchanges
5239 Other Financial Investment Activities
5241 Insurance Carriers
5242 Agencies, Brokerages, and Other Insurance Related Activities
5251 Insurance and Employee Benefit Funds
5259 Other Investment Pools and Funds
5311 Lessors of Real Estate
5312 Offices of Real Estate Agents and Brokers
5313 Activities Related to Real Estate



Occupational Analysis: Agriculture, Food, and Beverage Processing Cluster

San Joaquin Valley Economic Market

April 2015

Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties

EDD Employment Development Department
State of California

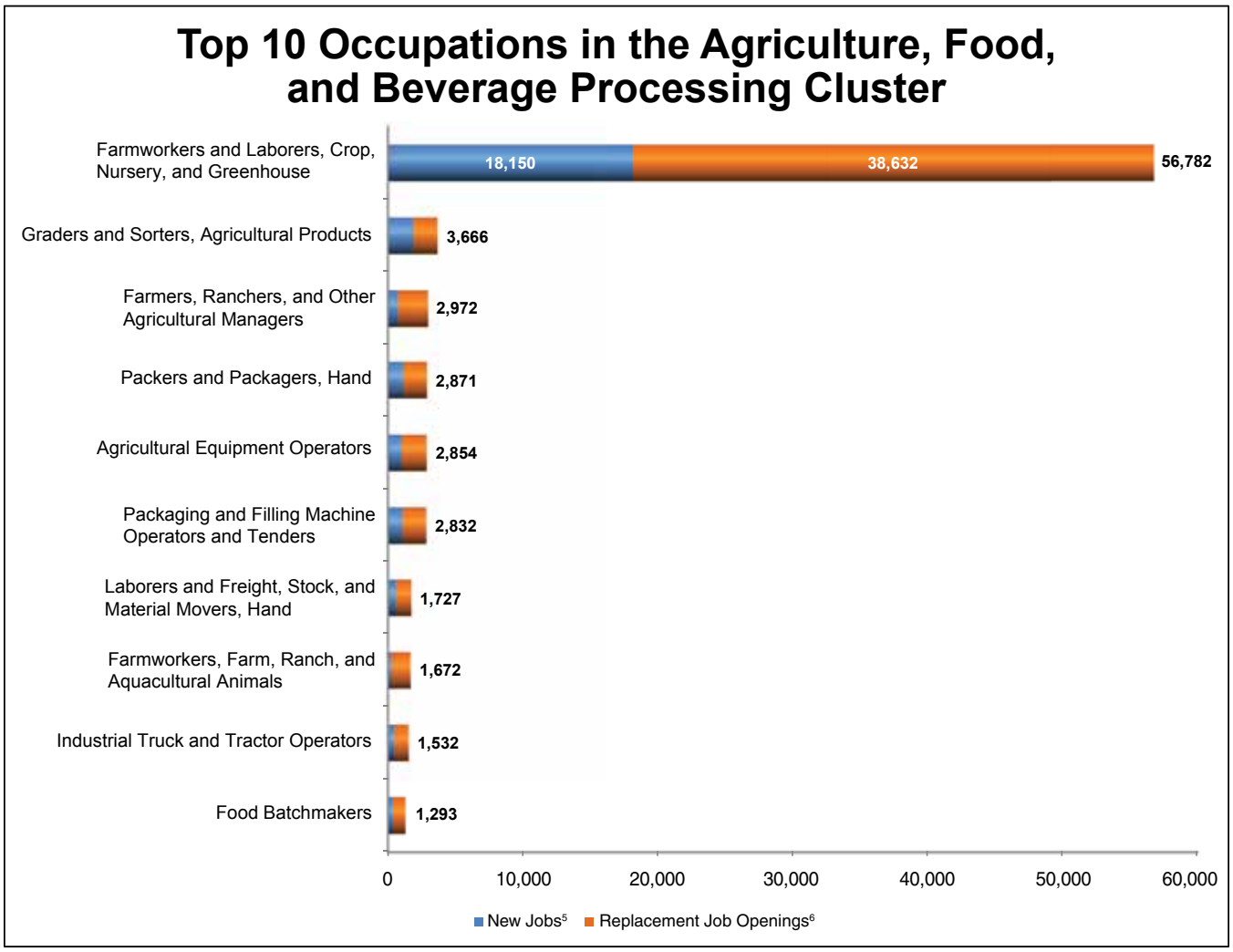
LaborMarketInfo
www.labormarketinfo.edd.ca.gov

What is the Agriculture, Food, and Beverage Processing Cluster?

The Agriculture, Food, and Beverage Processing cluster is comprised of 26 industries related to crop and animal farming as well as food and beverage manufacturing. The workers employed within this cluster span all skill levels and share skills and work activities both within the cluster and in many other industry clusters, suggesting the potential for skills transference and upward mobility with additional training.

Top 10 Occupations in the Agriculture, Food, and Beverage Processing Cluster

The graph below identifies the top 10 occupations in the Agriculture, Food, and Beverage Processing cluster, based on the San Joaquin Valley Economic Market's new job growth plus replacement openings. In sum, these 10 occupations represent more than three-quarters of the 102,026 total job openings projected in this cluster between 2012 and 2022. Moreover, many share the same required skills such as coordination, active listening, critical thinking, and monitoring.[4]



Source: California Employment Development Department, Projections of Employment 2012-2022. Industry and occupational employment projections for 2012-2022 in this report may not be directly comparable to the published 2012-2022 employment projections available online at www.labormarketinfo.edd.ca.gov.

[4] U.S. Department of Labor's *Occupational Information Network (O*NET)* at www.onetonline.org.
[5] New jobs are only openings due to growth and do not include job declines. If an occupation's employment change is negative, there is no job growth and new jobs are set to zero.
[6] Replacement job openings estimate the number of job openings created when workers retire or permanently leave an occupation and need to be replaced.

Top 10 Occupations and Recent Job Demand in the Agriculture, Food, and Beverage Processing Cluster

The table below further profiles the San Joaquin Valley Economic Market's top 10 occupations in the Agriculture, Food, and Beverage Processing cluster by listing the total job openings for 2012-2022, median hourly and annual wages, and entry-level education requirements. Also included are online job advertisements extracted from The Conference Board Help Wanted OnLine™ (HWOL) data series over a recent 120-day period. HWOL compiles, analyzes, and categorizes job advertisements from numerous online job boards, including CalJOBS℠ (www.caljobs.ca.gov), California's online job listing system.

Occupations	Total Job Openings[7] (2012-2022)	Median Hourly Wage (2014)	Median Annual Wage (2014)	Entry Level Education[8]	HWOL Job Ads[9] (120 days)
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	56,782	$9.14	$19,007	Less than high school	109
Graders and Sorters, Agricultural Products	3,666	$9.17	$19,067	Less than high school	9
Farmers, Ranchers, and Other Agricultural Managers	2,972	$43.44	$90,360	High school diploma or equivalent	86
Packers and Packagers, Hand	2,871	$9.58	$19,918	Less than high school	71
Agricultural Equipment Operators	2,854	$10.33	$21,489	Less than high school	44
Packaging and Filling Machine Operators and Tenders	2,832	$14.13	$29,388	High school diploma or equivalent	79
Laborers and Freight, Stock, and Material Movers, Hand	1,727	$11.71	$24,354	Less than high school	929
Farmworkers, Farm, Ranch, and Aquacultural Animals	1,672	$11.76	$24,465	Less than high school	140
Industrial Truck and Tractor Operators	1,532	$14.71	$30,615	Less than high school	606
Food Batchmakers	1,293	$14.84	$30,858	High school diploma or equivalent	17

Source: California Employment Development Department, Projections of Employment 2012-2022; Occupational Employment Statistics Wage Survey, updated to 4th Q, 2014; The Conference Board Help Wanted OnLine™ (HWOL) Data Series, 120-day period ending April 22, 2015.

[7] Total job openings are the sum of new jobs and replacement job openings.
[8] U.S. Department of Labor, Bureau of Labor Statistics (BLS) 2012 education levels.
[9] Totals represent job advertisements from employers in all industries. One job opening may be represented in more than one job advertisement.

Top Occupations for the Agriculture, Food, and Beverage Processing Cluster by Education Level

The table below identifies the occupations with the most total job openings, categorized by Bureau of Labor Statistics (BLS) 2012 entry-level education requirements, within the Agriculture, Food, and Beverage Processing cluster. The table includes the San Joaquin Valley Economic Market's projected total job openings and median hourly and annual wages. In addition, recent totals of online job advertisements over 120-day period are included. Grouping occupations by education levels allows individuals to better gauge the potential for skills transference and upward mobility within the cluster.

Occupations	Total Job Openings[10] (2012-2022)	Median Hourly Wage (2014)	Median Annual Wage (2014)	HWOL Job Ads (120 days)
Requires a Bachelor's Degree or Higher				
General and Operations Managers	464	$42.57	$88,551	507
Accountants and Auditors	327	$30.15	$62,712	988
Industrial Production Managers	310	$40.25	$83,713	108
Food Scientists and Technologists	176	$28.35	$58,983	34
Financial Managers	141	$45.97	$95,634	437
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree				
Heavy and Tractor-Trailer Truck Drivers	729	$18.87	$39,256	7,752
First-Line Supervisors of Production and Operating Workers	601	$26.65	$55,427	1,239
Agricultural and Food Science Technicians	294	$16.98	$35,320	47
Electrical and Electronics Repairers, Commercial and Industrial Equipment	48	$28.57	$59,423	28
Computer User Support Specialists	29	$24.02	$49,946	1,017
Requires a High School Diploma or Equivalent or Less				
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	56,782	$9.14	$19,007	109
Graders and Sorters, Agricultural Products	3,666	$9.17	$19,067	9
Farmers, Ranchers, and Other Agricultural Managers	2,972	$43.44	$90,360	86
Packers and Packagers, Hand	2,871	$9.58	$19,918	71
Agricultural Equipment Operators	2,854	$10.33	$21,489	44

Source: California Employment Development Department, Projections of Employment 2012-2022; Occupational Employment Statistics Wage Survey, updated to 4th Q, 2014; The Conference Board Help Wanted OnLine™ (HWOL) Data Series, 120-day period ending April 22, 2015.

[10] Total job openings are the sum of new jobs and replacement job openings.

Skill Requirements in the Agriculture, Food, and Beverage Processing Cluster

The table below lists the 10 top skills required for top occupations in the Agriculture, Food, and Beverage Processing cluster, categorized by entry-level education requirements. Critical thinking and active listening are the most commonly shared skills, followed by monitoring, speaking, and reading comprehension. The skills and work activities identified for each occupation are from the U.S. Department of Labor's Occupational Information Network (O*NET).

Occupations	Skills																									
	Active Learning	Active Listening	Complex Problem Solving	Coordination	Critical Thinking	Equipment Maintenance	Instructing	Judgment and Decision Making	Learning Strategies	Management of Personnel Resources	Mathematics	Monitoring	Negotiation	Operation and Control	Operation Monitoring	Persuasion	Quality Control Analysis	Reading Comprehension	Repairing	Science	Service Orientation	Social Perceptiveness	Speaking	Systems Analysis	Time Management	Troubleshooting	Writing
Requires a Bachelor's Degree or Higher																										
General and Operations Managers	●	●		●	●					●		●						●				●	●				●
Accountants and Auditors[11]	●	●			●			●			●	●						●					●	●			●
Industrial Production Managers	●	●		●	●			●		●		●						●					●		●		
Food Scientists and Technologists	●	●	●	●	●			●				●						●					●				●
Financial Managers[12]	●	●			●				●			●				●		●				●	●				●
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree																										
Heavy and Tractor-Trailer Truck Drivers		●	●		●	●						●		●	●			●					●		●		
First-Line Supervisors of Production and Operating Workers		●		●	●					●		●						●				●	●		●		●
Agricultural and Food Science Technicians[13]	●	●			●		●				●	●						●		●			●				●
Electrical and Electronics Repairers, Commercial and Industrial Equipment		●	●		●	●								●	●		●	●	●							●	
Computer User Support Specialists	●	●		●	●		●					●						●			●		●				●
Requires a High School Diploma or Equivalent or Less																										
Farmworkers and Laborers, Crop, Nursery, and Greenhouse[14]		●		●	●	●	●			●		●		●	●				●								
Graders and Sorters, Agricultural Products		●	●	●	●			●				●				●						●	●		●		
Farmers, Ranchers, and Other Agricultural Managers[15]				●	●			●			●	●	●			●		●					●		●		
Packers and Packagers, Hand		●		●	●			●				●					●	●					●		●		●
Agricultural Equipment Operators		●		●	●	●								●	●		●		●				●			●	

*Source: U.S. Department of Labor's Occupational Information Network (O*NET) at www.onetonline.org.*

[11] Skills represent Accountants, a specialty occupation of Accountants and Auditors.
[12] Skills represent Financial Managers, Branch or Department, a specialty occupation of Financial Managers.
[13] Skills represent Food Science Technicians, a specialty occupation of Agricultural and Food Science Technicians.
[14] Skills represent Farmworkers and Laborers, Crop, a specialty occupation of Farmworkers and Laborers, Crop, Nursery, and Greenhouse.
[15] Skills represent Farm and Ranch Managers, a specialty occupation of Farmers, Ranchers, and Other Agricultural Managers.

Work Activities in the Agriculture, Food, and Beverage Processing Cluster

The table below lists the 10 top work activities required for top occupations in the Agriculture, Food, and Beverage Processing cluster, categorized by entry-level education requirements. The most common include organizing, planning, and prioritizing work; establishing and maintaining interpersonal relationships; making decisions and solving problems; and communicating with supervisors, peers, or subordinates.

Occupations	Work Activities																													
	Analyzing Data or Information	Coaching and Developing Others	Communicating with Persons Outside Organization	Communicating with Supervisors, Peers, or Subordinates	Controlling Machines and Processes	Coordinating the Work and Activities of Others	Developing Objectives and Strategies	Documenting/Recording Information	Establishing and Maintaining Interpersonal Relationships	Evaluating Information to Determine Compliance with Standards	Getting Information	Guiding, Directing, and Motivating Subordinates	Handling and Moving Objects	Identifying Objects, Actions, and Events	Inspecting Equipment, Structures, or Material	Interacting With Computers	Making Decisions and Solving Problems	Monitor Processes, Materials, or Surroundings	Monitoring and Controlling Resources	Operating Vehicles, Mechanized Devices, or Equipment	Organizing, Planning, and Prioritizing Work	Performing Administrative Activities	Performing General Physical Activities	Processing Information	Provide Consultation and Advice to Others	Repairing and Maintaining Electronic Equipment	Repairing and Maintaining Mechanical Equipment	Resolving Conflicts and Negotiating with Others	Scheduling Work and Activities	Thinking Creatively	Training and Teaching Others	Updating and Using Relevant Knowledge
Requires a Bachelor's Degree or Higher																														
General and Operations Managers			●	●		●			●								●		●		●							●	●	●		
Accountants and Auditors[16]	●			●					●	●	●						●				●	●		●								●
Industrial Production Managers				●		●			●			●					●	●	●		●							●	●			
Food Scientists and Technologists	●					●					●			●			●	●			●			●						●		●
Financial Managers[17]		●		●		●			●			●				●	●				●							●				●
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree																														
Heavy and Tractor-Trailer Truck Drivers					●				●		●		●	●	●		●			●	●		●									
First-Line Supervisors of Production and Operating Workers		●		●	●	●			●			●	●												●			●	●			
Agricultural and Food Science Technicians[18]	●			●					●	●			●	●			●				●			●								●
Electrical and Electronics Repairers, Commercial and Industrial Equipment				●				●	●				●				●	●			●					●	●					●
Computer User Support Specialists				●					●		●			●		●	●				●			●						●		●
Requires a High School Diploma or Equivalent or Less																														
Farmworkers and Laborers, Crop, Nursery, and Greenhouse[19]					●				●		●	●	●	●						●			●							●	●
Graders and Sorters, Agricultural Products				●	●	●			●		●		●		●						●		●									●
Farmers, Ranchers, and Other Agricultural Managers[20]							●				●		●				●		●	●	●		●							●		●
Packers and Packagers, Hand				●	●				●		●		●	●				●			●		●					●				
Agricultural Equipment Operators					●						●		●		●		●	●		●	●		●				●					

*Source: U.S. Department of Labor's Occupational Information Network (O*NET) at www.onetonline.org.*

[16] Work Activities listed represent Accountants, a specialty occupation of Accountants and Auditors.
[17] Work Activities listed represent Financial Managers, Branch or Department, a specialty occupation of Financial Managers.
[18] Work Activities listed represent Food Science Technicians, a specialty occupation of Agricultural and Food Science Technicians.
[19] Work Activities listed represent Farmworkers and Laborers, Crop, a specialty occupation of Farmworkers and Laborers, Crop, Nursery and Greenhouse.
[20] Work Activities listed represent Farm and Ranch Managers, a specialty occupation of Farmers, Ranchers, and Other Agricultural Managers.

Related Occupations for the Agriculture, Food, and Beverage Processing Cluster

The table below lists top occupations in the Agriculture, Food, and Beverage Processing cluster by entry-level education requirements and provides a sample of related occupations. These related occupations match many of the skills, education, and work experience needed for the top Agriculture, Food, and Beverage Processing cluster occupations.

Agriculture, Food, and Beverage Processing Occupations	Related Occupations
Requires a Bachelor's Degree or Higher	
General and Operations Managers	• Administrative Services Managers • First-Line Supervisors of Office and Administrative Support Workers • Logistics Managers
Accountants and Auditors	• Auditors • Budget Analysts • Financial Analysts
Industrial Production Managers	• First-Line Supervisors of Production and Operating Workers • Food Service Managers • General and Operations Managers
Food Scientists and Technologists	• Agricultural Engineers • Biochemical Engineers • Validation Engineers
Financial Managers	• Marketing Managers • Public Relations and Fundraising Managers • Sales Agents, Financial Services
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree	
Heavy and Tractor-Trailer Truck Drivers	• Excavating and Loading Machine and Dragline Operators • Highway Maintenance Workers • Paving, Surfacing, and Tamping Equipment Operators
First-Line Supervisors of Production and Operating Workers	• Aircraft Cargo Handling Supervisors • Industrial Production Managers • Non-Destructive Testing Specialists
Agricultural and Food Science Technicians	• Agricultural Inspectors • Biological Technicians • Chemical Technicians
Electrical and Electronics Repairers, Commercial and Industrial Equipment	• Industrial Machinery Mechanics • Manufacturing Production Technicians • Robotics Technicians
Computer User Support Specialists	• Audio and Video Equipment Technicians • Broadcast Technicians • Computer Operators
Requires a High School Diploma or Equivalent or Less	
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	• Helpers-Painters, Paperhangers, Plasterers, and Stucco Masons • Janitors and Cleaners, Except Maids and Housekeeping Cleaners • Landscaping and Groundskeeping Workers
Graders and Sorters, Agricultural Products	• Dishwashers • Food Preparation Workers • Stock Clerks-Stockroom, Warehouse, or Storage Yard
Farmers, Ranchers, and Other Agricultural Managers	• Aquacultural Managers • Forest and Conservation Workers • Industrial Production Managers
Packers and Packagers, Hand	• Cooks, Fast Food • Cooks, Restaurant • Inspectors, Testers, Sorters, Samplers, and Weighers
Agricultural Equipment Operators	• Dredge Operators • Pile-Driver Operators • Riggers

*Source: U.S. Department of Labor's Occupational Information Network (O*NET) at www.onetonline.org.*

Employer Demand for the Agriculture, Food, and Beverage Processing Cluster

The following table lists the San Joaquin Valley Economic Market employers in the Agriculture, Food, and Beverage Processing cluster who posted the most job advertisements during the 120-day period ending April 22, 2015. The table also includes the number of job advertisements from the previous year's period, as well as the numerical change and year-over percent change in these postings for the same 120-day period.

Agriculture, Food, and Beverage Processing Cluster Employers	**Recent Job Advertisements**[21] (120-day period)	**Prior Year Job Advertisements** (120-day period)	**Numerical Change**	**Year-Over Percent Change** (HWOL Job Advertisements)
Paramount Citrus	66	74	-8	-10.8%
Foster Farms	59	98	-39	-39.8%
Constellation Brands, Inc.	54	17	37	217.6%
E. & J. Gallo Winery	53	151	-98	-64.9%
Paramount Farms	46	4	42	1,050.0%
Dole Packaged Food, LLC	45	29	16	55.2%
Delicato Family Vineyards	33	38	-5	-13.2%
Coca-Cola Refreshments	31	40	-9	-22.5%
Land O' Lakes	29	29	0	0.0%
Diamond Foods	28	15	13	86.7%
Pepsico	28	26	2	7.7%
Bimbo Bakeries	24	10	14	140.0%
Grimmway Farms	24	35	-11	-31.4%
Kraft	20	14	6	42.9%
Neil Jones Food Company	19	19	0	0.0%
The Wine Group	18	47	-29	-61.7%
Nestle	16	22	-6	-27.3%
Joseph Gallo Farms	15	16	-1	-6.3%
American Bread Co dba Panera Bread	14	1	13	1,300.0%
ConAgra	14	8	6	75.0%

Source: The Conference Board Help Wanted OnLine™ (HWOL) Data Series: Period ending April 22, 2015.

[21] Totals do not include employers with anonymous job advertisements.

Instructional Programs for the Top Top Agriculture, Food, and Beverage Processing Cluster Occupations

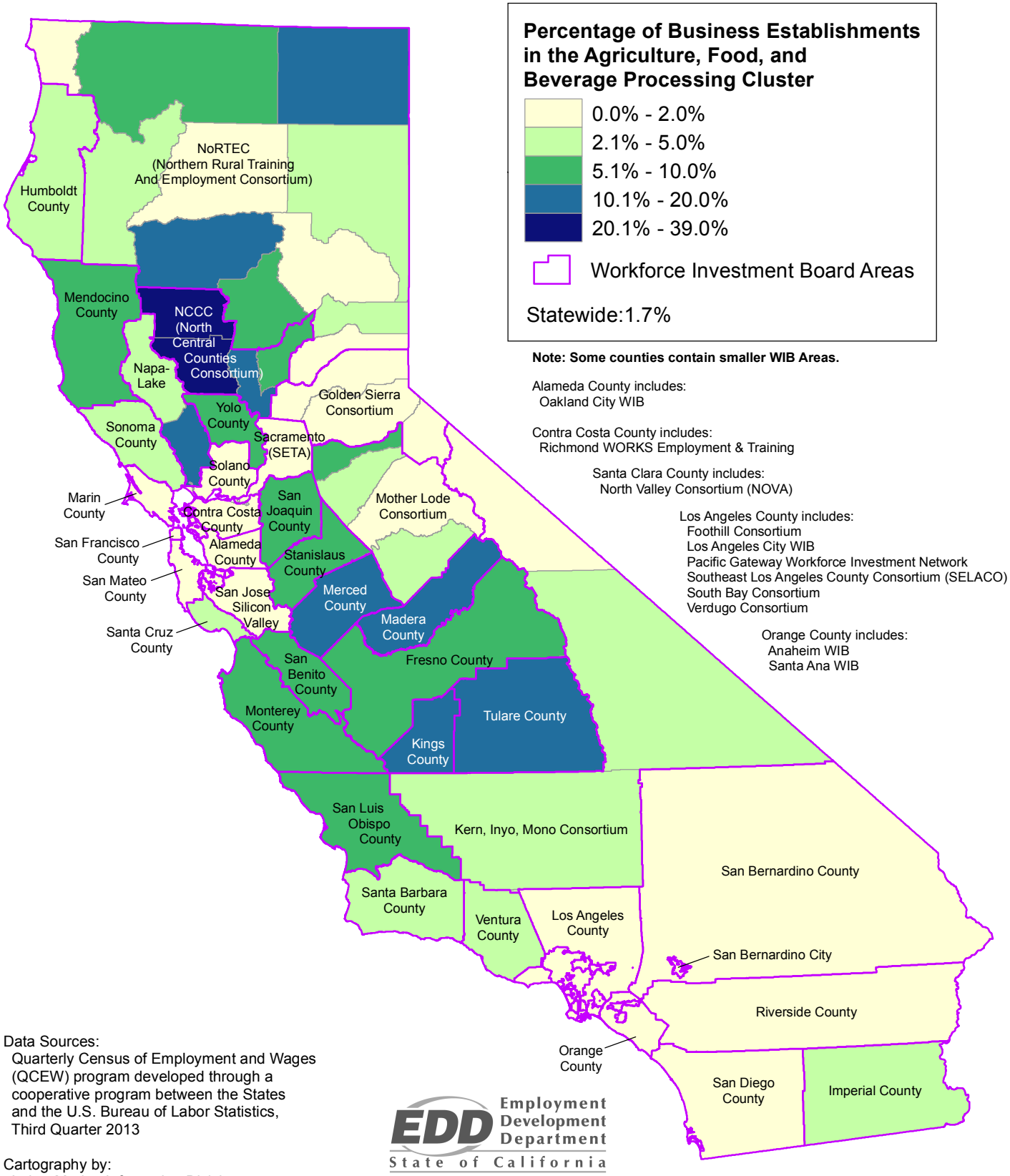
The table below provides examples of instructional programs related to some of the top occupations in the Agriculture, Food, and Beverage Processing cluster, particularly those that require less than a bachelor's degree. These programs train individuals for occupations throughout many industries and are not limited to the Agriculture, Food, and Beverage Processing cluster. To view a more complete list of training programs, select the source links under the table below. The Taxonomy of Programs categorizes and describes instructional programs only for California Community Colleges.

Occupations	Classification of Instructional Program (CIP)		Taxonomy of Programs (TOP)	
	CIP Code	*CIP Title*	*TOP Code*	*TOP Title*
Agricultural and Food Science Technicians	01.1002	Food Technology and Processing	011300	Food Processing and Related Technologies
Agricultural Equipment Operators	01.0204	Agricultural Power Machinery Operation	N/A	N/A
Computer User Support Specialists	01.0106 11.1006 51.0709	Agricultural Business Technology Computer Support Specialist Medical Office Computer Specialist/ Assistant	070820	Computer Support
Electrical and Electronics Repairers, Commercial and Industrial Equipment	47.0104 47.0105	Computer Installation and Repair Technology/Technician Industrial Electronics Technology/ Technician	093410 093420	Computer Electronics Industrial Electronics
Farmers, Ranchers, and Other Agricultural Managers	01.0101 01.0104 01.1106	Agricultural Business and Management, General Farm/Farm and Ranch Management Range Science and Management	010200 010300 010900	Animal Science Plant Science Horticulture
First-Line Supervisors of Production and Operating Workers	52.0205	Operations Management and Supervision	N/A	N/A
Graders and Sorters, Agricultural Products	01.0105	Agricultural/Farm Supplies Retailing and Wholesaling	N/A	N/A
Heavy and Tractor-Trailer Truck Drivers	49.0205	Truck and Bus Driver/Commercial Vehicle Operator and Instructor	094750	Truck and Bus Driving

Source: U.S. Department of Education Integrated Postsecondary Education Data System (IPEDS) at www.nces.ed.gov; California Community Colleges TOP-to-CIP Crosswalk 7th Edition (2010), www.cccco.edu.

California Agriculture, Food, and Beverage Processing Cluster

Percentage of Total County Establishments, 2013



Note: Some counties contain smaller WIB Areas.

Alameda County includes:
Oakland City WIB

Contra Costa County includes:
Richmond WORKS Employment & Training

Santa Clara County includes:
North Valley Consortium (NOVA)

Los Angeles County includes:
Foothill Consortium
Los Angeles City WIB
Pacific Gateway Workforce Investment Network
Southeast Los Angeles County Consortium (SELACO)
South Bay Consortium
Verdugo Consortium

Orange County includes:
Anaheim WIB
Santa Ana WIB

Data Sources:
Quarterly Census of Employment and Wages (QCEW) program developed through a cooperative program between the States and the U.S. Bureau of Labor Statistics, Third Quarter 2013

Cartography by:
Labor Market Information Division
California Employment Development Department
http://www.labormarketinfo.edd.ca.gov
July 2014

EDD Employment Development Department
State of California

LaborMarketInfo

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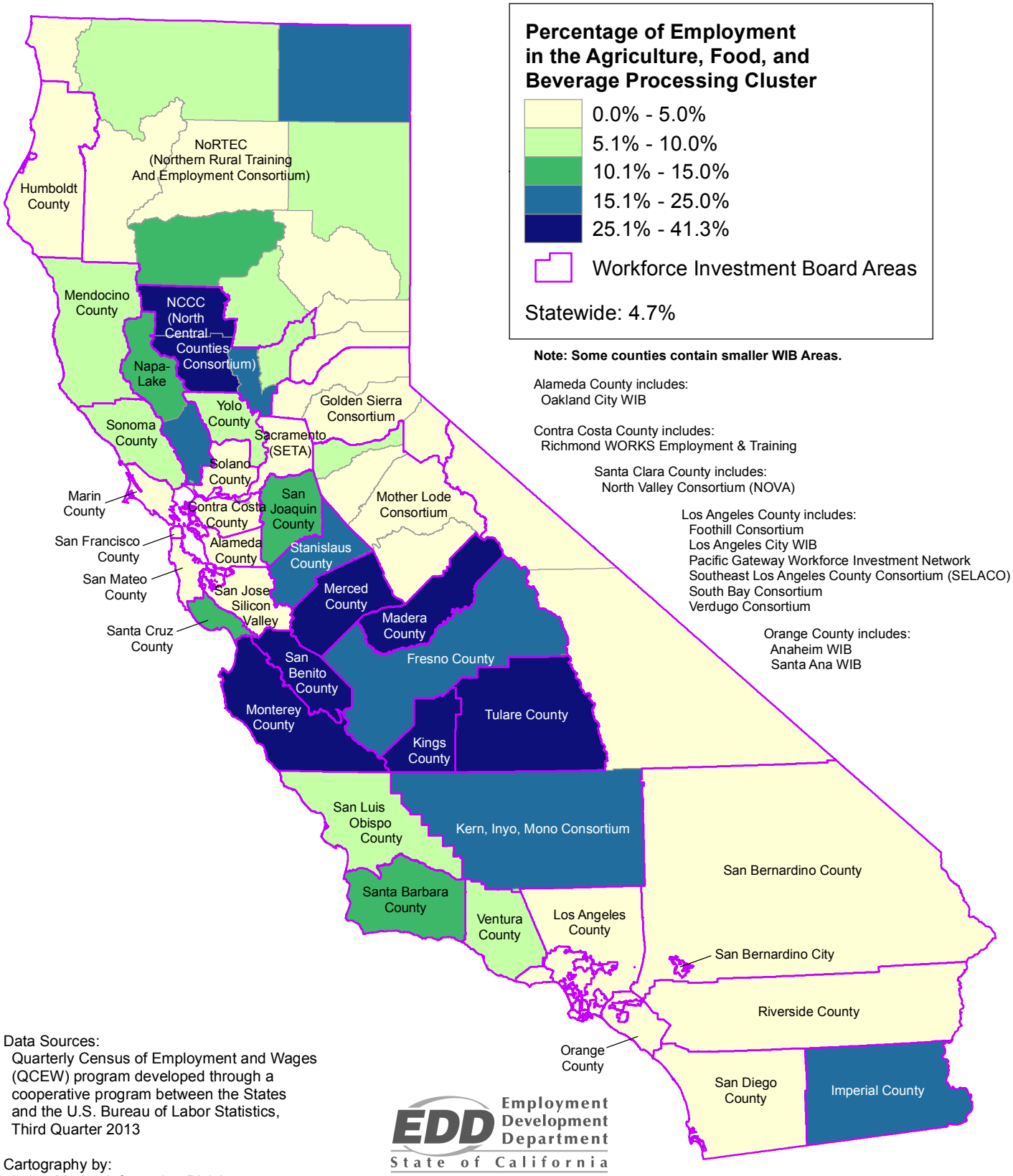
California Agriculture, Food, and Beverage Processing Cluster

Percentage of Total County Employment, 2013



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Alameda County includes:
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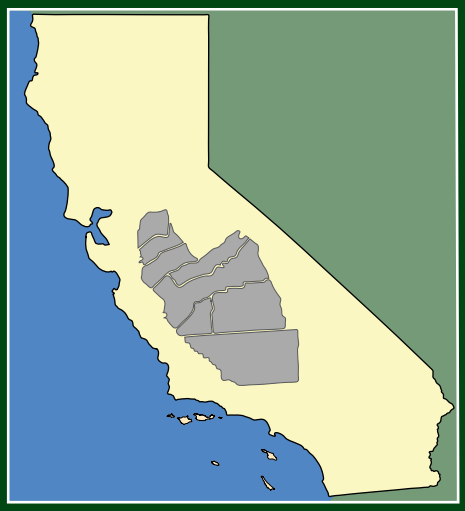


Occupational Analysis: Retail Cluster

San Joaquin Valley Economic Market

April 2015

Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties

EDD Employment Development Department
State of California

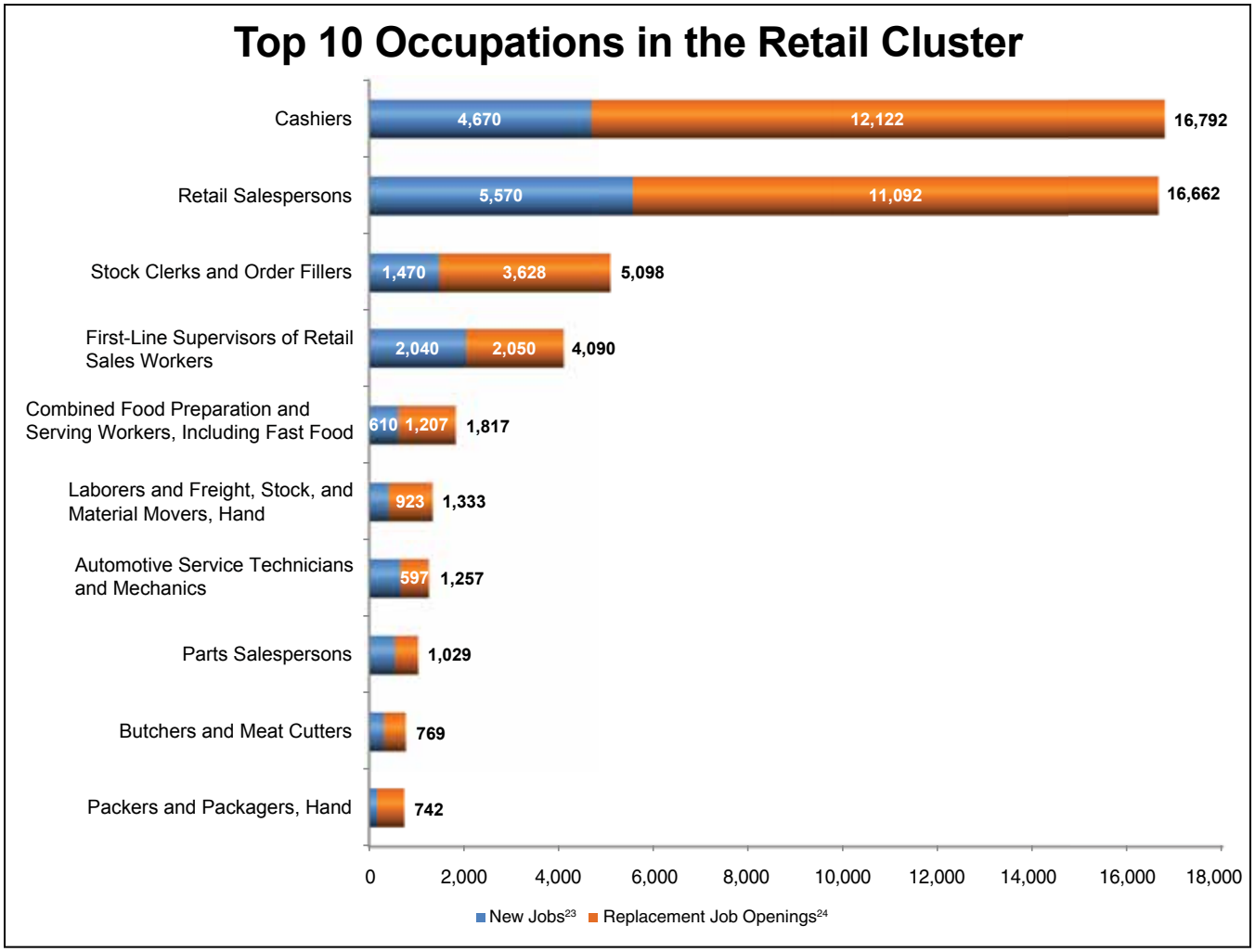
LaborMarketInfo
www.labormarketinfo.edd.ca.gov

What is the Retail Cluster?

The Retail cluster is composed of 19 industries involved in the sales of goods both familiar and esoteric, everything from groceries and automobiles to musical instruments and surfboards. The workers employed within this cluster span all skill levels and share skills and work activities both within the cluster and in many other industry clusters, suggesting the potential for skills transference and upward mobility with additional .

Top 10 Occupations in the Retail Cluster

The graph below identifies the top 10 occupations in the Retail cluster, based on the San Joaquin Valley Economic Market's new job growth plus replacement openings. In sum, these 10 occupations represent more than three-quarters of the 63,305 total job openings projected in this cluster between 2012 and 2022. Moreover, many share the same required skills such as active listening, critical thinking, reading comprehension, and speaking.[22]



Source: California Employment Development Department, Projections of Employment 2012-2022. Industry and occupational employment projections for 2012-2022 in this report may not be directly comparable to the published 2012-2022 employment projections available online at www.labormarketinfo.edd.ca.gov.

[22] U.S. Department of Labor's *Occupational Information Network (O*NET)* at www.onetonline.org.
[23] New jobs are only openings due to growth and do not include job declines. If an occupation's employment change is negative, there is no job growth and new jobs are set to zero.
[24] Replacement job openings estimate the number of job openings created when workers retire or permanently leave an occupation and need to be replaced.

Top 10 Occupations and Recent Job Demand in the Retail Cluster

The table below further profiles the San Joaquin Valley Economic Market's top 10 occupations in the Retail cluster by listing the total job openings for 2012-2022, median hourly and annual wages, and entry-level education requirements. Also included are online job advertisements extracted from The Conference Board Help Wanted OnLine™ (HWOL) data series over a 120-day period. HWOL compiles, analyzes, and categorizes job advertisements from numerous online job boards, including CalJOBS℠ (www.caljobs.ca.gov), California's online job listing system.

Occupations	Total Job Openings[25] (2012-2022)	Median Hourly Wage (2014)	Median Annual Wage (2014)	Entry Level Education[26]	HWOL Job Ads[27] (120 days)
Cashiers	16,792	$9.77	$20,323	Less than high school	649
Retail Salespersons	16,662	$10.58	$21,991	Less than high school	2,463
Stock Clerks and Order Fillers	5,098	$11.21	$23,314	Less than high school	933
First-Line Supervisors of Retail Sales Workers	4,090	$18.40	$38,272	High school diploma or equivalent	2,130
Combined Food Preparation and Serving Workers, Including Fast Food	1,817	$9.30	$19,333	Less than high school	819
Laborers and Freight, Stock, and Material Movers, Hand	1,333	$11.71	$24,354	Less than high school	929
Automotive Service Technicians and Mechanics	1,257	$17.91	$37,270	High school diploma or equivalent	878
Parts Salespersons	1,029	$14.04	$29,213	Less than high school	114
Butchers and Meat Cutters	769	$13.01	$27,061	Less than high school	18
Packers and Packagers, Hand	742	$9.58	$19,918	Less than high school	71

Source: California Employment Development Department, Projections of Employment 2012-2022; Occupational Employment Statistics Wage Survey, updated to 4th Q, 2014; The Conference Board Help Wanted OnLine™ (HWOL) Data Series, 120-day period ending April 22, 2015.

[25] Total job openings are the sum of new jobs and replacement job openings.
[26] U.S. Department of Labor, Bureau of Labor Statistics (BLS) 2012 education levels.
[27] Totals represent job advertisements from employers in all industries. One job opening may be represented in more than one job advertisement.

Top Occupations for the Retail Cluster by Education Level

The table below identifies the occupations with the most total job openings, categorized by Bureau of Labor Statistics (BLS) 2012 entry-level education requirements, within the Retail cluster. The table includes the San Joaquin Valley Economic Market's projected total job openings and median hourly and annual wages. In addition, recent totals of online job advertisements over 120-day period are included. Grouping occupations by education levels allows individuals to better gauge the potential for skills transference and upward mobility within the cluster.

Occupations	Total Job Openings[28] (2012-2022)	Median Hourly Wage (2014)	Median Annual Wage (2014)	HWOL Job Ads (120 days)
Requires a Bachelor's Degree or Higher				
General and Operations Managers	684	$42.57	$88,551	507
Pharmacists	537	$67.15	$139,678	349
Sales Managers	403	$39.75	$82,687	520
Loan Officers	88	$36.34	$75,571	449
Accountants and Auditors	56	$30.15	$62,712	988
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree				
First-Line Supervisors of	94	$26.65	$55,427	1,239
Heavy and Tractor-Trailer Truck	88	$18.87	$39,256	7,752
Computer, Automated Teller, and Office Machine Repairers	64	$19.37	$40,282	20
Hairdressers, Hairstylists, and Cosmetologists	54	$10.06	$20,913	524
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	35	$21.51	$44,747	500
Requires a High School Diploma or Equivalent or Less				
Cashiers	16,792	$9.77	$20,323	649
Retail Salespersons	16,662	$10.58	$21,991	2,463
Stock Clerks and Order Fillers	5,098	$11.21	$23,314	933
First-Line Supervisors of Retail	4,090	$18.40	$38,272	2,130
Combined Food Preparation and Serving Workers, Including Fast Food	1,817	$9.30	$19,333	819

Source: California Employment Development Department, Projections of Employment 2012-2022; Occupational Employment Statistics Wage Survey, updated to 4th Q, 2014; The Conference Board Help Wanted OnLine™ (HWOL) Data Series, 120-day period ending April 22, 2015.

[28] Total job openings are the sum of new jobs and replacement job openings.

Skill Requirements in the Retail Cluster

The table below lists the 10 top skills required for top occupations in the Retail cluster, categorized by entry-level education requirements. Critical thinking and speaking are the most commonly shared skills, followed by active listening and reading comprehension. The skills and work activities identified for each occupation are from the U.S. Department of Labor's Occupational Information Network (O*NET).

Occupations	Skills																										
	Active Learning	Active Listening	Complex Problem Solving	Coordination	Critical Thinking	Equipment Maintenance	Installation	Instructing	Judgment and Decision Making	Learning Strategies	Management of Personnel Resources	Mathematics	Monitoring	Negotiation	Operation and Control	Operation Monitoring	Persuasion	Quality Control Analysis	Reading Comprehension	Repairing	Science	Service Orientation	Social Perceptiveness	Speaking	Systems Analysis	Time Management	Troubleshooting	Writing
Requires a Bachelor's Degree or Higher																											
General and Operations Managers	●	●		●	●						●		●						●				●	●				●
Pharmacists	●	●			●			●					●						●		●		●	●				●
Sales Managers				●	●				●		●		●				●						●	●		●		●
Loan Officers	●	●	●		●				●			●							●			●		●				●
Accountants and Auditors[29]	●	●			●				●			●	●						●					●	●			●
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree																											
First-Line Supervisors of Production and Operating Workers		●		●	●						●		●						●				●	●		●		●
Heavy and Tractor-Trailer Truck Drivers		●	●		●	●							●		●	●			●					●		●		
Computer, Automated Teller, and Office Machine Repairers	●	●			●								●		●	●			●	●				●			●	
Hairdressers, Hairstylists, and Cosmetologists	●	●			●			●		●			●				●					●	●	●				
Heating, Air Conditioning, and Refrigeration Mechanics and Installers[30]		●		●	●	●	●											●	●	●				●			●	
Requires a High School Diploma or Equivalent or Less																											
Cashiers		●		●	●								●						●			●	●	●		●		●
Retail Salespersons		●			●								●	●			●		●			●	●	●				●
Stock Clerks and Order Fillers[31]	●	●	●	●	●								●						●			●	●	●				
First-Line Supervisors of Retail Sales Workers					●			●			●		●	●			●		●				●	●		●		
Combined Food Preparation and Serving Workers, Including Fast Food		●		●	●			●		●							●		●			●	●	●				

*Source: U.S. Department of Labor's Occupational Information Network (O*NET) at www.onetonline.org.*

[29] Skills represent Accountants, a specialty occupation of Accountants and Auditors.
[30] Skills represent Heating and Air Conditioning Mechanics and Installers, a specialty occupation of Heating, Air Conditioning, and Refrigeration Mechanics and Installers.
[31] Skills represent Stock Clerks, Sales Floor, a specialty occupation of Stock Clerks and Order Fillers.

Work Activities in the Retail Cluster

The table below lists the 10 top work activities required for top occupations in the Retail cluster, categorized by entry-level education requirements. The most common include establishing and maintaining interpersonal relationships; organizing, planning, and prioritizing work; communicating with supervisors, peers, or subordinates; and making decisions and solving problems.

Occupations	Work Activities																														
	Analyzing Data or Information	Assisting and Caring for Others	Coaching and Developing Others	Communicating with Persons Outside Organization	Communicating with Supervisors, Peers, or Subordinates	Controlling Machines and Processes	Coordinating the Work and Activities of Others	Establishing and Maintaining Interpersonal Relationships	Evaluating Information to Determine Compliance with Standards	Getting Information	Guiding, Directing, and Motivating Subordinates	Handling and Moving Objects	Identifying Objects, Actions, and Events	Inspecting Equipment, Structures, or Material	Interacting With Computers	Making Decisions and Solving Problems	Monitor Processes, Materials, or Surroundings	Monitoring and Controlling Resources	Operating Vehicles, Mechanized Devices, or Equipment	Organizing, Planning, and Prioritizing Work	Performing Administrative Activities	Performing for or Working Directly with the Public	Performing General Physical Activities	Processing Information	Provide Consultation and Advice to Others	Repairing and Maintaining Electronic Equipment	Repairing and Maintaining Mechanical Equipment	Resolving Conflicts and Negotiating with Others	Scheduling Work and Activities	Selling or Influencing Others	Thinking Creatively	Training and Teaching Others	Updating and Using Relevant Knowledge
Requires a Bachelor's Degree or Higher																															
General and Operations Managers				●	●		●	●								●		●		●								●	●		●		
Pharmacists	●	●						●	●				●				●			●		●		●									●
Sales Managers			●	●	●		●	●			●					●				●								●		●			
Loan Officers				●				●		●						●				●		●		●	●			●					●
Accountants and Auditors[32]	●				●			●	●	●						●				●	●			●									●
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree																															
First-Line Supervisors of Production and Operating Workers			●		●	●	●	●			●	●													●			●	●				
Heavy and Tractor-Trailer Truck Drivers						●		●		●		●	●	●		●			●	●			●										
Computer, Automated Teller, and Office Machine Repairers					●			●					●		●	●				●						●	●				●		●
Hairdressers, Hairstylists, and Cosmetologists		●		●				●		●		●								●		●			●						●		●
Heating, Air Conditioning, and Refrigeration Mechanics and Installers[33]	●					●						●		●		●				●			●			●	●						●
Requires a High School Diploma or Equivalent or Less																															
Cashiers				●	●			●		●		●				●						●	●					●		●			
Retail Salespersons				●	●			●				●				●				●		●								●	●		●
Stock Clerks and Order Fillers[34]					●	●		●				●	●							●		●	●									●	●
First-Line Supervisors of Retail Sales Workers			●		●			●		●		●				●				●		●						●	●				
Combined Food Preparation and Serving Workers, Including Fast Food			●		●		●	●		●		●	●									●						●				●	

*Source: U.S. Department of Labor's Occupational Information Network (O*NET) at www.onetonline.org.*

[32] Work Activities represent Accountants, a specialty occupation of Accountants and Auditors.
[33] Work Activities represent Heating and Air Conditioning Mechanics and Installers, a specialty occupation of Heating, Air Conditioning, and Refrigeration Mechanics and Installers.
[34] Work Activities represent Stock Clerks, Sales Floor, a specialty occupation of Stock Clerks and Order Fillers.

Related Occupations for the Retail Cluster

The table below lists top occupations in the Retail cluster by entry-level education requirements and provides a sample of related occupations. These related occupations match many of the skills, education, and work experience needed for the top Retail cluster occupations.

Retail Occupations	Related Occupations
Requires a Bachelor's Degree or Higher	
General and Operations Managers	• First-Line Supervisors of Office and Administrative Support Workers • Logistics Managers • Wholesale and Retail Buyers, Except Farm Products
Pharmacists	• Health Specialties Teachers, Postsecondary • Medical Scientists, Except Epidemiologists • Nursing Instructors and Teachers, Postsecondary
Sales Managers	• Financial Managers, Branch or Department • Logistics Managers • Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products
Loan Officers	• Customs Brokers • Insurance Sales Agents • Personal Financial Advisors
Accountants and Auditors	• Auditors • Financial Analysts • Risk Management Specialists
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree	
First-Line Supervisors of Production and Operating Workers	• Non-Destructive Testing Specialists • Industrial Production Managers • Aircraft Cargo Handling Supervisors
Heavy and Tractor-Trailer Truck Drivers	• Pile-Driver Operators • Light Truck or Delivery Services Drivers • Paving, Surfacing, and Tamping Equipment Operators
Computer, Automated Teller, and Office Machine Repairers	• Computer User Support Specialists • Electrical Engineering Technicians • Audio and Video Equipment Technicians
Hairdressers, Hairstylists, and Cosmetologists	• Massage Therapists • Manicurists and Pedicurists • Skincare Specialists
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	• Electricians • Elevator Installers and Repairers • Refrigeration Mechanics and Installers
Requires a High School Diploma or Equivalent or Less	
Cashiers	• Amusement and Recreation Attendants • Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop • Waiters and Waitresses
Retail Salespersons	• Concierges • Counter and Renal Clerk • Tellers
Stock Clerks and Order Fillers	• Dining Room and Cafeteria Attendants and Bartender Helpers • Packers and Packagers, Hand • Shipping, Receiving, and Traffic Clerks
First-Line Supervisors of Retail Sales Workers	• First-Line Supervisors of Food Preparation and Serving Workers • Hotel, Motel, and Resort Desk Clerks • Wholesale and Retail Buyers, Except Farm Products
Combined Food Preparation and Serving Workers, Including Fast Food	• Cooks, Fast Food • Counter Attendants, Cafeteria, Food Concession, and Coffee Shop • Food Servers, Nonrestaurant

*Source: U.S. Department of Labor's Occupational Information Network (O*NET) at www.onetonline.org.*

Employer Demand for the Retail Cluster

The following table lists the San Joaquin Valley Economic Market employers in the Retail cluster who posted the most job advertisements during the 120-day period ending April 22, 2015. The table also includes the number of job advertisements from the previous year's period, as well as the numerical change and year-over percent change in these postings for the same 120-day period.

Retail Cluster Employers	Recent Job Advertisements[35] (120-day period)	Prior Year Job Advertisements (120-day period)	Numerical Change	Year-Over Percent Change (HWOL Job Advertisements)
Home Depot	251	73	178	243.8%
Macy's	221	101	120	118.8%
Lowe's	221	209	12	5.7%
Target Corporation	166	37	129	348.6%
Dollar Tree Stores, Inc.	126	28	98	350.0%
Sears Holdings Corporation	115	354	-239	-67.5%
Safeway Companies	89	5	84	1,680.0%
Walmart	85	43	42	97.7%
Rite Aid	68	49	19	38.8%
Love's Travel Stops	66	8	58	725.0%
JCPenney	58	32	26	81.3%
Office Depot	55	16	39	243.8%
Toys"R"Us	52	81	-29	-35.8%
Lithia Motors, Inc.	51	3	48	1,600.0%
WINCO FOODS	46	2	44	2,200.0%
Harbor Freight Tools	42	36	6	16.7%
Dick's Sporting Goods, Inc.	41	63	-22	-34.9%
Save Mart Supermarkets	40	51	-11	-21.6%
Staples	40	41	-1	-2.4%
The Dollar General	38	161	-123	-76.4%

Source: The Conference Board Help Wanted OnLine™ (HWOL) Data Series: Period ending April 22, 2015.

[35] Totals do not include employers with anonymous job advertisements.

Instructional Programs for the Top Retail Cluster Occupations

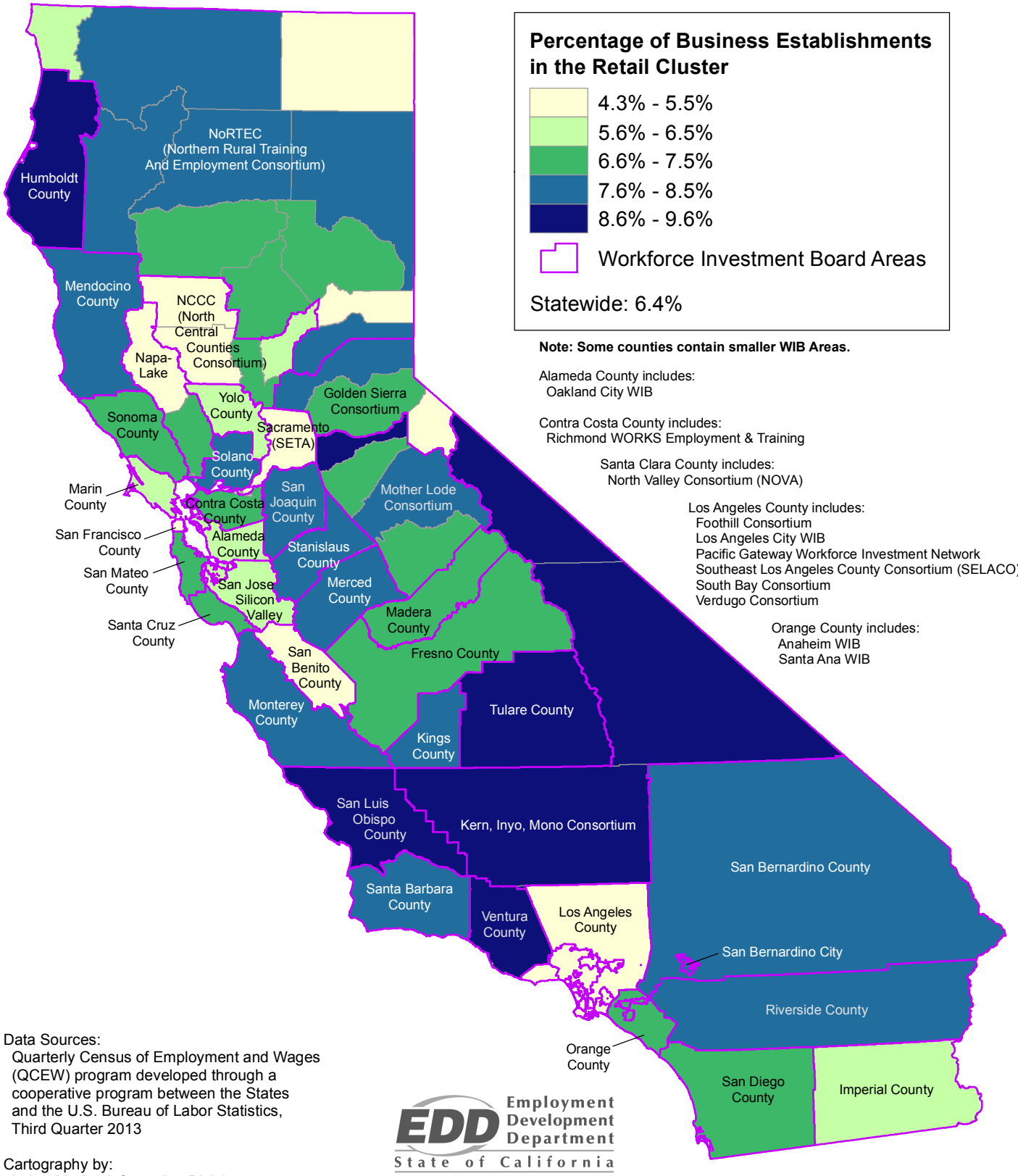
The table below provides examples of instructional programs related to some of the top occupations in the Retail cluster, particularly those that require less than a bachelor's degree. These programs train individuals for occupations throughout many industries and are not limited to the Retail cluster. To view a more complete list of training programs, select the source links under the table below. The Taxonomy of Programs categorizes and describes instructional programs only for California Community Colleges.

Occupations	Classification of Instructional Program (CIP)		Taxonomy of Programs (TOP)	
	CIP Code	*CIP Title*	*TOP Code*	*TOP Title*
First-Line Supervisors of Production and Operating Workers	52.0205	Operations Management and Supervision	N/A	N/A
Heavy and Tractor-Trailer Truck Drivers	49.0205	Truck and Bus Driver/ Commercial Vehicle Operator and Instructor	094750	Truck and Bus Driving
Computer, Automated Teller, and Office Machine Repairers	47.0102 47.0104	Business Machine Repair Computer Installation and Repair Technology/Technician	093410	Computer Electronics
Hairdressers, Hairstylists, and Cosmetologists	12.0401 12.0406 12.0412	Cosmetology/Cosmetologist, General Make-Up Artist/Specialist Salon/Beauty Salon Management/Manager	300700	Cosmetology and Barbering
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	15.0501 47.0201	Heating, Ventilation, Air Conditioning and Refrigeration Engineering Technology/ Technician Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/ Technician	094600	Environmental Control Technology
First-Line Supervisors of Retail Sales Workers	19.0203 52.0212 52.1803	Consumer Merchandising/ Retailing Management Retail Management Retailing and Retail Operations	050650 050940 050960	Retail Store Operations and Management Sales and Salesmanship Display

Source: U.S. Department of Education Integrated Postsecondary Education Data System (IPEDS) at www.nces.ed.gov; California Community Colleges TOP-to-CIP Crosswalk 7th Edition (2010), www.cccco.edu.

California Retail Cluster

Percentage of Total County Establishments, 2013



Percentage of Business Establishments in the Retail Cluster

- 4.3% - 5.5%
- 5.6% - 6.5%
- 6.6% - 7.5%
- 7.6% - 8.5%
- 8.6% - 9.6%
- Workforce Investment Board Areas

Statewide: 6.4%

Note: Some counties contain smaller WIB Areas.

Alameda County includes:
Oakland City WIB

Contra Costa County includes:
Richmond WORKS Employment & Training

Santa Clara County includes:
North Valley Consortium (NOVA)

Los Angeles County includes:
Foothill Consortium
Los Angeles City WIB
Pacific Gateway Workforce Investment Network
Southeast Los Angeles County Consortium (SELACO)
South Bay Consortium
Verdugo Consortium

Orange County includes:
Anaheim WIB
Santa Ana WIB

Data Sources:
Quarterly Census of Employment and Wages (QCEW) program developed through a cooperative program between the States and the U.S. Bureau of Labor Statistics, Third Quarter 2013

Cartography by:
Labor Market Information Division
California Employment Development Department
http://www.labormarketinfo.edd.ca.gov
July 2014

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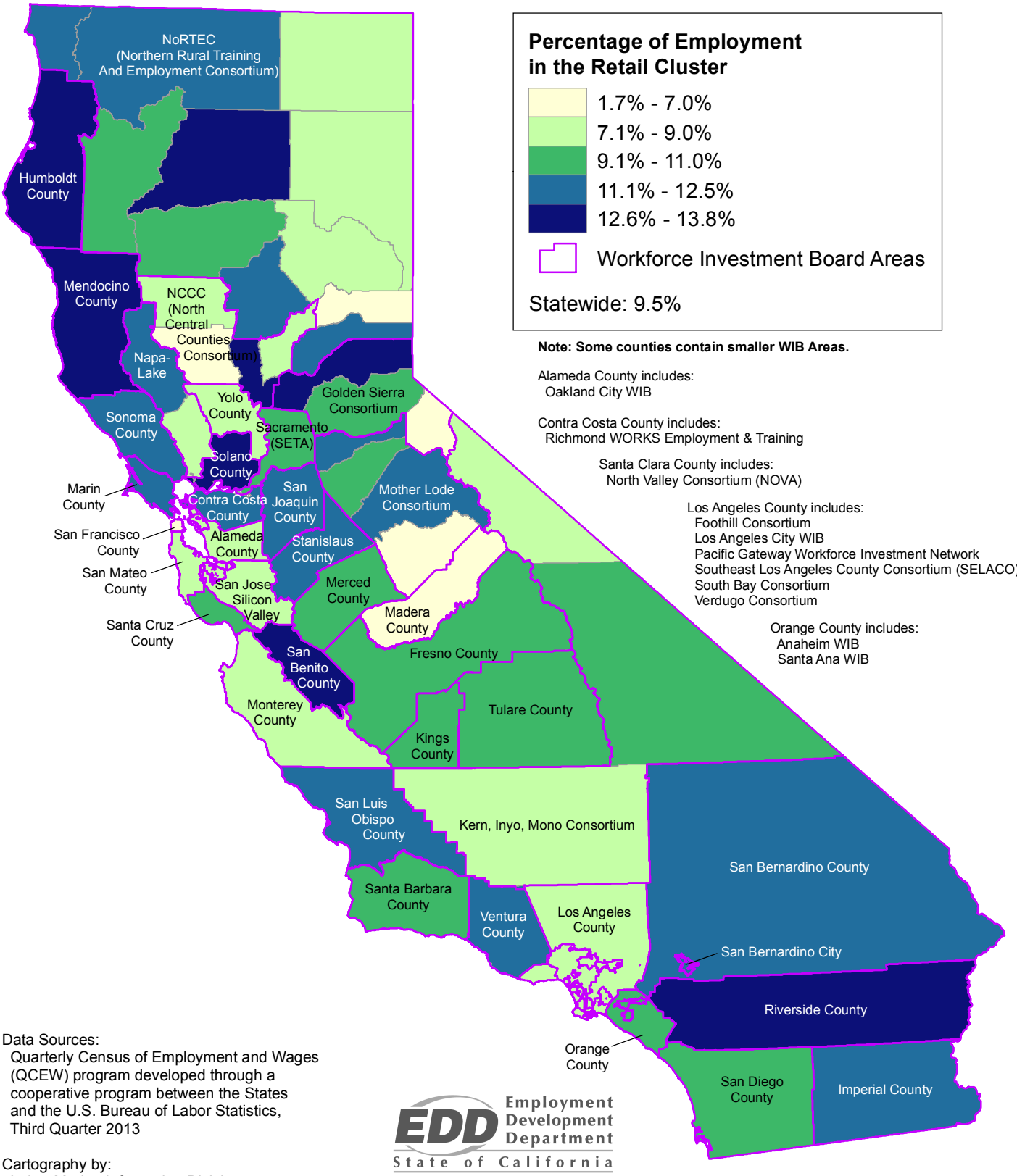
California Retail Cluster

Percentage of Total County Employment, 2013



Percentage of Employment in the Retail Cluster

- 1.7% - 7.0%
- 7.1% - 9.0%
- 9.1% - 11.0%
- 11.1% - 12.5%
- 12.6% - 13.8%
- Workforce Investment Board Areas

Statewide: 9.5%

Note: Some counties contain smaller WIB Areas.

Alameda County includes:
Oakland City WIB

Contra Costa County includes:
Richmond WORKS Employment & Training

Santa Clara County includes:
North Valley Consortium (NOVA)

Los Angeles County includes:
Foothill Consortium
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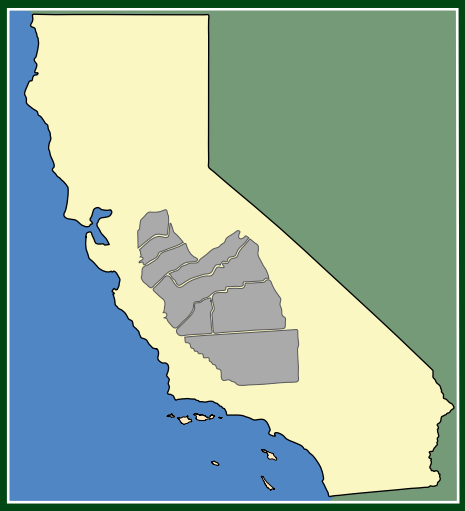

Occupational Analysis: Health Care Services Cluster

San Joaquin Valley Economic Market

April 2015

Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties

EDD Employment Development Department
State of California

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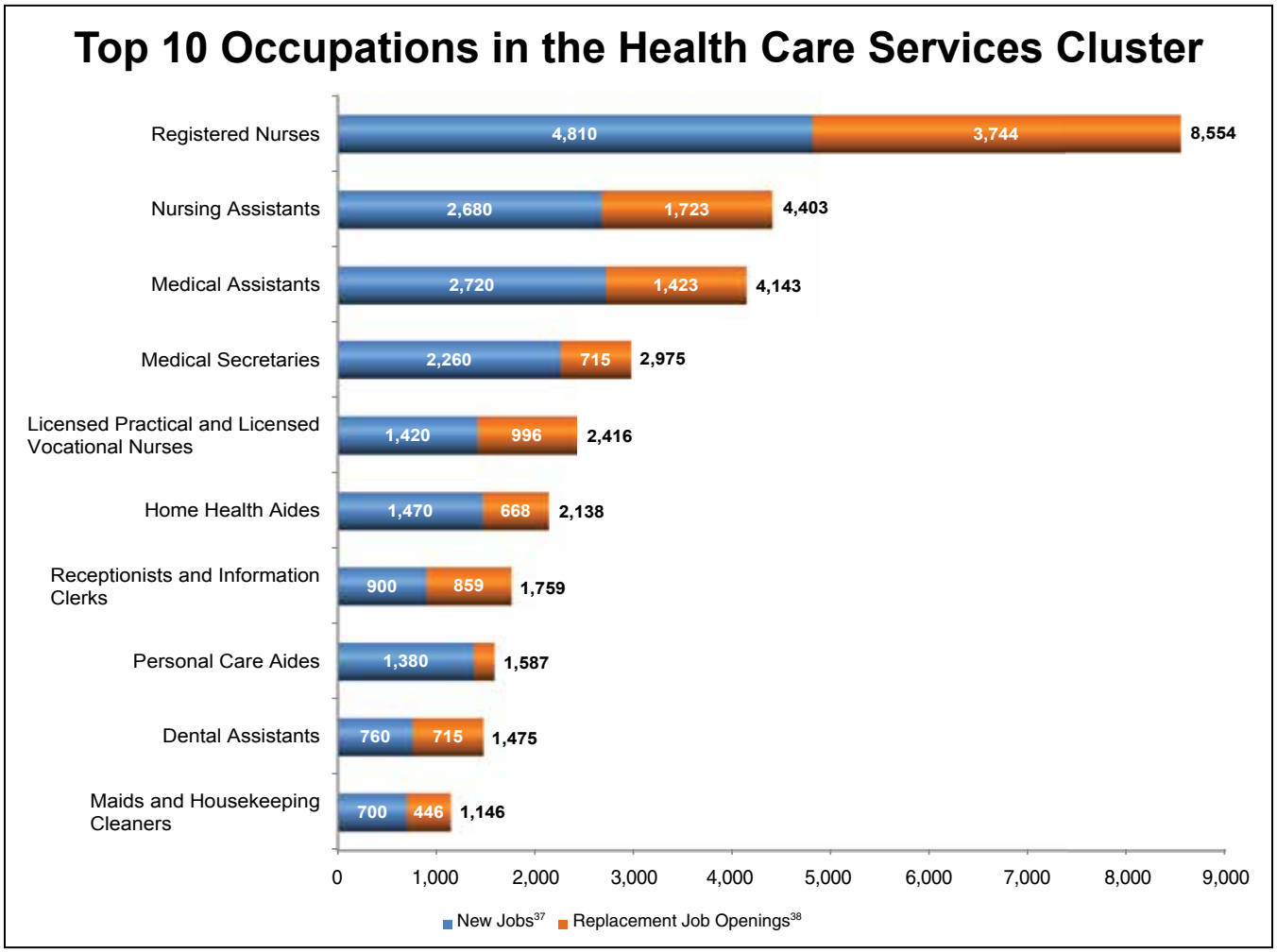
www.labormarketinfo.edd.ca.gov

What is the Health Care Services Cluster?

The Health Care Services cluster is comprised of 14 industries that include hospitals and doctors' offices, diagnostic laboratories, continuing care retirement communities, home health care services, and other activities related to health care. The workers employed within this cluster span all skill levels and share skills and work activities both within the cluster and in many other industry clusters, suggesting the potential for skills transference and upward mobility with additional training.

Top 10 Occupations in the Health Care Services Cluster

The graph below identifies the top 10 occupations in the Health Care Services cluster, based on the San Joaquin Valley Economic Market's new job growth plus replacement openings. In sum, these 10 occupations represent nearly half of the 62,822 total job openings projected in this cluster between 2012 and 2022. Moreover, many share the same required skills such as active listening, critical thinking, reading comprehension, social perceptiveness, speaking and monitoring.[36]



Source: California Employment Development Department, Projections of Employment 2012-2022. Industry and occupational employment projections for 2012-2022 in this report may not be directly comparable to the published 2012-2022 employment projections available online at www.labormarketinfo.edd.ca.gov.

[36] U.S. Department of Labor's *Occupational Information Network (O*NET)* at www.onetonline.org.
[37] New jobs are only openings due to growth and do not include job declines. If an occupation's employment change is negative, there is no job growth and new jobs are set to zero.
[38] Replacement job openings estimate the number of job openings created when workers retire or permanently leave an occupation and need to be replaced.

Top 10 Occupations and Recent Job Demand in the Health Care Services Cluster

The table below further profiles the San Joaquin Valley Economic Market's top 10 occupations in the Health Care Services cluster by listing the total job openings for 2012-2022, median hourly and annual wages, and entry-level education requirements. Also included are online job advertisements extracted from The Conference Board Help Wanted OnLine™ (HWOL) data series over a recent 120-day period. HWOL compiles, analyzes, and categorizes job advertisements from numerous online job boards, including CalJOBS℠ (www.caljobs.ca.gov), California's online job listing system.

Occupations	Total Job Openings[39] (2012-2022)	Median Hourly Wage (2014)	Median Annual Wage (2014)	Entry Level Education[40]	HWOL Job Ads[41] (120 days)
Registered Nurses	8,554	$41.13	$85,545	Associate's degree	5,806
Nursing Assistants	4,403	$12.01	$24,988	Postsecondary non-degree award	565
Medical Assistants	4,143	$13.72	$28,537	Postsecondary non-degree award	754
Medical Secretaries	2,975	$16.61	$34,566	High school diploma or equivalent	1,166
Licensed Practical and Licensed Vocational Nurses	2,416	$24.28	$50,504	Postsecondary non-degree award	875
Home Health Aides	2,138	$10.43	$21,688	Less than high school	432
Receptionists and Information Clerks	1,759	$12.30	$25,583	High school diploma or equivalent	2,061
Personal Care Aides	1,587	$9.33	$19,414	Less than high school	906
Dental Assistants	1,475	$15.32	$31,863	Postsecondary non-degree award	534
Maids and Housekeeping Cleaners	1,146	$9.58	$19,912	Less than high school	913

Source: California Employment Development Department, Projections of Employment 2012-2022; Occupational Employment Statistics Wage Survey, updated to 4th Q, 2014; The Conference Board Help Wanted OnLine™ (HWOL) Data Series, 120-day period ending April 22, 2015.

[39] Total job openings are the sum of new jobs and replacement job openings.
[40] U.S. Department of Labor, Bureau of Labor Statistics (BLS) 2012 education levels.
[41] Totals represent job advertisements from employers in all industries. One job opening may be represented in more than one job advertisement.

Top Occupations for the Health Care Services Cluster by Education Level

The table below identifies the occupations with the most total job openings, categorized by Bureau of Labor Statistics (BLS) 2012 entry-level education requirements, within the Health Care Services cluster. The table includes the San Joaquin Valley Economic Market's projected total job openings and median hourly and annual wages. In addition, recent totals of online job advertisements over 120-day period are included. Grouping occupations by education levels allows individuals to better gauge the potential for skills transference and upward mobility within the cluster.

Occupations	Total Job Openings[42] (2012-2022)	Median Hourly Wage (2014)	Median Annual Wage (2014)	HWOL Job Ads (120 days)
Requires a Bachelor's Degree or Higher				
Medical and Health Services Managers	974	$53.33	$110,923	965
Physical Therapists	581	$44.24	$92,016	895
Family and General Practitioners	575	$82.52	$171,630	233
Physician Assistants	521	$53.96	$112,227	387
Nurse Practitioners	519	$54.06	$112,448	142
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree				
Registered Nurses	8,554	$41.13	$85,545	5,806
Nursing Assistants	4,403	$12.01	$24,988	565
Medical Assistants	4,143	$13.72	$28,537	754
Licensed Practical and Licensed Vocational Nurses	2,416	$24.28	$50,504	875
Dental Assistants	1,475	$15.32	$31,863	534
Requires a High School Diploma or Equivalent or Less				
Medical Secretaries	2,975	$16.61	$34,566	1,166
Home Health Aides	2,138	$10.43	$21,688	432
Receptionists and Information Clerks	1,759	$12.30	$25,583	2,061
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[42] Total job openings are the sum of new jobs and replacement job openings.

Skill Requirements in the Health Care Services Cluster

The table below lists the 10 top skills required for top occupations in the Health Care Services cluster, categorized by entry-level education requirements. Active listening, critical thinking, reading comprehension and social perceptiveness are the most commonly shared skills, followed by speaking. The skills and work activities identified for each occupation are from the U.S. Department of Labor's Occupational Information Network (O*NET).

Occupations	Skills																
	Active Learning	Active Listening	Complex Problem Solving	Coordination	Critical Thinking	Instructing	Judgment and Decision Making	Learning Strategies	Monitoring	Operations Analysis	Reading Comprehension	Science	Service Orientation	Social Perceptiveness	Speaking	Time Management	Writing
Requires a Bachelor's Degree or Higher																	
Medical and Health Services Managers		●		●	●		●		●	●	●			●	●	●	
Physical Therapists		●		●	●		●		●		●		●	●	●		●
Family and General Practitioners	●	●	●		●		●				●	●		●	●		●
Physician Assistants	●	●		●	●				●		●		●	●	●		●
Nurse Practitioners	●	●			●	●	●		●		●	●		●			●
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree																	
Registered Nurses	●	●		●	●			●	●		●		●	●	●		
Nursing Assistants	●	●		●	●				●		●		●	●	●		●
Medical Assistants	●	●		●	●				●		●		●	●	●		●
Licensed Practical and Licensed Vocational Nurses		●		●	●				●		●		●	●	●	●	●
Dental Assistants	●	●			●	●			●		●		●	●	●		●
Requires a High School Diploma or Equivalent or Less																	
Medical Secretaries		●		●	●				●		●		●	●	●	●	●
Home Health Aides	●	●		●	●			●	●		●		●	●	●		
Receptionists and Information Clerks		●	●	●	●						●		●	●	●	●	●
Personal Care Aides	●	●		●	●				●		●		●	●	●		●
Maids and Housekeeping Cleaners		●		●	●	●			●		●		●	●	●	●	

*Source: U.S. Department of Labor's Occupational Information Network (O*NET) at www.onetonline.org.*

Work Activities in the Health Care Services Cluster

The table below lists the 10 top work activities required for top occupations in the Health Care Services cluster, categorized by entry-level education requirements. The most common include establishing and maintaining interpersonal relationships; identifying objects, actions, and events; assisting and caring for others; and monitor processes, materials, or surroundings.

Occupations	Work Activities																									
	Analyzing Data or Information	Assisting and Caring for Others	Coaching and Developing Others	Communicating with Persons Outside Organization	Communicating with Supervisors, Peers, or Subordinates	Coordinating the Work and Activities of Others	Documenting/Recording Information	Establishing and Maintaining Interpersonal Relationships	Evaluating Information to Determine Compliance with Standards	Getting Information	Guiding, Directing, and Motivating Subordinates	Handling and Moving Objects	Identifying Objects, Actions, and Events	Inspecting Equipment, Structures, or Material	Making Decisions and Solving Problems	Monitor Processes, Materials, or Surroundings	Monitoring and Controlling Resources	Organizing, Planning, and Prioritizing Work	Performing Administrative Activities	Performing for or Working Directly with the Public	Performing General Physical Activities	Processing Information	Provide Consultation and Advice to Others	Resolving Conflicts and Negotiating with Others	Thinking Creatively	Training and Teaching Others	Updating and Using Relevant Knowledge
Requires a Bachelor's Degree or Higher																										
Medical and Health Services Managers			●		●	●		●			●				●		●	●					●	●			
Physical Therapists		●					●	●				●	●		●	●					●				●		●
Family and General Practitioners	●	●					●	●		●			●		●	●						●					●
Physician Assistants	●	●						●		●			●		●	●				●		●					●
Nurse Practitioners		●					●	●		●			●		●	●		●		●							●
Requires Some College, Postsecondary Non-Degree Award, or Associate's Degree																										
Registered Nurses		●			●			●		●			●		●	●		●				●					●
Nursing Assistants		●			●			●		●		●	●		●	●		●				●					
Medical Assistants		●			●		●	●		●			●			●		●		●							●
Licensed Practical and Licensed Vocational Nurses		●			●		●	●				●	●		●	●		●									●
Dental Assistants		●						●	●	●		●	●		●	●		●									●
Requires a High School Diploma or Equivalent or Less																										
Medical Secretaries		●		●	●			●		●			●		●			●				●					●
Home Health Aides		●			●		●	●				●	●			●		●				●					●
Receptionists and Information Clerks		●					●	●		●			●			●			●	●		●					●
Personal Care Aides		●			●		●	●				●	●		●	●		●			●						
Maids and Housekeeping Cleaners					●			●		●		●	●	●				●		●	●					●	

*Source: U.S. Department of Labor's Occupational Information Network (O*NET) at www.onetonline.org.*

Related Occupations for the Health Care Services Cluster

The table below lists top occupations in the Health Care Services cluster by entry-level education requirements and provides a sample of related occupations. These related occupations match many of the skills, education, and work experience needed for the top Health Care Services cluster occupations.

Health Care Services Occupations	Related Occupations
Requires a Bachelor's Degree or Higher	
Medical and Health Services Managers	• Management Analysts • Chief Executives • Human Resources Managers
Physical Therapists	• Health Specialties Teachers, Postsecondary • Nursing Instructors and Teachers, Postsecondary • Occupational Therapists
Family and General Practitioners	• Hospitalists • Physician Assistants • Nurse Midwives
Physician Assistants	• Clinical Nurse Specialists • Nurse Midwives • Nurse Practitioners
Nurse Practitioners	• Physician Assistants • Clinical Nurse Specialists • Nurse Midwives
Requires Some College, Postsecondary Non-Degree Award, or Associate's	
Registered Nurses	• Acute Care Nurses • Critical Care Nurses • Licensed Practical and Licensed Vocational Nurses
Nursing Assistants[43]	• N/A
Medical Assistants	• Pharmacy Technicians • Physical Therapist Assistants • Dental Assistants
Licensed Practical and Licensed Vocational Nurses	• Acute Care Nurses • Cardiovascular Technologists and Technicians • Radiologic Technicians
Dental Assistants	• Dental Hygienists • Surgical Technologists • Endoscopy Technicians
Requires a High School Diploma or Equivalent or Less	
Medical Secretaries	• Medical Records and Health Information Technicians • Receptionists and Information Clerks • Bill and Account Collectors
Home Health Aides	• Personal Care Aides • Occupational Therapy Aides • Physical Therapist Aides
Receptionists and Information Clerks	• Medical Records and Health Information Technicians • Medical Secretaries • Office Clerks, General
Personal Care Aides	• Home Health Aides • Ambulance Drivers and Attendants, Except Emergency Medical Technicians • Physical Therapist Aides
Maids and Housekeeping Cleaners	• Janitors and Cleaners, Except Maids and Housekeeping Cleaners • Dining Room and Cafeteria Attendants and Bartender Helpers • Food Servers, Nonrestaurant

*Source: U.S. Department of Labor's Occupational Information Network (O*NET) at www.onetonline.org.*

[43] Currently no related occupations reported by O*NET.

Employer Demand for the Health Care Services Cluster

The following table lists the San Joaquin Valley Economic Market employers in the Health Care Services cluster who posted the most job advertisements during the 120-day period ending April 22, 2015. The table also includes the number of job advertisements from the previous year's period, as well as the numerical change and year-over percent change in these postings for the same 120-day period.

Health Care Services Cluster Employers	**Recent Job Advertisements**[44] (120-day period)	**Prior Year Job Advertisements** (120-day period)	**Numerical Change**	**Year-Over Percent Change** (HWOL Job Advertisements)
Dignity Health	672	844	-172	-20.4%
Kern Medical Center	327	316	11	3.5%
Tenet Healthcare Corporation	313	171	142	83.0%
St. Joseph Medical Center	256	85	171	201.2%
Kaiser Permanente	238	95	143	150.5%
Sutter Health	224	175	49	28.0%
Children's Hospital Central California	175	179	-4	-2.2%
Onward Healthcare	153	63	90	142.9%
American Mobile Healthcare	107	100	7	7.0%
Kaweah Delta Medical Center	102	68	34	50.0%
Brookdale Senior Living	88	51	37	72.5%
San Joaquin Community Hospital	88	92	-4	-4.3%
DaVita, Inc.	83	111	-28	-25.2%
Mercy Hospital	80	17	63	370.6%
Adventist HealthCare	73	54	19	35.2%
Avalon Health Care, Inc.	69	53	16	30.2%
Golden Living	64	60	4	6.7%
Western Dental	60	30	30	100.0%
Aureus Medical	48	5	43	860.0%
Genesis HealthCare	43	22	21	95.5%

Source: The Conference Board Help Wanted OnLine™ (HWOL) Data Series: Period ending April 22, 2015.

[44] Totals do not include employers with anonymous job advertisements.

Instructional Programs for the Health Care Services Cluster Occupations

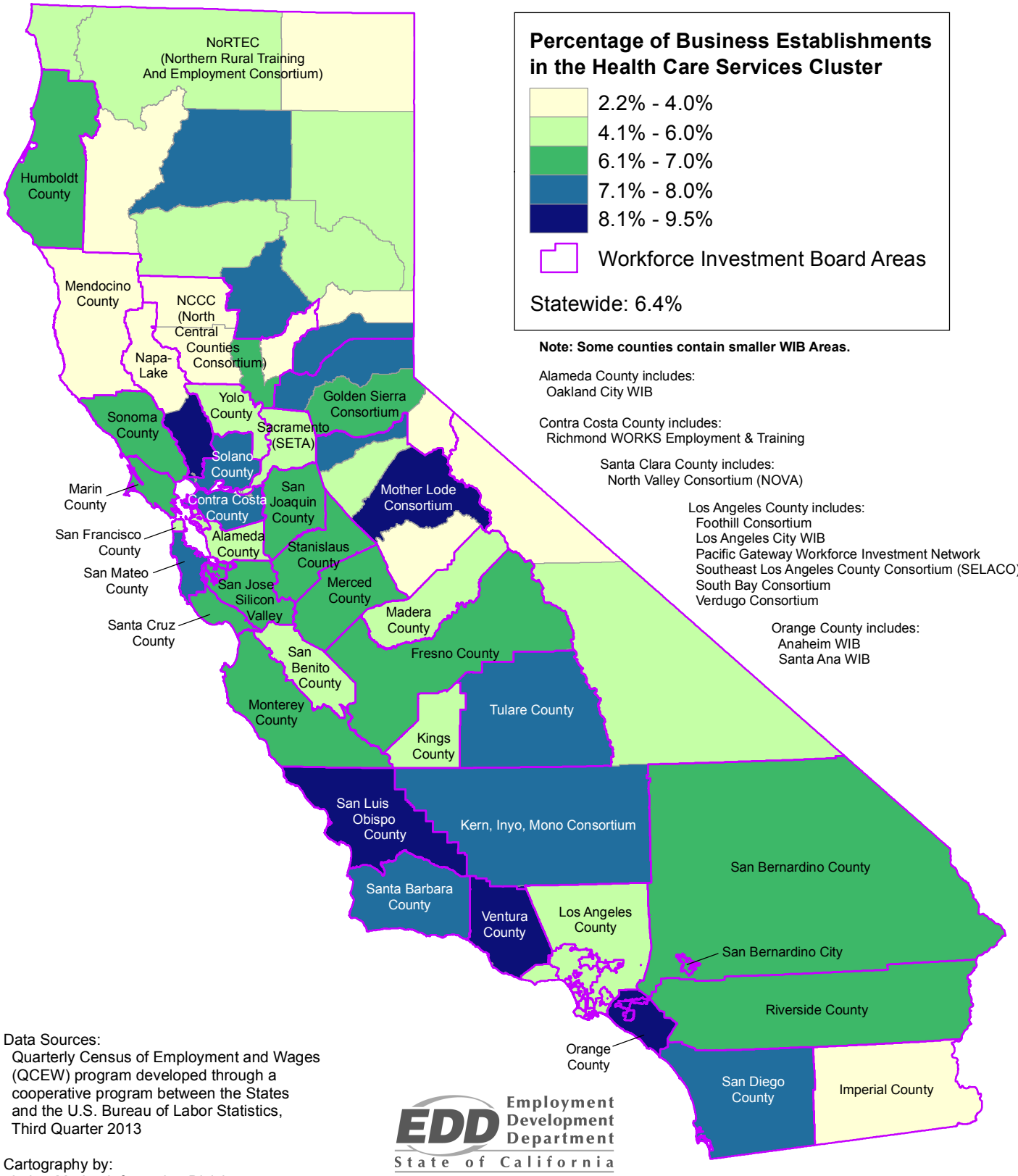
The table below provides examples of instructional programs related to some of the top occupations in the Health Care Services cluster, particularly those that require less than a bachelor's degree. These programs train individuals for occupations throughout many industries and are not limited to the Health Care Services cluster. To view a more complete list of training programs, select the source links under the table below. The Taxonomy of Programs categorizes and describes instructional programs only for California Community Colleges.

Occupations	Classification of Instructional Program (CIP)		Taxonomy of Programs (TOP)	
	CIP Code	*CIP Title*	*TOP Code*	*TOP Title*
Registered Nurses	51.3801	Registered Nursing/Registered Nurse	123000	Nursing
	51.3813	Clinical Nurse Specialist	123010	Registered Nursing
	51.3816	Emergency Room/Trauma Nursing		
Nursing Assistants	51.2601	Health Aide	123030	Certified Nurse Assistant
	51.3902	Nursing Assistant/Aide and Patient Care Assistant/Aide		
	51.3999	Practical Nursing, Vocational Nursing and Nursing Assistants, Other		
Medical Assistants	51.0710	Medical Office Assistant/Specialist	051420	Medical Office Technology
	51.0712	Medical Reception/Receptionist	120800	Medical Assisting
	51.0713	Medical Insurance Coding Specialist/Coder	120810	Clinical Medical Assisting
Licensed Practical and Licensed Vocational Nurses Assistants	51.3901	Licensed Practical/Vocational Nurse Training	123020	Licensed Vocational Nursing
	51.3999	Practical Nursing, Vocational Nursing and Nursing Assistants, Other		
Dental	51.0601	Dental Assisting/Assistant	124010	Dental Assistant
Medical Secretaries	51.0710	Medical Office Assistant/Specialist	051420	Medical Office Technology
	51.0714	Medical Insurance Specialist/ Medical Biller		
	51.0716	Medical Administrative/Executive Assistant and Medical Secretary		
Home Health Aides	51.2602	Home Health Aide/Home Attendant	123080	Home Health Aide
Receptionists and Information Clerks	52.0406	Receptionist		
Personal Care Aides	51.2602	Home Health Aide/Home Attendant	123080	Home Health Aide

Source: U.S. Department of Education Integrated Postsecondary Education Data System (IPEDS) at www.nces.ed.gov; California Community Colleges TOP-to-CIP Crosswalk 7th Edition (2010), www.cccco.edu.

California Health Care Services Cluster

Percentage of Total County Establishments, 2013



Percentage of Business Establishments in the Health Care Services Cluster

- 2.2% - 4.0%
- 4.1% - 6.0%
- 6.1% - 7.0%
- 7.1% - 8.0%
- 8.1% - 9.5%
- Workforce Investment Board Areas

Statewide: 6.4%

Note: Some counties contain smaller WIB Areas.

Alameda County includes:
Oakland City WIB

Contra Costa County includes:
Richmond WORKS Employment & Training

Santa Clara County includes:
North Valley Consortium (NOVA)

Los Angeles County includes:
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Los Angeles City WIB
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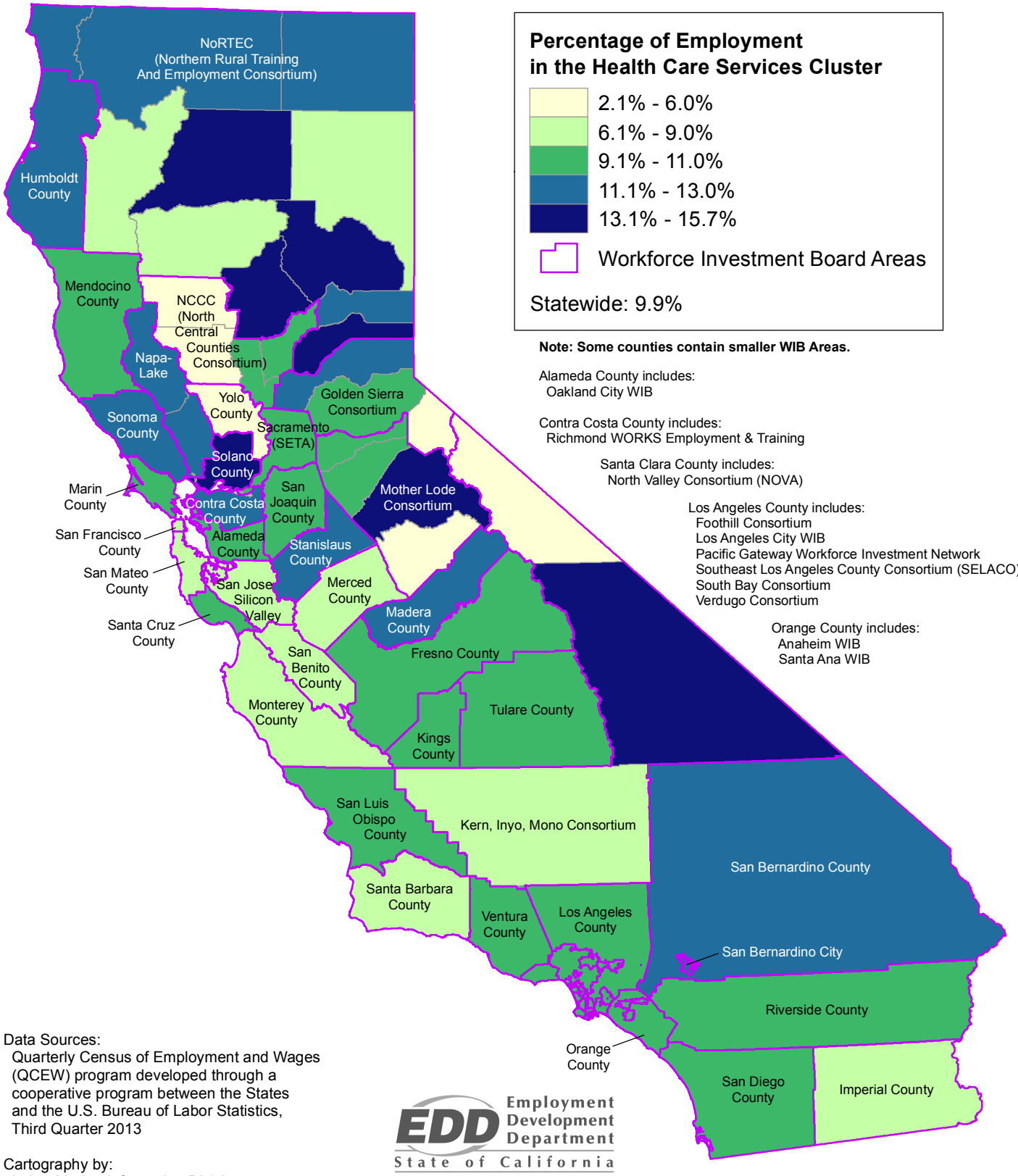
California Health Care Services Cluster

Percentage of Total County Employment, 2013



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July 2014

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State of California

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ATTACHMENT 5

Labor Market Overview: Central Valley/Mother Lode Region

May, 2016

Prepared by:
Center of Excellence
Central Valley/Mother Lode Region

C·O·E
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Inform Connect Advance

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Regional Population Characteristics 4
Industry Employment 6
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Summary 14
Appendix A: Sources, Terms and Definitions 15

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Centers of Excellence, Economic and Workforce Development Program
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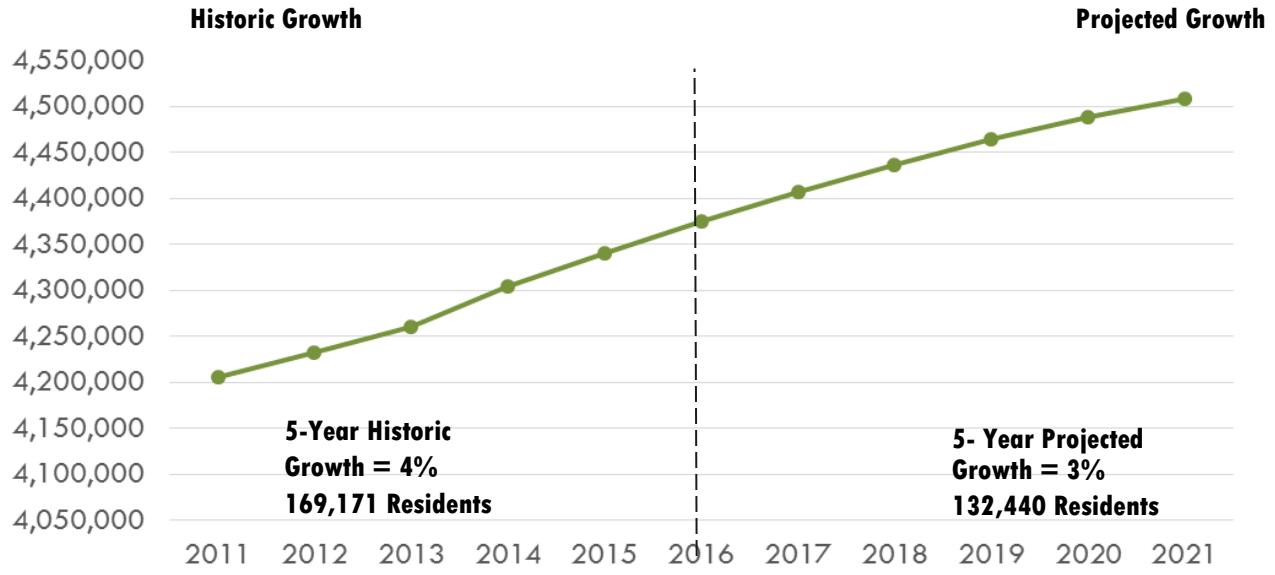
Regional Population Characteristics

Residential Population

The Central Valley/Mother Lode (CVML) Region consists of 15 counties: **Alpine, Amador, Bakersfield, Calaveras, Fresno, Inyo, Kern, Kings, Mariposa, Merced, Mono, San Joaquin, Stanislaus, Tulare and Tuolumne.** The residential population numbered close to 4.4 million in 2016, with an additional 132,440 residents projected by 2021 (Exhibit 1). Over the last five years, the CVML Region grew by 4%, somewhat slower than the state's growth of 4.7%. The projected growth rate of 3% is also slower than in the previous five years and nearly matches the state's projected growth rate of 3.1%.

Exhibit 1: Central Valley/Mother Lode Region Population Estimates and Projections



Labor Force, Civilian Employment and Unemployment

The size and characteristics of a region's labor force are important considerations in workforce planning. Labor force, employment and unemployment data are based upon "place of residence" – where people live, regardless of where they work. Individuals who have more than one job are counted only once. These data elements differ from industry employment estimates that are "place of work" based – where the employer/workplace is located, regardless of where the employee resides. For terms and definitions, see Appendix A.

Since 2011, the CVML regional labor force has increased in size by 51,960 persons, indicating an entrance of working age individuals into the workforce of 3%. Total employment increased by 177,690 persons (Exhibit 2). Because total employment increased more than the labor force, the unemployment rate decreased from 17% in 2011 (compared to 11.5% statewide) to 10% in 2016 (compared to 5.2% statewide).

Exhibit 2: Labor Force and Unemployment Rate, 2011-2016

	April 2011	April 2016	5-Year Change
Labor Force	1,873,450	1,925,410	51,960
Employment	1,563,010	1,740,700	177,690
Unemployment	310,340	184,740	(125,600)
Unemployment Rate	17%	10%	-7%

Demographic Overview

Central Valley/Mother Lode regional demographics will change somewhat in the next five years. The total Hispanic population in the region is projected to reach 52% by 2021, an increase of two percentage points from 2016 (Exhibit 3).

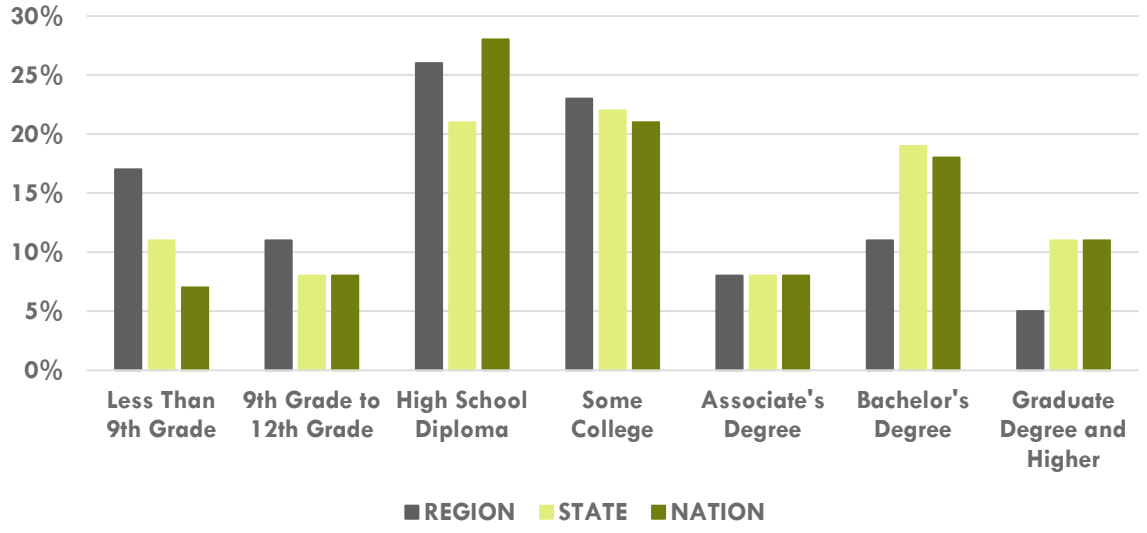
Exhibit 3: Ethnicity/Race Changes, 2011-2016

Race/Ethnicity	2016 Population	2021 Population	Change	% Change
White, Hispanic	1,951,783	2,069,316	117,533	6%
White, Non-Hispanic	1,541,483	1,503,803	(37,680)	-2%
Asian, Non-Hispanic	321,599	342,178	20,579	6%
Black, Non-Hispanic	187,728	190,357	2,629	1%
Two or More Races, Non-Hispanic	94,576	100,894	6,318	7%
American Indian or Alaskan Native, Hispanic	88,102	95,854	7,752	9%
Two or More Races, Hispanic	60,001	66,916	6,915	12%
Black, Hispanic	44,085	48,023	3,938	9%
Asian, Hispanic	36,526	39,646	3,120	9%
American Indian or Alaskan Native, Non-Hispanic	30,064	29,710	(354)	-1%
Native Hawaiian or Pacific Islander, Non-Hispanic	12,050	13,157	1,107	9%
Native Hawaiian or Pacific Islander, Hispanic	7,194	7,778	584	8%
Total	***4,375,191***	***4,507,631***	***132,440***	***3%***

Educational Attainment

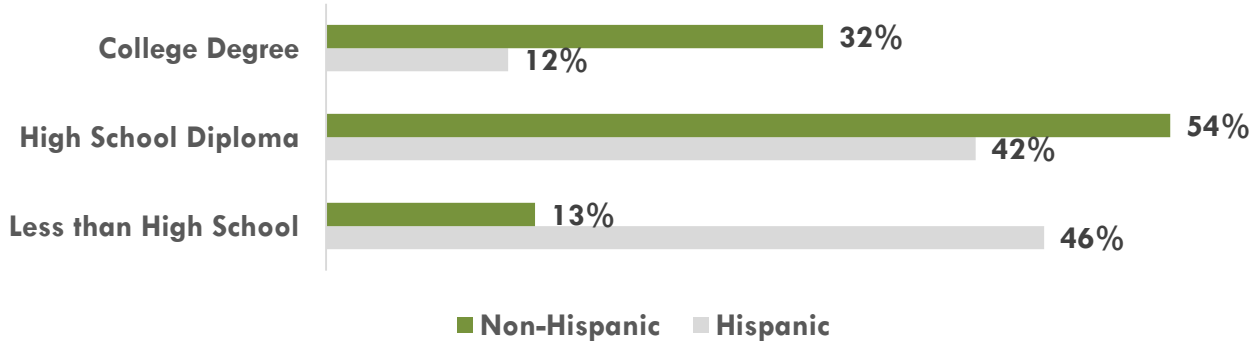
Postsecondary educational attainment in the region is lower than statewide and nationwide rates in every category except for "some college" and associate degree (Exhibit 4). Only 16% of the adult population holds a bachelor's or graduate degree, compared to 30% statewide and 29% nationwide. Within the CVML Region, 54% of the population has a high school diploma or less, compared to 40% statewide and 43% nationwide.

Exhibit 4: Educational Attainment, 2016 Percent of Population



Hispanic educational attainment in the CVML Region is lower than non-Hispanic educational attainment. Only 12% of the Hispanic population earned a college degree (associate degree or higher), compared to 32% of the non-Hispanic population (Exhibit 5). Conversely, 46% of the Hispanic population did not complete high school, compared to 13% of the non-Hispanic population.

Exhibit 5: 2016 Hispanic/Non-Hispanic Educational Attainment

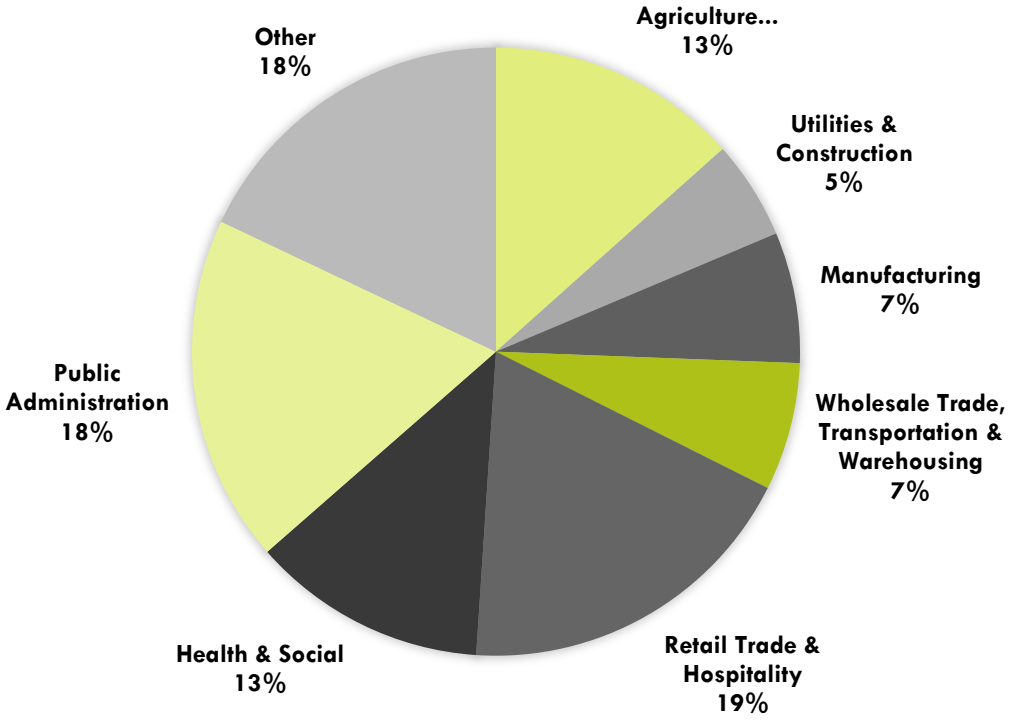


Industry Employment

Employment Composition

The Central Valley/Mother Lode Region had nearly 1.7 million jobs as of April 2016. In Exhibit 6, this employment is distributed into eight major industrial groupings. The largest shares of employment are attributed to retail trade and hospitality, public administration, health care and social assistance, and agriculture. These are followed by manufacturing as well as wholesale trade, transportation and warehousing. The smallest shares of employment that are aggregated within the "other" category represent regional non-priority industry groups with less than 5% of the total jobs in the region.

Exhibit 6: Central Valley/Mother Lode Region 2016 Employment by Industry Groups



Health Care and Social Assistance Sector

In 2016, the majority of health care and social assistance jobs were with services for the elderly and persons with disabilities, followed by general hospitals, physicians' offices and nursing care facilities. Major growth is projected in HMOs, home health care services and services for the elderly and persons with disabilities. Although child day care services have the fifth largest number of jobs, there is an expected 7% decline over the next five-year period. Overall, this sector is projected to grow by 13%, adding 27,190 new positions by 2021 (Exhibit 7).

Exhibit 7: 2016 Health Care and Social Assistance Jobs

Description	2016 Jobs	2021 Jobs	2016 - 2021 Change	2016 - 2021 % Change	2015 Firms
Services for the Elderly and Persons with Disabilities	43,714	55,796	12,082	28%	33,398
General Medical and Surgical Hospitals	41,123	42,609	1,486	4%	60
Offices of Physicians (except Mental Health Specialists)	26,212	28,191	1,979	8%	2,668
Nursing Care Facilities (Skilled Nursing Facilities)	14,517	16,208	1,691	12%	174
Child Day Care Services	12,476	11,657	(819)	-7%	496
Offices of Dentists	10,198	10,626	428	4%	1,411
Home Health Care Services	8,075	10,585	2,510	31%	178
HMO Medical Centers	5,482	7,692	2,210	40%	32
Assisted Living Facilities for the Elderly	4,891	5,616	725	15%	269
Vocational Rehabilitation Services	4,363	4,574	211	5%	121
Child and Youth Services	3,283	3,631	348	11%	121
Other Individual and Family Services	3,167	2,950	(217)	-7%	239
Residential Intellectual and Developmental Disability Facilities	2,714	2,560	(154)	-6%	194
Continuing Care Retirement Communities	2,664	3,338	674	25%	37
Ambulance Services	2,529	2,896	367	15%	49
Offices of Physical, Occupational and Speech Therapists, and Audiologists	2,397	2,880	483	20%	200
Residential Mental Health and Substance Abuse Facilities	2,220	2,670	450	20%	90
All Other Outpatient Care Centers	1,773	2,411	638	36%	64
Offices of Optometrists	1,703	1,906	203	12%	214
Kidney Dialysis Centers	1,664	2,020	356	21%	79
Outpatient Mental Health and Substance Abuse Centers	1,604	1,924	320	20%	70
Other Residential Care Facilities	1,534	1,431	(103)	-7%	118
Offices of Mental Health Practitioners (except Physicians)	1,490	1,804	314	21%	75
Offices of Chiropractors	1,269	1,161	(108)	-9%	321
Diagnostic Imaging Centers	1,206	1,512	306	25%	56
Medical Laboratories	1,009	1,050	41	4%	169
Offices of All Other Miscellaneous Health Practitioners	838	971	133	16%	70
Freestanding Ambulatory Surgical and Emergency Centers	790	917	127	16%	51
All Other Combined	4,004	4,513	509	13%	301
Total	***208,907***	***236,098***	***27,190***	***13%***	***41,325***

Retail Trade Sector

In 2016, the majority of retail jobs were with supermarkets and other grocery stores, followed by discount department stores, and warehouse clubs and supercenters (Exhibit 8). Although new car dealers have the fourth largest number of jobs, these positions are expected to experience a decline of 1% (shedding 109 jobs). The largest decline (47%) is projected for department stores (except discount department stores) with a loss of 1,814 jobs. Overall, the retail trade sector is projected to increase by 6% during the next five-year period, adding more than 11,000 new positions.

Exhibit 8: 2016 Retail Jobs

Description	2016 Jobs	2021 Jobs	2016 - 2021 Change	2016 - 2021 % Change	2015 Firms
Supermarkets and Other Grocery (except Convenience) Stores	27,007	28,717	1,710	6%	931
Discount Department Stores	17,623	18,468	845	5%	148
Warehouse Clubs and Supercenters	10,993	15,066	4,073	37%	43
New Car Dealers	10,432	10,323	(109)	-1%	229
Pharmacies and Drug Stores	8,093	8,145	52	1%	607
Home Centers	8,044	8,850	806	10%	106
Gasoline Stations with Convenience Stores	6,916	6,883	(33)	0%	841
All Other General Merchandise Stores	5,445	6,762	1,317	24%	357
Automotive Parts and Accessories Stores	5,309	5,616	307	6%	486
Electronics Stores	4,741	5,242	501	11%	352
Family Clothing Stores	4,593	4,998	405	9%	224
Department Stores (except Discount Department Stores)	3,892	2,078	(1,814)	-47%	37
Sporting Goods Stores	3,155	3,571	416	13%	218
Hobby, Toy, and Game Stores	3,000	3,821	821	27%	108
Women's Clothing Stores	2,923	3,647	724	25%	240
Other Building Material Dealers	2,661	2,593	(68)	-3%	193
Hardware Stores	2,480	2,667	187	8%	185
Tire Dealers	2,376	2,415	39	2%	298
Convenience Stores	2,315	2,552	237	10%	369
Used Merchandise Stores	2,301	2,503	202	9%	142
Used Car Dealers	2,209	2,610	401	18%	169
Shoe Stores	2,108	2,425	317	15%	215
Other Gasoline Stations	1,949	1,933	(16)	-1%	85
Furniture Stores	1,860	1,669	(191)	-10%	192
Pet and Pet Supplies Stores	1,552	1,774	222	14%	89
Nursery, Garden Center, and Farm Supply Stores	1,472	1,437	(35)	-2%	127
Office Supplies and Stationery Stores	1,428	1,214	(214)	-15%	79
Other Direct Selling Establishments	1,424	1,247	(177)	-12%	48
Cosmetics, Beauty Supplies, and Perfume Stores	1,421	1,826	405	29%	113
Gift, Novelty, and Souvenir Stores	1,346	1,130	(216)	-16%	131
Jewelry Stores	1,306	1,159	(147)	-11%	189
Other Clothing Stores	1,297	1,426	129	10%	95
All Other Home Furnishings Stores	1,294	1,468	174	13%	89
Beer, Wine, and Liquor Stores	1,283	1,266	(17)	-1%	292
All Other Miscellaneous Store Retailers (except Tobacco Stores)	1,270	1,205	(65)	-5%	165
Meat Markets	954	1,027	73	8%	89
Sewing, Needlework, and Piece Goods Stores	906	1,007	101	11%	46
All Other Specialty Food Stores	818	531	(287)	-35%	76
Tobacco Stores	723	827	104	14%	102
Florists	722	589	(133)	-18%	102
Floor Covering Stores	718	515	(203)	-28%	82
All Other Combined	10,457	10,626	168	0	998
Total	***172,816***	***183,827***	***11,011***	***6%***	***9,680***

Manufacturing Sector

In 2016, the majority of manufacturing jobs were in fruit and vegetable canning, poultry processing and wineries (Exhibit 9). Declines are projected for several firm types, including fruit and vegetable canning, commercial printing and commercial bakeries; however, the manufacturing sector is projected to grow overall by 2% during the next five-year period, adding 2,586 jobs.

Exhibit 9: 2016 Manufacturing Jobs

Description	2016 Jobs	2021 Jobs	2016 - 2021 Change	2016 - 2021 % Change	2015 Firms
Fruit and Vegetable Canning	9,057	8,725	(332)	-4%	41
Poultry Processing	8,122	8,280	158	2%	115
Wineries	7,883	8,687	804	10%	174
Roasted Nuts and Peanut Butter Manufacturing	4,517	4,912	395	9%	23
Cheese Manufacturing	4,419	4,760	341	8%	25
Animal (except Poultry) Slaughtering	2,658	2,754	96	4%	9
Dried and Dehydrated Food Manufacturing	2,606	2,277	(329)	-13%	28
Corrugated and Solid Fiber Box Manufacturing	2,593	3,005	412	16%	22
Fluid Milk Manufacturing	2,479	2,649	170	7%	19
Frozen Fruit, Juice, and Vegetable Manufacturing	2,212	2,346	134	6%	13
Perishable Prepared Food Manufacturing	2,181	2,436	255	12%	10
Commercial Printing (except Screen and Books)	2,105	1,609	(496)	-24%	112
Frozen Specialty Food Manufacturing	2,066	2,097	31	2%	6
Meat Processed from Carcasses	1,908	2,173	265	14%	24
Other Animal Food Manufacturing	1,881	1,993	112	6%	66
Fabricated Structural Metal Manufacturing	1,791	1,981	190	11%	41
Farm Machinery and Equipment Manufacturing	1,616	1,830	214	13%	56
Machine Shops	1,544	1,554	10	1%	155
Other Snack Food Manufacturing	1,431	1,527	96	7%	5
Glass Container Manufacturing	1,412	1,365	(47)	-3%	5
Ice Cream and Frozen Dessert Manufacturing	1,385	1,577	192	14%	10
Wood Kitchen Cabinet and Countertop Manufacturing	1,325	1,324	(1)	0%	84
Commercial Bakeries	1,145	1,012	(133)	-12%	29
Soft Drink Manufacturing	1,132	1,244	112	10%	9
Other Paperboard Container Manufacturing	1,066	1,212	146	14%	7
All Other Plastics Product Manufacturing	1,026	1,054	28	3%	40
Ready-Mix Concrete Manufacturing	990	780	(210)	-21%	50
Tortilla Manufacturing	949	961	12	1%	10
Petroleum Refineries	941	1,101	160	17%	25
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	849	549	(300)	-35%	8
All Other Miscellaneous Food Manufacturing	836	999	163	19%	8
Plastics Pipe and Pipe Fitting Manufacturing	833	808	(25)	-3%	10
Other Aircraft Parts and Auxiliary Equipment Manufacturing	830	1,064	234	28%	5
Wood Container and Pallet Manufacturing	826	811	(15)	-2%	34
Motor Vehicle Body Manufacturing	707	776	69	10%	12
Packaging Machinery Manufacturing	689	705	16	2%	11
Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	678	799	121	18%	32
Sheet Metal Work Manufacturing	670	726	56	8%	26
Retail Bakeries	669	584	(85)	-13%	66
Prefabricated Metal Building and Component Manufacturing	666	546	(120)	-18%	13
Other Motor Vehicle Parts Manufacturing	663	588	(75)	-11%	12
All Other Combined	32,729	32,034	(238)	-1%	1,228
Total	***116,086***	***118,214***	***2,586***	***2%***	***2,674***

Agriculture Sector

The Central Valley/Mother Lode Region's leading agricultural commodities include almonds, milk, walnuts and chickens. In addition to farm labor contractors and crew leaders, the majority of agriculture jobs fell within crop production, and animal production and aquaculture in 2016 (Exhibit 10). Overall, this sector is projected to grow by 3% over the next five years, adding 5,850 jobs.

Exhibit 10: 2016 Agriculture Jobs

Description	2016 Jobs	2021 Jobs	2016 - 2021 Change	2016 - 2021 % Change	2015 Firms
Farm Labor Contractors and Crew Leaders	94,324	103,060	8,736	9%	690
Crop Production	68,386	64,943	(3,443)	-5%	4,072
Animal Production and Aquaculture	25,298	23,934	(1,364)	-5%	1,373
Postharvest Crop Activities (except Cotton Ginning)	20,358	21,685	1,327	7%	288
Soil Preparation, Planting, and Cultivating	5,854	6,550	696	12%	305
Farm Management Services	5,040	5,225	185	4%	176
Crop Harvesting, Primarily by Machine	2,560	2,513	(47)	-2%	180
Support Activities for Animal Production	722	614	(108)	-15%	107
Logging	296	277	(19)	-6%	31
Forest Nurseries and Gathering of Forest Products	221	193	(28)	-13%	26
Cotton Ginning	175	51	(124)	-71%	24
Support Activities for Forestry	138	146	8	6%	9
Finfish Fishing	65	85	20	31%	1
Hunting and Trapping	34	35	1	3%	4
Shellfish Fishing	28	38	10	36%	0
Total	***223,498***	***229,350***	***5,850***	***3%***	***7,284***

Occupational Employment

Job Posting Trends

Burning Glass, an online job posting aggregation tool, was utilized to identify occupations with the most job openings in the Central Valley/Mother Lode Region.[1] Job postings were selected for inclusion in the analysis based on three criteria:

1. The minimum education requirement was a high school diploma or vocational certificate*, or associate degree;
2. The job posting was listed within the last 12 months (May 1, 2015 - April 30, 2016); and,
3. The job posting indicated the position was physically located in one of the region's 15 counties.

There were 54,748 job postings identified as possible matches. Almost one-fifth of the postings were for nurses. Exhibit 11 shows the top 20 job posting titles during the one-year period (accounting for 52% of the postings). Registered nurse was the only occupation showing a significant demand in terms of total job postings. Industries with the most job postings include health care and social services (28%); retail trade (14%); education services (10%); manufacturing (7%); and professional, scientific and technical services (5%).

Exhibit 11: 2016 Job Postings Requiring a High School Diploma or Vocational Training, or Associate Degree, Central Valley/Mother Lode Region

Occupational Title	# of Job Postings	% of Total	2016 Hourly Wages
Registered Nurses	9,390	17%	$41.58
Retail Salespersons	2,803	5%	$10.86
First-Line Supervisors of Retail Sales Workers	1,876	3%	$16.46
Customer Service Representatives	1,638	3%	$15.72
Critical Care Nurses	1,350	2%	$41.58
Sales Representatives, Wholesale and Manufacturing	1,310	2%	$25.82
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	1,306	2%	$16.26
Teacher Assistants	1,127	2%	$13.65
Maintenance and Repair Workers, General	1,023	2%	$17.94
Laborers and Freight, Stock, and Material Movers, Hand	875	2%	$12.00
Merchandise Displayers and Window Trimmers	789	1%	$12.99
Security Guards	697	1%	$10.61
Managers, All Other	680	1%	$29.51
Bookkeeping, Accounting, and Auditing Clerks	640	1%	$17.45
Combined Food Preparation and Serving Workers, Including Fast Food	547	1%	$9.72
Office Clerks, General	507	1%	$13.77
Coaches and Scouts	493	1%	$16.21
First-Line Supervisors of Office and Administrative Support Workers	485	1%	$23.35
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	453	1%	$12.40
First-Line Supervisors of Food Preparation and Serving Workers	449	1%	$13.15

[1] Burning glass is an online job posting aggregation tool that uses intelligent "spidering" programs to search the Internet for job listings and integrates the information into a searchable database. While efforts have been made to remove duplication, it is possible that a posting removed and re-entered over the 12-month period is counted more than once.
*Selection option is high school diploma or vocational training; these two can no longer be isolated from one another.

Five of the top 20 occupations posted in the last 12 months exceed the average hourly living wage for one adult and one child: registered nurses; critical care nurses; sales representatives, wholesale and manufacturing; managers, all other; and first-line supervisors of office and administrative support workers. Living, poverty and minimum hourly wages are shown in Exhibit 12.

Exhibit 12: Average Living, Poverty and Minimum Wages with One Adult Working Full-Time

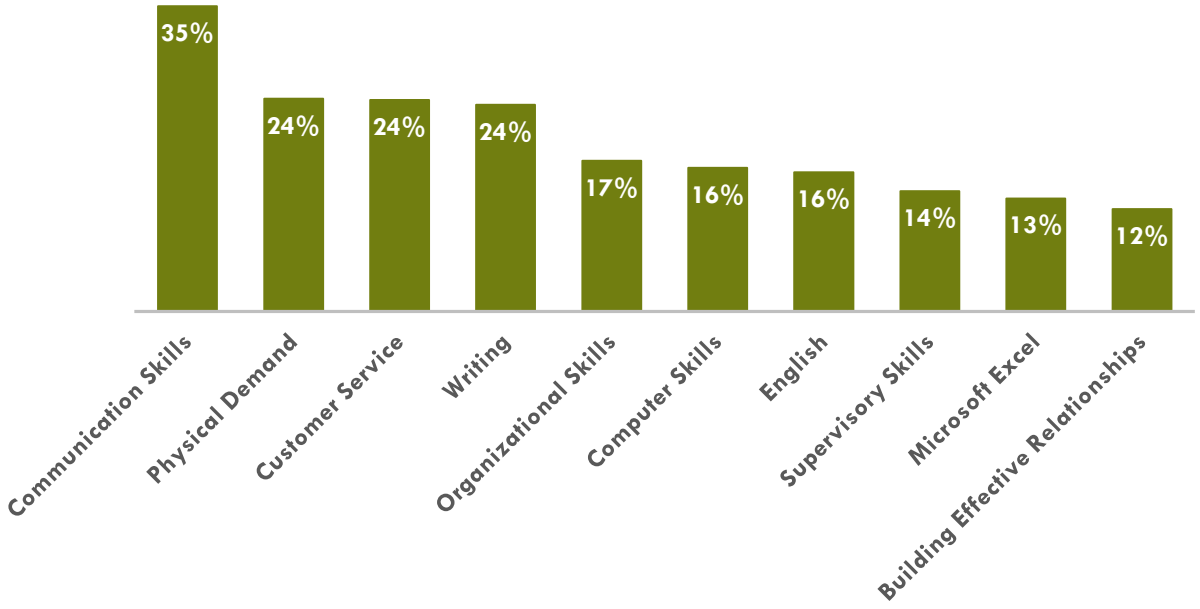
Hourly Wages	1 Adult	1 Adult 1 Child	1 Adult 2 Children	1 Adult 3 Children	2 Adults	2 Adults 1 Child	2 Adults 2 Children	2 Adults 3 Children
Living Wage	$ 10.59	$ 22.38	$ 25.95	$ 32.53	$ 8.46	$ 12.34	$ 14.35	$ 16.68
Poverty Wage	$ 5.00	$ 7.00	$ 9.00	$ 11.00	$ 3.00	$ 4.00	$ 5.00	$ 6.00
Minimum Wage	$ 9.00	$ 9.00	$ 9.00	$ 9.00	$ 9.00	$ 9.00	$ 9.00	$ 9.00

High Demand Skills

Of the 54,748 jobs posted in the Central Valley/Mother Lode Region between May 2015 and April 2016, 78% of them listed skills.

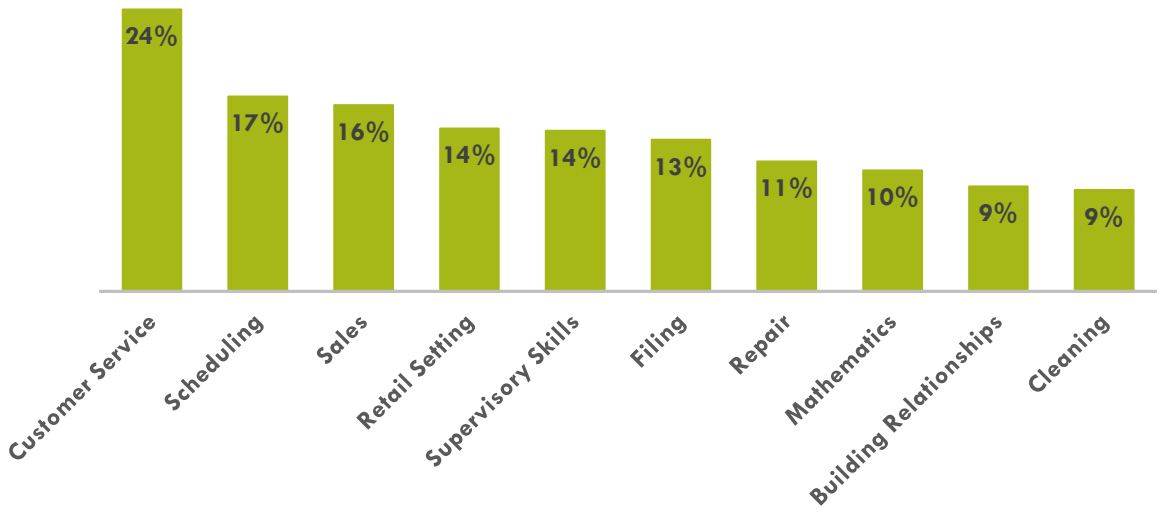
Baseline Skills: The baseline skills listed most frequently among the 42,619 postings included communication skills (35%), physical demand (24%), customer service (24%) and writing skills (24%) (Exhibit 13).

Exhibit 13: Baseline Skills in Greatest Demand



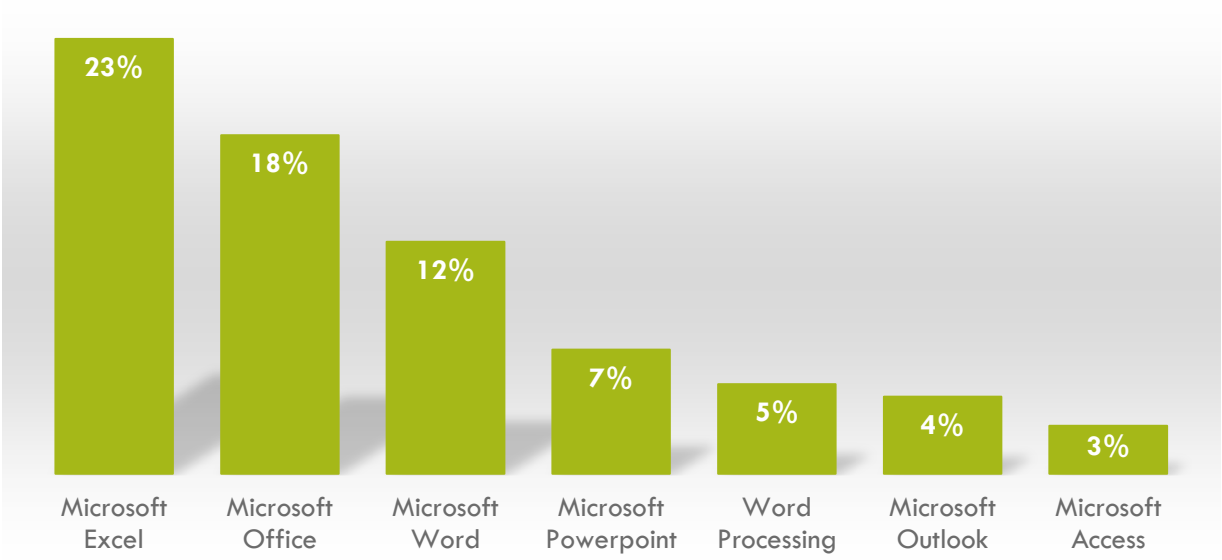
Specialized Skills: The specialized skills most frequently listed among the 42,619 postings were customer service (24%), scheduling (17%) and sales (16%) (Exhibit 14).

Exhibit 14: Specialized Skills in Greatest Demand



There were a total of 23,774 software specifications among the 42,619 postings. Of these 23,774 specifications, 73% were for a Microsoft product, and 23% were specific to Excel (Exhibit 15).

Exhibit 15: Software Skills in Greatest Demand



Summary

The Central Valley-Mother Lode Center of Excellence examined population characteristics, industry employment and occupational employment for the Central Valley/Mother Lode Region (Alpine, Amador, Bakersfield, Calaveras, Fresno, Inyo, Kern, Kings, Mariposa, Merced, Mono, San Joaquin, Stanislaus, Tulare and Tuolumne counties).

Over the next five years, the region is projected to undergo modest growth (3%), adding more than 132,000 new residents to its population of 4.4 million. From 2011 to 2016, the unemployment rate dropped from 17% to 10% as the labor force expanded by nearly 52,000 workers.

Educational attainment in the region lags behind state and national averages. While 30% of the nation's population holds a bachelor's degree, only 16% of the subregion's population holds a bachelor's or graduate degree, and 54% has a high school diploma or less. In addition, educational attainment is substantially lower for Hispanic residents, with 46% of the Hispanic population not having completed high school.

The Central Valley/Mother Lode Region has nearly 1.7 million jobs. The subregion's top four industries with the greatest number of jobs are retail trade and hospitality (19%), public administration (18%), health care and social assistance (13%) and agriculture (13%).

The study also examined employment and job projections for four major sectors in the subregion: health care and social assistance, retail, manufacturing and agriculture. With nearly 209,000 jobs, the health care and social assistance sector leads the subregion in projected growth and new positions. This sector is expected to expand by 13% in the next five years, adding 27,190 positions. With the addition of 11,011 jobs, the retail sector is projected to expand by 6%. Manufacturing and agriculture are projected to undergo slight growth at 2% and 3% respectively, adding 2,586 and 5,850 positions.

Occupational areas that are expected to add the most jobs include:

- Services for the elderly and persons with disabilities (12,082 new positions)
- Farm labor contractors and crew leaders (8,736)
- Warehouse clubs and supercenters (4,073)
- Home health care services (2,510)

Based on job posting data, the occupations most in demand are registered nurses, retail salespersons, first-line supervisors of retail sales workers and customer service representatives. Communication, physical demand, customer service and writing are the baselines skills most highly sought by employers. Scheduling and sales are specialized skills also frequently requested in job postings.

Appendix A: Sources, Terms and Definitions

This labor market report was prepared for the Central Regional Consortium by the Central Valley/Mother Lode California Center of Excellence (COE), an initiative of the California Community Colleges Economic and Workforce Development program.

Data Sources

Population estimates and projections: Economic Modeling Specialists Inc. (EMSI), http://www.economicmodeling.com/

Educational attainment: Economic Modeling Specialists Inc. (EMSI), http://www.economicmodeling.com

Labor force, employment and unemployment estimates: California Employment Development Department, Labor Market Information Division, labormarketinfo.edd.ca.gov

Industry and occupational employment estimates and projections, wages and other data: Economic Modeling Specialists Inc. (EMSI), http://www.economicmodeling.com/

Job posting data: Burning Glass, http://www.burning-glass.com/

Living wage calculator: http://livingwage.mit.edu/states/06/locations

Related Terms and Definitions

The **civilian labor force** is the sum of civilian employment and civilian unemployment. Civilians, as defined, are age 16 years or older, not members of the military, and are not in institutions such as prisons, mental hospitals, or nursing homes.

Civilian employment includes all individuals who worked at least one hour for a wage or salary, or were self-employed, or were working at least 15 unpaid hours in a family business or on a family farm, during the week including the 12th of the month. Those who were on vacation, on other kinds of leave, or involved in a labor dispute, were also counted as employed.

Civilian unemployment includes those individuals who were not working but were able, available, and actively looking for work during the week including the 12th of the month. Individuals who were waiting to be recalled from a layoff and individuals waiting to report to a new job within 30 days were also considered to be unemployed.

Wages Family Compositions: The living wage calculator estimates the living wage needed to support families. For single adult families, the adult is assumed to be employed full time. For two adult families where both adults are in the labor force, both adults are assumed to be employed full time. For two adult families where one adult is not in the labor force, one of the adults is assumed to be employed full time while the other non-wage-earning adult provides full-time child care for the family's children. Full-time work is assumed to be year-round, 40 hours per week for 52 weeks, per adult. Families with one child are assumed to have a 'young child' (4 years old). Families with two children are assumed to have a 'young child' and a 'child' (9 years old). Families with three children are assumed to have a 'young child,' a 'child,' and a 'teenager' (15 years old).

ATTACHMENT 6

FRESNO STATE
Community and Economic Development

California Partnership for the San Joaquin Valley

SAN JOAQUIN VALLEY

REGIONAL INDUSTRY CLUSTER ANALYSIS AND ACTION PLAN

SEPTEMBER 2012

Prepared for:
Office of Community and Economic Development
California State University, Fresno

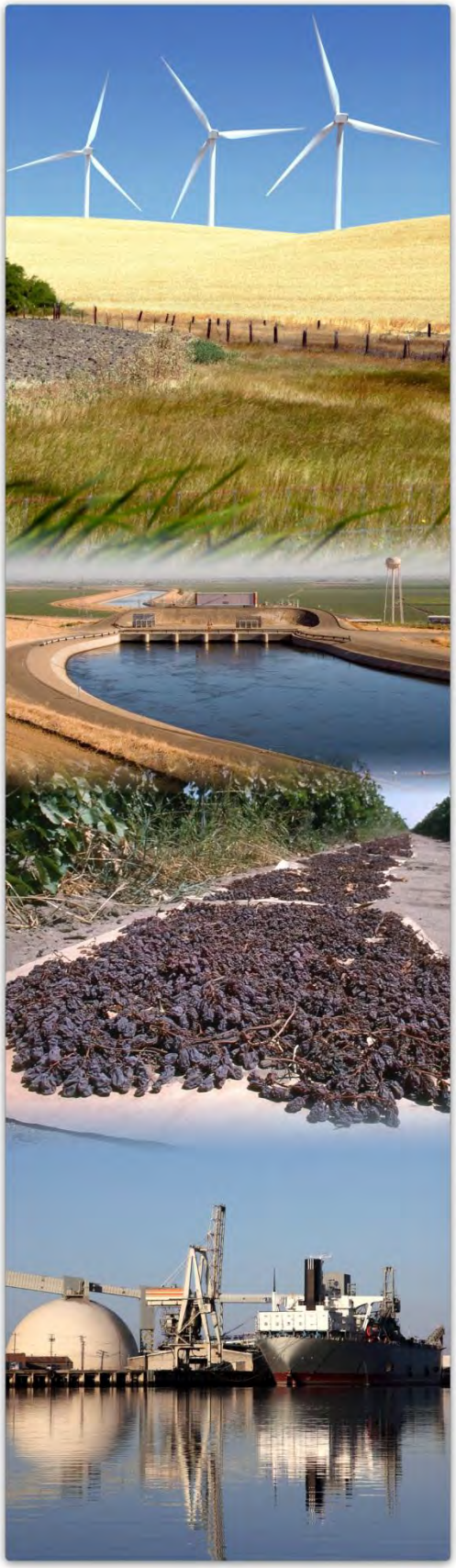
On Behalf of
California Partnership for the San Joaquin Valley

Prepared by:
Applied Development Economics

In Association with

Arakel A. Arisian, AICP, LEED AP
Arisian Development

Virginia Hamilton, Consultant



Prepared for:

Office of Community and Economic Development
California State University, Fresno

On Behalf of

California Partnership for the San Joaquin Valley
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California Emerging Technology Fund
California State University, Bakersfield
California Strategic Growth Council
California Water Institute
California Workforce Investment Board
Caltrans, District 6
Cambridge Systematics, Inc./Jock O'Connell Consulting
Center for Irrigation Technology, Fresno State
Central California Business Incubator
Central California Center of Excellence (Modesto Junior College)
Central California Community Colleges Committed to Change (C6)
Central California Obesity Prevention Program (CROPP)
Central Region Consortium (California Community Colleges)
Central Valley Business Incubator (CVBI)
Central Valley Health Network
Central California Workforce Collaborative (CCWC)
City of Fresno
Clinica Sierra Vista
Council on Adult and Experiential Learning
Economic Development Corporation serving Fresno County
Employers' Training Resource (Kern County)
Federal Reserve Bank of California, Community Development
Fresno Business Council
Fresno City College
Greater Stockton Chamber of Commerce/REACON
Health Sciences Research Institute, UC Merced
Kern County Economic Development Corporation
Kings County Economic Development Corporation
Fresno Workforce Investment Board (Workforce Connection)
Hospital Council of Northern and Central California
Kaiser Permanente Central Valley
Kern Community College District
Great Valley Center
Local Government Commission
Lyles Center for Innovation and Entrepreneurship
Manufacturers Council of the Central Valley
Merced College Business, Industry and Community Services
Pacific Gas and Electric
Regional Policy Council/Councils of Government
Regional Jobs Initiative Implementation Team
San Joaquin Partnership
San Joaquin Valley Air Pollution Control District
San Joaquin Valley Clean Energy Organization
San Joaquin Valley College
San Joaquin Valley Rural Development Center
Stanislaus Alliance WorkNet
TeamCalifornia
The California Endowment
The Maddy Institute
UC Davis Center for Regional Change
UC Advanced Solar Technologies Institute
UC Merced SBDC Regional Network
University Center to Advance Manufacturing (UCAM)
USDA Rural Development, California
Water, Energy and Technology (WET) Center
West Hills Community College District
Workforce Investment Board of Tulare County

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EXECUTIVE SUMMARY

"CHARTING THE COURSE FOR THE SAN JOAQUIN VALLEY'S ECONOMIC FUTURE"

PROJECT OVERVIEW

In August 2011, the Office of Community and Economic Development (OCED), California State University, Fresno received an Economic Adjustment grant from the Economic Development Administration (EDA), U.S. Department of Commerce, to prepare a valley-wide industry cluster analysis and a regional strategy – Action Plan – to catalyze the growth of priority clusters. They have been prepared for OCED on behalf of the California Partnership for the San Joaquin Valley (Partnership). The Project's goal is to support improved regional economic performance, sustainability, and shared opportunity for Valley residents, businesses and communities.

The Partnership is an unprecedented public-private sector partnership between the Valley and the state of California. It was created in 2005 to address the Valley's persistent economic, environmental and social challenges and disparities compared to other regions in the state and nationally, while acknowledging the statewide and national significance of the Valley, and changing the pathway for its economic future and overall well-being.

As part of its charge, in 2006 Partnership leaders prepared a Strategic Action Proposal (SAP), *The San Joaquin Valley, California's 21st Century Opportunity*. OCED serves as the Secretariat for the Partnership and manages the SAP through the "New Valley" program, through which ten Work Groups were created to develop and implement the New Valley's first five year action plans (2006-2011). Most of the Work Groups are led by OCED partner organizations at the regional level. OCED also manages or supports many other synergistic programs, aligning university resources with Valley initiatives and leveraging state, federal, philanthropic and other resources on behalf of regional and local initiatives.

The Cluster Action Plan provides recommendations for the New Valley's next stage. According to Corwin Harper, Partnership Deputy Chair, Senior Vice President, Kaiser Permanente Central Valley, and co-convenor for one of the project's Health and Wellness Cluster meetings, "This is an opportunity to achieve big outcomes for the Valley, focusing on the key few "big things" the Partnership can do, where the Valley has a regional competitive advantage."

THE NEED FOR A REGIONAL CLUSTER UPDATE

Clusters are geographic concentrations of firms and industries that do business with each other and have common needs for talent, technology, and infrastructure. According to EDA, Regional Innovation Clusters (RIC) are a proven way to create jobs and grow the economy. They benefit from a well-developed regional strategy that leverages core regional strengths.[1]

The Valley has been a leader in cluster-based strategies, starting with *The Economic Future of the San Joaquin Valley* report in 2000 and the Fresno Regional Jobs Initiative (RJI) in 2003. The RJI resulted in the creation of 12 clusters. Building upon these efforts, the SAP identified five regional clusters of opportunity for focused action: agribusiness, health and medical, manufacturing, renewable energy, and supply chain management and logistics. These clusters reflected shared priorities across the Valley and sectors where the region's comparative advantage was considered to be strong or emerging.

The clusters have been a touchstone for the work of the New Valley, in particular for the economic development, education and workforce development partners who serve as champions for several of the New Valley Work Groups. Much progress has been made in terms of regional collaboration around demand-driven cluster and sector strategies. However, a valley-wide regional cluster analysis had not been prepared since 2004, and updated "market intelligence" was needed to help guide the next stage of the New Valley cluster implementation.

This Project addresses a number of concerns and issues:

- The Valley has been more severely impacted by the "Great Recession" than most other California regions and needs to reposition itself for economic recovery.
- The global economy is experiencing structural changes and new opportunities are emerging which demand new responses at the regional level.
- Local budget challenges constrain the ability of many jurisdictions, partners and business champions to manage, implement and support county and regional cluster initiatives.
- There are emerging areas of opportunity that can best be leveraged through collaboration at the regional level, bringing efforts to scale for increased competitiveness. These areas include renewable energy and water technology innovations, and regional food systems.

The planning process involved economic analysis; research; documentation of cluster-related initiatives and resources; cluster stakeholder meetings which were co-convened with many partners throughout the Valley; meetings and ongoing consultation with partners, cluster leaders, subject area experts, state and federal agencies, and Partnership Board members; and review of cluster innovation models.

[1] http://www.eda.gov/AboutEDA/RIC/

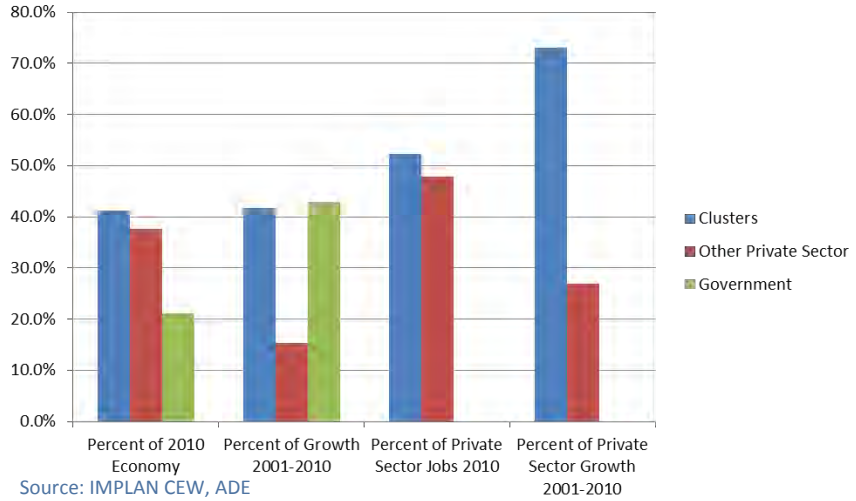
IMPORTANCE OF THE CLUSTERS

The San Joaquin Valley is an economic powerhouse. Recent estimates place the Gross Domestic Product (GDP) of the Valley at $140 billion, and total industry production including intermediate and final goods at $228.6 billion in 2010. [2]

ADE analyzed the Valley's major economic sectors and validated that the five original New Valley clusters continue to be the shared priorities across the region, although they have been adapted or expanded upon through the value chain concept. Each cluster contains several "components," each with sets of industries that comprise the value chain. For example, the Agriculture Cluster includes production, processing and packaging, distribution and diverse support activities. The Health Cluster now incorporates dimensions of wellness. Two clusters have been added – water technology and public sector infrastructure, based on their current and emerging importance and potential for the Valley. The 2012 Action Plan priority clusters are:

- Agriculture
- Energy
- Health and Wellness
- Logistics
- Manufacturing (which is connected to all of the clusters)
- Water Technology
- Public Sector Infrastructure (Construction)

The analysis indicates that as of 2010, these clusters (with the exception of public sector infrastructure, for which information was provided in a separate analysis sponsored by the Central California Workforce Collaborative) represent about 41 percent of total employment in the region, but during the 2001-2010 period were responsible for 73 percent of private sector job growth, as shown below.



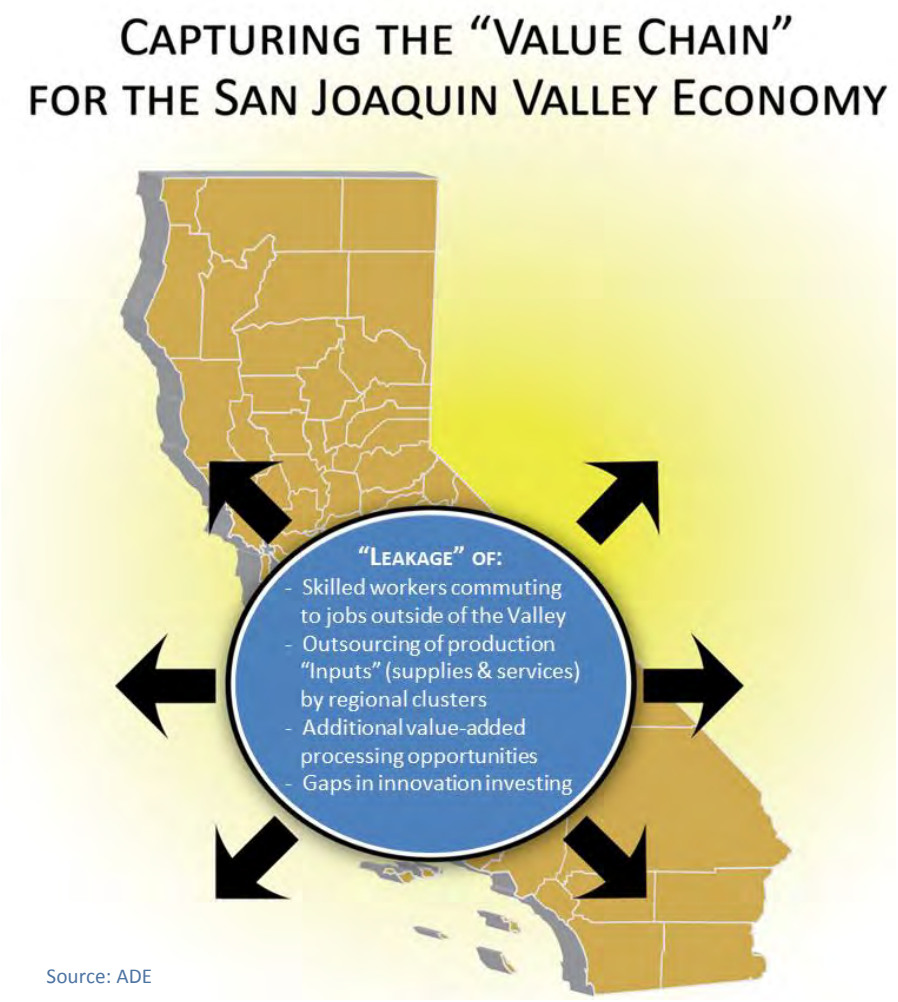
Source: IMPLAN CEW, ADE

[2] GDP obtained from Center for Continuing Study of the California Economy, Numbers in the News, September 2012. Industry output calculated by ADE from the IMPLAN3 input-output model used for the cluster analysis.

CAPTURING THE "VALUE CHAIN"

Even in clusters where the Valley has comparative advantage, such as agriculture and logistics, the Valley is not capturing the "value chain" – where value is added along the continuum of economic activity within the components of a cluster. Instead, goods flow out of the Valley where value is added later, and businesses and industries that buy goods and services from other businesses are buying a significant share of those goods and services outside the Valley, representing a leakage of economic potential.

This report documents other kinds of leakage that occur as well, including skilled workers who commute to jobs located outside of the Valley; jobs within the Valley going to workers who live outside of the Valley; and loss of innovation. This loss of innovation is related to intellectual capital (inventions, patents, etc.) leaving the Valley in pursuit of investment capital or a more supportive entrepreneurial environment, including for specialized research and development, legal and business services.



Source: ADE

The cluster analysis identified areas of potential growth across the Valley and for the eight counties based on trends in size of the clusters; rates of employment growth, especially in specific cluster "components" or industry groupings; concentration in the Valley compared to the state; and rate of growth compared to the state's rate. This information provides insight into the region's areas of comparative advantage. The analysis also identified trade flows indicators – output of goods and services produced by each cluster, and leakage outside of the Valley based on business-to-business supplier inputs of goods and services in 2010. Regional demand for each cluster's goods and services by non-cluster-related consumers (households, institutions and other businesses) also was estimated.

The leakage analysis was conducted for individual clusters, resulting in a potential list of economic development targets for business expansion, start-ups and attraction to meet these gaps. The findings were reviewed at several industry cluster meetings convened by OCED and ADE along with partners across the Valley, and have been validated as a high priority for implementation action. ADE also aggregated these estimates of leakage by commodity type across the clusters to identify those with high levels of leakgage, further screening them for business types that realistically could be developed in the region. The table below summarizes the potential economic development targets by type of commodity supplied from outside the region and the estimated level of "leakage" – and therefore market support – for new or expanded businesses. The gaps are very large in some commodity areas.

AGGREGATED ECONOMIC DEVELOPMENT LEAKAGE TARGETS

Description	Market Support
Lessors of nonfinancial intangible assets	$712,685,000
Scientific research and development services	$699,203,000
Paper mills	$611,657,000
Oilseed farming	$457,940,000
Other basic organic chemical manufacturing	$395,251,000
Petrochemical manufacturing	$388,308,000
Artificial and synthetic fibers and filaments manufacturing	$385,175,000
Software publishers	$375,381,000
Plastics material and resin manufacturing	$363,584,000
Automotive equipment rental and leasing	$336,797,000
Plastics bottle manufacturing	$336,107,000
Management, scientific, and technical consulting services	$323,597,000
Aluminum product manufacturing from purchased aluminum	$303,463,000
Advertising and related services	$284,775,000
Paperboard Mills	$257,934,000
Other plastics product manufacturing	$244,702,000
Semiconductor and related device manufacturing	$241,775,000
Metal can, box, and other metal container (light gauge) manufacturing	$222,663,000
Plastics packaging materials and unlaminated film and sheet manufacturing	$220,031,000
Motor vehicle parts manufacturing	$212,772,000
All other chemical product and preparation manufacturing	$169,215,000
All other basic inorganic chemical manufacturing	$166,139,000
Architectural, engineering, and related services	$165,780,000

Source: IMPLAN 3 I-O Model, ADE

"Lessors of nonfinancial intangible assets" was the largest category shown. Activities in this industry include brand name licensing; franchising agreements, leasing, selling or licensing; oil royalty companies; oil royalty leasing; industrial design licensing; patent buying and licensing; patent leasing; and trademark licensing. This industry represents specialization of business services, including legal expertise, which is sought outside of the Valley.

"Scientific research and development services" was the next largest market gap. Combined with management, scientific and consulting services, these industries provide another professional services target for developing specialized expertise within the Valley. Research and scientific consulting services are a growth opportunity in both the Energy and Health and Wellness Clusters. Oilseed farming was the fourth largest gap and relates to the Agriculture and Energy Clusters, including as an input for biofuels. Most of the other potential targets are in manufacturing industries. The architectural, engineering, and related services industry is another potential growth area, especially with opportunities related to planned public sector infrastructure construction (estimated at more than $36 billion from 2010-2020 across several infrastructure categories).

CLUSTER ACTION PLAN PRIORITIES

The economic and cluster analyses and partner/stakeholder engagement process provide: 1) a platform for the evolution of the Valley's cluster initiatives; 2) a framework to align initiatives and resources to capture value chain opportunities; and 3) articulation of the role for the Partnership and OCED for the next phase of the New Valley, including the organization of the Work Groups to lead or support the clusters.

The Valley has significant assets. There are an almost overwhelming number of initiatives underway across the Valley and related to the clusters, as well as efforts that are increasingly a convergence across the clusters, such as with Agriculture, Energy and Water Technology. A great deal of leadership and expertise resides with the partners involved in these initiatives, but they are dealing with diminished resources, the very large scale of the Valley, a diversity of issues facing the clusters, and the inherent challenges of collaboration such as capacity and dedication of time. However, partners increasingly are developing the capacity to regionalize their networks and ways to engage in specific initiatives on behalf of their networks. This network-to-network process is proving to be very beneficial. The Partnership and OCED's goal should be to connect, support and optimize these assets and initiatives.

The Project planning process led to the identification of many cluster-related issues, opportunities and recommendations. The highlights are discussed in Chapter 5 and are summarized on the following page. They constitute the basis for development or refinement of cluster-specific implementation plans by the New Valley Work Groups and associated cluster leaders and partners. They are a starting point for focusing on a "few big things" in 2013 – a core set of tangible initiatives with targeted outcomes and metrics that are the platform for engagement. There is an especially strong emphasis on education and workforce initiatives, around which the Valley has been mobilizing for several years to meet critical skills gaps and provide a pathway from poverty to prosperity for workers.

KEY CLUSTER ACTION PLAN PRIORITIES		
Cluster	**Issues/Opportunities**	**Recommended Actions**
Agriculture	• All 5 issue areas addressed in Regional Economic Summit	• All actions have designated champions and recommended actions; Partnership & OCED are tracking progress. See www.sjvpartnership.org
Energy	• Regional focus on cluster development & coordination needed; opportunity to develop biofuels; better define cluster components • Conditional Use permits vary by county – frustrating for international companies willing to invest in the Valley; results in project delays or cancellations • Increase entrepreneurial climate; need to create culture of early stage investment, create dialogue with entrepreneurs, & encourage students to create the next generation of solar technology • Leakage of energy use	• SJV Clean Energy Organization should be lead for cluster development action plan; expand networking to connect more stakeholders • Advocate for funding for SJV Regional Energy Plan Roadmap • Coordinate with County Planners (CSAC) working on simpler expedited solar permitting process throughout the state; coordinate locally • Coordinate with UC Solar Research Institute, CVBI, Lyles Center for Innovation and Entrepreneurship, Central Valley Fund, Business and Entrepreneurship Center, UC Merced SBDC Regional Network, CalFOR & others to accelerate technology commercialization & entrepreneurship • Provide input to PUC on energy facilities sitings • See Regional Economic Summit Strategy recommendations
Health and Wellness	• Difficult to coordinate with so many initiatives across the Valley • Need for consistent and regionalized standards and curriculum for same occupations/certificates, & for transferability of credits from Community Colleges to CSUs • Need to standardize residency requirements for nurses • Address gaps in workforce skills – need for better information, programs to increase skill levels • Need to prepare for health information technologies; expand broadband infrastructure • Need improved access to jobs and health care services in rural areas • Wellness/prevention focus will increase demand for services and workers	• Partnership health leaders should convene high level cluster meetings • Advocate for transfers within regional network of accredited courses (C6 project is opportunity to standardize curriculum), including for nursing • Collaborate with hospitals to unify employee competencies, translate to college curriculum • Expand nursing residencies across the Valley; coordinate with hospitals, community colleges, universities • Advocate for Regional Industry Clusters of Opportunity (RICO) funding • Expand mentoring programs • Coordinate with SJV Regional Broadband Consortium, employer networks like Central Valley Health Network, WIBs, etc. for e-health • Collaborate with Councils of Government, employers, transit agencies to develop more regional, coordinated transportation systems • Expand Patient Navigator, Promotora and other model programs • Coordinate with UC Merced Health Sciences Research Institute, CVBI, and entrepreneurship centers
Logistics	• Additional options for goods movement needed (non-truck) • Foreign Trade Zones underutilized • Emissions impact air quality and health • Issues identified at Regional Economic Summit	• Ensure coordination between Regional Policy Council/COGs (stakeholder planning process underway), SJV Air Pollution Control District, CCVEDC, Caltrans, Partnership Sustainable Communities Work Group, railroad companies on planning/projects • See Regional Economic Summit Strategy recommendations
Manufacturing	• Main issue for employers is workforce development • Lack of high-level engineering jobs in the Valley, so many students leave the region • Need cross-pollination of engineering workplace skills with existing workforce • Need appropriate infrastructure to create new products out of recycled products; waste commodities being shipped overseas	• Identify lead cluster partners • Coordinate with C6 and California Center for Applied Competitive Technologies for increased training; including in skilled trades • Match resources of the universities to the manufacturers; connect internships with employers; support UCAM • Develop a strategy to close supplier gaps • Do policy advocacy (coordinated by REACON) on increase markets for recycling in California (Recycling BIN – Build Infrastructure Now)
Water Technology	• Demand for clean water, sustainable water resources & infrastructure is creating new business opportunities beyond agriculture • Issues identified at Regional Economic Summit	• Broaden focus of R&D to address diverse water supply and quality issues across an increased range of industries; coordinate with WET Center, Lyles College of Engineering, CVBI & other partners • Focus on growth of specific technologies (BlueTech Valley) • See Regional Economic Summit Strategy recommendations
Public Sector Infrastructure - (CCWC Project)	• RJI Construction Cluster not active • Lack of awareness regarding aggregated impact of public sector investments • Updated inventory of projects & schedules needed on ongoing basis • Coordination needed with economic development and planning to secure project funding	• Implement CCWC Regional Plan as Cluster Strategy for workforce • Coordinate with Partnership to advocate for public sector investment/local hiring • Identify lead to update project inventory and schedule • Coordinate with Regional Policy Council and SJV Economic Development District to link project priorities with possible funding sources

LEVERAGING COLLECTIVE IMPACT

The recent conference *Meeting of the Minds in Monterey,* sponsored by the California Workforce Association, was framed around the concept of "Collective Impact." Research and practice have documented early successes based on this concept, finding "that large-scale social change comes from better cross-sector coordination rather than from isolated intervention of individual organizations."[3]

The California Partnership for the San Joaquin Valley and many of the regional collaboration initiatives underway across the Valley are in and of themselves innovation models. They exemplify many of the characteristics of successful collective impact initiatives: a common agenda, shared measurement systems, mutually reinforcing activities, continuous communication, and backbone support organizations. They provide a strong foundation for advancing the Cluster Action Plan priorities and charting the pathway for the Valley's future, especially if their knowledge and expertise can be leveraged and brought to scale. They are referenced throughout the report.

Concurrently, there are major new initiatives, especially at the state, federal and philanthropic levels, that are aligning with regional cluster-based economic strategies, including linking economic and workforce development from the ground up. These are catalytic initiatives and the Valley is well-positioned to contribute to and benefit from these initiatives. They also are referenced in the report and a few of the key ones are summarized as follows:

"Doing What Matters for Jobs and the Economy" – an initiative of the California Community Colleges, Division of Workforce and Economic Development. Goals are to supply in-demand skills for employers, create relevant career pathways and stackable credentials, promote student success and get Californians into open jobs. The focus is on spurring job creation and bridging skills gaps in priority/emergent sectors and clusters; taking effective practices to scale; integrating and leveraging programming between funding streams; promoting metrics for students success; and removing structural barriers. This initiative is a collaboration with the California Workforce Investment Board, which is preparing the State Strategic Workforce Plan; a prioirity is supporting regional economies and Regional Industry Clusters of Opportunity (RICO). The Central Region Consortium and the Central California Community Colleges Committed to Change Initiative (C6) include the Valley's Community Colleges which are partners in the development of the Cluster Action Plan. The C6 Initiative is supported by a major federal grant, focused on systemic changes for academic success and skills building in the areas of agriculture, energy, heatlh and manufacturing. The California Workforce Investment Board's investment in the Valley's RICO project is seen as a foundation for health-related cluster efforts.

California Financial Opportunities Roundtable (CalFOR) – is part of a statewide initiative supporting regional industry clusters to provide jobs, entrepreneurial opportunities, business growth, and public and private sector investment in value-chain infrastructure and sustainable communities. CalFOR has developed the "Access to Capital" guide to support innovation in capital markets and provide new

[3] Kania, John and Mark Kramer, "Collective Impact," Stanford Social Innovation Review, 48, Winter 2011, p. 3.

sources of investment; expansion of regional food systems; growth of biomass utilization, biofuels and renewable energies; and improved Rural-Urban collaboration. USDA Rural California is a core partner and one of the lead federal agencies in the Fresno area's Strong Cities Strong Communities Initiative as well in many other Valley initiatives, including the San Joaquin Valley Broadband Consortium managed by OCED, development of the Valley's "Ag Tech Cluster," and support for "buy local/invest local" efforts.

California Stewardship Network – a network of regional collaboratives throughout the State, including the California Partnership for the San Joaquin Valley, participating in the development of the California Economic Action Plan, based on priorities identified through regional economic summits and the statewide Economic Summit held in May 2012. The Action Plan is moving forward.

With consideration of opportunities to leverage collective impact through the implementation of the Cluster Action Plan, the following section addresses the roles of the Partnership, OCED and the New Valley Work Groups in driving the progress and success of the Valley's Regional Innovation Clusters for the next five years of the New Valley initiative.

ROLE OF THE PARTNERSHIP

Given its mission and role, how and where can the Partnership best add value at the regional level for successful on-the-ground implementation and long-term impact on the Valley's key measures of economic, environmental and community progress? Participants in the Project planning process identified the following desired roles for the Partnership in advancing an agenda for regional prosperity:

Network – Help connect the many efforts across the region that are cluster-based or support the clusters (cluster foundations such as infrastructure – including broadband, sustainable communities, financing, environmental quality, and education and workforce).

Convene – Play a convening role for the bigger valley-wide issues that are not being addressed in other forums, to drive the agenda for the growth and vitality of the clusters.

Integrate – Provide synergy across the region, helping to knit together the clusters, the issues and the initiatives to pursue shared priorities.

Advocate – Promote and advocate regarding cluster priorities on behalf of the Valley, including the removal of barriers, elevation of regional issues and opportunities, resource needs, and networking with partners and investors outside of the region.

Catalyze – Be a catalyst for collaboration and the diffusion of innovation, including through the elevation of models.

The Partnership plays many of these roles already. The next step is for more intentional engagement around cluster-based economic strategy. Cluster processes are by their nature vehicles for engagement of champions, businesses, stakeholders and partners in regional strategies. During the course of the project, ADE found that awareness of the Partnership was varied. Proactive engagement of the Partnership in the implementation of the Action Plan will increase this awareness and expand its impact.

This process can be guided by the Executive Committee of the Partnership. At the Partnership's September 2012 Board meeting, Executive Committee members indicated they would convene specifically to discuss the next steps for Action Plan implementation, including the identification of a set of tangible strategic initiatives for 2013, and its role in overall implementation. Participation of individual Partnership Board members in the New Valley Work Groups, especially as OCED coordinates with the Work Groups to identify their priorities for 2013 implementation initiatives, will be most valuable, building on their expertise and leadership role provided during the Project planning process.

ROLE OF OCED/NEW VALLEY WORK GROUPS

One of the key elements for successful collective impact efforts is the presence of backbone support organizations. Successful collaboration requires a supporting infrastructure. This requirement is extremely important for effective cluster initiatives. As Secretariat for the Partnership, OCED plays a critical backbone role. Implementation of the Cluster Action Plan will require an increase in or realignment of existing OCED capacity to support or lead the New Valley Work Groups; continue OCED's outreach, networking, coordination and consultation process around the cluster opportunities; and engage new partners, stakeholders and leaders in Work Group and Action Plan initiatives.

The Work Groups are at varying levels of capacity and operational status; some need to be revitalized or refocused. Several of the Work Groups have updated their work plans within the past year, while others are in process of updating them. The Health and Human Services Work Group has not been active and is being reorganized by OCED as the Health and Wellness Work Group, to align with Action Plan recommendations. It will be managed by OCED during this process. OCED will continue as the lead for the San Joaquin Valley Regional Broadband Consortium (Advanced Communications Work Group) and the Housing Work Group, and will continue in its support of the other Work Groups.

OCED has been discussing with partner organizations, including those which currently lead or support the Work Groups, the role they can and would like to play in Action Plan implementation. Staff will be following up with the Work Group leads and key partners to discuss specific Action Plan findings and recommendations, to see how they fit with Work Group goals and activities, and determine how OCED can support the Work Groups to integrate Action Plan recommendations into their existing scopes of work. A key OCED role will be to help connect and coordinate partners and initiatives across the Work Groups and with other major initiatives, and to be a liaison with the Partnership Executive Committee. OCED will designate a lead staff for this role.

NEXT STEPS

OCED has been working on implementation next steps since the summer of 2012, based on the emerging findings of the Cluster Analysis; the results of the Cluster stakeholder meetings; ongoing consultation and meetings with partners – especially economic and workforce development networks (CCVEDC, CCWC, Central Region Consortium, and C6); and connecting with new initiatives such as

"Doing What Matters for Jobs and the Economy." As noted, the Partnership's Executive Committee will play an important role in the Project's implementation, along with individual Board members engaged with specific clusters. OCED is working with the Committee and the Board on this process. The following is a list of recommended next steps for the Partnership and OCED to carry forward the Action Plan.

1.	**Work Group Leads/Work Plans.** OCED staff will meet with Work Group leads and partners to review Project findings and recommendations and alignment with existing work plans; confirm lead partners and expanded/refined roles; identify 2013 priority cluster initiatives; and support work plan updates and expanded engagement of stakeholders. OCED should convene the stakeholders from the June meeting of the Manufacturing/Energy/Logistics Clusters to identify cross-cluster priorities and actions. This process will be coordinated with the Partnership's Executive Committee. OCED should coordinate with USDA Rural Development and other champions on the implementation of the Ag Value Chain Regional Economic Summit action priorities.
2.	**Health and Wellness Cluster Work Group.** OCED should work with Partnership board members to convene the Cluster stakeholders to identify priorities, develop the work plan around Action Plan recommendations, and drive the implementation of the work plan.
3.	**Economic Development Targets.** OCED is working with CCVEDC and other partners on the process to develop a strategy for the Economic Development Targets (aggregated and cluster-specific), and identify a lead for implementation of the strategy. Partners should coordinate with TeamCalifornia to enhance marketing and outreach opportunities on the Valley's cluster priorities.
4.	**Economic Development/Education/Workforce Coordination.** OCED should develop a process for increased, systemic linkages between economic development, education, and workforce development partners (CCVEDC, CCWC, Central Region Consortium, C6, universities) around regionalized cluster-focused issues. The partners should collaborate to seek funding support for: research to identify priority workforce gaps and occupational demand; designated staff to facilitate the coordination process across the clusters and the systems; expanding the reach of innovative training programs. OCED should facilitate integrated connections with state partners such as the California Workforce Investment Board, California Labor and Workforce Development Agency, Chancellor's Office, the Employment Training Panel, and the U.S. Dept. of Labor.
5.	**Public Sector Infrastructure/Logistics.** OCED should convene the CCWC, the SJV Regional Policy Council, CCVEDC, Caltrans, labor, and other partners to link the interregional goods movement planning process and CCWC's Public Sector Infrastructure Workforce Plan, including for identification of project funding priorities, funding sources for construction projects, and workforce development needs. Leverage the new Economic Development District.
6.	**Work Group Coordination.** OCED should convene the leadership of the New Valley Work Groups quarterly for updates on their work plans, and facilitate coordination across Work Groups and initiatives on an ongoing basis.
7.	**Regional/State Economic Summits.** The Partnership and OCED will continue coordination with the statewide economic summit process, and align the annual outcomes of the Work Group work plans for the Valley's next regional economic summit (fall of 2013) and state-wide summit (late 2013). OCED and the Work Groups should report on the progress of the 2013 cluster initiatives at the next Regional Economic Summit.
8.	**Reporting Process.** OCED should develop a process to report on Cluster Action Plan activities, metrics and progress to the Partnership's Executive Committee on an ongoing basis. The growth of the clusters should be tracked as an annual metric.
9.	**Communications.** OCED should create a dedicated location on the Partnership's website for the Cluster Action Plan and resource materials, building upon the Regional Economic Summit materials. It should use the Cluster Action Plan implementation as a vehicle for communications about the Partnership, and as a portal to partner initiatives and resources.

CHAPTER 1

PROJECT OVERVIEW, FRAMEWORK AND REGIONAL CLUSTER PRIORITIES

1.1 PROJECT OVERVIEW

This report presents an analysis of the San Joaquin Valley economy and the San Joaquin Valley Regional Industry Cluster Action Plan, prepared for the Office of Community and Economic Development (OCED), California State University, Fresno on behalf of the California Partnership of the San Joaquin Valley. The Cluster Action Plan identifies emerging opportunities for the region's comparative advantage industry clusters – the foundation for innovation, competitiveness, and future well-being – within the context of global, national, state and regional drivers and conditions. Among these drivers is the increasing imperative for improved health, sustainability, energy self-sufficiency, and shared prosperity.

The Partnership is an unprecedented public-private sector partnership between the Valley and the state of California, involving the Valley's eight counties and 62 cities, home to more than four million Californians in 2012. It was created in 2005 with Governor Schwarzenegger's Executive Order S-05-05. The creation of the Partnership was designed to address the region's persistent economic, environmental and social challenges and disparities compared to other regions in the state and nationally, while changing the pathway for the Valley's economic future and overall well-being. Its creation also acknowledged the critical importance of the Valley to the state and national economy.

Since the formation of the Partnership, the San Joaquin Valley has been particularly hard hit by the Great Recession, the implosion of the housing and financial markets, and state and local budget deficits. Unemployment and poverty rates are among the highest in the State. The region is a federal non-attainment area for air quality, and has other significant challenges including the availability and quality of water and energy resources, aging infrastructure, and continuing conversion of important farmlands.

At the same time, the Valley is a region of statewide and national significance. It is one of the fastest growing and increasingly diverse regions in the State. Its agricultural industry is a global economic powerhouse. The Valley holds great potential as a center for renewable energies, and clusters such as the Water Technology Cluster are increasingly recognized as industry leaders in technology innovation, providing solutions for water quality, energy efficiency and resource scarcity issues that communities worldwide are facing. It is a major goods movement corridor. The Sacramento-San Joaquin Delta on the western edge of the Valley provides water for a large percentage of Californians, the Central Valley Water Project is one of the state's major infrastructure systems, and the eastern side of the Valley is the gateway to the majestic Sierra.

The California economy has begun to recover and signs of this recovery are beginning to emerge in the Valley, which will have a lower trajectory due to the nature of its regional economy. However, some sectors have shown resiliency during the recession. State and federal agencies and philanthropic partners are investing in the San Joaquin Valley in a concerted investment and capacity building effort to shift the future of the Valley from one of poverty and stagnation to one of prosperity and opportunity. These major efforts, most of which are being managed by OCED or in which it is a core partner, are intended to catalyze and accelerate the Valley's economic recovery and revitalization. The Valley is poised for a new stage of renewal.

THE NEXT STAGE FOR THE "NEW VALLEY"

As part of the Governor's Executive Order, in 2006 Partnership leaders prepared a Strategic Action Proposal (SAP), *The San Joaquin Valley, California's 21st Century Opportunity*. The SAP developed three overarching goals for the Valley: to develop a prosperous economy, create a quality environment, and achieve social equity. The Partnership implements the SAP through the "New Valley," with ten work groups facilitating the Valley's improvement in ten core inter-related areas, supported by OCED in its role as Secretariat for the Partnership in serving the region. OCED manages or supports several initiatives in this mission, including alignment of university resources with Valley initiatives and leveraging of resources such as state and federal funding.

In August 2011, OCED received an Economic Adjustment grant from the Economic Development Administration (EDA), U.S. Department of Commerce, for several activities, including the preparation of a regional industry cluster analysis. The grant recognizes the vital organizing, convening, and resource role that OCED plays in San Joaquin Valley economic development efforts, and the unique leadership role that the Partnership serves in elevating and advancing regional priorities, giving a voice to the

Valley, and fostering a culture of collaboration and innovation. The Plan is intended to be the implementation strategy for the next stage – the second five years – of the Partnership's "New Valley" initiative (2011-2016).

According to EDA:

"Regional Innovation Clusters (RICs) are a proven way to create jobs and grow the economy. They are geographic concentrations of firms and industries that do business with each other and have common needs for talent, technology, and infrastructure. This is a new framework for economic development, and investing in RICs is critical to our nation's future economic competitiveness. Whether the investment comes from the federal or state government, or the private sector, or – ideally – all of the above, those dollars would be best put to use if they serve a well-developed regional strategy that leverages core regional strengths." (http://www.eda.gov/AboutEDA/RIC/)

The success of regional clusters is well documented and has become the standard of practice across California, as well as national and international regions. The Valley has been a leader in cluster-based strategies, starting with *The Economic Future of the San Joaquin Valley* report in 2000, the Fresno Regional Jobs Initiative (RJI) in 2003-4, the California Regional Economies Project in 2004, and the *Central San Joaquin Valley Innovation Economy Agenda* in 2006. The practice of economic development in the Valley has evolved from a focus on industry targets to strategic clusters, led by county economic development organizations. Many of the Valley EDCs and counties are leading their economic strategies through a very proactive, analytically-driven cluster-based approach.

Building upon these and other efforts, the SAP identified five key regional clusters of opportunity for focused action: agribusiness, health and medical, manufacturing, renewable energy, and supply chain management and logistics. These clusters reflected shared priorities across the Valley and represented sectors where the region's comparative advantage was considered to be strong or emerging. The clusters have been a touchstone for the work of the New Valley Work Groups and partners, in particular for the economic development, education and workforce development partners who serve as champions for several of these Work Groups.

It is customary for cluster initiatives to periodically review their progress, adjust to changing conditions and opportunities, update the baseline economic data, and renew leadership and stakeholder. OCED has referenced that the clusters can help drive regional solutions to the Valley's sustainability and livability challenges, stimulate the creation of new businesses and jobs, and provide opportunities to raise the skills levels and standard of living for the Valley's workforce.

The major impetus for this project was the need to better understand the competitiveness position of the SAP clusters given the current economic climate and structural shifts. While an update on the five year progress of the RJI towards its job creation goals was prepared in 2009 it was not a full industry cluster analysis. Likewise there have been several county and valley-wide sector-specific analyses conducted over the past few years, but it has been many years since a comprehensive economic analysis has been conducted of innovation clusters in the Valley.

In addition, even with the economic recovery slowly beginning to take root in the Valley, several recent innovation indicators make the case for a concerted effort to reposition the Valley:

- *The 2012 California Green Innovation Index* shows venture capital investment in clean technology for California by region, with $14.5 billion invested in 2011; the Valley does not have enough investment to be included in the breakout.[4]
- According to the Cluster Mapping Project sponsored by EDA, the Fresno-Madera Economic Area had 1.91 patents per 10,000 employees in 2009, versus 6.96 for the U.S. The number of establishments in traded industries grew slightly less than the US (1.36% vs. 1.47%, ranking the area 84 out of 179). Patenting growth per year from 1998-2009 was 0.81% vs. 0.05% for the US (ranking 84 out of 179).[5]
- The Next 10 reports on the regional distribution of jobs in the core green economy shows that the Valley's rate of job growth has slipped from 55% (from 1995-2009) to 22% from 1995-2010 (January), even while some other regions such as Sacramento, the North Sacramento Valley, Orange County and San Diego improved.[6]

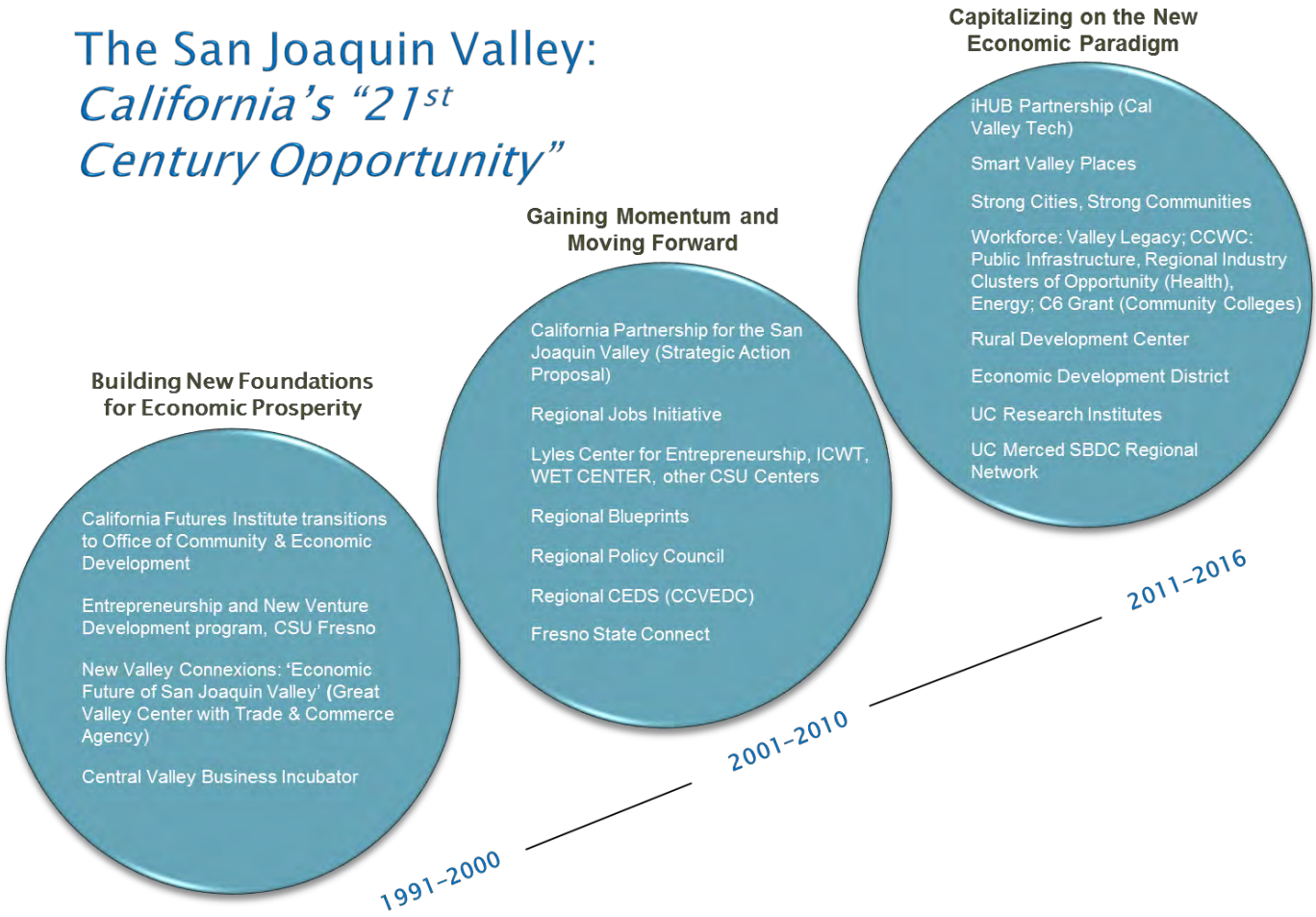
The California Central Valley Economic Development Corporation (CCVEDC – representing the county economic development organizations) also identified persistent outsourcing of revenues from the clusters as businesses purchase needed inputs/supplies of goods and services for their output (goods and services) from outside the Valley, or as products are exported outside of the Valley where additional "value" is added. This analysis documents estimated levels of this "leakage" in outsourcing of commodities and opportunities to "recapture the value chain." The report also documents the leakage of talent (workers), jobs (Valley jobs going to residents from outside of the Valley), and innovation/intellectual capital outside of the region – and opportunities to close these gaps through job creation, investing in education and workforce skills, and fostering an entrepreneurial climate that promoting increased innovation and access to capital.

Given these imperatives, the focus of this project was to:

- Identify key structural changes, emerging market opportunities, the "greening" of the economy, shifting policy priorities, and convergence across the clusters such as agriculture, energy and water;
- Inventory the many county and valley-wide cluster priorities and initiatives;
- Review various cluster methodologies and data sources to improve consistency;

[4] *2012 California Green Innovation Index*, Next 10, pp-15-17, 2012.
[5] Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School, sponsored by EDA, 2012.
[6] *Many Shades of Green, 2011*, Next 10, p. 13, and *Many Shades of Green, 2012*, Next 10, p. 21.

- Assess the capacity and effectiveness of existing cluster efforts, including leadership and resources;
- Incorporate new policy drivers such as AB 32 and state and federal partnerships that emphasize regional innovation clusters;
- Identify the high-growth innovation clusters and value chains which offer comparative advantage strengths across the Valley and sub-regionally, and that are responsive to business and community needs;
- Identify opportunities to align and leverage business and organizational capacity to support effective cluster implementation; and,
- Engage the participation of cluster champions, leaders and partners in the development and implementation of the Regional Cluster Action Plan.



1.2 PROJECT FRAMEWORK

This project is a cluster-based approach for synergistic regional economic strategy and Action Plan implementation. Clusters are both an analytical tool for understanding the regional economy and seeing the linkages between industries, and an organizing and engagement tool. The process allows firms to identify common competitiveness issues, develop a demand-driven action plan, and collaborate jointly to address those issues. Because the Valley has experience with clusters, there are many networks of partner organizations supporting sector-based strategies and initiatives. A strong need identified through this project is to better connect and leverage these networks and scale up models that are working on the local and sub-regional levels. This is an important role for the Partnership and OCED. More detail is provided in Chapter 5, in the recommendations for the Action Plan focus and organizational approach.

The Cluster Action Plan focuses on "capturing the value chain" across the Valley's core set of clusters for the next phase of the New Valley. The conceptual approach and analytic methodology used for the project are described in Chapter 4. This section provides an overview of the framework used as the basis for the development and implementation of the Action Plan. These are the Building Blocks of Comparative Advantage shown below. In 2005, state administration under the leadership of the Business, Transportation and Housing Agency, in partnership with the other state agencies, convened 17 regional Economic Vitality Conversations (12 regional and five statewide). The resulting vision for state economic prosperity produced a construct of "building blocks" to generate comparative economic advantage for California and its regions.

BUILDING BLOCKS OF ECONOMIC COMPARATIVE ADVANTAGE

Source: CA Business Transportation and Housing Agency "Framework for California Prosperity," 2005

As shown in the Building Blocks, industry (economic) clusters are the drivers of economic growth, springing from the research excellence and knowledge base of educational institutions, business innovators, investors and entrepreneurs. Infrastructure and smart growth/sustainability are key pillars for the clusters, along with efficient governmental processes and regulatory environment. Effective governance within the regions and civic leadership are the catalysts for success across the clusters. In the Valley, this capacity is characterized by the Partnership, OCED/Fresno State, and the rich array of regional partner networks, business and cluster leaders, and state and federal agency partners, among others.

The Building Blocks provided the framework for the first Joaquin Valley Economic Summit, sponsored by the Partnership in late March 2012. More than 300 leaders came together to select a series of state and regional actions as a platform for work within the region and to elevate as the region's input for the first State Economic Summit, held in May 2012, convened by the California Stewardship Network and California Forward. Valley leaders selected the Agriculture Value Chain Cluster (described in Chapter 4.1) as the cluster of opportunity for the Summit. The Valley will convene its next regional economic summit in the Fall of 2013, leading to the next state economic summit in late 2013. The San Joaquin Valley Cluster Action Plan will help guide the selection of action priorities for the Valley's core clusters which will constitute the basis for the 2013 Summit.

1.3 REGIONAL CLUSTER PRIORITIES

The study process and findings (described in Chapter 2) validated that the five original New Valley clusters continue to be the shared priorities across the region, although they have been adapted or expanded upon through the value chain concept. Each cluster contains several "components," each with sets of industries that comprise the value chain. For example, the Agriculture Cluster includes production, processing and packaging, distribution and diverse support activities. The Health Cluster now incorporates dimensions of wellness. Two clusters have been added – water technology and public sector infrastructure, based on their current and emerging importance and potential for the Valley. Therefore, the Action Plan priority clusters are:

- Agriculture
- Energy
- Health and Wellness
- Logistics
- Manufacturing (which is connected to all of the clusters)
- Water Technology
- Public Sector Infrastructure (Construction)

An analysis of each cluster is presented in Chapter 4, including a reference to many of the initiatives and networks that are involved in these clusters. They are too numerous to list individually but they are listed illustratively as leaders and partners in the Action Plan implementation recommendations, and also in the list of partners at the beginning of the report. They include both core economic initiatives and those that provide core support foundations for the clusters (such as infrastructure and sustainability).

The next stage of Action Plan implementation will need to continue the outreach and engagement activities of the cluster planning process initiated by the Partnership and OCED. While the Partnership and OCED have many strong existing partnerships, including through the New Valley Work Groups, there are additional initiatives and networks active in the cluster areas, especially at the sub-regional level, that need to be engaged in the cluster work. There also are new roles for existing partners that need to be explored to take the clusters to the next level of productivity and beneficial outcomes.

As part of this outreach and engagement process, there are new cluster-related initiatives sponsored by state, federal and other partners that will benefit the region. They include the "Doing What Matters for Jobs and the Economy" initiative of the Chancellor's Office of the California Community Colleges, Workforce and Economic Development Division, and the California Financial Opportunities Roundtable (CalFor).

The Cluster Inventory Analysis presented in Chapter 2.3 and the consultation process with key partners identified the resource and capacity challenges of supporting cluster initiatives, especially across a wide geographic region and diverse but interconnected clusters. While increasing use of and access to information technologies can help to bridge this gap, there is still the "glue" of face to face interaction to establish the foundations of effective regional collaboration, including trust building, networking and information sharing. A clearly identified role for the Partnership and OCED is to help connect and convene these assets at a higher level in order to identify those shared regional priorities and opportunities that will be garnered most effectively from a regional collaborative strategy and voice.

The California Partnership for the San Joaquin Valley *Connect 2012 Annual Report* has a valuable discussion and overview of many of the regional partners and initiatives that will be an important part of the San Joaquin Valley Cluster Action Plan. Additional description of initiatives is available in cluster meeting presentation materials that will be posted on the Partnership website, and through Appendix C, Reference and Resource Materials. Other information generated through the cluster action planning process will be provided by ADE to OCED for use by the New Valley Work Groups/Cluster Action Teams.

CHAPTER 2
PLAN PROCESS AND METHODOLOGY

This chapter describes the planning process used to engage regional, local and other partners and stakeholders; conduct analyses; and develop the recommendations for the Cluster Action Plan. It includes an overview of the methodology used for the technical aspects of the analyses and presents the results of an inventory of cluster initiatives and priorities at the county and regional level. The inventory provided a base for validating the selection of the project's priority clusters for more detailed economic analysis, reviewing analytic findings, and assessing existing and potential implementation capacity.

2.1 PROJECT PLANNING PROCESS

The project planning process began in October 2011. The first activities were to conduct the inventory and assessment of existing cluster initiatives and priorities; identify partner network contacts and leads across the various systems and initiatives (economic development, education, workforce development, industry associations, and so forth); and conduct research to prepare the project's demographic and socio-economic overview and overview of the regional economy.

OCED's priority was to engage these partners and stakeholders proactively throughout the planning process - many of whom already are leads and/or partners for several of the Partnership's New Valley Work Groups - and identify and bring into the process new partners, as the foundation for development and implementation of the Cluster Action Plan. Starting with the California Central Valley EDC (CCVEDC), consultation began immediately with partner network leaders and representatives to discuss their cluster priorities, activities and capacity; gain their perspective on cluster drivers and challenges; learn about new initiatives and upcoming activities; and coordinate on cluster stakeholder meetings.

The consultation was framed to identify the desired role for the Partnership and OCED and the actions that would advance a regional industry cluster strategy, based on shared regional priorities intended to result in more overall opportunities for the Valley. This strategy in turn would be strengthened through regional collaboration and resource leveraging, and provide support for the partners in their on-the-ground implementation efforts. Core partners included the CCVEDC, the Central California Workforce Collaborative (CCWC), the Central Region Consortium (California Community Colleges), the C6 Project (Central California Community Colleges Committed to Change) and the Central Valley Business Incubator (CVBI). As the project proceeded, many additional partners were an integral part of the process.

The Cluster Inventory (see Section 2.3) validated that the Partnership's five core clusters, with some adjustments, were shared priorities across the Valley. ADE added two additional cluster areas – the Water Technology Cluster, which was the Valley's first cluster, and Public Sector Infrastructure, for which a workforce plan was being developed for CCWC. An analysis was conducted for each cluster except Infrastructure (see Section 2.2 for discussion of methodology).

Working closely writh OCED, ADE coordinated with concurrent cluster-related planning activities, which are integrated into the Cluster Action Plan. These included the C6 Project, a major new cluster-based education and workforce project funded by the U.S. Department of Labor, led by West Hills Community College District. Project cluster meetings provided a venue to assist the C6 project with its rollout through presentations on the project and information dissemination.

Another was the San Joaquin Valley Regional Economic Summit held in late March 2012, hosted by the Partnership, organized to provide recommended regional and state-level actions for a state economic summit (held in May, 2012). Valley leaders focused on one cluster – the Agriculture Value Chain – due to the size and importance of the cluster to the Valley and state economy. ADE participated in the Summit Planning Committee, provided additional cluster analysis information, and coordinated the session on workforce needs. The Summit resulted in recommendations across five areas: infrastructure, workforce needs, innovation, regulations and sustainability, and access to capital, that constitute the action plan for this cluster. The Partnership is coordinating the follow-up with designated champions in each of the action areas. These areas were used to help develop recommendations for the other clusters.

ADE participated as an advisor to the planning process for the Public Sector Infrastructure Regional Workforce Plan, prepared for CCWC by the Council on Adult and Experiential Learning (CAEL). This plan provides a basis for revitalizing the construction sector in the Valley. ADE also coordinated with the San Joaquin Valley Regional Planning Council and its consultants Cambridge Systematics (and team) preparing the San Joaquin Valley Interregional Goods Movement Plan.

Once the cluster analyses were completed, the ADE project team along with OCED organized four cluster meetings between May and June of 2012 and a wide range of convening partners to review cluster findings, learn about related initiatives, and highlight issues and recommendations for the Action Plan. The partners conducted additional outreach to their networks. Approximately 150 partner and stakeholder organizations and employers participated (see Appendix A for list of participants).

Three meetings were held for the Health and Wellness Cluster, due to the size of the cluster (the second largest after Agriculture) and high level of focus on healthcare issues, with many initiatives underway, especially related to education and workforce development. One cluster meeting was held combining the Manufacturing, Energy and Logistics clusters, given the intersection between these areas and the fact that manufacturing is a part of all the clusters (including Agriculture and Health and Wellness); the Water Technology Cluster, currently defined with manufacturing-related components, is also highly interconnected, especially with the Agriculture and Energy clusters.

The Health and Wellness Cluster meetings were hosted by and held May 24th at Fresno State, June 6th in Modesto at the Great Valley Center, and June 21st at the Weill Center, Bakersfield College. Additional convening partners included: CCVEDC, CCWC, C6, Building Healthy Communities South Kern, Central Valley Health Network, Clinica Sierra Vista, CSU Bakersfield, Employers' Training Resource, Career Services Center, Hospital Council of Northern and Central California, Kaiser Permanent Central California, Kern Community College District, Kern Economic Development Corporation, and Stanislaus Alliance/Worknet.

The Manufacturing, Energy and Logistics Cluster meeting was held June 11th at the San Joaquin Valley Air Pollution Control District, Fresno (host). Additional convening partners included: CCVEDC, CCWC, C6, Center for Applied Competitive Technologies, International Center for Water Technology, San Joaquin Valley Clean Energy Organization, San Joaquin Valley Regional Policy Council, the Water, Energy and Technology Center, and Valley REACON (Recycling, Energy, Air, Conservation).

In addition to cluster findings, the presentations included an overview of key regional initiatives and sub-regional projects, especially sector initiatives that are potential models for scaling to the regional level, and updates by convening partners and participants on projects, issues, opportunities and priorities. The materials for the meetings, including meeting summaries, will be available on the Partnership website.

The Water Technology Cluster convenes on a regular basis. The ADE team lead for this cluster has been involved with the cluster since its inception, and for this project, conducted interviews by phone and met with numerous cluster leaders; conducted research on recent innovations and trends; and participated in two cluster meetings, in late 2011 and on June 20th 2012, the latter to review results of ADE's cluster analysis and discuss recommendations for expanding the impact of the cluster.

As part of its outreach and information gathering process, the ADE project team also attended several conferences and meetings that addressed the clusters, and presented updates and/or findings to the Partnership Board, the CCVEDC, the CCWC, the RJI Implementation Team, Kings County Economic Development Corporation, and the President and Provost of Fresno State. This included a discussion of implementation next steps and interests in terms of roles and capacities.

ADE also conducted extensive research on issues and trends related to the project cluster areas; conditions and initiatives in the Valley; overall economic and workforce reports related to the California economy, including emerging trends in the green economy; cluster methodologies; national analyses which included the Valley from a comparative standpoint; and cluster innovation models. Appendix C contains a listing of references and resource documents.

The next section describes the analytic methods for conducting the cluster analyses. The discussion of each cluster in Chapter 4 provides additional information on cluster-specific analytic approaches and resources.

2.2 CLUSTER METHODOLOGY

The quantitative analysis of the clusters relied on several data sources and analytical models. ADE defined each cluster as a group of industries at the six-digit NAICS (North American Industrial Classification System) level of detail. NAICS is a system used by government and business to classify business establishments by type of economic activity. The definitions were based in part on past cluster analysis work in the region; a review of the relevant literature on emerging cluster components, including around the "green economy" but also for existing clusters that are evolving based on the

"value chain" concept; and discussions with cluster stakeholders, including economic development professional in each county who work with these clusters.

In order to refine the cluster definitions, ADE conducted selected input-output studies to determine the portion of supplier inputs needed by the core industries in each cluster. For example, this approach helped to define how much of the wholesale industry is engaged by the Agriculture Cluster in the region. In some cases, this analysis led to assigning portions of the NAICS industries to clusters rather than the whole employment amount.

The next step was an analysis of employment change for each cluster using the Census of Employment and Wages (CEW) obtained from IMPLAN, (Impact Analysis for PLANning), which provides a consistent data set of employment wages and establishments annually by county. Using this data, ADE calculated not only employment growth rates for each industry in each cluster, but also location quotients and industry shift-share rates using the State of California as the point of reference. The industries in each cluster were organized into groupings – key components – reflecting different types of activities within the cluster (such as manufacturing, wholesale and distribution, services, retail). This way, the performance within the cluster can be differentiated and growth areas better identified.

The last major step in the analysis was to use the IMPLAN3 Input-Output (I-O) model to calculate the trade flow data for each cluster for the region as a whole. Using the cluster NAICS definitions to create parallel industry aggregations in the I-O model, ADE estimated the dollar value of total output for each cluster as well as several other production and market factors. For example, the model can be used to estimate the production input requirements for each aggregated cluster. Using the regional purchase coefficients in the model, ADE estimated the portion of these inputs (commodities) that are acquired from within the region and the portion purchased (outsourced) outside of the region (leakage). ADE then evaluated the outsourced dollar amounts using the 2007 Economic Census to determine whether the leakage is sufficient to support full establishments in the supplier industries.

ADE also used the I-O model to evaluate the San Joaquin valley as a consumer region, calculating the amount of goods and services produced by the clusters that are actually needed by the population, businesses and institutions in the region. These calculations and related analysis of export trade flows for each cluster led to indicators regarding the destination of intermediate and final products for the clusters in the analysis.

A listing of the NAICS codes used to define each cluster is attached in Appendix B. More detailed county employment data for each cluster component may be found in Appendix D.

2.3 CLUSTER INVENTORY

This section of the Report documents the primary industry cluster targets and initiatives in the Valley. As noted in the Introduction to this report, the San Joaquin Valley has been a leader in cluster-based strategies for more than a decade. Therefore, one of the first activities of Industry Cluster Action Plan project was to identify and inventory the existing cluster initiatives in the Valley, including the RJI clusters, the Partnership clusters, and individual county clusters; key leaders, participants and resources; types of cluster-based activities; and implementation status of the clusters.

This inventory provided a core base for validating the selection of the project's priority clusters for more detailed economic analysis; engaging partners and stakeholders in review of the cluster analytic findings; and assessing existing and potential implementation capacity. This information also provided a foundation for developing the Industry Cluster Action Plan, including recommendations for the role of OCED, the Partnership and the New Valley Work Groups and their alignment with and support of local and regional priorities and capacities. Emerging cluster initiatives and activities also were incorporated into this inventory and subsequent planning and engagement activities of the project.

The economics of clusters are dynamic and ever-changing, as well as the resources and capacity present locally and regionally to engage businesses, partner organizations and stakeholders in developing, leading and supporting cluster initiatives. Cluster analyses, initiatives and activities require periodic updating, renewal and alignment of resources to reflect these important realities, which were a key impetus for this project.

The inventory was prepared based on the following activities by ADE and OCED:

- **Ongoing consultation with California Central Valley Economic Development Corporation (CCVEDC) and its members (county economic development organizations).** This process led off with participation in CCVEDC's November 2011 meeting to discuss the purpose of the inventory and to obtain information about local cluster networks or cluster targets; each EDC/agency was asked to review a draft matrix of industry targets or cluster networks prepared by ADE. As a starting point, ADE utilized each EDC's website to obtain information on targets and initiatives, as well as cluster reports and research to ascertain the most recent analyses and the analytic techniques and methodologies used to prepare the reports and select the targets. ADE subsequently followed up with each EDC to discuss cluster targets/initiatives, activities, research and data bases, capacity issues, and and planned changes. ADE continued to consult with CCVEDC and individual county EDC's throughout the project to refine the inventory, including most recently at the CCVEDC July 2012 meeting.
- **Ongoing coordination with OCED.** As noted, OCED provides leadership and staff support to several cluster efforts and partners, and has been in ongoing consultation with cluster leaders and partners about the status and capacity of existing and emerging cluster initiatives and next steps. The Partnership's 2010-2011 Annual Report was also a resource on the status of the Work

Group, as well as the website which contains quarterly updates on most of the Work Groups' implementation plans.

- **Research, and Interviews and Meetings.** ADE conducted several interviews with regional partnership organizations leading or supporting cluster initiatives, including representatives of Central California Workforce Collaborative (CCWC – the Workforce Investment Boards) and the Valley's Community Colleges (Central California Regional Consortium and the California Community Colleges Committed to Change – C6). ADE also conducted extensive research on local and regional cluster analyses, including county Comprehensive Economic Development Strategies (CEDS) and the Valley-wide CEDS prepared by ADE. ADE participated in several sector-specific meetings and conferences, especially related to the Health and Wellness Cluster. ADE also was a member of the CCWC Advisory Team working on the development of the Public Sector Infrastructure Strategy as a possible Valley-wide cluster initiative.

SUMMARY OF CURRENT CLUSTER ACTIVITIES

Table 2.3-1 identifies the clusters that have been selected by each County economic development organization as sectors that are competitive or have the potential to be successful in that county. The Table also identifies the key Valley-wide clusters. To recap, the Partnership's five core New Valley clusters were: agribusiness, including food processing, agricultural technology and ag-biotechnology; manufacturing; supply chain management and logistics; health and medical care; and renewable energy.

The key points of the Cluster Inventory can be summarized as follows:

- Every county has a set of target clusters which guide business retention, expansion and attraction activities; only a few support more formalized cluster initiatives or networks.
- The Partnership's New Valley clusters continue to be the most commonly shared cluster priorities across the region.
- Ongoing organizational support of cluster initiatives or networks is a challenge, especially given the impacts of the recession and local budget cuts.

All told, there are approximately fifteen clusters that are targets across the eight counties. The county Economic Development Corporations and county-led economic development agencies are the leads for business retention, expansion and attraction activities regarding these clusters. Fresno County has the most clusters (twelve). Almost every county includes all five of the five New Valley clusters as targeted clusters although there are some local variations within the cluster groups. For example, renewable/clean energy is a priority cluster for almost all of the counties but in Kern County the cluster also includes chemical energy and natural resources, such as oil. In San Joaquin County logistics includes air freight transportation and aircraft maintenance.

Several counties have other clusters of focus that could provide an opportunity for future attention across the Valley, including the water technology cluster (primarily centered in Fresno and Tulare Counties), renewables and recyclables which present an opportunity to expand the potential for manufacturing (San Joaquin County), and entrepreneurship (Stanislaus County).

Overall, the types of cluster initiatives vary significantly throughout the Valley, especially with regard to the degree of organizational support; networking of stakeholders and partners; and engagement of employers, especially as "cluster champions" within the context of a cluster strategy implementation plan. While every county has identified a set of target industries for the purpose of focusing business expansion and recruitment activities, only a few have the capacity to support on-going cluster initiatives or networks through staffing and other resources.

The most formally organized cluster efforts are in Fresno and Kern Counties. The Regional Jobs Initiative (RJI) has designated private and public sector cluster chairs, and cluster managers, the latter of which are provided by several partner organizations, including the Economic Development Corporation serving Fresno County, OCED, the City of Fresno, Workforce Connection and Fresno State. The RJI clusters are under review as some clusters have been more active than others due to capacity leadership and other issues. Kern County's clusters are managed by Kern Economic Development Corporation, in a partnership with Kern County and Employers Training Resource.

Most counties/EDCs have incorporated cluster analysis as a tool for economic development planning and as a means of selecting target industries, which also are driving education and workforce sector initiatives. Kern County has the most recently updated cluster strategy (2010). Some of the EDCs such as the San Joaquin Partnership have been been refining the targets identified in earlier cluster and target industry analyses to reflect changing market opportunities and to better focus efforts. The level and timing of cluster-related research also varies across the Valley, a challenge that this Project is intended to help address by providing updated, consistent cluster analyses and industry detail for each county.

In terms of a Valley-wide focus for ongoing cluster initiatives, the CCVEDC, which also serves as the Partnership's Economic Development Work Group, has the following cluster priorities in its current role in marketing and business attraction for the Valley: manufacturing, logistics, food processing, and renewable energy. The Partnership's New Valley regional clusters also have been used to catalyze state and federal investments in the region, especially for innovative approaches to workforce and economic development supporting the region's cluster priorities. One example is the Partnership's Valley Legacy project which received discretionary funding from the State to support economy recovery strategies at a series of demonstration sites throughout the Valley, including skills building in emerging areas of opportunity such as the green economy (completed earlier in 2012).

TABLE 2.3-1

INVENTORY OF EXISTING TARGETED INDUSTRY CLUSTERS BY COUNTY AND VALLEY-WIDE

COUNTY	Ag, Food Processing, Biotech	Clean Energy	Health Care/ Medical Equip.	Logistics, Distribu-tion	Manu-facturing	Water Tech	Construction	Info Tech	Software	Tourism, Arts & Culture[1]	Other
FRESNO	√	√	√	√	√	√	√	√	√	√	Public Sector
KERN	√	√[2]	√	√						√	Aerospace
KINGS	√	√	√	√	√					√	
MADERA	√		√	√	√					√	
MERCED	√	√	√	√	√						
SAN JOAQUIN	√	√	√	√[4]	√			√[3]			Manufacturing includes Renewables & Recyclables
STANISLAUS	√	√	√	√	√					√	Entrepreneurship
TULARE	√	√		√	√						

Source: California Central Valley EDC (CCVEDC), County Economic Development Organizations, Central California Workforce Collaborative (CCWC), ADE.

Valley-Wide Clusters:

- Manufacturing, Logistics, Food Processing, Renewable Energy (California Central Valley EDC – CCVEDC; C6 – Central California Community Colleges Committed to Change – C6).
- Energy, Recylables/Renewables (State Energy Sector Partnership Grant, Central California Workforce Collaborative - CCWC)
- Public Sector Infrastructure (CCWC)
- Health (Regional Industry Clusters of Opportunity – RICO, CCWC; C6)

Notes:

1. Arts and Culture and Tourism clusters are sometimes separate
2. Includes Chemical Energy, and Natural Resources
3. Includes Back Office Activities
4. Includes Air Freight Transportation and Aircraft Maintenance

Regional partners such as the CCWC, which serves as co-partner for the Partnership's Higher Education and Workforce Development Work Group, and the California Community Colleges, are leveraging cluster-focused planning and implementation resources for the region for systems change. Two major valley-wide cluster initiatives led by members of the CCWC that are engaging employers and a wide range of network partners are focused on health and public sector infrastructure. They include the Regional Industry Clusters of Opportunity project for the health cluster, managed by the Workforce Connection (Fresno Regional Workforce Investment Board) (for which the CCWC is seeking additional funding), and the Public Sector Infrastructure Strategy managed by the Workforce Investment Board of Tulare County.

Other recently-funded Valley-wide education and workforce sector projects are focusing on the agriculture, health, manufacturing, and renewable energy clusters, including the State Sector Energy Grant managed by the Stanislaus Workforce Alliance, and the California Community Colleges Committed to Change (C-6) project, a collaboration of several of the Valley's Community Colleges, led by the West Hills Community College District. These projects are building institutional capacity to operationalize cluster strategies and will be an important resource for the implementation of the Cluster Action Plan.

The cluster inventory documentation process highlighted the difficulty in sustaining cluster-based networking initiatives either at the county or the regional levels, primarily due to resource and capacity issues, also because cluster strategies are collaboration-based and it takes time, effort and trust to build cluster networks, especially across such a large and diverse region as the Valley. Participants in the Cluster Strategy Project planning process articulated that the Partnership has a vital role to play in helping to knit together and support the various cluster opportunities, partners and resources within the framework of shared regional cluster priorities.

OCED plays an important leadership and supporting role for implementation of several on-the-ground cluster activities, especially those of the RJI, as well as the overall management of the Partnership's New Valley Work Groups which, in addition to specific cluster-focused economic, workforce development and higher education activities, address cross-cutting issues that support the overall vitality of the Valley economy. Through the findings of the cluster inventory, partner engagement and consultation, cluster meetings and development of Cluster Action Plan, the Action Plan will provide recommendations for alignment of organizational capacity and resources, especially for OCED and the New Valley Work Groups to advance the Valley's regionally competitive advantage clusters and support local efforts.

Chapter 3 provides a demographic and socioeconomic overview and an overview of the regional economy of the Valley, including overall industry sector jobs trends, and cluster versus non-cluster job growth for the priority regional/local industry clusters. This analysis provides the context for the more in-depth analysis of the region's priority clusters in Chapter 4.

CHAPTER 3
REGIONAL OVERVIEW

The San Joaquin Valley was one of the state's fastest growing regions during the last decade and this growth is projected to continue in the coming decades. The dimensions and nature of this growth are shaping the landscape of challenge as well as opportunity for the Valley's future. The Valley's challenges have been well documented, and have catalyzed unprecedented regional collaboration in response, as exemplified by the mission and endeavors of the California Partnership for the San Joaquin Valley.

Reflecting the ongoing dynamics of change in the Valley and conditions as the Valley begins to emerge from the "Great Recession," this chapter recaps key trends and patterns across the Valley as context for the analysis of key comparative advantage clusters in Chapter 6, and recommendations for the Cluster Action Plan presented in Chapter 7. It includes the following sections:

- Overview of demographic/socioeconomic conditions and trends as reflected by key indices, including those tracked by the Partnership and the CCVEDC, and interregional workforce flows (commute patterns) based on estimates from the Local Employment Dynamics data. The commute patterns illustrate the "leakage" of San Joaquin Valley workers to jobs outside the region, and the workers that commute into the Valley from other regions for jobs located in the Valley.
- Overview of the regional economy from 2001 through 2011, including jobs in the Valley, "supersector" employment trends, and cluster performance compared to other sectors of the economy.

3.1 DEMOGRAPHIC/SOCIOECONOMIC OVERVIEW

In 2005, the Congressional Research Office prepared an analysis documenting the fact that the San Joaquin Valley receives significantly less Federal Direct Spending than the national or state average, even lower than comparable regions such as the Appalachian Regional Commission area, despite exhibiting many socioeconomic indicators of concern. Among those indicators were high poverty rates, lower median incomes, and high levels of immigrant workers with generally low education levels and limited English language skills.

With the formation of the California Partnership for the San Joaquin Valley, the level of state and federal attention to the Valley has increased since 2005. However, economic improvements, particularly in the face of the severe national recession, have been slow to materialize. As shown in Table 5.2-1, the Valley continues to suffer high unemployment rates compared to the state average and per capita and median household incomes are well below state levels.

Along with the Sacramento region, the San Joaquin Valley was the the state's fast growing region between 2000 and 2010, except for the Inland Empire, adding more than 700,000 new residents over the decade - a growth rate of more than 20 percent, compared to 14 percent for California. [7] Growing racial, ethnic and cultural diversity characterizes California and the Valley is leading the way. Most of the Valley's population increase was due to growing communities of color, particularly Latinos who in 2010 comprised 48.6 percent of the Valley's population, compared to 37.6 percent of California's population and 16.3 percent of the U.S. population.[8]

The Valley's population continued to grow between 2011 and 2012, reaching an estimated population of 4,025,476 in January, 2012, or 10.7 percent of California's population. All counties except for Kings County experienced growth. If the Valley were ranked as a state, it would be the country's 27th largest state (based on the 2010 U.S. Census). Population growth will continue to be an economic driver for the region. According to a new estimates prepared for the eight San Joaquin Valley Metropolitan Planning Agencies (MPOs), the region is projected to grow to more than 6 million people by 2040, increasing by more than 50 percent.[9] This will increase demand for "employment, production, distribution, and consumption of consumer products, and housing, and logistics and warehousing of consumer products"[10]

While unemployment rates have dropped in all counties since 2011, in May of 2012 they still ranged from 13.5 percent in Kern County - which has the strongest economy of the Valley's eight counties – to 17.3 percent in Merced County, compared to 10.4 percent for the State. More than 270,000 residents were unemployed. [11] The number of persons living in poverty was estimated at 19 percent in 2008, compared to 14.5 percent for California.[12] The region's poverty rates continue to be among the highest in the nation, and are present in both urban and rural areas. These conditions reflects lower levels of educational attainment and skills of the Valley's workforce compared to many other regions, especially when matched to the demands of an increasingly complex and technology-driven global economy and compounding the impacts of the recession, with the implosion of housing, construction and financial sectors hitting the Valley particularly hard.

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[7] *2010 California Regional Progress Report,* California Deparment of Transportation and California Strategic Growth Council, p. 8.

[8] *Toward 2050 in California, A Roundtable Report on Economic Inclusion and Political Participation in the San Joaquin Valley,* Center for American Progress, Julie Ajinkya, March 2012, p. 3.

[9] *San Joaquin Valley Interregional Goods Movement Plan, Task 5, Commodity Growth,* Cambridge Systemactics, June 2012, p. 1-3

[10] *San Joaquin Valley Interregional Goods Movement Plan, Task 1. Existing Conditions Technical Memorandum,* Cambridge Systematics, January 2012, p. 3-1.

[11] EDD, Labor Market Information Division, Current Economic Statistics Group, June 2012, p. 12 (not seasonally adjusted).

[12] *2010 California Regional Progress Report*, p. 10.

TABLE 3.1-1

VALLEY DEMOGRAPHIC AND SOCIOECONOMIC INDICTATORS

2012	Fresno	Kern	Kings	Madera	Merced	San Joaquin	Stanislaus	Tulare	Region	California	% of State
Pop. Jan 2012 DOF	945,711	850,006	152,419	152,074	258,736	695,750	519,940	450,840	4,025,476	37,678,563	10.7%
Labor Force 2011Annual Ave.	442,100	382,000	61,000	66,400	110,200	297,600	236,600	208,100	1,804,000	18,384,900	9.8%
Unemployment Rate 2011 Annual Avg.	16.5	14.9	16.1	15.3	18.3	16.8	16.8	16.6	16.4	11.7	140%
Private Sector Jobs 2011 Annual Avg	214,200	171,500	21,100	21,500	40,000	149,100	118,100	74,300	809,800	11,661,800	6.9%
Manufacturing Jobs 2011 Annual Avg.	23,900	13,400	4,100	3,000	8,100	17,500	19,900	11,000	100,900	1,245,800	8.1%
Per Capita Income ($) 2011 CRS	$31,049	$30,041	$26,856	$26,326	$27,156	$31,467	$31,629	$28,058	$29,072	$42,907	67.75%
Median Household Income ($) Most current-2010	$45,221	$45,524	$44,609	$48,268	$42,449	$50,011	$48,044	$43,397	$45,940	$57,708	80%
K-12 Enrollment 2011-2012	195,980	175,627	29,328	30,525	55,035	137,161	105,455	99,115	828,226	6,217,883	13.3%
SAT Scores (Avg.)DOE 2010	1,412	1,439	1,369	1,424	1,383	1,355	1,495	1,397	1,409	1,513	93%
Taxable Sales ($ 000s) (2010) DOF	10,154,265	11,057,910	1,188,331	1,201,908	2,134,070	7,602,090	6,098,614	4,496,880	43,934,068	477,347,986	9.20%
Median Home Price ($) 2011 Annual Avg. CRA	$145,000	$125,000	$135,000	$130,000	$112,000	$157,000	$130,000	$124,500	$132,312	$258,275	51.2%

Source: California Department of Finance, DOE, US Bureau of Labor Statistics, edd.ca.gov updated 5-16-12 by California Central Valley EDC 661-366-0756

In spite of lower levels of average median income in the Valley than in the state as a whole, over the last decade median household income grew throughout the Valley, increasing by over 30 percent, generally consistent with statewide trends. According to the *San Joaquin Valley Interregional Goods Movement Plan*, they are projected to nearly double by 2040. "Continued increases in household income will increase demand for consumer products, food, waste and other commodities exported from and imported to the Valley."[13] Combined with population and labor force growth, the Report also noted that "these trends will create pressure on the transportation system, as well as contribute to increasing congestion, emissions, and air quality concerns."

Measures of personal, community, and environmental health and well-being in the Valley related to these and other trends and conditions, including lack of access to clean air and water, healthy foods, and recreation and health services for many communities, are well documented. For example, residents in the San Joaquin Valley have less access to primary health care, and have higher levels of diagnosed asthma and pollution-related hospitalizations and higher percentages of overweight and obese population than the state as a whole. (See the *California Partnership for the San Joaquin Valley 2010-2011 Report* and the *2010 California Regional Progress Report*.) Research by the Central Valley Health Policy Institute, the UCSF-Fresno School of Medicine, the Center for Race, Poverty and the Environment, the, Center for Regional Change (U.C. Davis) and others have also documented the disparities in health outcomes for within the Valley, especially for communities of color.

While highly challenging, the Partnership and many leadership, business and community partners throughout the Valley are endeavoring to address these trends and conditions through innovative and inclusive regional collaboration initiatives across many inter-related areas. As will be described in the Section 4 of the report on Cluster Findings, these circumstances also present significant economic and job creation opportunities through meeting these challenges by strategies and actions to advance the Valley's key competitive advantage clusters. Examples include increasing access to healthy foods by expanding regional and local food systems (Agriculture Cluster); expanding wellness and prevention activities and services (Health and Wellness Cluster); and improving the sustainability and quality of water resources (Water Technology Cluster).

WORKFORCE COMMUTE PATTERNS

According to the California Employment Development Department, the Valley had approximately 1.2 million jobs in 2011 and 1.5 millon employed workers (whether their jobs are in or outside of the Valley). The new Local Employment Dynamics (LED) Partnership between the states, the U.S. Bureau of Labor Statistics and the U.S. Census Bureau integrates several sources of information on jobs, workers and local economics. One data set relates to labor flows (commute patterns) for the 2010 workforce, depicted in Tables 3.1-2 and 3.1-3. From a workforce perspective, the San Joaquin Valley economy has a

[13] *San Joaquin Valley Interregional Goods Movement Plan*, p. 2-1.

very mobile workforce of both in and out-commuters. Viewing available LED data for a substantial sample of the jobs and workers, it is clear that the Valley is exporting labor to adjacent metropolitan areas – Sacramento to the north, the San Francisco Bay Area to the west and the Los Angeles metropolitan area to the south.

This has been a significant trend over the past two decades based on both the Valley's housing affordability compared to the Bay Area and other metropolitan areas, and the lack of adequate jobs in the Valley for the growing workforce. Table 3.1-2 shows the residential location of workers who held approximately 1.2 million jobs in the San Joaquin Valley in 2010.

As an example starting with Fresno County at the upper left of the table, 234,356 workers who lived in Fresno County also worked in the County. Further down the column, 11,527 Fresno jobs were occupied by workers coming from the north in Madera County and 13,659 by commuters from the south in Tulare County. Below the eight San Joaquin counties, the major areas of workers commuting in for San Joaquin Valley for jobs starts with the Central Coast. Workers commuting in from the Bay Area and from Los Angeles were about equally split at about 13,000 and 12,000, respectively.

In Kern County, the commute in by workers in the south from the Greater Los Angeles area was much larger, at 29,155 workers. Fresno and Kern also had substantial number of workers commuting in from the Central Coast, at 5,078 and 4,557, respectively. For counties to the north end of the Valley, such as San Joaquin and Stanislaus, the in-commute was predominantly from the Bay Area, with Sacramento a close second. All told, an estimated 18 percent of the jobs in the Valley (almost 216,000 jobs) were held by workers living outside the Valley.

TABLE 3.1-2

IN-COMMUTE CENTRAL VALLEY JOBS - LOCATION OF WORKER RESIDENCE

Place of Residence	Jobs Location								
	Fresno	Kern	Kings	Madera	Merced	San Joaquin	Stanislaus	Tulare	Total
Fresno	234,356	4,015	5,229	8,307	2,724	2,411	3,338	12,779	273,159
Kern	4,626	185,787	827	282	383	292	593	6,279	199,069
Kings	6,719	1,960	21,755	206	193	231	368	4,168	35,600
Madera	11,527	373	388	20,143	1,848	720	922	692	36,613
Merced	4,067	500	184	1,787	39,489	2,670	11,621	683	61,001
San Joaquin	2,502	436	243	307	974	118,599	12,483	737	136,281
Stanislaus	3,129	699	232	545	7,041	15,520	100,777	871	128,814
Tulare	13,659	8,802	5,252	600	534	700	1,081	92,705	123,333
Central Coast	5,078	4,557	702	660	1,087	2,262	2,330	1,895	18,571
Greater Los Angeles	12,048	29,155	1,499	1,082	1,855	6,554	2,791	9,587	64,571
Sacramento MSA	5,864	1,161	312	517	1,298	17,280	5,480	1,375	33,287
SF Bay Area	13,092	3,237	912	1,244	3,113	23,268	12,441	3,627	60,934
Other	7,901	6,528	798	1,553	2,591	9,591	6,154	3,320	38,436
Total	324,568	247,210	38,333	37,233	63,130	200,098	160,379	138,718	1,209,669

Source: Local Employment Dynamics, U.S. Census Bureau, Applied Development Economics

Table 3.1-3 shows the commute pattern for the LED data's estimated 1.3 million workers in the San Joaquin Valley in 2010. Based on the sampling process, the LED estimate is less than EDD's data on the number of employed workers residing in the Valley but is illustrative of the commute patterns. Twenty-four percent of employed persons in the Valley commuted to jobs outside the region (almost 322,000 workers). In Fresno County, the out-commute to the Bay Area and Los Angeles was larger than the in-commute from those areas. This was true for nearly all the commute patterns described above. The San Joaquin Valley is a net exporter of labor, due to the lack of well-paying jobs for the size of its labor force. The net jobs gap based on the estimated LED data was at least eight percent in 2010 (106,000 jobs) and was likely larger.

TABLE 3.1-3

OUT-COMMUTE CENTRAL VALLEY LABOR FORCE - LOCATION OF JOBS

Place of Job	Labor Force								
	Fresno	Kern	Kings	Madera	Merced	San Joaquin	Stanislaus	Tulare	Total
Fresno	234,356	4,626	6,719	11,527	4,067	2,502	3,129	13,659	280,585
Kern	4,015	185,787	1,960	373	500	436	699	8,802	202,572
Kings	5,229	827	21,755	388	184	243	232	5,252	34,110
Madera	8,307	282	206	20,143	1,787	307	545	600	32,177
Merced	2,724	383	193	1,848	39,489	974	7,041	534	53,186
San Joaquin	2,411	292	231	720	2,670	118,599	15,520	700	141,143
Stanislaus	3,338	593	368	922	11,621	12,483	100,777	1,081	131,183
Tulare	12,779	6,279	4,168	692	683	737	871	92,705	118,914
Central Coast	5,574	4,665	955	1,002	2,763	2,986	2,495	2,755	23,195
Greater Los Angeles	16,969	51,192	3,929	1,342	2,333	8,407	4,276	10,875	99,323
Sacramento MSA	6,917	1,701	895	1,173	2,468	17,582	7,247	2,513	40,496
SF Bay Area	16,040	2,924	1,351	3,049	10,505	61,106	30,342	3,812	129,129
Other	5,215	6,735	799	1,342	1,851	6,846	4,465	2,333	29,586
Total	323,874	266,286	43,529	44,521	80,921	233,208	177,639	145,621	1,315,599

Source: Local Employment Dynamics, U.S. Census Bureau, Applied Development Economics

3.2 OVERVIEW OF REGIONAL ECONOMY 2001-2011

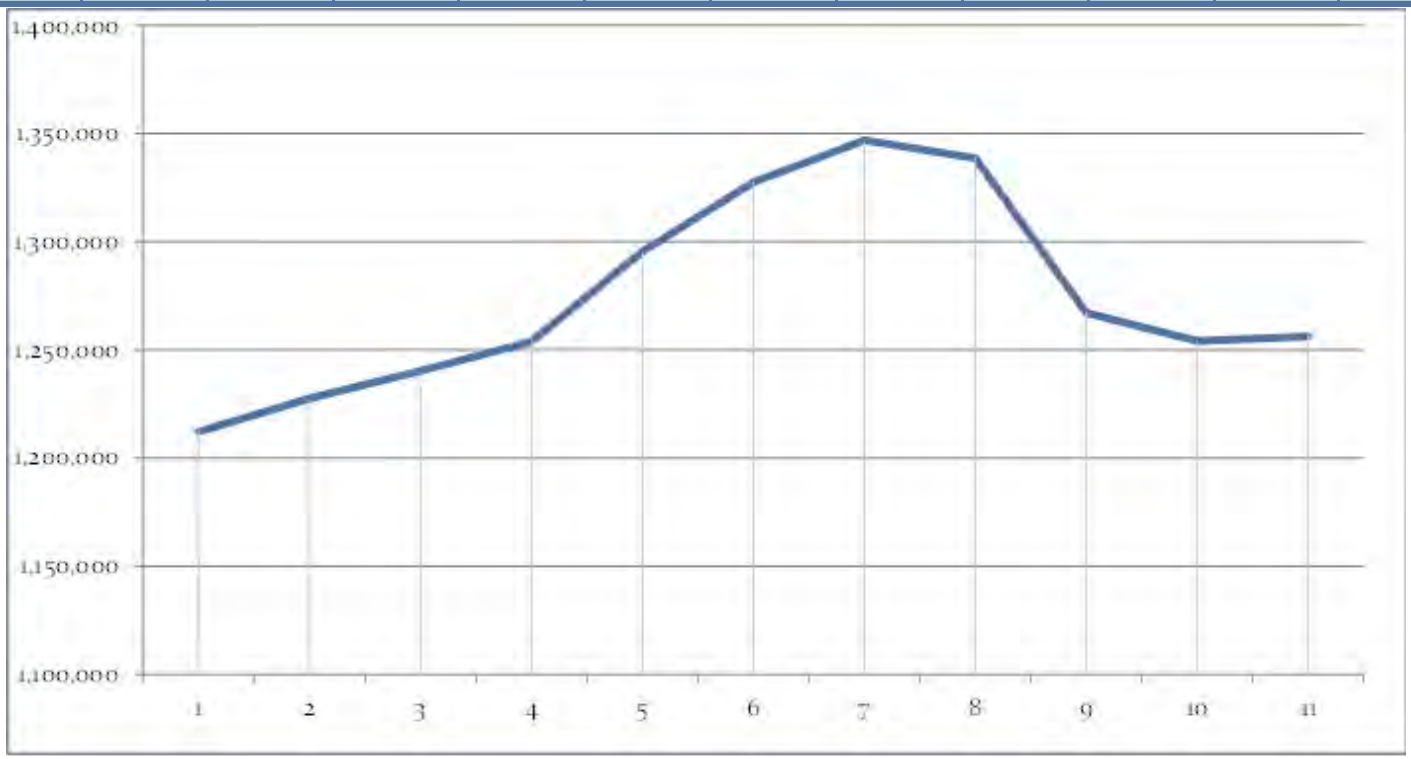
The San Joaquin Valley began the decade in 2001 with about 1.2 million jobs in both the public and private sectors, excluding self-employment. As shown in Figure 3.2-1, employment grew steadily but slowly until 2005 when the region gained more than 40,000 jobs in the one year, compared to a growth of 13,500 in 2004. Job growth continued at an accelerated rate through 2007 when it reached a peak of more than 1.35 million jobs. During the recession between 2008 and 2010, the Valley lost 92,000 jobs and the total job level fell to 2004 levels. In 2011, the Valley added 1,100 jobs overall to begin what is anticipated to be a slow recovery. This pattern is unlike some other regions such as the Bay Area which have posted strong job gains over the past year and are leading the State's economic recovery.[14]

[14] "July Jobs Report," Steve Levy, Center for the Continuing Study of the California Economy, August 17, 2012.

FIGURE 3.2-1

SAN JOAQUIN VALLEY EMPLOYMENT TRENDS, 2001- 2011

San Joaquin Valley Region	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total All Industries	1,212,200	1,227,600	1,240,300	1,253,800	1,295,500	1,327,500	1,346,900	1,338,700	1,267,100	1,254,100	1,256,200



Source: California Employment Development Department, Quarterly Census of Employment and Wages (CEW)

All told, net job growth over the last decade was approximately 44,000 jobs, for a 3.6 percent rate of growth. Non-farm private sector jobs increased by 25,700 over this period, while public sector jobs increased by 11,700; the balance of job growth (6,700 jobs) was in farm industries which are counted separately. From 2010 to 2011, private sector jobs (farm and non-farm) both increased while public sector jobs decreased, a trend that has occurred since 2008, primarily in local government jobs. Over this period, more than 13,000 public sector jobs have been lost, reflecting the severity of the state and local budget crises. As noted in Section 3.1, there are more employed workers residing in the Valley than jobs available, leading to significant levels of out-commuting.

Figure 3.2-2 illustrates how the major sectors in the economy performed during this period (detailed data may be found in Table 3.3-1). They are considered "Supersectors" as they include groupings of industry sectors. For example, "Trade, Transportation and Utilities" includes Retail Trade, Wholesale Trade, Transportation and Warehousing, and Utilities. Professional and Businesses Services includes Professional, Scientific and Technical Services, Administrative Services (including Waste Management and Remediation Services), and Management of Companies and Enterprises.

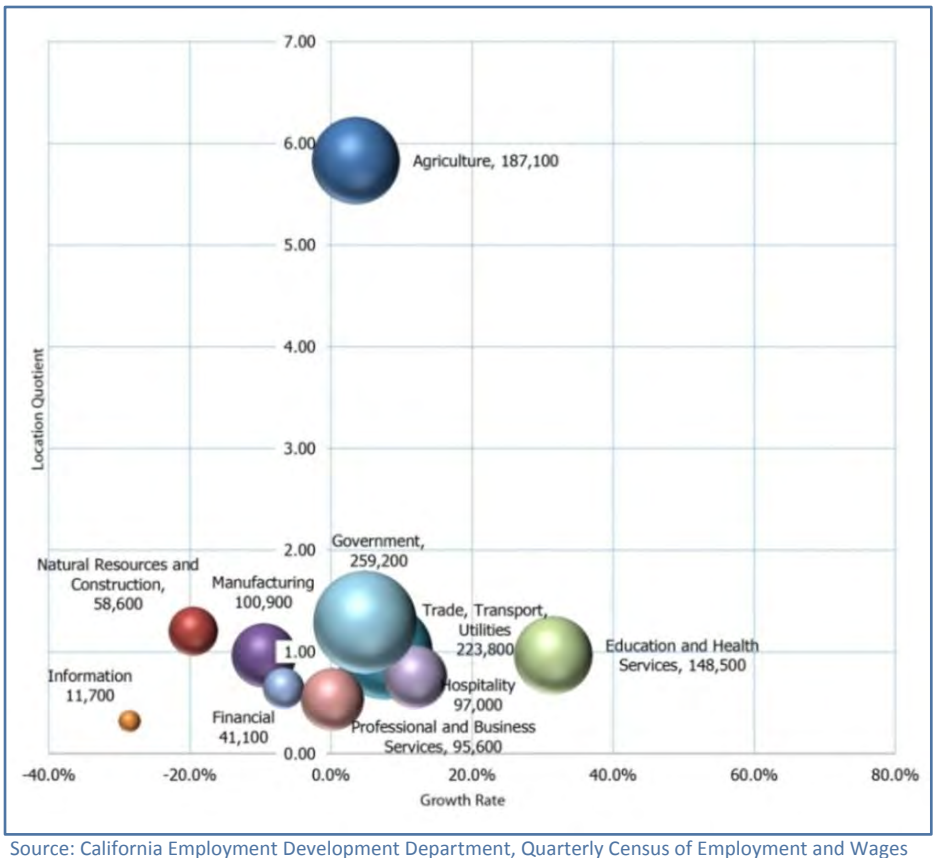
The figure uses “bubbles” to show:

- The size of the sector by number of jobs - the bigger the bubble the larger the sector
- The growth of the sector – the vertical axis at zero (O) percent is the starting point; a bubble to the left of this axis displays negative growth or less jobs, while a bubble to the right of the axis displays positive growth during 2001-2011 period
- The concentration of the cluster or Location Quotient – the Location Quotient (LQ) is a measure calculated as a ratio that regional economists use as a way to compare industrial activity levels across different areas. In this case, the LQ compares the concentration of employment in the Valley to the state, in order to identify specialization in the regional economy. The horizontal axis at 1.0 (100 percent) represents parity with state levels. Above 1.0 represents the increased degree of specialization in the Valley. It also helps to identify the export orientation of an industry, emerging export industries that could bring more money into the region, or industries facing decline that could erode the region’s economic base (sources: U.S. Bureau of Labor Statistics, EMSI – Economic Modeling Specialists Int.).

Not surprisingly, the Agriculture sector, at the top of the chart, is six times more concentrated in the San Joaquin Valley than it is statewide, although it had little net growth from 2001 to 2011. Agriculture actually entered the past decade on a down note, dropping from 202,400 jobs in 2000 to 172,100 in 2004. From there it began to grow again and reached 191,700 in 2008. It had only one down year in the recession, losing 11,300 jobs in 2009, but then has added jobs again in both 2010 and 2011. The performance of the Agriculture sector has been very strong from an economic standpoint, especially in terms of exports. Employment is affected by technology, immigration and other issues. The dynamics within the components of the sector are discussed in greater detail in Chapter 4.1 Agriculture Cluster.

FIGURE 3.2-2

SAN JOAQUIN VALLEY EMPLOYMENT TRENDS BY SUPERSECTOR, 2001-2011



Source: California Employment Development Department, Quarterly Census of Employment and Wages

Most of the other sectors were close or slightly below the state levels of employment concentration. The sectors which are comparable to state levels including trade, goods movement and logistics, food processing (manufacturing), energy, education and health and education services. Government employment was slightly more concentrated.

The sectors that had the most rapid net growth during the 2001-2011 period were Education and Health Services, with health as the largest component; Hospitality; and Trade, Transport and Utilities. Most of these sectors had a pattern similar to the overall job base, with growth through 2007 and then a leveling off with a small job gain between 2010 and 2011.

Trade, Transportation, and Utilities was the second fastest growing supersector. While retail trade comprised almost 60 percent of the sector in 2011, the fastest rates of growth were in wholesale trade and transportation, warehousing and utilities. This is due to the fact that more than 44 percent of jobs in the Valley are associated with goods-movement dependent industries. In addition to transportation and utilities, and wholesale and retail trade, these industries include agriculture, manufacturing (especially food manufacturing and processing), mining and construction.[15]

[15] San Joaquin Valley Interregional Goods Movement Plan, Task 1: Existing Conditions Assessment Technical

Leisure and Hospitality was the next fastest growing sector, followed by Professional and Business Services sector. Additional employment data detail from the IMPLAN analysis shows that within this latter sector, Professional, Scientific and Technical Services represented 36 percent of the sector's employment in 2011 and was the fastest growing subsector, growing approximately 30 percent over the decade. This may reflect an increase in the diversification of the regional economy and the ability to provide more of these types of services within the Valley than in the past.

Government, which is the single largest employment sector, continued to lose jobs between 2010 and 2011 but still ended up at a job level similar to where it was in 2006. Manufacturing, consistent with national trends, had an overall decline but there has been growth within some subsectors which is discussed in Chapter 4 regarding the various clusters. Natural Resources and Construction, of which construction was more than 75 percent of the cluster in 2011, lost 40,000 jobs between peak employment in 2006, and 2011. Losses in construction and financial services were tied to the implosion of the housing market and financial market crises.

SAN JOAQUIN VALLEY'S CLUSTER-BASED ECONOMY

Industry clusters provide a more functional and comprehensive way of viewing the regional economy. The main industry clusters in the San Joaquin Valley are depicted conceptually in Figure 3.2-3 and are described in detail in the next Chapter 4 of the report. Unlike Figure 3.2-2 above, this conceptual portrait of the economy conveys the relative size of the clusters in 2011 and their interrelationships but does not indicate growth or change dynamics. From a functional standpoint, the clusters in the upper part of the chart are generally the export industries that draw income and wealth into the regional economy, which in turn supports the local serving sectors shown underneath the cluster, including retail, services and local education. All of these industry clusters in turn are supported by the economic foundations including infrastructure, workforce, capital, the regulatory framework, research universities, quality environment, vibrant communities and all the factors that contribute to the region's quality of life.

Memorandum, Cambridge Systematics, Inc., January 2012, pp. 4-4 – 4-5.

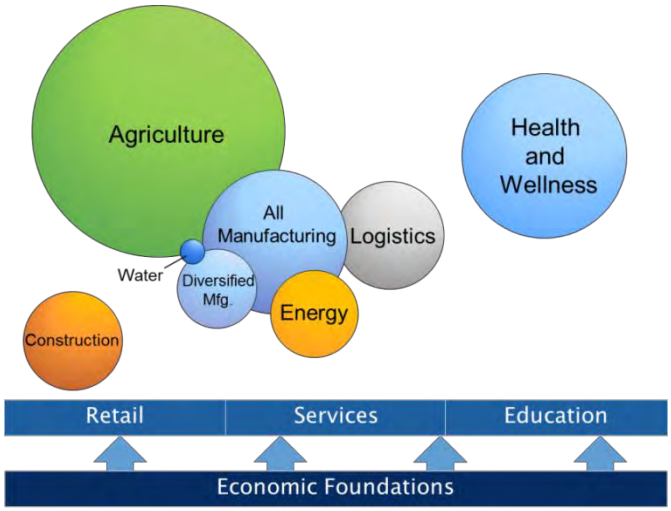
TABLE 3.2-1

SAN JOAQUIN VALLEY EMPLOYMENT TRENDS, 2001- 2011

Industrial Supersectors	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total Farm	180,900	176,500	178,300	172,100	180,700	182,800	186,900	191,700	180,400	184,500	187,100
Mining, Logging, and Construction	72,900	73,900	78,700	85,200	94,100	98,400	89,100	77,500	60,500	56,200	58,600
Manufacturing	111,600	110,300	112,300	113,100	112,900	113,200	115,100	114,200	105,400	101,700	100,900
Trade, Transport & Utilities	208,200	212,300	216,300	219,500	227,700	235,000	239,600	234,400	221,400	221,100	223,800
Information	16,400	15,800	15,300	16,100	15,500	15,100	15,100	15,500	13,500	12,300	11,700
Financial Activities	44,100	45,300	46,200	46,200	47,700	49,200	48,800	47,300	44,200	41,800	41,100
Professional & Business Services	95,500	95,400	94,900	97,900	101,500	106,100	107,100	105,500	97,300	95,000	95,600
Educational & Health Services	113,000	118,200	122,500	124,800	128,000	131,500	138,100	142,400	143,200	145,600	148,500
Leisure & Hospitality	86,700	88,500	89,000	91,900	95,900	100,200	102,400	101,900	97,900	96,600	97,000
Other Services	36,100	37,200	36,300	36,100	36,500	36,200	37,500	36,800	34,800	33,900	33,100
Government	247,500	254,100	251,000	251,200	255,600	260,300	267,500	272,400	268,800	265,500	259,200
Total All Industries	**1,212,900**	**1,227,500**	**1,240,800**	**1,254,100**	**1,296,100**	**1,328,000**	**1,347,200**	**1,339,600**	**1,267,400**	**1,254,200**	1,256,600

FIGURE 3.2-3

SAN JOAQUIN VALLEY REGIONAL ECONOMY, 2010

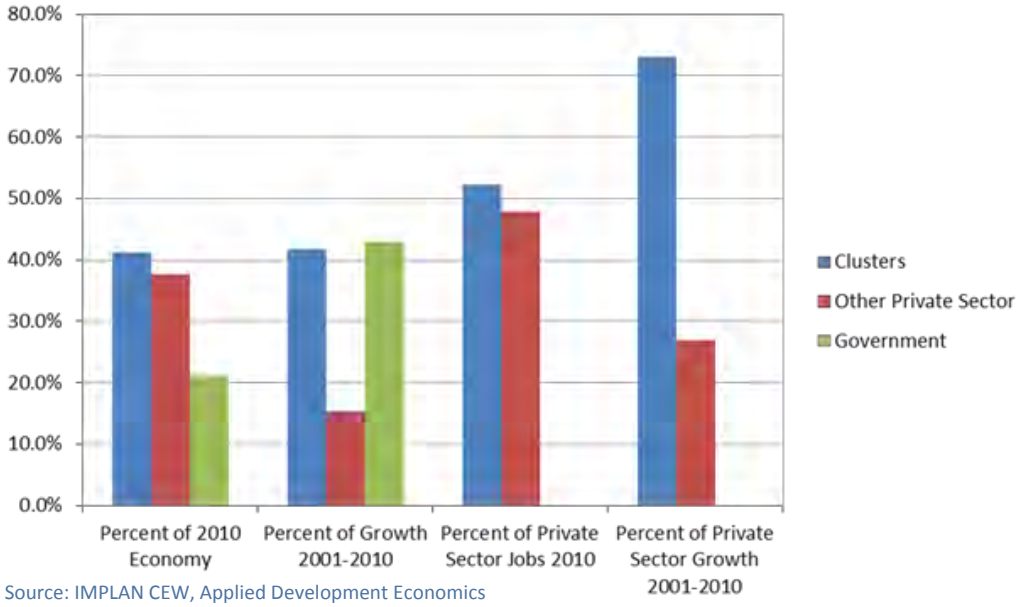


Source: IMPLAN CEW, Applied Development Economics

Clusters are important because they are the economic drivers that propel the economy forward and are the source of innovation and regional competitiveness needed to enhance economic prosperity. As shown in Figure 3.2-4, the six major clusters in the regional economy (combining manufacturing and excluding construction) constituted 41 percent of the jobs in the region and also supplied a similar amount of job growth during the 2001-2010 period.[16]

FIGURE 3.2-4

CLUSTER VS NON-CLUSTER EMPLOYMENT GROWTH, 2001-2010



Source: IMPLAN CEW, Applied Development Economics

[16] Detailed data needed to analyze the clusters is not yet available for 2011. Also, construction is excluded from these figures due to the circumstances of the recession that decimated this industry in the past several years.

In contrast, the other industry sectors shown in the middle of Figure 3.2-3 comprise about 38 percent of the jobs in 2011 but only supported 15 percent of the job growth during the decade. Since government was actually a growth sector in the Valley during this period, the figures are even more pronounced if we look just at the private sector economy. In that view, shown in the right hand side of Figure 3.2-4, the clusters represented 52 percent of the employment but produced 73 percent of the private sector job growth.

Table 3.2-2 shows the detailed growth and decline within the various components of the clusters. Among the clusters, Health and Wellness provided most of the job growth followed by Agriculture and then Logistics. Manufacturing, Water Technology, and Energy all showed net cluster job losses, although energy-related research was a growth area in the Valley during the last decade. Manufacturing has components within all the other clusters, with the balance being "diversified manufacturing." As noted, there has been growth in food processing, a subcomponent of overall manufacturing.

TABLE 3.2-2

CLUSTER EMPLOYMENT GROWTH COMPARED TO NON-CLUSTER GROWTH, 2001-2010

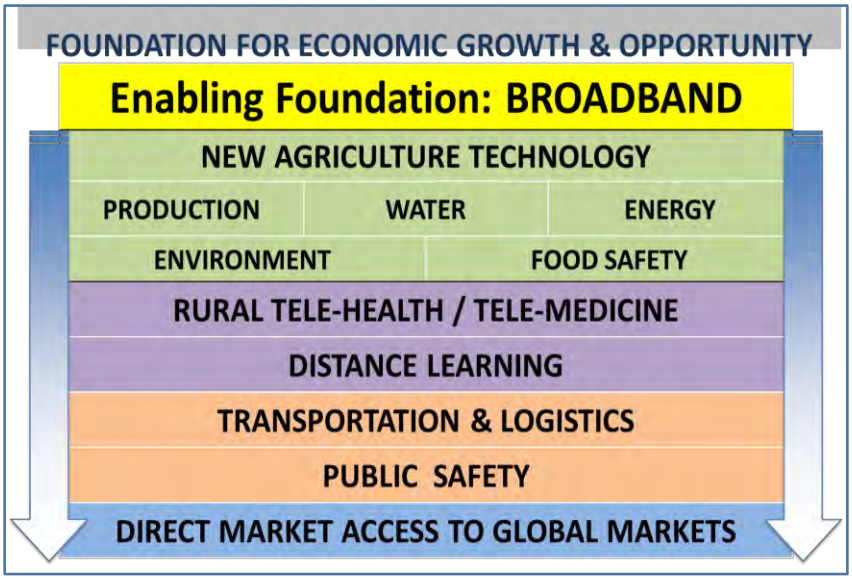
Cluster Components and Other Economic Sectors	Regional Employment--2001	Regional Employment--2010	Change in Regional Employment 2001 to 2010
Agriculture Cluster Total	280,905	289,014	8,109
Support	116,076	119,394	3,318
Production	87,532	81,795	-5,737
Processing and Packaging	57,499	62,579	5,080
Distribution	19,798	25,246	5,448
Health and Wellness Cluster Total	105,497	128,178	22,681
Services Delivery	93,477	114,585	21,108
Medical Device Manufacturing	1,675	1,269	-406
Pharmaceutical	127	311	184
Supplies and Support Services	1,347	2,434	1,087
Wellness and Fitness	8,871	9,579	708
Logistics	28,803	31,429	-12,474
Diversified Manufacturing	43,903	29,503	-14,400
All Manufacturing	111,786	101,382	-10,404
Water Technology	3,651	2,668	-983
Energy Cluster Total	35,823	33,353	-2,470
Energy Core	33,837	30,846	-2,991
Energy Related - Services	82	78	-4
Energy Related - Research	1,904	2,429	525
All Clusters Subtotal	498,582	516,035	17,453
Other Private Sector	466,118	472,565	6,447
Government	247,500	265,500	18,000
Total Employment	**1,212,200**	**1,254,100**	**41,900**

Source: ADE

BROADBAND: THE ENABLING INFRASTRUCTURE FOUNDATION

The previous section referenced the economic foundations that support all of the Valley's clusters. The definition of 21st century infrastructure includes broadband as a critical platform for regional growth and competitiveness. USDA Rural Development, California is one of the lead federal partners for the Strong Cities, Strong Communities "SC2" Pilot Project for Fresno. The federal project team works with local government, the private sector and other institutions such as the Partnership and OCED to leverage federal resources and encourage economic growth and community development, drawing upon regional economic underpinnings. This includes advanced communications services supported by broadband infrastructure and deployment.

The Valley has many unserved and underserved areas in terms of broadband infrastructure, especially in rural areas, and lags in access to and adoption of broadband technologies (digital literacy). OCED received funding from the California Public Utilities Commission to develop and implement a regional broadband strategy to address these gaps. This effort is led by OCED through the San Joaquin Valley Regional Broadband Consortium, which serves as the Partnership's Advanced Communications Services Work Group. USDA Rural Development, California is collaborating with the Consortium and the California Emerging Technology Fund on the strategy. Special Projects Lead Robert Tse provided the Partnership with an illustration of how broadband is the enabling foundation for both the clusters and the cluster foundations. Widespread broadband infrastructure and deployment will enable the adoption and use of innovative technologies for new Ag Technology, as shown below, for production, food safety, sustainable use of energy and water resources, and reduced impact on the environment. It will enable innovation in other clusters such as Health and Wellness and Logistics, and support improved access to education and other services, direct market access to global markets, and improved public safety.



Source: Robert Tse, USDA Rural Development, California, Special Projects Lead

CHAPTER 4

KEY CLUSTER AND OVERALL CLUSTER LEAKAGE FINDINGS

Chapter 4 provides a detailed analysis of the six Regional Industry Clusters of innovation summarized above in Table 3.2-2:

- Agriculture
- Health and Wellness
- Logistics
- Manufacturing
- Water Technology

Each section includes:

- The definition of the cluster (as grouped by NAICS codes), and subcomponents for most of the clusters.
- Number of jobs (size of the cluster), rate of employment growth, and concentration compared to the state (location quotient), and geographic concentration by County.
- Trade flow information which describes the output for each cluster (commodity value), supplier purchases/inputs required to support the output for each cluster (business to business), and total regional demand from consumers (households, governments, non-cluster businesses).
- "Leakage" outside the region of supplier purchases/production inputs required for cluster output. This leakage represents an important economic development opportunity for these leakage gaps to be filled through retention, expansion and start-ups of local firms or attraction of new firms. ADE has identified the commodity areas that offer potential priority targets, based on further analysis.
- Aggregation of supplier purchases/production inputs across the clusters which provides additional economic development potential, when brought to higher levels of scale.

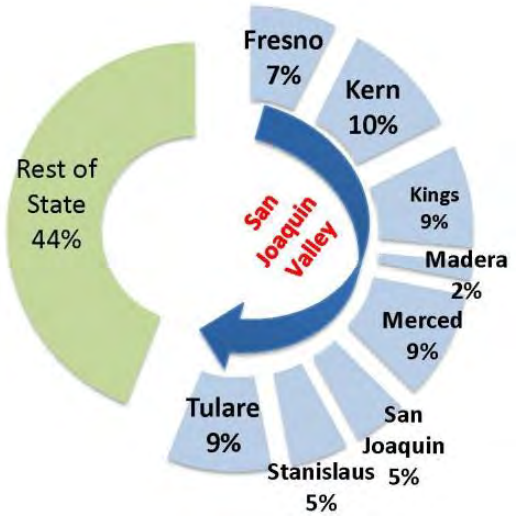
There is also discussion of the potential for public sector infrastructure investments to support a Valley-wide construction cluster, based on the economic and workforce analysis and regional workforce strategy prepared in 2011-2012 on behalf of the Central California Workforce Collaborative (CCWC).

4.1 AGRICULTURE CLUSTER

Agriculture is the heart of the economy in the San Joaquin Valley and a major contributor to the California economy, including through the rich diversity of its products, continuing innovation, and the strengths of the Valley's global exports. According to an analysis by the Central California Region Center of Excellence (California Community Colleges), the statewide economic impact of the agriculture "value chain" (discussed in detail below) - calculated on both employment and industry output - reached more than $300 billion in 2008.[17] California's agricultural industry leads the United States in both production and exports. In 2010, California had an agricultural farmgate value of more than $37.5 billion, and exports valued at $12.8 billion, 14 percent of U.S. total agricultural exports.[18]

Recently published research provided by USDA Rural Development California using data from the National Agricultural Statistics Service (NASS) shows the San Joaquin Valley dominates California crop production, with Fresno County leading the way. The Valley produced 56 percent of all crops grown in California in 2010, including 56 percent of field crops, 61 percent of state fruit and nut production, and 87 percent of livestock products (see Figure 4.1-1). [19] The Centers of Excellence estimated in another report that the Valley also garnered 28.7 percent of food processing employment in the state in 2011, highest among all the state's regions.[20]

FIGURE 4.1-1
SAN JOAQUIN VALLEY SHARE OF CALIFORNIA CROP PRODUCTION, 2010



Source: USDA, National Agricultural StatisticService.

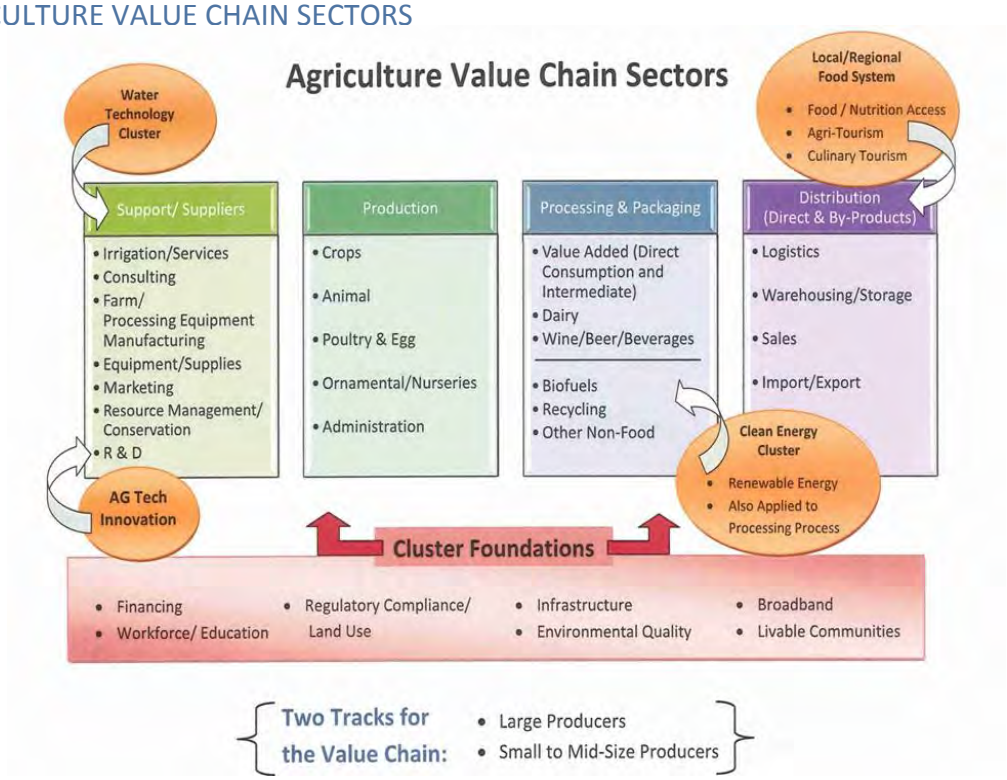
[17] *Agriculture Value Chain, Environmental Scan*, Center of Excellence (Modesto Junior College) June 2011, p. 10.
[18] *San Joaquin Valley Regional Economic Summit, Issues, Opportunities and Recommendations*, USDA ERS Estimate, p. 1 Background, California Partnership for the San Joaquin Valley, March 29, 2012.
[19] 2010 USDA National Agricultural Statistics Service (NASS), provided at SJV Regional Economic Summit, March 29, 2012.
[20] *Food Manufacturing in California,* California Community Colleges Centers of Excellence, 2010, p. 9.

Acknowledging the importance of the Agriculture Cluster to the Valley (and California) economy, the Partnership focused on the Agriculture Value Chain at the first San Joaquin Valley Regional Economic Summit in March of 2012. The report prepared for the *Summit Issues, Opportunities and Recommendations* is used to provide the recommendations for the Cluster Action Plan in Chapter 5. This chapter provides more in-depth economic information on the Valley's Agriculture Cluster to support Action Plan implementation at both the Valley-wide and county levels.

AGRICULTURE CLUSTER COMPONENTS

The Valley's Agriculture Cluster is a complex mix of both agricultural commodity producers and food processors, and also a wide variety of related support industries, logistics and transportation systems, and related research and business activities in water technology, energy and other related manufacturing. Raw commodities and resources pass through a series of systems that add value at each stage and result in not only food products but energy feedstocks, bio-medical products, fiber materials and other outputs. This value-added process constitutes the conceptual basis for the Agriculture Value Chain, illustrated in Figure 4.1-2. It also illustrates the "Cluster Foundations" such as a trained workforce, transportation and broadband infrastructure, availability of financing, and a productive regulatory process that are critical elements in supporting the success of the cluster (and all Valley clusters).

FIGURE 4.1-2
AGRICULTURE VALUE CHAIN SECTORS



Source: Applied Development Economics

For purposes of this analysis, the Agriculture Cluster is comprised of the following four industry components:

CLUSTER COMPONENTS	INDUSTRY TYPES
Support	Agricultural services, farm contract labor, farm equipment and other manufacturing, utilities, professional services, repair services, marketing, research and development, and resource conservation and management
Production	Crop and livestock production, poultry and egg production, ornamental/nurseries, forestry, fishing, and hunting
Processing and Packaging	Food product and packaging, manufacturing, dairy, wine, beer and other beverages, and non-food commodities such as cotton
Distribution	Wholesale trade, retail trade, transportation, warehousing, and sales, including imports/exports

The specific industries that are included in each cluster component as defined by their NAICS codes for the cluster economic analysis are included in Appendix B. The economic analysis does not capture all of the inter-related elements shown in Figure 4.2-1. The Value Chain graphic is a broader conceptual representation of the evolving dynamics of agriculture and its interconnectedness to multiple facets of the Valley's economy and quality of life, including its potential to address multiple issues and challenges such as health and nutrition, food insecurity, water supply and quality, air quality and conservation and management of important resources. The figure does illustrate that the cluster has existing or potential connections to other clusters such as Health, Water Technology, Clean Energy and Tourism. The other cluster analyses capture some but not all of this related employment and economic out-put.

Other important activities such as research and development conducted through the public university system and supported by state and federal agencies also are not captured in the cluster analysis and merit additional exploration. Broadband will further support the opportunity for development of a Valley "Ag Tech Cluster." The Action Plan should capitalize on the potential for the Agriculture Cluster to be an even more catalytic economic driver for innovation and new business and job creation in the Valley, which in turn will improve the region's environmental and health outcomes and help it comply with environmental requirements such as meeting federal air quality standards.

As described in the Regional Economic Summit report, "In addition to its role as an agriculture powerhouse in the international arena, the Valley is a potentially burgeoning market for locavores, or those interested in buying locally grown foods. Whether the incentive is freshness, economic development, food safety, food resilience, healthy ecosystems, minimization of carbon footprint, or simply the desire for stronger community, the demand for regional foods is booming."[21]

[21] *San Joaquin Valley Regional Economic Summit*, ibid., p. 1 Background.

The Value Chain figure notes two tracks of cluster foundations may be needed – one for large producers and one for small to mid-sized producers – since currently, as documented in the Regional Economic Summit Report, the increase in local and regional demand not being met in California through existing production and distribution channels. "Bringing much of that value chain activity back to California will help produce jobs for both our urban and rural communities."[22] The Valley is well-positioned to "capture the value chain." Next sections of this chapter describe the employment, output and input indicators and the economic development opportunies for the Valley's Agriculture Value Chain Cluster.

EMPLOYMENT INDICATORS

As described in Chapter 3, Agriculture is the largest cluster in the Valley. It is challenging to account for all of the agricultural-related employment in the Valley across the four cluster components, for several reasons. These include: the seasonal nature of employment, especially in production; the fact that many workers are undocumented and are not included in the job counts; and the categorization of contract labor as being in the "Support" cluster component rather than in the "Production" component, even though many in this workforce are actually working on production activities – this is due to the federal classification of contract labor as a support service.

Table 4.1-1 presents Agriculture Cluster Employment trends across the four Cluster components from 2001 through 2010, including employment changes and rate of growth, concentration (compared to the state), and shift-share (a ratio derived from the region's rate of growth compared to that of the state). The table is followed by a summary of key trends in the Cluster:

TABLE 4.1-1

AGRICULTURE CLUSTER EMPLOYMENT INDICATORS, 2001-2010

Cluster Component	Employment 2001	Employment 2010	Employment Change 2001 to 2010	Percentage Change 2001 to 2010	Location Quotient 2010	Shift-share
Support	116,076	119,394	3,318	2.9%	5.50	-0.53%
Production	87,532	81,795	-5,737	-6.6%	4.93	2.61%
Processing and Packaging	57,499	62,579	5,080	8.8%	3.26	19.00%
Distribution	19,798	25,246	5,448	27.5%	1.98	12.13%
Agriculture Cluster Total	280,905	289,014	8,109	2.9%	4.12	4.87%

Source: Source: ADE; data from IMPLAN CEW/ES202 County Employment Database

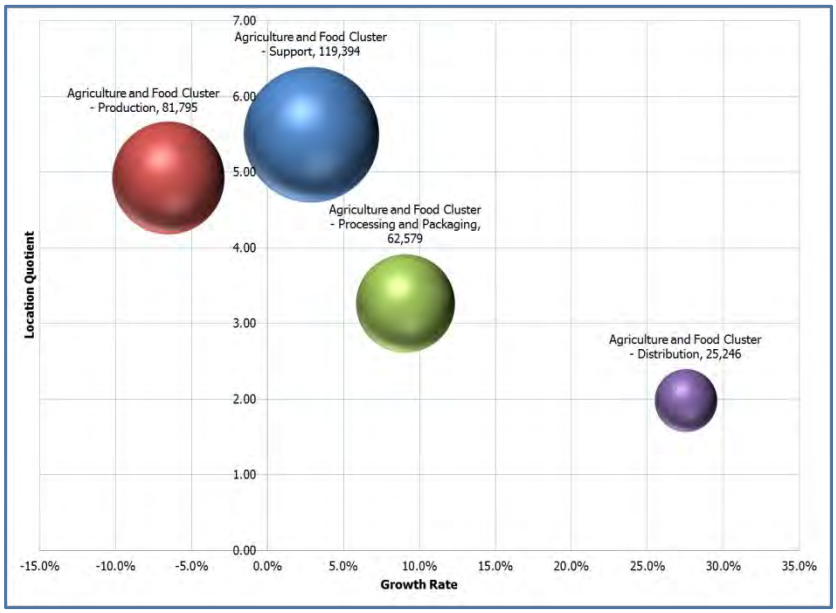
[22] Ibid, p. 2 of Background.

- The Agriculture Cluster accounted for over 289,000 jobs in the San Joaquin Valley in 2010 - 23.1 percent of overall regional employment.
- The Cluster accounted for 19.7 percent of the overall regional job growth that occurred between 2001 and 2010.
- As a whole, the Cluster grew by 2.9 percent between 2001 and 2010, faster than across the rest of California. During this period, the Cluster added more than 8,100 jobs.
- All cluster components except for production grew during this period. The processing and packaging and distribution components outperformed the State's growth in these two components, in terms of relative rate of growth (shift-share).
- Related to the issue regarding categorization of production versus support-related employment, the Valley's production component included 61,400 farm labor jobs in 2010, down from 70,600 in 2001, while the support component included 73,200 jobs classified under the NAICS code for "Farm Labor Contractors and Crew Leaders," up from 67,000 in 2001. All of these support jobs are engaged in farm production, so on a combined basis the net loss of farm production employment was about 3,000 jobs rather than the 5,700 indicated in Table 4.1-1.
- The concentration of employment in the overall Agriculture Cluster was four times the statewide average. The concentration for all of the cluster components was significantly greater than the statewide average (Figure 4.1-4). As indicated in Chapter 3, Figure 3.2-2, "Agriculture" sector employment as defined by EDD was nearly six times more concentrated in the Valley than the state; however, this does not account for the distribution and processing systems that are part of the Cluster and are more widely distributed in other parts of the state – indicating that some value-added aspects of the Cluster are occurring outside of the region.

Figure 4-1.-3 illustrates the size, concentration and growth rate for the four Agriculture Cluster components from 2001 through 2010.

FIGURE 4.1-3

SIZE, CONCENTRATION AND GROWTH RATE FOR AGRICULTURE CLUSTER COMPONENTS, 2001-2010



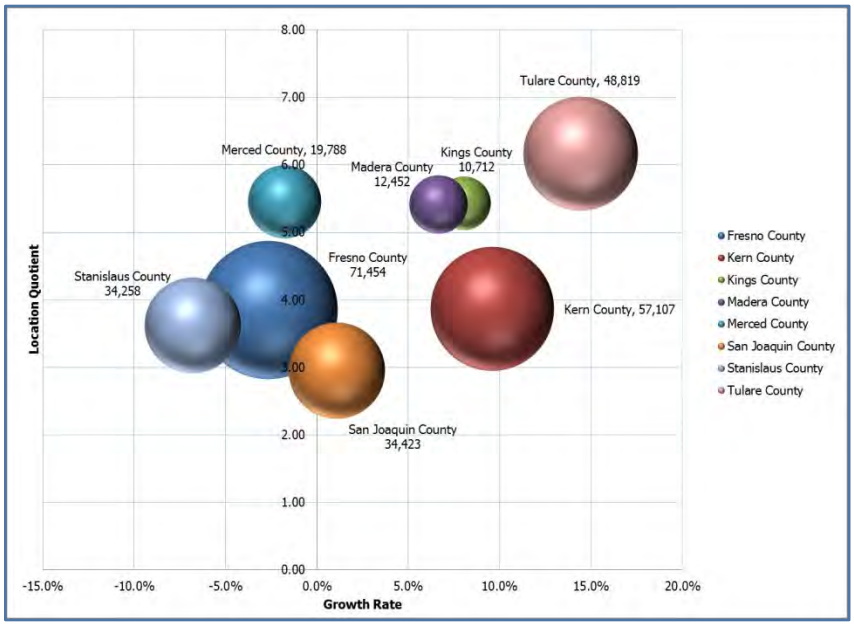
Source: ADE, Inc.; data from IMPLAN CEW/ES202 County Employment Database

GEOGRAPHIC CONSIDERATIONS

Figure 4.1-4 illustrates the growth trends geographically of the overall Agriculture Cluster by each county in the Valley, Figures 4.1-5 through 4.1-8 show the detail by each Component for each county.

FIGURE 4.1-4

AGRICULTURE CLUSTER SIZE, CONCENTRATION AND GROWTH RATE BY COUNTY, 2001-2010

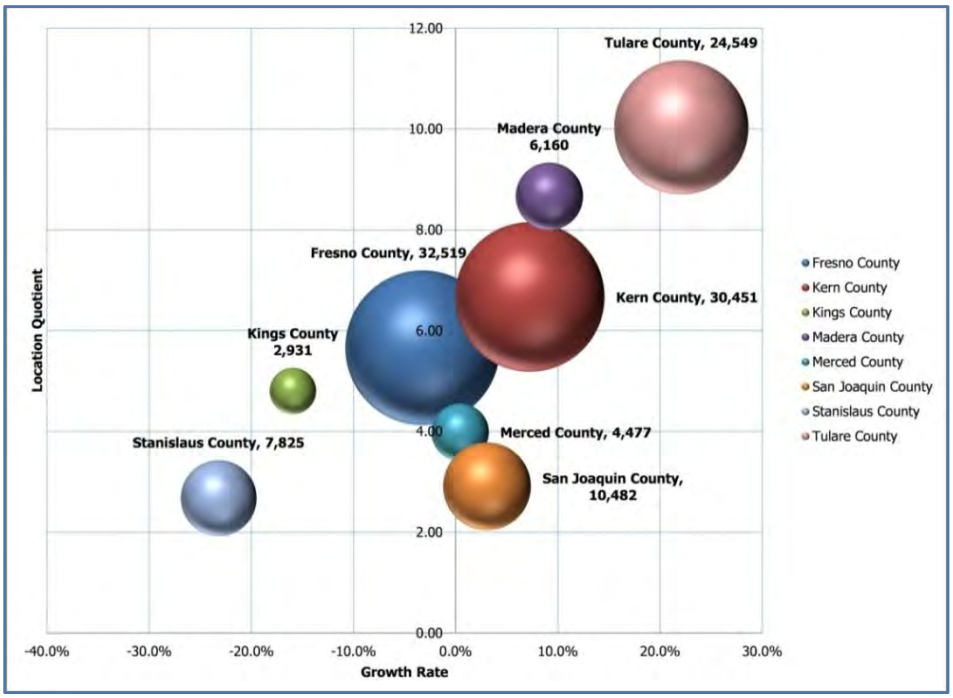


Source: ADE, Inc.; data from IMPLAN CEW/ES202 County Employment Database

- The Agriculture Cluster had the largest employment groupings in Fresno, Kern, San Joaquin, Stanislaus, and Tulare counties, with each county accounting for more than 34,000 jobs. Fresno County has the largest employment, followed by Kern County and then Tulare County.
- Tulare County had the fastest rate of growth, followed by Kern County, Kings County and Madera County. Fresno, Merced and Stanislaus counties all experienced job loss within the Cluster, while San Joaquin County had a small level of growth.
- The job concentration compared to the state was highest in Tulare County; however, the concentration factors are well above the statewide average in all of the Valley's counties.
- The following summarizes key trends and characteristics for the eight counties for each of the four cluster components, followed by four figures (Figures 4.1-5 through 4.1-8) with graphical illustration.
- Support industries were highly concentrated in Tulare, Madera and Kern counties, followed by Fresno and Kings counties, as shown in Figure 4.1-5. All counties were above the state level. These three counties also had the fastest rates of growth. Fresno, Kings and Stanislaus counties saw a loss of employment, with Stanislaus County having the largest rate of loss.
- A number of the counties were highly concentrated in production activity, which includes crop production. However, only Madera and Kings County showed positive relative growth rates (Figure 4.1-6). San Joaquin County had the largest loss of employment, followed by Fresno County. As noted earlier in this chapter, production activity was understated due to the way contract labor is categorized.
- The processing component was most concentrated in Stanislaus, Merced and Kings Counties (Figure 4.1-7). Along with Kings County, Tulare and Kern counties showed the highest relative growth in processing activity. Employment growth was minimal or small in Stanislaus, Fresno and San Joaquin counties, while Merced and Madera counties both lost some employment in this component.
- Distribution activity was most concentrated in San Joaquin and Merced counties, while Kern Madera, San Joaquin and Kern counties showed the fastest relative growth rates in this cluster component (Figure 4.1-8). This cluster component, while the smallest, had the fastest rates of growth overall. Only Kings County has a loss of employment in this component.

FIGURE 4.1-5

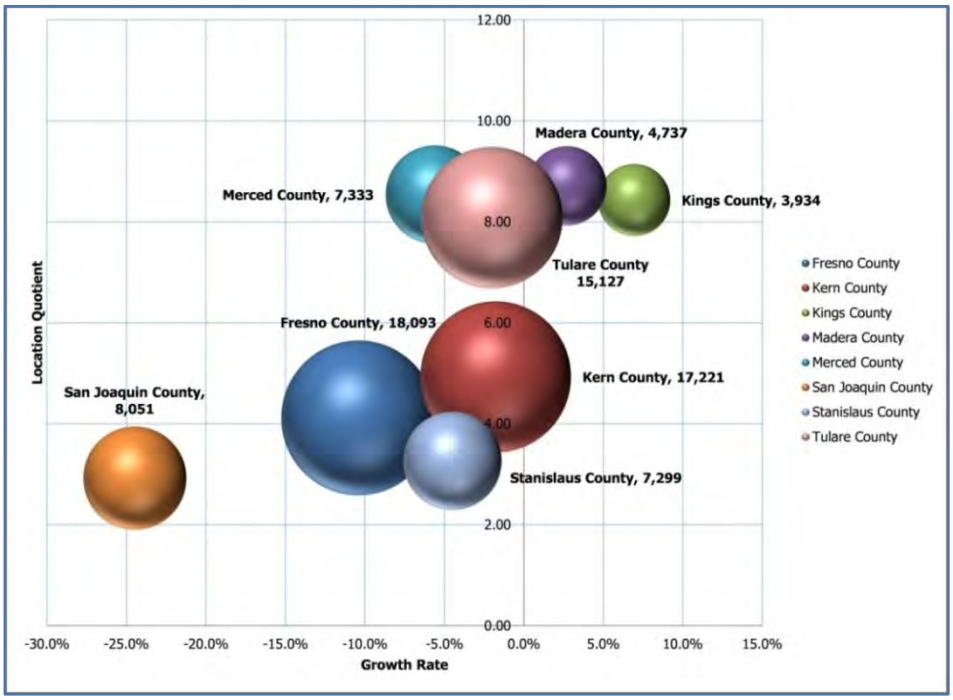
AGRICULTURE CLUSTER SUPPORT COMPONENT BY COUNTY, 2001-2010



Source: ADE, Inc.; data from IMPLAN CEW/ES202 County Employment Database

FIGURE 4.1-6

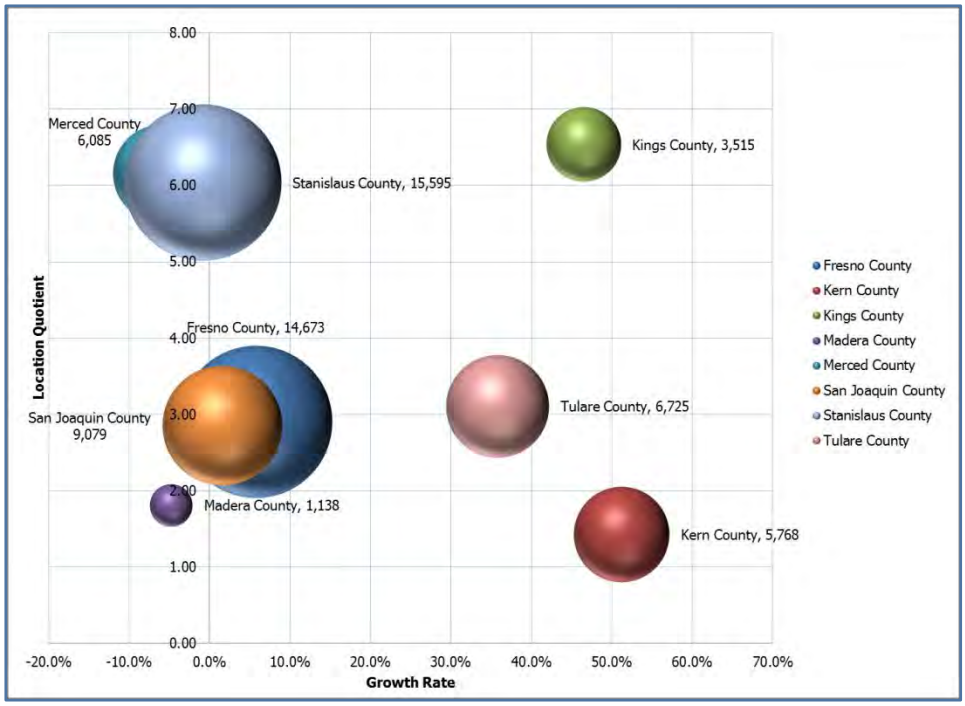
AGRICULTURE CLUSTER PRODUCTION COMPONENT BY COUNTY



Source: ADE.; data from IMPLAN CEW/ES202 County Employment Database

FIGURE 4.1-7

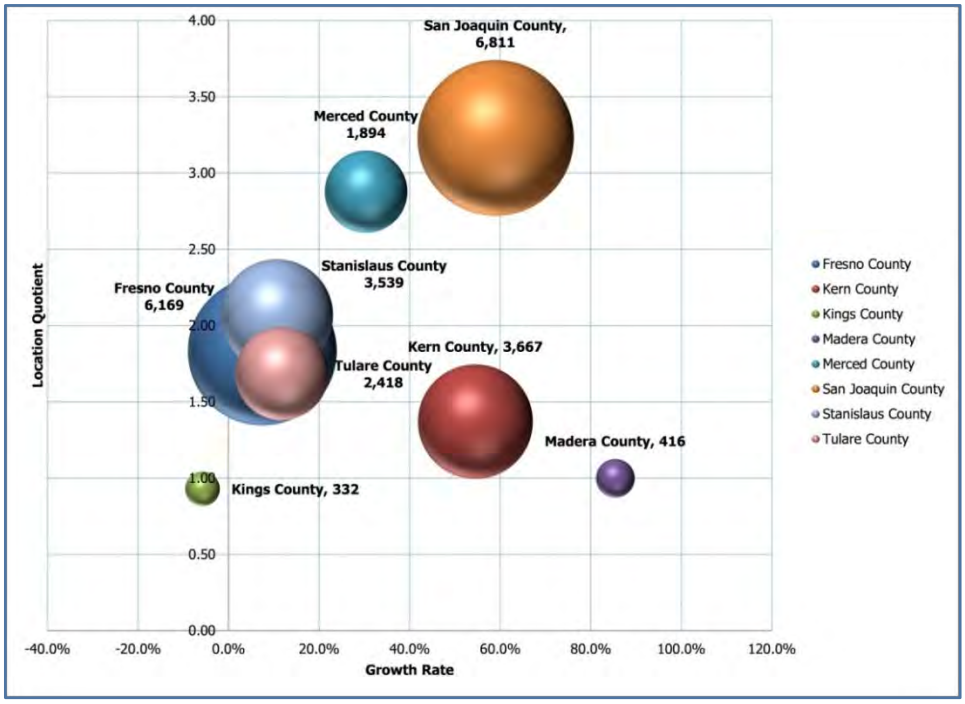
AGRICULTURE CLUSTER PROCESSING COMPONENT BY COUNTY, 2001-2010



Source: ADE, Inc.; data from IMPLAN CEW/ES202 County Employment Database

FIGURE 4.1-8

AGRICULTURE CLUSTER DISTRIBUTION COMPONENT BY COUNTY, 2010



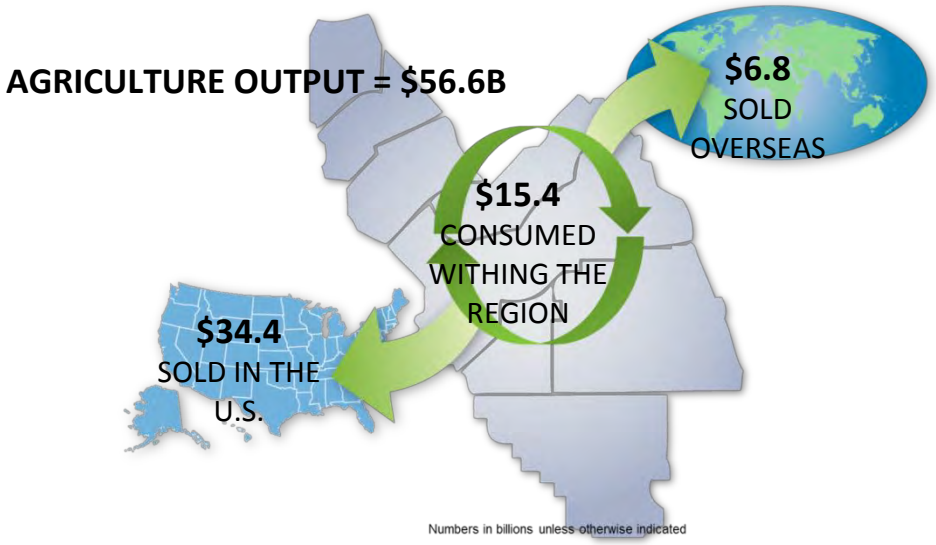
Source: ADE, Inc.; data from IMPLAN CEW/ES202 County Employment Database

TRADE FLOW INDICATORS

This section presents information on the regional trade flows – outputs, supplier inputs required to produce the Agriculture Cluster's outputs, and the gaps in regional supplier purchasing that represent potential economic development opportunities in terms of filling the sales leakage out of the region. This information is based on an analysis of the IMPLAN data for 2010, the most recent year available. As shown in Figure 6.1-9, the total commodity value of the Valley's Agriculture Cluster (inclusive of core production and processing and selected distribution and support sectors) was $56.6 billion in 2010. The Cluster's foreign export value was $6.8 billion, while another $34.4 billion in cluster commodities was sold domestically elsewhere in the US. About $15.4 billion of the Cluster's "output" was consumed within the region, some as intermediate inputs for value-added food products (food processing/manufacturing) and some as final food products to consumers (more on this below).

FIGURE 4.1-9

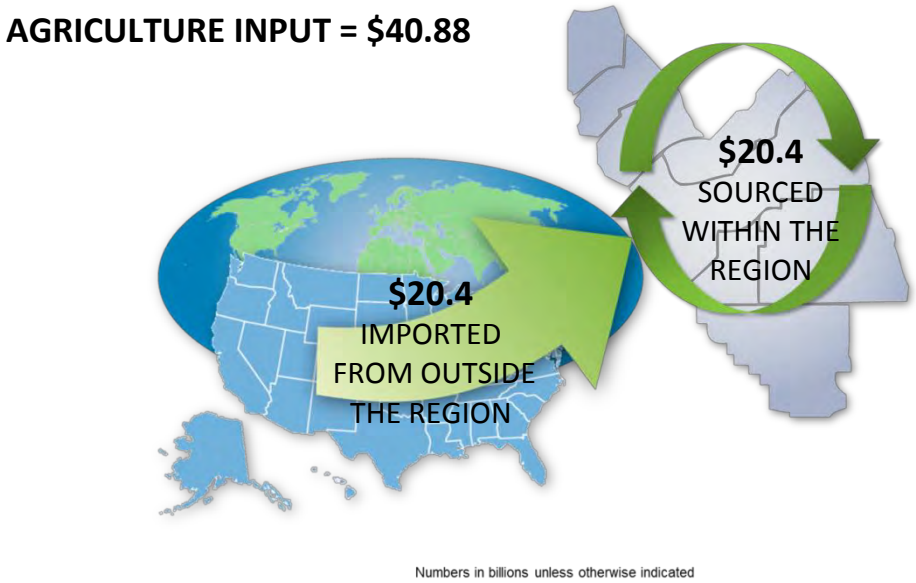
AGRICULTURE OUTPUT, 2010



Source: ADE, Inc.; data from IMPLAN3 input-output model

The supplier purchases required for production inputs for the Agriculture Cluster had a total value of $40.8 billion in 2010, of which $20.5 billion came from within the region (Figure 4.1-10). That is, in order to produce the $56.6 billion in output, the Cluster required commodities, supplies and services totaling $40.8 billion. The IMPLAN input-output model estimated that the Cluster businesses obtained half of this production input requirement from other businesses within the Valley. An additional $20.3 billion in commodity demand (leakage) was provided from businesses located outside the region.

FIGURE 4.1-10
AGRICULTURE INPUT, 2010



Source: ADE, Inc.; data IMPLAN3 input-output model

For an additional perspective, an analysis conducted for the Regional Economic Summit by Dr. Antonio Avalos, Chair of the Department of Economics at Fresno State University, further identified regional and county level leakages by cluster component. Using the NAICS-based definition of Agriculture Cluster components compatible with the Center of Excellence report on California's Agriculture Value Chain (similar to ADE's subsequent cluster component definitions), Dr. Avalos analyzed the Valley regional purchase coefficients (RPCs) using 2010 IMPLAN data. The RPC is an indicator of regional food systems integration. The RPC for the Valley is "the proportion of total demand by consumers in the Valley that is supplied by producers located within the Valley. A large RPC means the Valley experiences less leakages (a sign of stronger regional integration) and thus implies larger employment and income multipliers (since more dollars stay and circulate within the Valley)."[23]

According to Dr. Avalos' analysis, the RPCs for the Valley's Agriculture Cluster components showed the greatest level of integration for the Support component, and the least for the Processing and Packaging component, signaling an important opportunity for filling the gaps:

- Support – 55%
- Production – 51%
- Distribution – 49%
- Processing and Packaging – 15%

23 Ibid., p 3 Background, provided by Dr. Antonio Avalos, March 2012.

RPCs were above 40 percent for all the counties for Support industries, but below 30 percent for Processing and Packaging industries. Across the entire Cluster, San Joaquin and Stanislaus counties had the highest RPCs (48 and 44 percent respectively), while all others except Madera ranged from 32 to 28 percent. Madera, as the smallest county, had an overall RPC of 27 percent.[24] Table 4.1-2 identifies some of the top leakage industries that could serve as targets for economic development in the region, based on ADE's analysis.

TABLE 4.1-2

CLUSTER SUPPLIER PURCHASES – TOTAL DEMAND AND LEAKAGE FOR SELECTED INDUSTRIES

DESCRIPTION	GROSS COMMODITY DEMAND	REGIONAL PURCHASE PERCENTAGE	REGIONAL COMMODITY INPUTS	COMMODITY LEAKAGE
Total Commodity Demand	$40,810,930,000	N/A	$20,497,000,000	$20,313,930,000
Other agriculture and food cluster establishments	$19,874,814,000	53.2%	$10,581,557,000	$9,293,250,000
Wholesale trade businesses	$3,391,348,000	65.4%	$2,217,394,000	$1,173,954,000
Management of companies and enterprises	$1,640,922,000	47.4%	$777,257,000	$863,665,000
Petroleum refineries	$878,273,000	15.1%	$132,191,000	$746,082,000
Paper mills	$625,130,000	2.2%	$13,473,000	$611,657,000
Artificial and synthetic fibers and filaments manufacturing	$385,200,000	0.0%	$25,000	$385,177,000
Plastics bottle manufacturing	$372,030,000	9.7%	$35,923,000	$336,107,000
Real estate establishments	$1,091,755,000	70.8%	$772,679,000	$319,076,000
Aluminum product manufacturing from purchased aluminum	$319,417,000	6.7%	$21,487,000	$297,929,0900
Other basic organic chemical manufacturing	$286,332,000	2.3%	$6,519,000	$279,813,000
Paperboard Mills	$299,983,000	14.0%	$42,049,000	$257,934,000
Metal can, box, and other metal container (light gauge) manufacturing	$473,344,000	53.6%	$253,766,000	$219,578,000
Plastics packaging materials and unlaminated film and sheet manufacturing	$237,198,000	14.4%	$34,202,000	$202,996,000
Other basic organic chemical manufacturing	$286,332,000	2.3%	$6,519,000	$279,813,000
Paperboard Mills	$299,983,000	14.0%	$42,049,000	$257,934,000
Metal can, box, and other metal container (light gauge) manufacturing	$473,344,000	53.6%	$253,766,000	$219,578,000
Plastics packaging materials and unlaminated film and sheet manufacturing	$237,198,000	14.4%	$34,202,000	$202,996,000
Semiconductor and related device manufacturing	$196,066,000	0.2%	$297,000	$195,768,000
Other basic organic chemical manufacturing	$286,332,000	2.3%	$6,519,000	$279,813,000
Paperboard Mills	$299,983,000	14.0%	$42,049,000	$257,934,000
Metal can, box, and other metal container (light gauge) manufacturing	$473,344,000	53.6%	$253,766,000	$219,578,000

24 Memo from Dr. Antonio Avalos, California State University, Fresno, Department of Economics, January 28, 2012.

DESCRIPTION	GROSS COMMODITY DEMAND	REGIONAL PURCHASE PERCENTAGE	REGIONAL COMMODITY INPUTS	COMMODITY LEAKAGE
Plastics packaging materials and unlaminated film and sheet manufacturing	$237,198,000	14.4%	$34,202,000	$202,996,000
Semiconductor and related device manufacturing	$196,066,000	0.2%	$297,000	$195,768,000
Other plastics product manufacturing	$204,092,000	6.2%	$12,686,000	$191,406,000
Other basic organic chemical manufacturing	$286,333,000	2.3%	$6,519,000	$279,813,000
Paperboard Mills	$299,983,000	14.0%	$42,049,000	$257,934,000
Metal can, box, and other metal container (light gauge) manufacturing	$473,344,000	53.6%	$253,766,000	$219,578,000
Plastics packaging materials and unlaminated film and sheet manufacturing	$237,198,000	14.4%	$34,202,000	$202,996,000
Semiconductor and related device manufacturing	$196,066,000	0.2%	$297,000	$195,768,000
Other plastics product manufacturing	$204,092,000	6.2%	$12,686,000	$191,406,000
Plastics material and resin manufacturing	$184,228,000	0.9%	$1,617,000	$182,611,000
Transport by rail	$433,086,000	58.9%	$255,253,000	$177,834,000
Lessors of nonfinancial intangible assets	$200,922,000	16.5%	$33,132,000	$167,790,000
Scientific research and development services	$191,362,000	19.2%	$36,712,000	$154,649,000
Other agriculture and food cluster establishments	$19,874,814,000	53.2%	$10,581,557,000	$9,293,258,000

Source: ADE, based on 2007 Census of Agriculture and USDA Economic Research Service, Direct and Intermediated Marketing of Local Foods in the United States, November 2011.

"LOCAL FOOD" DEMAND

Consumer and institutional demand for food and agricultural products in the San Joaquin Valley region is estimated at $7.4 billion annually.[25] Based on the availability of food produced in the Valley, the IMPLAN input-output model suggests that more than half of this demand could be sourced from within the Valley. However, modern food distribution and retailing systems are much more centralized and it is likely that less than 5% of food consumed within the region is produced there.

USDA studies have calculated that about $4.8 billion in food products are sourced locally throughout the nation (2007), amounting to about 3% of national agricultural production. Local food sales occur both through direct farm-to-consumer sales and also when farmers sell products through intermediated channels that focus on retailing the products in a local region. This latter approach accounts for three times the sales as direct-to-consumer marketing.

The U.S. Census of Agriculture tracks direct farm-to-consumer sales, which are shown for the San Joaquin Valley counties in Table 4.1-3. If the relationship of intermediated sales to direct sales holds true in the Valley, then total sales of Valley agricultural products to local consumers totaled about $269 million in 2007, equivalent to about $275 million in 2010 dollars. This would be equal to 4.2 % of estimated food demand in the Valley.

[25] Commodity demand estimate from IMPLAN Input-Output Model aggregated for the San Joaquin Valley region.

TABLE 4.1-3

LOCALLY CONSUMED FOOD IN THE SAN JOAQUIN VALLEY, 2007 ($ MILLIONS)

County	Direct-to-Consumer	Intermediated	Total
Fresno	$17.17	$51.51	$68.68
Kern	$5.82	$17.45	$23.26
Kings	$0.47	$1.42	$1.89
Madera	$1.73	$5.20	$6.94
Merced	$14.25	$42.74	$56.98
San Joaquin	$11.84	$35.51	$47.35
Stanislaus	$4.23	$12.69	$16.92
Tulare	$11.68	$35.03	$46.71
Total	$67.18	$201.54	$268.72
Adjusted to 2010			$275.33

Source: ADE, based on 2007 Census of Agriculture and USDA Economic Research Service, Direct and Intermediated Marketing of Local Foods in the United States, November 2011.

It is reasonable to believe that this percentage might be higher in the San Joaquin Valley than for the nation as a whole, given the substantial concentration of agricultural production in the region. In addition, the type of commodities grown, such as fruits, nuts and fresh vegetables, are particularly conducive to direct-to-consumer sales, compared to the grain products that are predominant in the mid-western states. Even if the percentage were somewhat higher, there is still a large gap between demand for and supply of local grown and sourced food in the Valley, representing a strong market opportunity to develop local and regional food systems, not to mention numerous other benefits such as improved access to healthy foods for underserved communities, job creation, community building, and keeping more dollars in the regional economy.

4.2 ENERGY CLUSTER

According to the Partnership's Energy Action Plan, the San Joaquin Valley's growing population and expanding economy will require increased supplies of reliable, diverse, clean energy, which is defined as "increasing the energy use efficiency of our homes and businesses and other resources; and producing more electricity and fuel in the Valley from renewable energy resources such as solar, wind and biomass."[26] With the growth of the Valley's population and economy over the past decade, the use of and demand for energy has been steadily increasing. Between 2000 and 2010, while California's total electricity consumption (residential, commercial and industrial) grew by 3.5 percent, the Valley's consumption increased by more than 20 percent.[27] The transport of water across state, regional and local water systems also is a major source of energy use.

Compared to other regions, both non-residential electricity and natural gas per capita consumption are particularly high in the Valley, partially due to the strong concentration of agriculture and food processing in the region.[28] At the same time, higher electricity rates have been documented for some parts of the region compared to other California regions and states, constraining business expansion and attraction and putting agricultural value-added activities among others at a competitive disadvantage.[29]

The demand for energy is increasing globally, along with increasing price and supply volatility and increasing concerns about the impacts of climate change and air and water pollution related to the use of fossil fuels. There is an increasing imperative toward development of a low-carbon economy. California is leading the way in the development and transmission (through the "Smart Grid") of renewable energies; fostering adoption of energy and water efficiency technologies; and creating a clean energy future to address these challenges. In addition to market forces, drivers include legislative requirements and policy and funding incentives in the areas of energy, air quality, transportation, land use and health, among other areas. As the state continues to move in this direction, jobs are projected to increase in the energy and utilities sectors throughout the State (Centers of Excellence and other sources).

The San Joaquin Valley has been an important source of oil and national gas production for the nation for many years; has an abundance of renewable energy resources and assets; and is an important part of this future. In 2010, Dr. Shawn Kantor of UC Merced estimated that clean energy projects in the Valley could bring more than 100,000 jobs to the area and "fundamentally change the trajectory of economic development and job creation in the region." A significant portion of these jobs would be due

to construction of renewable energy facilities and the High Speed Rail system, a "clean transportation"

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[26] *California Partnership for the San Joaquin Valley Energy Action Plan*, www.sjvpartnership.org.
[27] *California Regional Energy Profile, 2010.* U.S. Energy Administration, Annual Energy Review, 2011, with data from the California Energy Commission, Energy Consumption Data Management System.
[28] *2010 California Regional Progress Report*, Ibid., p. 67-69.
[29] *San Joaquin Valley Regional Economic Summit*, p. 7, Infrastructure Section.

project. Research focusing on clean energy and environmental sustainability through the universities and other organizations could lead to additional jobs in the future. [30]

The Energy Cluster, especially the development of innovative renewable and clean energies and energy efficiency technologies for use and transmission of water and in the built environment, is a high priority for the Partnership and the San Joaquin Valley (SJV) Clean Energy Organization (established through the Partnership in 2007). It is also a high priority for the San Joaquin Valley Regional Policy Council, which is seeking to develop a "Regional Energy and Economy Development Roadmap" for the San Joaquin Valley. Other partners include the CCVEDC, the San Joaquin Valley Air Pollution Control District, utilities, education and workforce development partners, the Water, Energy and Technology Center (WET), Central Valley Business Incubator, UC Advanced Solar Technologies Institute (UC Solar), California Wind Energy Association, and many other partners across the Valley including state and federal partners.

The Partnership's annual 2010 report indicated that more than $100 million in federal funding for clean energy investments was brought into the Valley during the 2009-2010 time period, including significant levels of ARRA funding. Additional investments from state and federal agencies and utilities have supported workforce training, energy efficiency improvements, local government programs, and development of renewable energies, as described in the Partnership's 2010-2011 annual report related to the accomplishments of the SJV Clean Energy Organization and other Partnership Work Groups.[31]

ENERGY CLUSTER COMPONENTS

Despite the high level of focus on energy, it is challenging to find both a consistent definition of the Energy Cluster "value chain" in terms of component groups of industries, and to identify the NAICS codes that comprise the Cluster. This is in part because Energy is a rapidly evolving cluster and there are not yet specific NAICS codes for some of the industries, especially in the production of renewable energies. In some cases such as the solar industry, activities cover many NAICS codes and are difficult to classify. In other cases, activities fall under categories that can involve non-energy-related functions. [32] For example, installation of solar panels on roofs of buildings is classified under a NAICS code for roofing contractors, which is a more encompassing area than solar panel installation. The development of biofuels is sometimes categorized within the agriculture value chain.

To identify the components of the Energy Cluster for this report, ADE conducted a review of diverse reports, research and methodologies related to defining the "green" components of the Energy Cluster in California and nationally, building on our database of previous cluster analyses. Key resources included California's Labor Market Information thorough review and sorting of draft "green industries"

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[30] *The Economic Opportunity from Clean Energy Jobs in California's San Joaquin Valley,* Dr. Shawn Kantor, UC Merced, October 2010.

[31] *California Partnership for the San Joaquin Valley 2010-2011 Report*, p. 37.

[32] Draft "Green Industries" sorted by NAICS, California Employment Development Department, Labor Market Information Division, p. 30.

sorted by NAICS; reports on the green economy and green innovation prepared for Next 10 (*Many Shades of Green 2012* and *2012 Green Innovation Index*) and the California Economic Strategy Panel; research by the Brookings Institution with the Battelle Technology Partnership Alliance *(Sizing up the Green Economy: A National and Regional Green Jobs Assessment, 2011*); and several cluster studies in California and other states and regions.

As defined for this project, the Energy Cluster is comprised of nine sector components, listed below with a reference to some of the key industries. The specific industries included in each cluster component are included in Appendix B by their NAICS code. They include core and energy-related activities:

CLUSTER COMPONENTS	INDUSTRY TYPES
Alternative energy distribution	Electrical apparatus and equipment, wiring supplies, other electronics parts and equipment merchant retailers, plumbing and heating equipment and supplies
Alternative energy generation (production)	Ethyl alcohol manufacturing, water and sewer line and related structures construction, roofing contractors
Energy efficiency	Electrical contractors and other wiring installation contractors, plumbing, heating and air-conditioning contractors, and drywall and insulation contractors
Equipment Manufacturing	Oil and gas field machinery and equipment manufacturing, turbine manufacturing, heating equipment manufacturing, automatic environmental control manufacturing, power, distribution and specialty transformer manufacturing
Petroleum Production	Crude petroleum and natural gas extraction, natural liquid gas extraction, drilling oil and gas wells, support activities
Petroleum Distribution	Bulk stations and terminals, merchant wholesalers, and pipeline transportation of crude oil, natural gas and refined petroleum products
Power generation and transmission	Hydroelectric power generation, fossil fuel electric power generation, nuclear electric power generation, electric bulk power transmission and control, electric power and natural gas distribution, and other electric power generation
Research, Energy-Related	Professional, scientific and technical services
Services, Energy-Related	Financial and equipment repair services

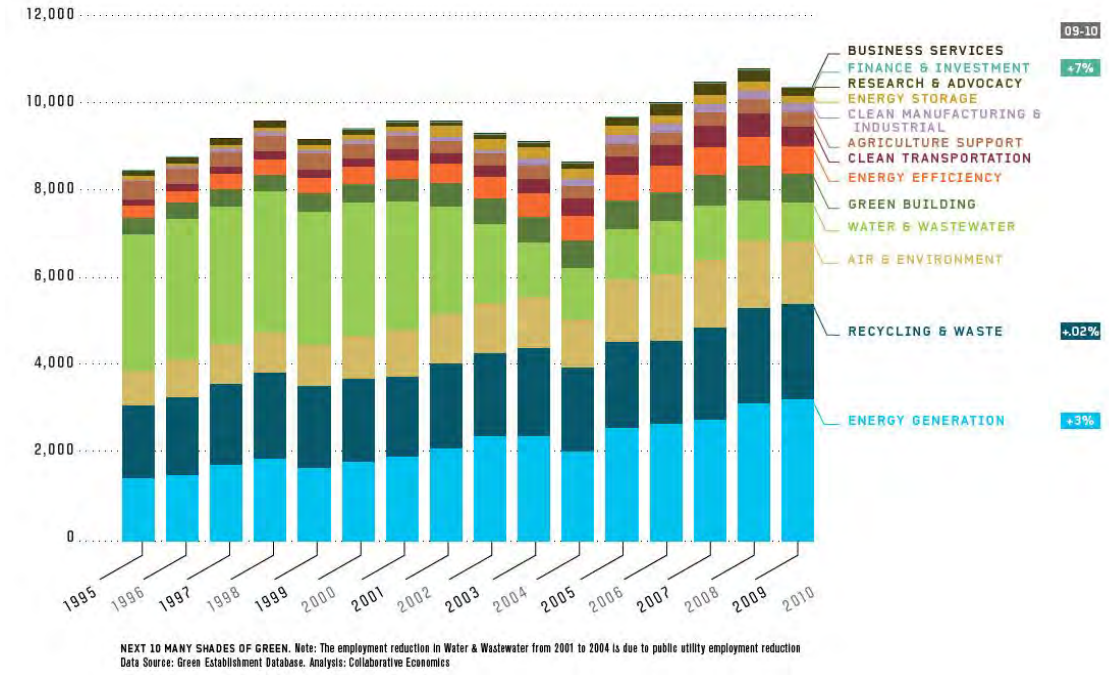
The southern San Joaquin Valley historically has been a center of substantial petroleum production and

processing, with Kern County being the leading energy provider for California. More recently, this area has seen significant development of wind power resources; Kern County is California's largest single wind energy source, with further expansions planned. Efforts to develop solar power facilities along with biomass (ag-based and other sources such as biogas), power generation plants, geothermal facilities and transmission capabilities have occurred throughout the Valley, with many facilities planned and coming on-line over the next few years. As documented in the CCWC Public Sector Infrastructure analysis, the largest employment impact in the development and transmission of renewable energy resources is during the construction phase (see section 4.8.)

Next 10's new green economy report *Many Shades of Green 2012* provides a profile of the San Joaquin Valley "Green Economy." Alternative energy generation was the largest segment of the Valley's employment in the "core green economy" in 2010. This segment has increased by 126 percent since 1995. Solar and wind generation accounted for the majority of the jobs. Even with a contraction of jobs by four percent in 2010 reflecting the trends in the overall regional economy, employment by energy generation increased by three percent from 2009 to 2010, adding almost 100 new jobs.[33] Figure 4.2-1 shows trends in employment by green segment for the Valley between 1995 and 2010. While the methodologies and data bases used to determine these employment estimates differ in part from this the analysis in this report, the trends are consistent.

FIGURE 4.2-1

EMPLOYMENT BY GREEN SEGMENT/SAN JOAQUIN VALLEY



NEXT 10 MANY SHADES OF GREEN. Note: The employment reduction in Water & Wastewater from 2001 to 2004 is due to public utility employment reduction
Data Source: Green Establishment Database. Analysis: Collaborative Economics

[33] Many Shades of Green, 2012, Next 10, prepared by Collaborative Economics, 2012, pp. 34-35.

EMPLOYMENT INDICATORS

This section presents a summary of key employment trends in the Cluster. Table 4.2-1 below presents Energy Cluster employment across the seven core cluster components and energy-related research from 2001-2010, including employment changes and rate of growth, concentration (compared to the state), and shift-share (a ratio derived from the region's rate of growth compared to that of the state). Figure 4.2-2 is a graphic illustration of these trends.

- The Energy Cluster accounted for about 33,350 jobs in the San Joaquin Valley in 2010; total jobs declined by nearly 2,500 between 2001 and 2010, almost seven percent.
- Cluster employment accounted for 2.7 percent of total regional employment.
- Almost all of the Cluster's loss was in the energy efficiency component, the Cluster's largest, in part related to the downturn in construction. These losses were offset partially by strong growth in equipment manufacturing, power generation, research and petroleum distribution.
- Although the Cluster lost some ground over the decade, the region fared relatively better than the state, with a lower rate of loss compared to the state's rate, showing resiliency during the recession. Overall, the region outperformed the state, with several components growing faster relative to the state.
- The concentration of employment in the Cluster compared to the state was about average.

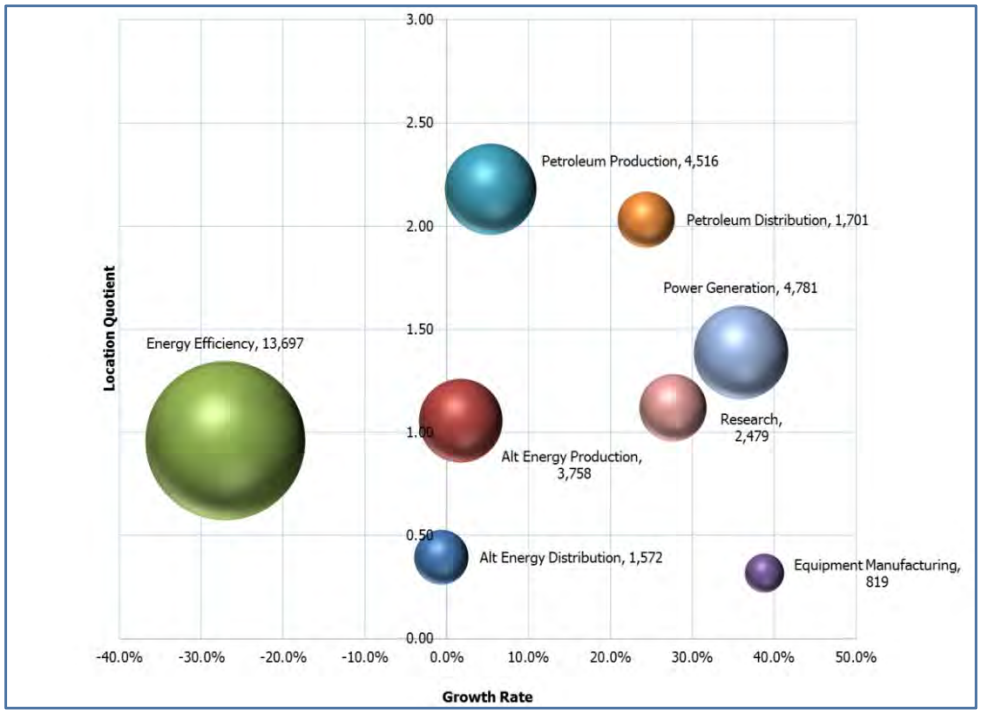
TABLE 4.2-1
ENERGY CLUSTER EMPLOYMENT INDICATORS

Cluster component	Employment 2001	Employment 2010	Employment Change 2001 to 2010	Percentage Change 2001 to 2010	Location Quotient 2010	Shift-share
Alternative Energy Distribution	1,584	1,572	-12	-0.7%	0.40	20.55%
Alternative Energy Production	3,696	3,758	62	1.7%	1.06	-5.55%
Energy Efficiency	18,789	13,697	-5,092	-27.1%	0.96	-0.33%
Equipment Manufacturing	593	820	227	38.8%	0.32	80.76%
Petroleum Production	4,289	4,516	227	5.3%	2.18	2.80%
Petroleum Distribution	1,368	1,701	333	24.3%	2.03	21.39%
Power Generation	3,518	4,781	1,263	35.9%	1.39	50.89%
Energy Related - Services	82	78	-4	-4.5%	0.82	5.09%
Energy Related - Research	1,904	2,429	525	27.6%	1.12	22.52%
Energy Cluster Total	**35,823**	**33,353**	**-2,470**	**-6.9%**	**1.01**	**13.32%**

Source: ADE, Inc. IMPLAN CWS, ES 202 County Employment Database

FIGURE 4.2-2

SIZE, CONCENTRATION AND GROWTH RATE FOR ENERGY CLUSTER COMPONENTS, 2001-2010



Source: ADE, Inc., Data from IMPLAN CEW/ES 202 County Employment Database.
Note Energy-related services not included due to its small size.

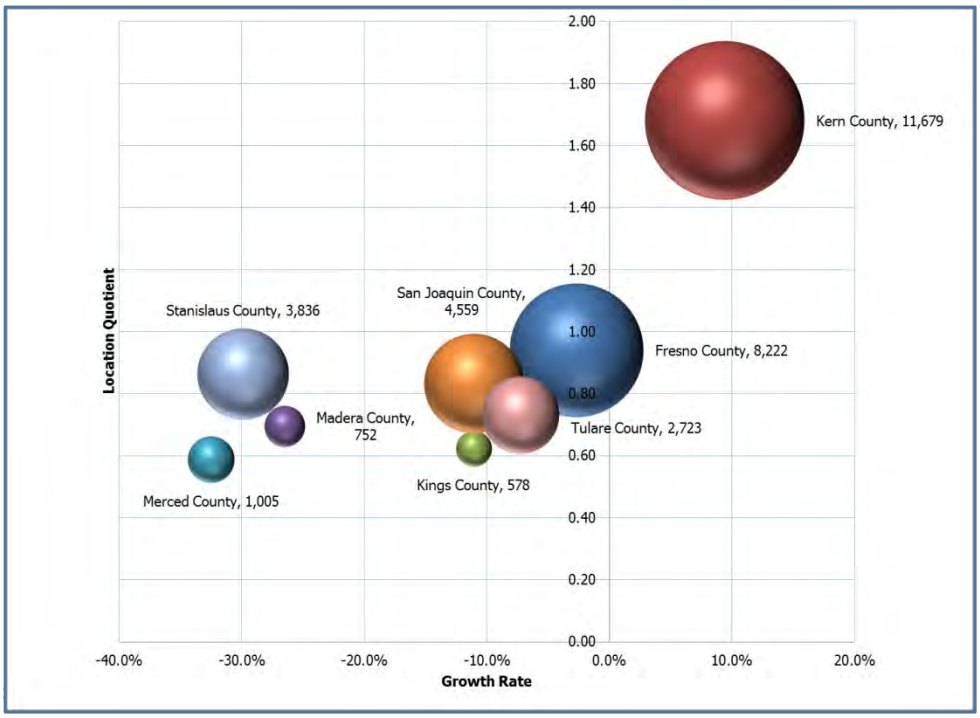
GEOGRAPHIC CONSIDERATIONS

Figure 6.2-3 illustrates employment growth trends and geographic concentration of the Energy Cluster by each county in the Valley:

- The Energy Cluster is highly concentrated in Kern County, with almost 11,700 jobs in 2010 and an employment concentration nearly twice the state average, which was an increase from 2001. Kern County has most of the petroleum production and processing in the region but also has seen substantial investments in wind energy.
- Another large grouping existed in Fresno with 8,200 jobs; San Joaquin and Stanislaus counties were next with 4,600 and 3,800 jobs, respectively.
- Only Kern County had job growth between 2001 and 2010, adding 1,000 jobs during this time. Stanislaus County lost more than 1,600 jobs.
- All counties but Kern had a lower employment concentration than that of the State, but Fresno County was almost the same as the State in 2010, a slight increase from 2001.

FIGURE 4.2-3

ENERGY CLUSTER EMPLOYMENT BY COUNTY, 2001-2010



The Brookings Institution report on the green economy and regional green jobs provides some additional insights on some challenges and emerging strengths in energy-related activities for the Valley's four largest metropolitan areas, part of an assessment that included the nation's 100 largest metropolitan areas. Table 4.2-2 provides information on Energy Cluster-related indicators. Overall, these areas ranked toward the bottom of the list nationally, except for Fresno. The fastest growing segments were in energy-saving building materials and solar photovoltaic, the latter for which job numbers are currently small. The share of traded sector establishments for all segments of the green economy that are clustered are not present, except for Fresno; clustering was shown to improve economic performance.

The *2012 Green Innovation Index* reported that Fresno was ranked fourth among California's top solar cities by generation capacity and ranked fifth by number of installations (through August 2011), which is an indication of growing significance.[34]

[34] *2012 Green Innovation Index,* Next 10, 2012, p. 58.

TABLE 4.2-2

CLEAN ECONOMY ENERGY-RELATED INDICATORS FOR SAN JOAQUIN VALLEY METRO AREAS, 2003-2010

Valley Metro Area	Ranking of top 100 U.S. Metro Areas (All Clean Jobs)	Fastest Growing Energy-Related Segments	Share of Traded Sector Establishments that are Clustered, 2010 (All Segments)
Bakersfield-Delano	89	Energy-Saving Building Materials, Solar Photovoltaic	0.0
Fresno	57	Solar Photovoltaic (; (Energy-Saving Building Materials had growth)	51.1
Modesto	93	Energy-Saving Building Materials	0.0
Stockton	82	Energy-Saving Building Materials, Photovoltaic	0.0

Source: Sizing the Green Economy: A National and Regional Green Jobs Assessment, Mark Muro, Jonathan Rothwell and Sevashree Saha, Brookings Institution with Battelle Technology Partnership Alliance, 2011, Appendix A, pp. 52-54 and interactive mapping tool: **www.brookings.edu/metro/clean-Economy/map.aspx**

TRADE FLOW INDICATORS

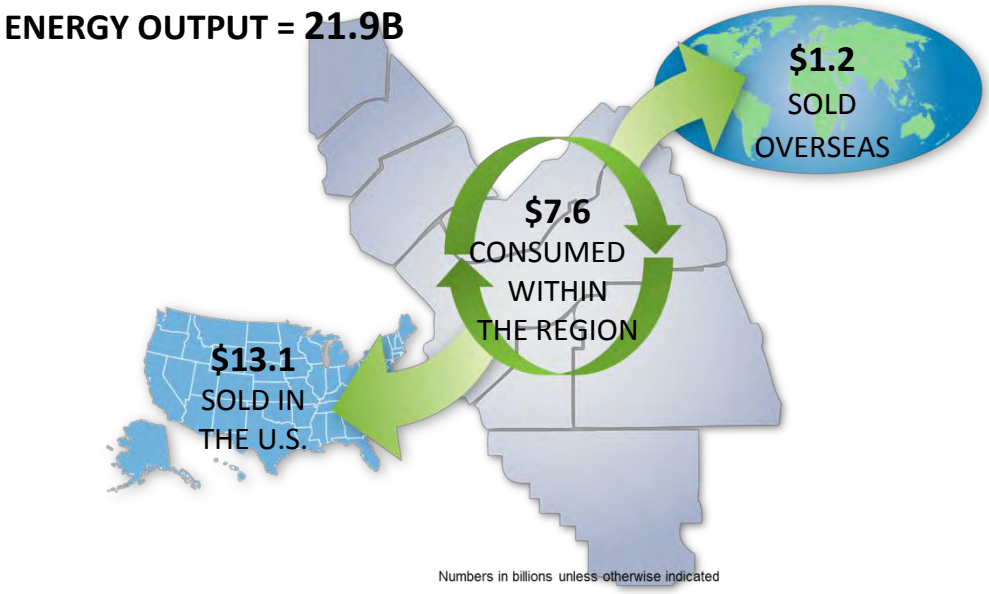
This section presents information on the regional trade flows – outputs, inputs required to produce the Energy Cluster's outputs, and the gaps, or leakage – that represent potential economic development opportunities in terms of filling the leakage. This information is based an analysis of the IMPLAN data for 2010, the most recent year available.

- The Energy Cluster produced $21.9 billion in output in 2010, of which $7.6 billion was sold within the Valley. The Cluster exported $1.2 billion overseas and sold another $13.1 billion elsewhere in the U.S. (Figure 4.2-4).
- Of the amount sold within the Valley, $2.6 billion was in business-to-business transactions and $1.9 billion was to serve institutional or consumer demand, totaling $4.5 billion (Figure 4.2-5).
- The SJV economy consumed $13.1 billion in energy-related commodities, outside of internal demand from the energy cluster itself[35] (Figure 4.2-4). As noted above, approximately $4.5 billion of this need was obtained from regional energy firms, with the remaining $8.6 billion in demand met by imports. Of this amount, businesses imported $4.9 billion, while $3.7 billion represents direct consumer demand that was met by imports.
- The Energy Cluster required $14.7 billion in supplier inputs to produce its output, and obtained just over one-third of that from within the region. It imported the remainder – 63 percent – from outside the region (Figure 4.2-6).

[35] The difference between the $7.6 billion in Figure 6.2-2 and this $4.5 billion is the internal demand from the energy cluster itself.

FIGURE 4.2-4

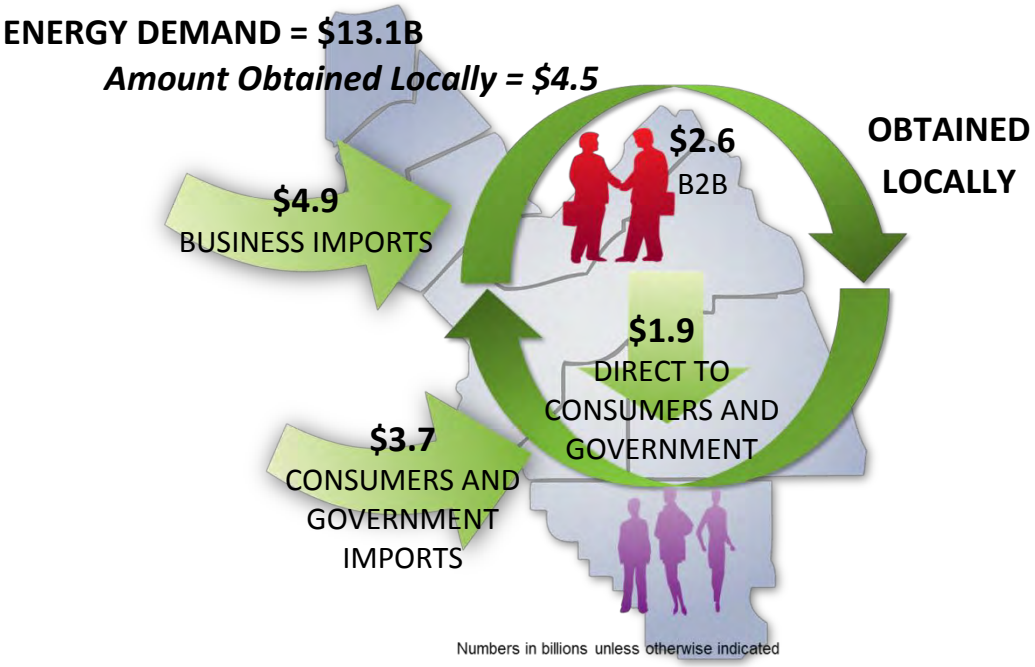
ENERGY CLUSTER TOTAL PRODUCTION VALUE AND MARKETS



Source: ADE, Inc.; data IMPLAN3 input-output model

FIGURE 4.2-5

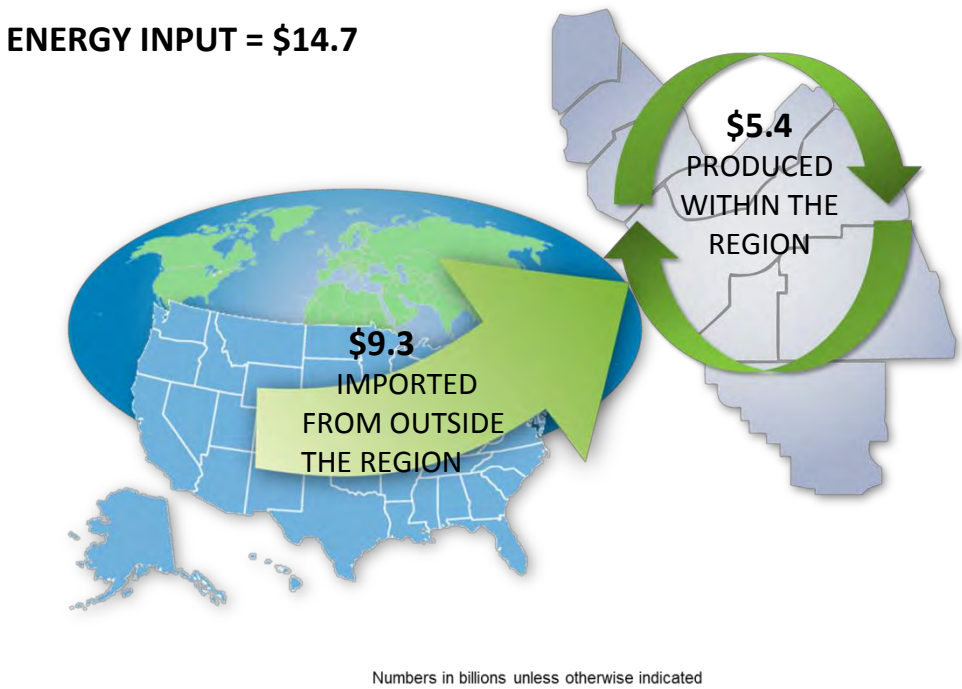
DEMAND FOR ENERGY AND SOURCES OF SUPPLY IN THE SAN JOAQUIN VALLEY



Source: ADE, Inc.; data IMPLAN3 input-output model

FIGURE 4.2-6

REQUIRED PRODUCTION INPUTS FOR THE ENERGY CLUSTER



Source: ADE, Inc.; data IMPLAN3 input-output model

Table 4.2-3 shows some of the industries where the largest amounts of imports occurred. This represents an economic development and jobs growth opportunity to replace some of this "leakage," which reached more than $9 billion, with new or expanded companies and services. Oilseed farming, the third largest category, is an input for renewable energy production (biofuels).

TABLE 4.2-3

CLUSTER SUPPLIER PURCHASES – TOTAL DEMAND AND LEAKAGE (SELECTED INDUSTRIES)

Description	Gross Commodity Demand	Regional Purchase Percentage	Regional Commodity Inputs	Commodity Leakage
Total Commodity Demand	$14,693,901,000	NA	$5,389,322,000	$9,304,579,000
Other energy cluster industries	$8,884,664,000	34.46%	$3,061,185,000	$5,823,479,000
Petrochemical manufacturing	$372,367,000	1.64%	$6,123,000	$366,244,000
Oilseed farming	$259,196,000	3.97%	$10,293,000	$248,902,000
Lessors of nonfinancial intangible assets	$291,933,000	16.50%	$48,156,000	$243,777,000
Wholesale trade businesses	$617,067,000	64.51%	$398,072,000	$218,995,000
Professional and technical services	$346,621,000	49.87%	$172,857,000	$173,764,000
Iron and steel mills and ferroalloy manufacturing	$158,163,000	7.07%	$11,174,000	$146,989,000
Management of companies and enterprises	$303,278,000	51.58%	$156,419,000	$146,859,000
Mining coal	$144,083,000	0.00%	$0	$144,084,000
Legal services	$141,180,000	46.64%	$65,850,000	$75,330,000
Transport by rail	$208,620,000	66.73%	$139,206,000	$69,414,000
Valve and fittings other than plumbing manufacturing	$66,505,000	3.44%	$2,289,000	$64,216,000
All other basic inorganic chemical manufacturing	$57,725,000	3.09%	$1,782,000	$55,943,000
Petroleum lubricating oil and grease manufacturing	$52,575,000	3.27%	$1,719,000	$50,855,000
Monetary authorities and depository credit intermediation	$149,974,000	67.95%	$101,909,000	$48,065,000
Coating, engraving, heat treating and allied activities	$49,534,000	3.94%	$1,953,000	$47,581,000
Semiconductor and related device manufacturing	$46,083,000	0.17%	$76,000	$46,007,000

Source: Applied Development Economics, Inc.; data from IMPLAN3, Input-Output Model

4.3 HEALTH AND WELLNESS CLUSTER

Healthcare has been one of the most resilient sectors of the national economy over the past decade and continues to show strong positive growth and career opportunities. Many of the fastest growing careers in the country and California are in health care sector. As the International Council for Economic Development noted, "The impressive expansion of the nation's healthcare sector has proven resistant to economic downturns. Over the last two business cycles, health care employment has grown by more than 30 percent nationally. Total non-farm employment, on the other hand, has increased by just 3 percent. Optimistic growth prospects are well supported by demographic trends."

According to the California Community Colleges Centers of Excellence (COE) *2012 Healthcare Sector Profile,* "The Healthcare sector plays a critical role in maintaining the health and well-being of a population as well as contributing to the economic development of communities in California." [36] To reflect new trends and opportunities in this sector, ADE has expanded the definition of the cluster to include wellness-related actitivies. The Health and Wellness Cluster is the second largest cluster in the Valley and was the source of most of the region's net job growth over the past decade (see Table 5.4-2).

In the Profile, COE listed some of the major drivers affecting the Cluster's future growth:

- The implementation of the Affordable Care Act (ACA), which will "create more demand for health care services and change the way services are delivered. This will expand the need for primary care workers – nurses and medical assistants as well as medical doctors and nurse practitioners."
- Technology innovations in health information, e-health and telemedicine, which are changing the delivery of health care services and requiring new skills in the allied health occupations.
- An aging healthcare workforce that may cause severe shortages upon retirement of this large cohort. For example, more than one-third of California's nursing workforce is older than 50 and over half are expected to retire in the next decade.[37]

Other major trends are shaping the future of the health care sector that will provide economic and employment opportunities for the Valley, as well as improved health outcomes for Valley residents and communities. With escalating health care costs and a health crisis related to an expanding population of those who are obese/overweight and unhealthy, there is a major healthcare sector focus at all levels on a food and disease prevention approach (especially chronic disease), as well as an increased interest in promoting healthy eating/lifestyles.[38] There is a growing policy intersect between health and food, - including development of local and regional food systems, and health and land use, community design and sustainability - to support active transportation (e.g., biking and walking) and better access to parks, safe neighborhoods, recreation, and cleaner air and water.

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[36] *2012 Healthcare Sector Profile,* Doing What Matters for Jobs and the Economy, California Community Colleges, 2012
[37] Ibid
[38] "California Agriculture Economic Cluster," Presentation by USDA Rural Development California, January, 2012

The health care challenges of the Valley have been well documented over the years, including the poor health status of Valley residents and communities and limited access to health care services, especially in rural areas. Each of the Valley's counties has Medically Underserved Areas and Populations (MUA/P). Strong health disparities exist across racial and ethnic groups, and the Valley lags behind the state in many health indicators, including those related to obesity/overweight, poor air quality, and other conditions.[39] Many residents suffer from food insecurity and inadequate nutrition. There has been a chronic healthcare workforce shortage, and gaps in the scope and timeliness of information related to these gaps from an employer demand perspective, making it an ongoing challenge to meet these needs.

Improving the health status of the Valley has been high priority for local, regional, state and federal leaders including the Partnership; economic development, education and workforce development partners; employers; non-profits and community-based organizations; health care foundations; and the public. The Valley has tremendous assets and leadership dedicated to meeting the Valley's healthcare challanges and opportunities, including the presence on the Partnership's Board of public and private sector health leaders and participation of health partners on Partnership Work Groups.

Over the past several years, major efforts have focused on developing a "home-grown health-care workforce" for this medically underserved region, meeting critical workforce gaps such as for nursing professions and medical assistants, and developing institutional capacity at UC Merced, CSUs and the community colleges along with employers to educate and train a wide range of health professionals. This work includes both development and delivery of relevant education and training programs, and identification of "market intelligence" on employer needs to inform curriculum development and training in the classroom and workplace.

Two major regional demand-driven workforce initiatives are a platform for the Health and Wellness Cluster workforce development strategy. One is the Regional Industry Clusters of Opportunity Project (RICO), managed by the Fresno Regional Workforce Investment Board and sponsored by the Central California Workforce Collaborative (CCWC), the Partnership's co-lead for the Higher Education and Workforce Development Work Group. This project is a collaboration of the Valley's major health industry employers, WIBs, CCVEDC, and Central Valley Higher Education Consortium. The other is the C6 Project, which is focused on catalyzing education system change, improving student outcomes, partnering with employers, and meeting critical skills and occupational gaps in the health care sector.

The Health and Wellness Cluster is dynamic and interconnected with other clusters, which will also drive opportunity within this cluster. Hospitals, clinics and other healthcare institutions have been developing new facilities to serve the Valley's fast-growing growing and diverse population, which is having a positive impact on the construction sector. From an infrastructure standpoint, the San Joaquin Valley Broadband Consortium (a Partnership initiative managed by OCED) is developing a regional broadband strategy to improve regional broadband infrastructure. This infrastructure is an enabling technology for

[39] *California Partnership for the San Joaquin Valley 2010-2011 Report.*

the adoption and deployment of electronic health information technologies and e-health and telemedicine and will expand broadband access and improved health services, especially to rural and other underserved communities throughout the Valley. Health care systems are making major investments in this infrastructure and technology, which will generate many new jobs and require development of new workforce skills.

As an innovation asset, UC Merced's new Health Sciences Research Institute (HSRI) was created help provide education and research to advance the understanding of health, health promotion, and disease prevention and support community partners in policy, practice and outcomes. HSRI is developing a public health program and a biomedical sciences research program to support new and emerging faculty to conduct world-class research.

Within the context of the trends described above, and the economic analsyis generated for this project, partners and participants in the project's three Health and Wellness Cluster meetings provided a great depth of information, expertise and recommended actions to develop and advance the Health and Wellness Cluster action plan. This information is provided in a companion resource document but some key assets and next steps are described for moving forward.

The Partnership's Health and Human Services Work Group has not been fully active for more than two years due to the lack of available funding. The Cluster Action Plan provides an opportunity to revitalize the Work Group based on new cluster opportunities and leveraging the assets described above and in the project's resource materials. Recommendations are provided in Chapter 7.

The next section describes the components of the Health and Wellness Cluster; key employment indicators by cluster component and by geographic distribution; and trade flow indicators showing output of the cluster, inputs required for this output, regional demand for health and wellness products and services, and gaps in meeting regional demand that are an economic development target opportunity. Additional information is provided on employment indicators by county by cluster component, due to the size and importance of the cluster.

HEALTH AND WELLNESS CLUSTER COMPONENTS

The Health and Wellness Cluster has five key components. As noted at the beginning of this section, the cluster definition has been expanded to include wellness. The wellness-related component represents a start in defining the NAICS codes related to the cluster and further research is needed, because NAICS for certain health-related activities such as fitness are included in the NAICS codes for fitness and recreational sports centers (under the leisure and hospitality sector) and are difficult to capture.

Accordingly, this cluster component is undercounted. See Appendix B for a listing of the cluster industries by NAICS codes. The five cluster components are:

Cluster Components	Industry Types
Health Care Delivery	Health practitioners (doctors, dentists, other health practitioners), hospitals, home health care providers, outpatient centers, nursing care facilities, and residential care facilities, including for continuing care retirement, mental health and substance abuse and residential rehabilitation services
Medical Device Manufacturing	Surgical and medical instrument, surgical appliance and supplies, dental equipment and supplies, dental laboratories, and ophthalmic goods
Pharmaceutical Manufacturing	Medicinal and botanical, pharmaceutical preparation, biological product
Supplies and Services	Medical, dental and hospital equipment and supplies merchant wholesalers, other professional equipment and supplies merchant wholesalers, drugs and druggists' sundries merchant wholesalers, and voluntary health organizations
Wellness and Fitness	Retail trade such as pharmacies and drug stores, optical good stores, food (health) supplement stores, home health equipment rental, offices of all other miscellaneous health practitioners, all other miscellaneous ambulatory health care services, and diet and weight reducing centers

Source: Applied Development Economics

EMPLOYMENT INDICATORS

This section presents a summary of key employment trends in the Health and Wellness Cluster. While most industry clusters are export-oriented, producing products for a larger market outside the local or regional area, many aspects of this cluster are inherently local. Services are generally provided to the local population, except in cases where highly specialized expertise is available, in which case patients may be attracted from outside the region. The component that is most export-oriented relates to medical devices manufacturing.

The Health and Wellness Cluster is a growth cluster across almost all cluster components. Cluster employment accounted for approximately 10 percent of the total regional employment, but 54 percent of the job growth that occurred between 2001 and 2010. Also, as described earlier in this section, the cluster has a role in other clusters such as agriculture and public sector construction and those jobs and economic output are captured in these other clusters to the degree possible.

Table 4.3-1 shows employment across the cluster's four components from 2001-2010, including employment changes and rate of growth, concentration (compared to the state), and shift-share (a ratio derived from the region's rate of growth compared to the state). Figure 4.3-1 is a graphical illustration of these trends. The following summarizes key findings:

The Health and Wellness cluster accounted for over 128,000 jobs in the Central Valley region. The vast majority of these jobs were in the health care delivery sectors, with over 114,500 jobs.

- During this period, the total job growth was nearly 22,700, with health care delivery accounting for about 21,100 of those jobs.
- As a whole, the cluster grew by 21.5 percent between 2001 and 2010, and grew slightly faster than the cluster did across the rest of California.
- The faster growing cluster components were pharmaceutical manufacturing (also the smallest component), and supplies and services. These two sectors also had a stronger rate of growth compared to the state, demonstrating comparative advantage.
- Consistent with general manufacturing trends, jobs were lost in the medical manufacturing component.
- The concentration of employment in the cluster was about average. The health care delivery, and wellness and fitness groups had employment concentrations that were slightly higher than the statewide average, while all of the other groups were significantly lower. This indicates gaps to be filled.

TABLE 4.3-1

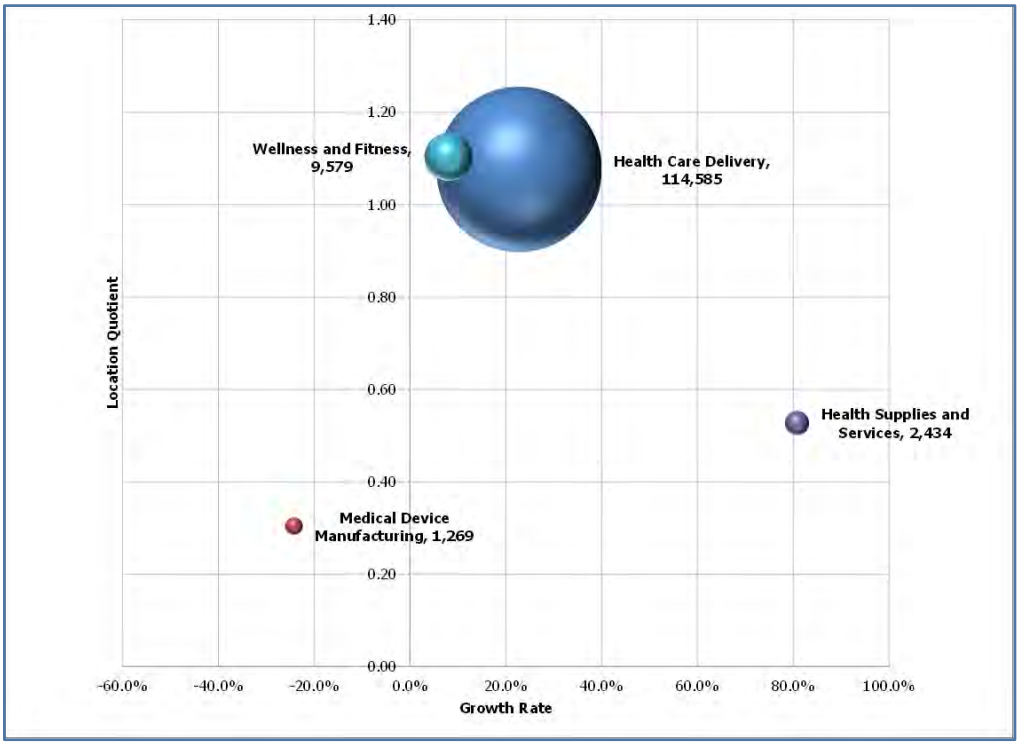
CLUSTER EMPLOYMENT INDICATORS

Cluster Component	Employment 2001	Employment 2010	Employment Change 2001 to 2010	Percentage Change 2001 to 2010	Location Quotient 2010	Shift-share
Health Care - Delivery	93,477	114,585	21,108	22.6%	1.08	1.50%
Medical Device Manufacturing	1,675	1,269	-406	-24.3%	0.30	-22.26%
Pharmaceutical	127	311	184	145.1%	0.09	134.86%
Supplies and Services	1,347	2,434	1,087	80.7%	0.53	68.58%
Wellness and Fitness	8,871	9,579	708	8.0%	1.10	5.93%
Health and Wellness Cluster Total	105,497	128,178	22,681	21.5%	1.01	3.49%

Source: Applied Development Economics

FIGURE 4.3-1

EMPLOYMENT BY CLUSTER COMPONENT



Source: ADE, Inc., Data from IMPLAN/ES 202 County Employment Database

GEOGRAPHIC CONSIDERATIONS

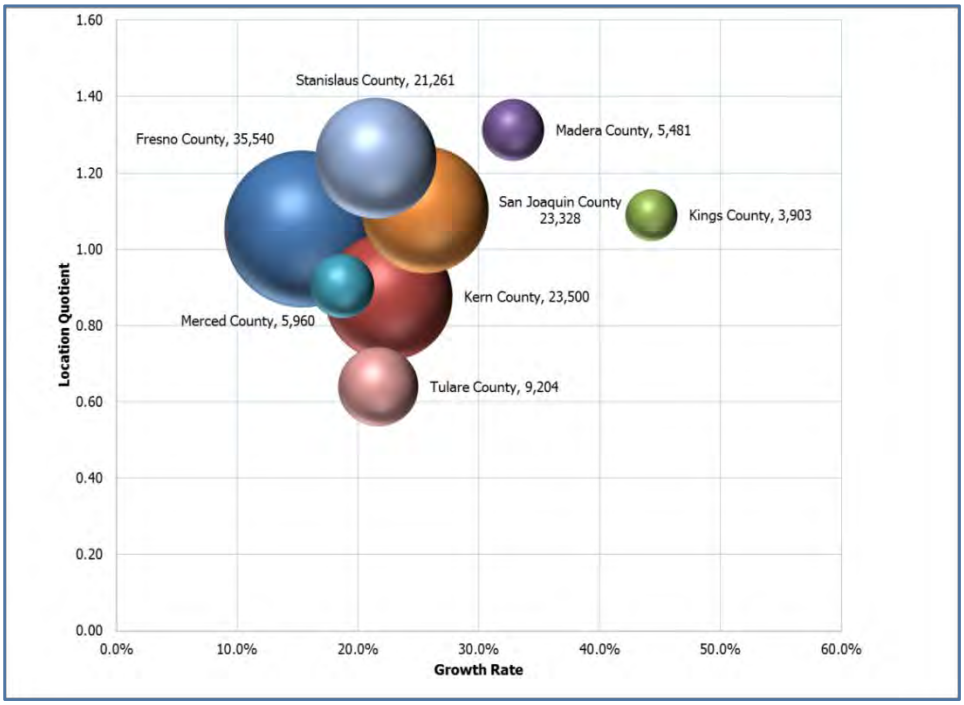
Figure 4.3-2 illustrates employment growth trends and geographic concentration for each county in the Valley for the overall cluster. Figures 4.3-3 through 4.3-7 show these trends and the concentration for each county, for each cluster component. The key findings are summarized as follows:

- Fresno County had the largest employment in the cluster, at about 35,500 jobs, followed by San Joaquin and Kern Counties at about 23,000 jobs. However, viewing the location quotients, Kern County is actually underrepresented in comparison to its overall employment base, as are Merced and Tulare Counties.
- The health care delivery figures were similar to the overall cluster since that component comprises 90 percent of the cluster (Figure 4.3-2). Kings County had the fastest rate of growth due to the opening of new medical facilities by Adventist Health, a major employer in the region.
- Medical device manufacturing was concentrated in Fresno and Kern counties but actually lost employment in both those areas between 2001 and 2010. Employment in this cluster component grew in Stanislaus and Merced Counties.
- Pharmaceutical employment was concentrated in Stanislaus County, which also experienced significant growth during the decade, along with Tulare, Merced and Fresno Counties.

- Health care supplies and services experienced strong growth in San Joaquin County but almost none in the other counties (Figure 6.3-4). This likely reflects the County's advantage for wholesaler and distribution location and proximity to the Bay Area and Sacramento regions.
- Finally, wellness and fitness employment is more evenly spread among the counties and nearly all are at or above statewide concentration levels (Figure 6.3-5). All of the counties except San Joaquin and Stanislaus saw growth in this cluster component.

FIGURE 4.3-2

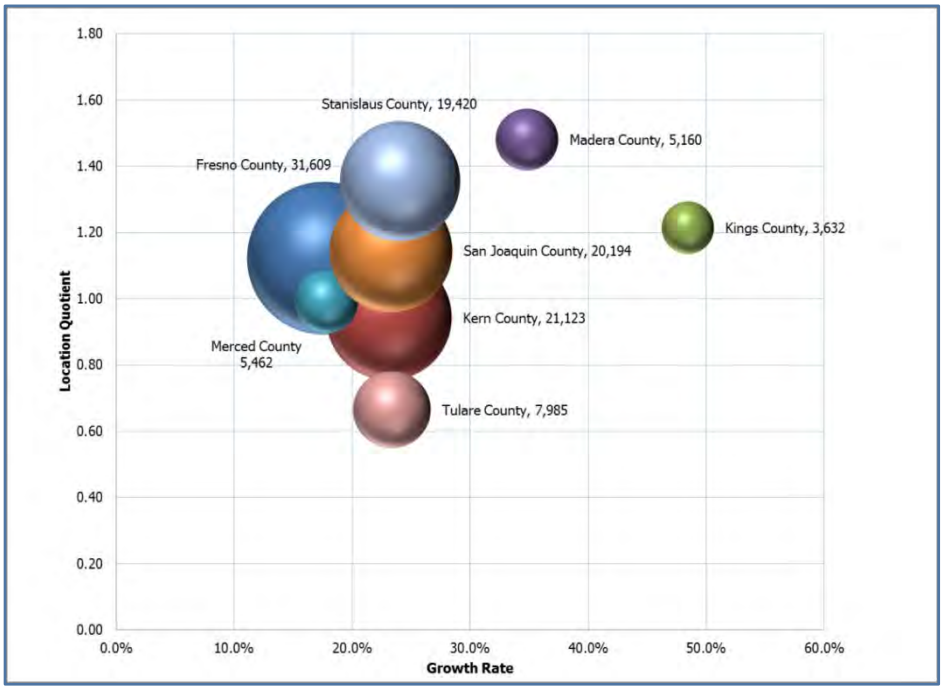
CLUSTER EMPLOYMENT BY COUNTY



Source: ADE, Inc., Data from IMPLAN/ES 202 County Employment Database

FIGURE 4.3-3

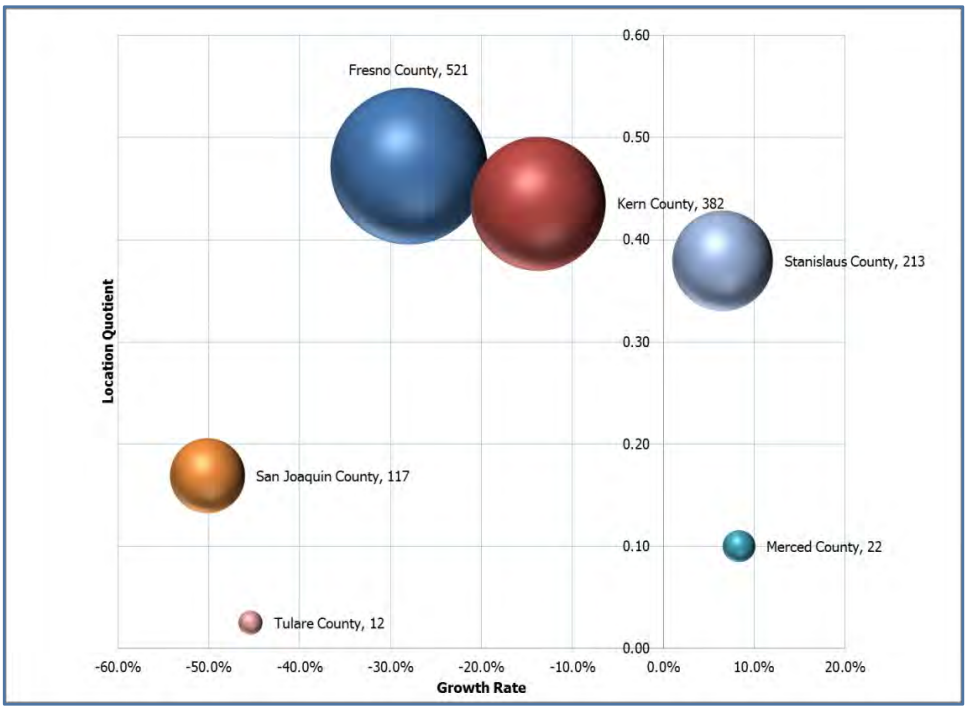
HEALTH CARE DELIVERY EMPLOYMENT BY COUNTY



Source: ADE, Inc., Data from IMPLAN/ES 202 County Employment Database

FIGURE 4.3-4

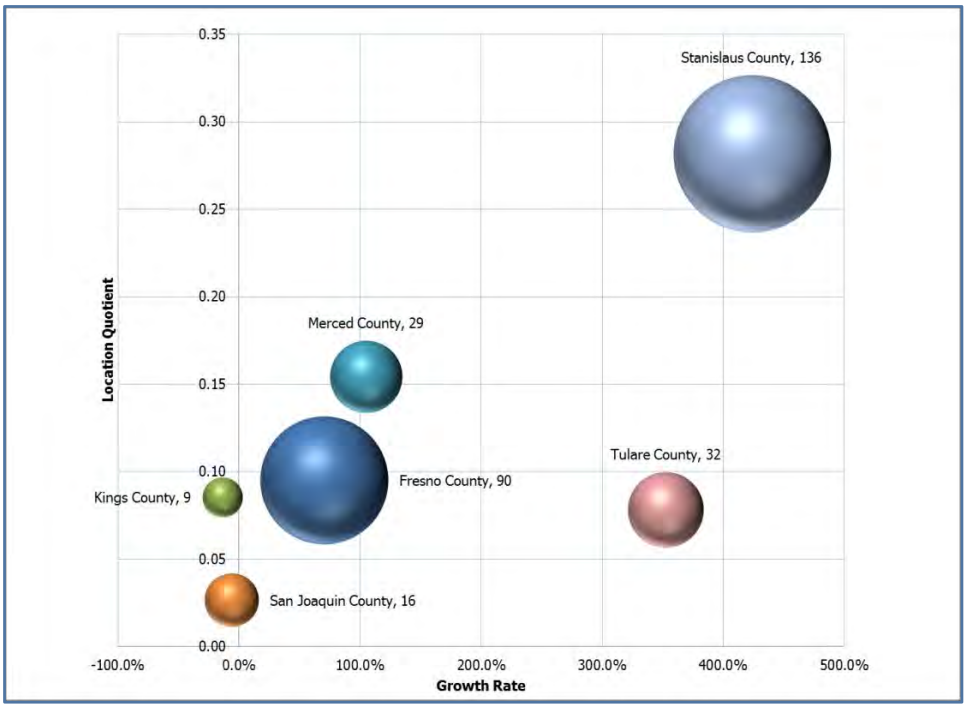
MEDICAL DEVICE MANUFACTURING EMPLOYMENT BY COUNTY, 2001-2010



Source: ADE, Inc., Data from IMPLAN/ES 202 County Employment Database

FIGURE 4.3-5

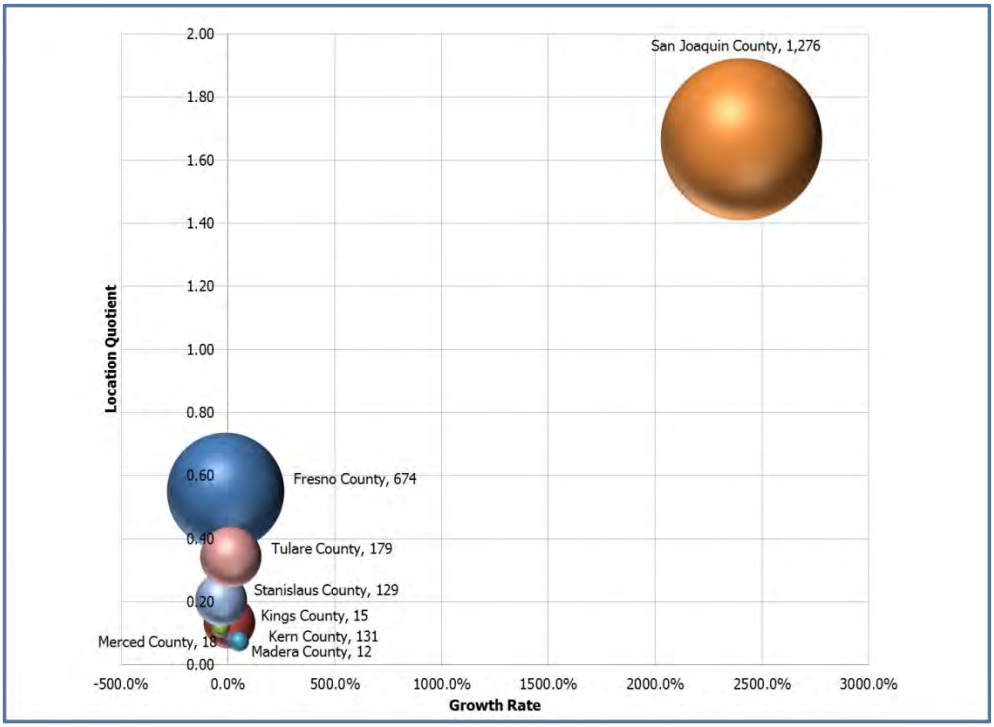
PHARMACEUTICALS EMPLOYMENT BY COUNTY, 2001-2010



SOURCE: ADE, INC., DATA FROM IMPLAN/ES 202 COUNTY EMPLOYMENT DATABASE

FIGURE 4.3-6

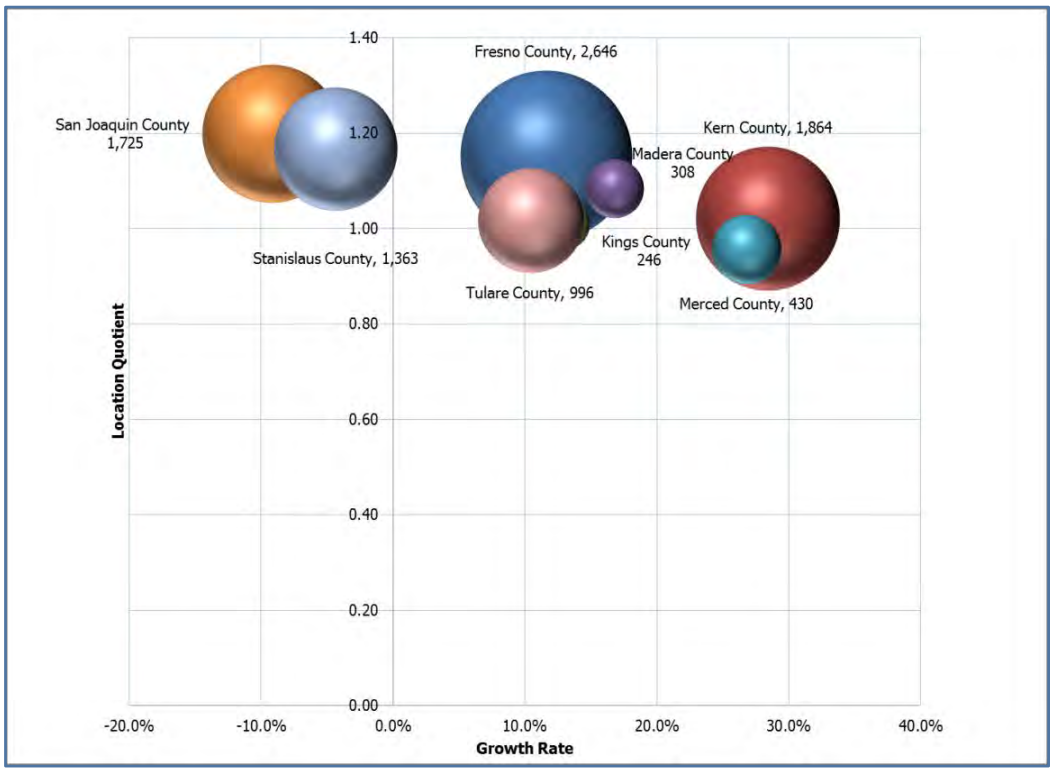
HEALTH SUPPLIES AND SERVICES EMPLOYMENT BY COUNTY, 2001-2010



Source: ADE, Inc., Data from IMPLAN/ES 202 County Employment Database

FIGURE 4.3-7

WELLNESS AND FITNESS EMPLOYMENT BY COUNTY



Source: ADE, Inc., Data from IMPLAN/ES 202 County Employment Database

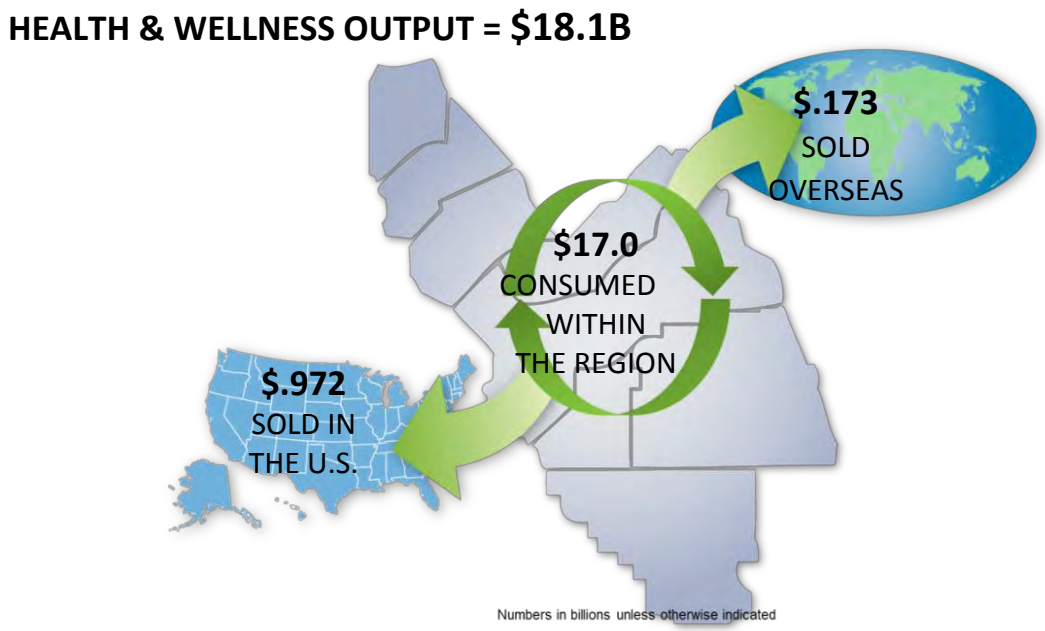
TRADE FLOW INDICATORS

This section presents information on regional trade flows – cluster outputs, inputs required to produce the Health and Wellness Cluster's outputs, and the gaps, or leakage – that represent potential economic development opportunities for filling the leakge. This information is based on analysis of the IMPLAN data for 2010, the most recent year data is available.

- The Valley's cluster output in terms of services and related supplier sectors totaled $18.1 billion in 2010 (Figure 4.3-8). About $1 billion in services was estimated to be provided to customers outside the Valley and a small amount ($173 million) was sold to foreign markets. Over 90 percent of health care services were consumed locally.
- Total regional demand for health care services by non-cluster businesses, institutions including government, and households was estimated at $23.7 billion, however, so about 25 percent of this demand was satisfied by providers outside the Valley (Figure 4.3-9).
- The Health and Wellness Cluster needed $6.8 billion in supplier inputs and obtained about $4.0 billion from local providers (Figure 4.3-10). The remaining $2.8 billion, which includes medical equipment and supplies, was purchased from outside the region. A partial list of these outside imports is shown in Table 4.3-2.

FIGURE 4.3-8

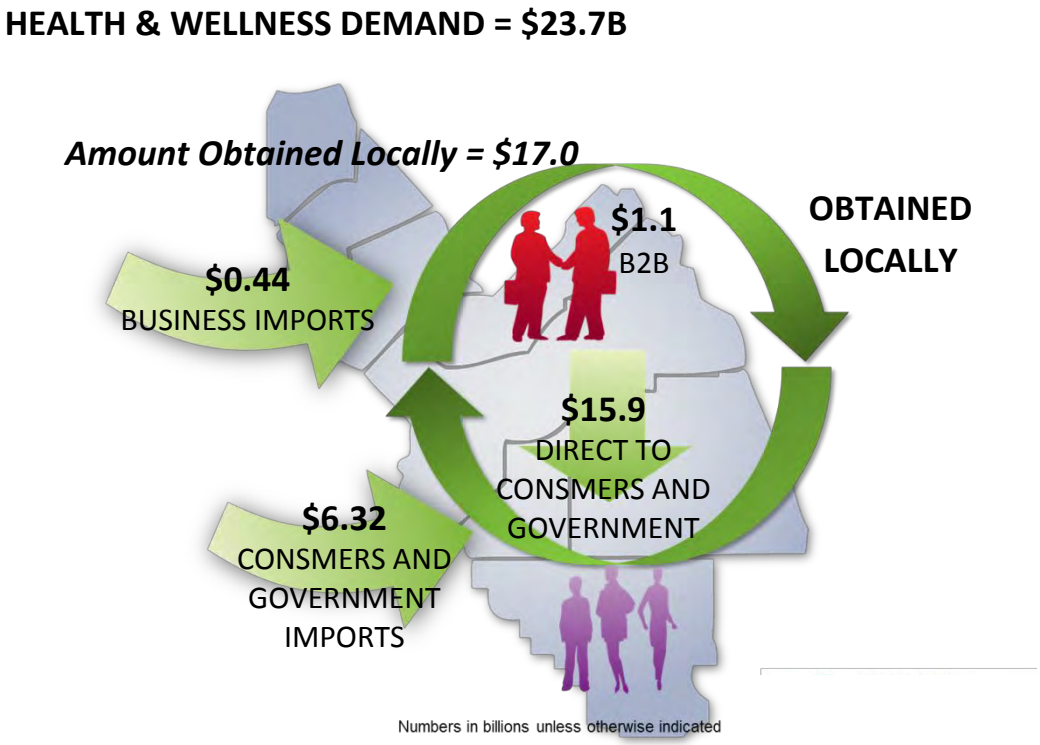
VALUE OF HEALTH AND WELLNESS SERVICES PRODUCED IN THE SAN JOAQUIN VALLEY



Source: ADE, Inc.; data IMPLAN3 input-output model

FIGURE 4.3-9

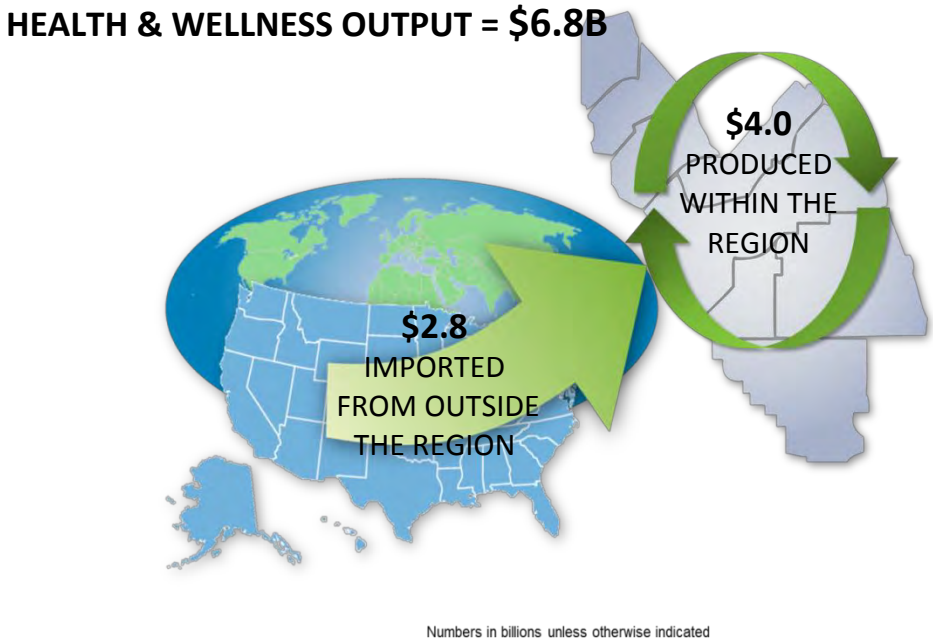
MARKET FOR HEALTH AND WELLNESS SERVICES IN THE SAN JOAQUIN VALLEY



Source: ADE, Inc.; data IMPLAN3 input-output model

FIGURE 4.3-10

PRODUCTION INPUTS REQUIRED FOR HEALTH AND WELLNESS CLUSTER



Source: ADE, Inc.; data IMPLAN3 input-output model

Table 4.3-2 shows total commodity leakage (demand for goods and services) outside the Valley from business-to-business transactions for Health and Wellness Cluster inputs and selected commodities that could be targets for economic development. Potential targets could include additional health and wellness- related services, manufacturing, and research, legal and professional services. Two specific areas for additional focus where identified during the project cluster meetings. Hospitals often go outside the Valley for specialized lab services, and are an opportunity to develop this specialized experise in the Valley if a shared need can be identified. Economic development professionals noted that they have been constrained in expanding and attracting new firms in the pharmaceutical area, due to significant workforce skills gaps. Increased collaboration between employers, EDCs, WIBs and education partners will help to identify and address these gaps and would be a good focus for the cluster action plan.

TABLE 4.3-2

CLUSTER SUPPLIER PURCHASES – HEALTH AND WELLNESS GROWTH OPPORTUNITIES

Description	Gross Commodity Demand	Regional Purchase Percentage	Regional Commodity Inputs	Commodity Leakage
Total Cluster Commodity Demand	$6,770,149,000	NA	$3,976,902,000	$2,793,247,000
Other health and wellness establishments	$1,230,145,000	71.6%	$880,196,000	$349,949,000
Real estate establishments	$968,477,000	72.8%	$705,102,000	$263,375,000
Management of companies and enterprises	$470,963,000	49.1%	$231,230,000	$239,733,000
Wholesale trade businesses	$483,527,000	63.8%	$308,315,000	$175,213,000
Insurance carriers	$294,672,000	48.8%	$143,852,000	$150,821,000
Management, scientific, and technical consulting services	$214,261,000	34.1%	$72,992,920	$141,268,000
Other basic organic chemical manufacturing	$118,753,000	2.8%	$3,315,000	$115,438,000
Scientific research and development services	$119,152,000	19.2%	$22,900,000	$96,252,000
Other plastics product manufacturing	$69,605,000	6.4%	$4,474,000	$65,131,000
Legal services	$106,629,000	46.9%	$50,002,000	$56,623,600
Advertising and related services	$156,349,000	65.2%	$101,921,000	$54,428,000
* Not an industry (Used and secondhand goods)	$54,025,000	0.0%	$0	$54,025,000
Plastics material and resin manufacturing	$52,437,000	1.0%	$516,,000	$51,921,000
Automotive equipment rental and leasing	$64,326,000	35.6%	$22,922,000	$41,404,000
Telecommunications	$144,876,000	73.2%	$106,054,733	$38,821,000
Petroleum refineries	$45,154,000	14.6%	$6,600,,000	$38,554,000
Industrial gas manufacturing	$37,963,000	1.5%	$562,000	$37,400,000
Animal (except poultry) slaughtering, rendering, and processing	$50,964,000	32.9%	$16,759,000	$34,205,000
Electric power generation, transmission, and distribution	$128,938,000	75.9%	$97,814,000	$31,124,000

Source: ADE, Inc.; data from IMPLAN3 input-output **model.**

4.4 LOGISTICS CLUSTER

Logistics services and facilities – including transportation, warehousing and distribution to support effective goods movement into, out of, and within the San Joaquin Valley - are a critical foundation to key industries in the region, particularly the agriculture value chain, and comprise an industry cluster in their own right. Logistics is a targeted cluster for all counties in the region and for the CCVEDC.

In 2006, *Go California,* California's goods movement plan, identified the San Joaquin Valley as part of the state's four "Port to Border" regional corridors.[40] Key goods movement corridors form the backbone of the region's economy, including North-South and East-West highway corridors, Class 1 rail facilities, air cargo facilities and the Port of Stockton.[41] Congested and deteriorating infrastructure is a major challenge across the Valley.

The Valley's Logistics Cluster is impacted by wide-reaching trends. According to an analysis prepared for the development of the *San Joaquin Valley Interregional Goods Movement Plan*: "The Valley is experiencing the demands of the modern global logistics system across a range of goods, from raw agricultural materials to consumer products. The critical role that the San Joaquin Valley plays in California and the nation's food supply will continue to require an effective goods movement system to distribute and export products quickly and efficiently. The growing regional population…will require increased attention to safe and reliable movement of goods consistent with competing needs for infrastructure and greater sensitivity to emissions and congestion."[42]

Transportation planning in the Valley is led by the region's eight Regional Transportation Planning Agencies (RTPAs – federally designated Metropolitan Planning Organizations – MPOs). They created the San Joaquin Valley Policy Council in 2006 to establish a system for regional coordination of plans, programs, traffic and emissions modeling, transportation planning, air quality planning and consistency in analysis and forecasting. The Regional Policy Council works closely in these efforts with the San Joaquin Valley Air Pollution Control District, Caltrans, the California Air Resources Board, the Federal Highway Administration (FHA) and other partners. Planning efforts guide the investment of billions of dollars in transportation infrastructure investments over multiple years. A new aspect of this coordination effort is preparation of integrated Regional Transportation Plans (RTPs) to meet regional greenhouse gas emissions reduction targets.

The Regional Policy Council has several efforts underway to enhance regional transportation planning, mobility, goods movement and air quality. These include: coordination with Caltrans on development of a Corridor Enhancement Master Plan, Business Plan and project funding for the Highway 99 Corridor, leveraging 2006 State Infrastructure Bonds and other funds for much needed transportation and safety

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[40] *Route 99 Corridor Business Plan, Enhancement Master Plan*, Caltrans District 6 and 10, 2009, p. v.

[41] *"The Importance of the San Joaquin Valley to California, the Nation, and the World,"* Cambridge Systematics, 2012.

[42] *San Joaquin Valley Goods Movement Plan; Task 1 Report: Existing Conditions Assessment Technical Memorandum,* Cambridge Systematics, Inc. et al, January 2012, p. 4-16.

improvements; participation in several of the Partnership's New Valley Work Groups and advocacy for the funding of the California High Speed Rail; and Sustainable Communities planning and Regional Blueprint planning integration in large and small communities across the Valley.

A major two-year collaborative planning effort is the preparation of the *San Joaquin Valley Interregional Goods Movement Plan* referenced on the previous page, initiated by the Regional Policy Council in May, 2011, which in addition to the partners cited above includes stakeholders such as the private trucking industry, ports, railroads and major goods-movement industries. This project is the focal point for regional planning and action on transportation infrastructure and goods movement. It has provided several analyses of economic and demographics trends and projections related to goods movement, truck commodity flows and industry profiles, commodity growth, and impacts of freight movement (see http://www.sjvcogs.org/goods.html for additional information).

Some key highlights on issues and drivers identified by the planning process that affect the Logistics Cluster are summarized below. These analyses also were the basis of the goods movement issues, challenges and opportunities presented at the Regional Economic Summit, for which recommended state and regional actions were developed.

- In 2010, more than 44 percent of the region's jobs (564,000 jobs) were associated with goods-movement dependent industries; more than one third were related to farming/agriculture, while wholesale and retail trade accounted for nearly as many workers. Manufacturing, including food manufacturing and processing, comprised nearly 20 percent, and transportation/utilities and construction were about 8 percent each. [43]
- The transportation sector, tied largely to the region's growth in international trade and agricultural production, is expected to have a job increase of more than 90 percent by 2040.[44] There will be shifts in commodities and exports which need to be taken into account.
- The Valley's projected population growth also will result in increased activity in certain goods movement-dependent industries, such as construction, retail and wholesale trade.[45]
- It is estimated that nearly 500 million tons of goods moved within the San Joaquin Valley in 2007. This volume is projected to grow 76 percent by 2040.[46]
- Truck traffic accounts for more than 90 percent of goods movement in the Valley and this proportion is anticipated to increase further in the future. Rail service provides most of the rest of good movement in the region, with air and water cargo at less than one percent combined. [47]

[43] Ibid., p. 4.5.
[44] *San Joaquin Valley Interregional Goods Movement Plan; Task 5 Report: Commodity Growth,* Cambridge Systematics, Inc. et al, June 2012, p 1-4.
[45] Task I Report, p. 2-1.
[46] Task 5 Report, p 1-1.
[47] *San Joaquin Valley Interregional Goods Movement Plan, Task 4 Report: Commodity Flow Profile*, Cambridge Systematics, Inc. et al, March 2012, p. 1-1.

- Goods movement activities contribute to the Valley's air quality concerns, and other community and environmental issues such as health, safety and noise are exacerbated by the movement of freight. Community and environmental impacts are projected to grow along with growing freight volumes, unless measures are taken.[48]

The analyses note that within the Valley, there will need to be a continual fine-tuning of logistics chains and transportation practices, among other strategies, for the cluster to remain competitive in the global economy. Also of note is the opportunity to support the mobility needs of the Logistics Cluster through planned public sector infrastructure investments in the region. An analysis prepared for the Central California Workforce Collaborative documented an estimated $16 billion in planned transportatation-related investments for the Valley and the Central/Eastern Sierra from 2010-2020 (see discussion in section 4.8.)

LOGSTICS CLUSTER COMPONENTS

The Valley's Logistic Cluster is closely integrated with other clusters and is composed of the following cluster components and industry types; (see Appendix B for a listing of the industries by NAICS codes). It should be noted that a large segment of logistics employment is associated with the agriculture value chain and was included in the chapter earlier as part of the distribution component of agriculture.

CLUSTER COMPONENTS	INDUSTRY TYPES
Air, Rail and Water Transportation	Passenger and freight air, rail and water transportation
Truck Transportation	General and specialized freight trucking, local and long-haul
Transit	Mixed mode transit, commuter rail systems, interurban and rural bus transportation, school and employee bus transportatioin, taxi service, charter bus and other urban transit
Freight and Warehousing	Packing and crating, courier and express delivery services, general and refrigerated warehaousing and storage, freight transportation arrangement, farm and othe product warehousing and storage
Other Transportation Services	Motor vehicle towing, support activities, packaging and labeling
Related Manufacturing Industries	Heavy duty truck, railcar, and boat building and repair

[48] *San Joaquin Valley Interregional Goods Movement Plan, Task 6, The Community, Environmental and Economic Impacts of Frieght Movement*, Cambridge Systematics, Inc. et al, March 2012, p. 1-1.

EMPLOYMENT INDICATORS

This section presents a summary of key employment trends in the portion of the Logistics Cluster not associated with other clusters. This cluster is a growth cluster for the Valley, showing strong growth across some of the cluster components. Table 4.4-1 below shows employment across the cluster's seven components from 2001-2010, including employment changes and rate of growth, concentration (compared to the state), and shift-share (a ratio derived from the region's rate of growth compared to that of the state). Figure 4.4-1 is a graphic illustration of these trends:

- The Logistics Cluster had nearly 33,200 jobs in 2010; total jobs grew by nearly 4,400 between 2001 and 2010 – 15.2 percent.
- Cluster employment was 2.6 percent of total regional jobs, but accounted for 10.5 percent of the job growth that occurred between 2001 and 2010.
- The cluster growth rate of 15.2 percent was faster than the statewide average (shift-share: +24.9%) for the time period. The concentration of employment in the cluster was slightly above state average (location quotient: 1.04).
- The largest cluster component was truck transport, which added a small number of jobs. Transit added less than 50 jobs, likely reflecting the decrease in funding for transit operations due to the economic downturn. The air, rail and water transport showed small levels of employment related to rail. There is a focus on trying to develop more short-haul rail capacity in the Valley, which could increase employment over time.
- The cluster components with the highest levels of job growth were freight and warehousing and other transportation services. Consistent with overall manufacturing, employment in logistics-related manufacturing declined, although this component was not very large.

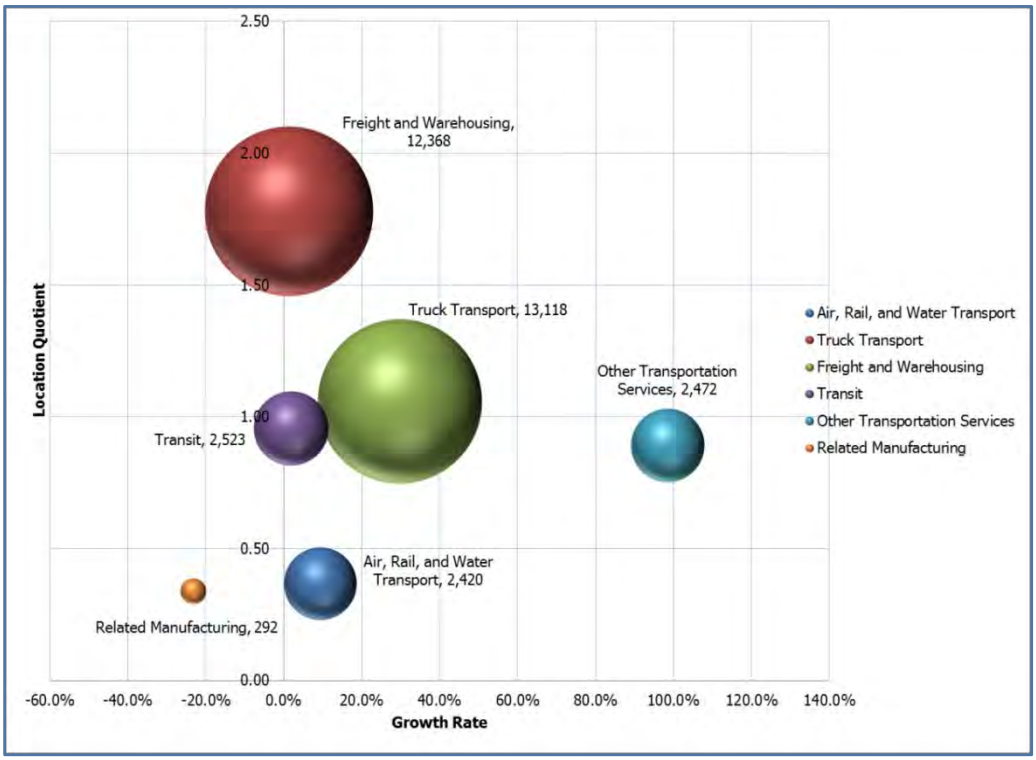
TABLE 4.4-1

LOGISTICS CLUSTER EMPLOYMENT INDICATORS, SAN JOAQUIN VALLEY

Cluster Component	Employment 2001	Employment 2010	Employment Change 2001 to 2010	Percentage Change 2001 to 2010	Location Quotient 2010	Shift-share
Air, Rail, and Water Transport	2,214	2,420	207	9.3%	0.37	32.60%
Truck Transport	12,952	13,118	166	1.3%	1.78	13.64%
Freight and Warehousing	9,535	12,368	2,833	29.7%	1.06	39.26%
Transit	2,477	2,523	46	1.8%	0.96	-2.62%
Other Transportation Services	1,246	2,472	1,226	98.4%	0.89	62.76%
Related Manufacturing	380	292	-88	-23.3%	0.34	-24.06%
Logistics Cluster Total	28,803	33,192	4,389	15.2%	1.04	24.92%

Source: Applied Development Economics

FIGURE 4.4-1
LOGISTICS BY COMPONENT



Source: ADE, Inc.; data from IMPLAN CEW/ES202 county employment database

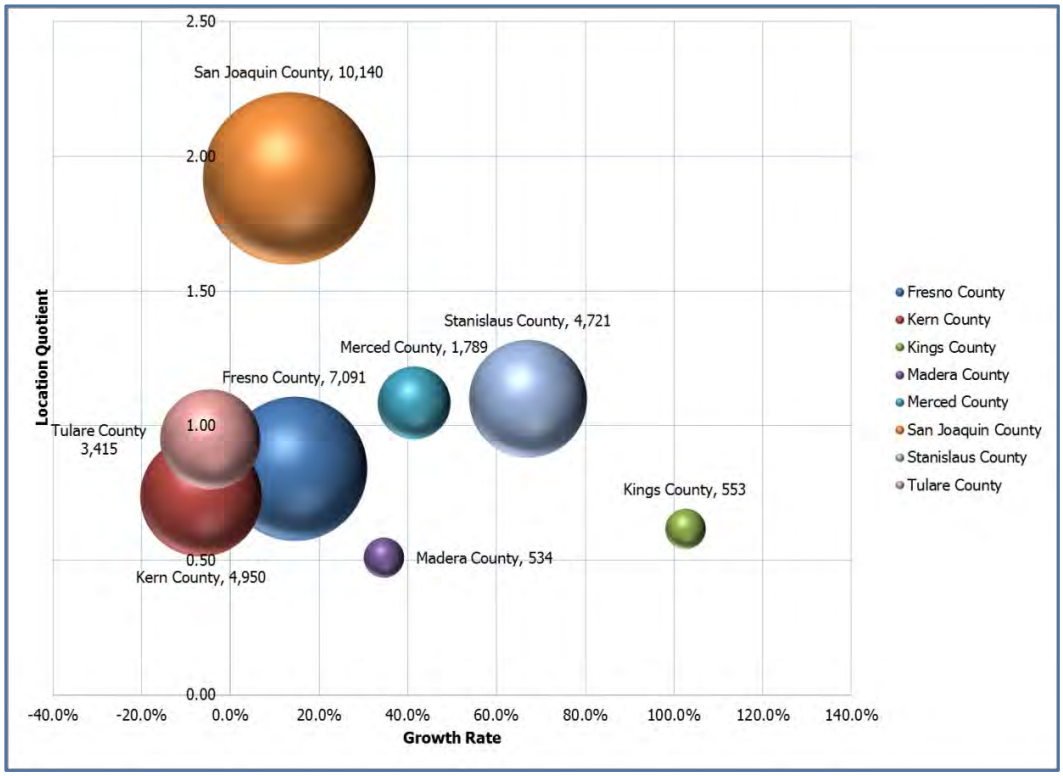
GEOGRAPHIC CONSIDERATIONS

Figure 4.4-2 illustrates employment growth trends and geographic concentration of the Logistics Cluster for each county in the Valley; highlights are summarized as follows:

- The Logistics Cluster was highly concentrated in San Joaquin County, with over 10,000 jobs – 30 percent of total cluster employment and an employment concentration nearly twice the state average (location quotient: 1.92). Other large groupings exist in Fresno (21 percent), Kern (15 percent), Stanislaus (14 percent) and Tulare (10 percent) counties, each of which had more than 3,400 jobs.
- All counties, except for Kern and Tulare, had job growth between 2001 and 2010. Although Kings County had one of the smallest levels of employment, its rate of job growth was the highest. Stanislaus County also had a strong rate of growth.
- Merced and Stanislaus counties are the only other counties in the region with an above average employment concentration in the Logistics cluster.

FIGURE 4.4-2

LOGISTICS CLUSTER EMPLOYMENT BY COUNTY

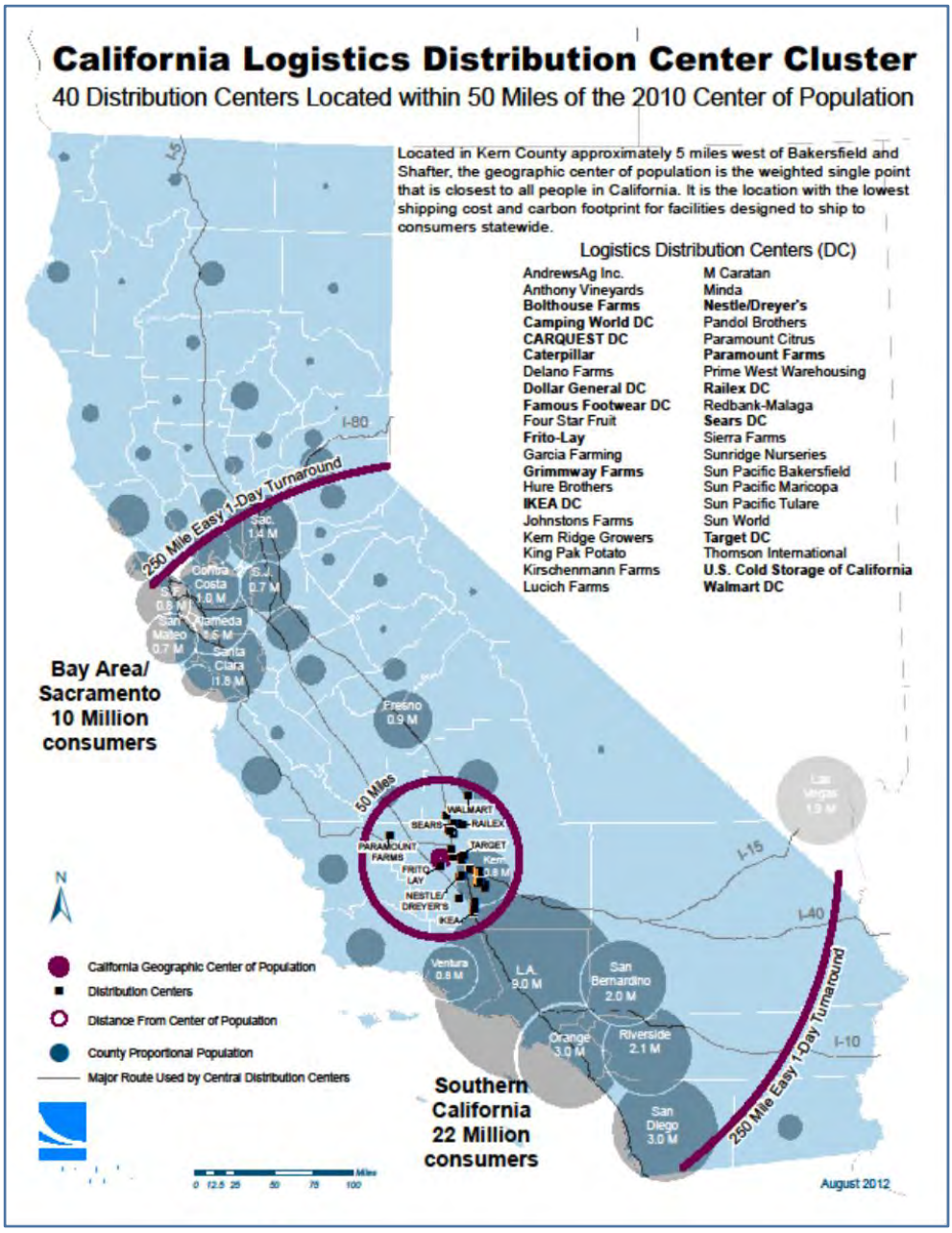


Source: ADE, Inc.; data from IMPLAN CEW/ES202 county employment database

As noted earlier in this section, efficient freight transportation is critical to the economic health of the Valley, for agriculture, oil and other minerals, manufacturing, and all other industries using and shipping supplies and commodities. The Valley also is becoming a prominent location for regional distribution centers of consumer products, providing services to coastal population centers as well as a growing internal population. Most freight transportation is by trucking.

The map on the following page shows the locational advantages of the Valley in terms of proximity to growing consumer markets throughout California. The Kern Council of Governments (Kern COG) prepared the map as part of its analysis of needed future transportation improvements. It shows the location of 40 logistics distribution centers located in Kern County, including farming and food processing establishments that have shipping and distribution operations, and facilities for major national and internationals retailers. Every ten years, the U.S. Census Bureau calculates California's geographic center of population; it is a weighted center of population that represents the location closest to everyone in the state. For 2010, the center is located in Kern County, approximately five miles west of Bakersfield and Shafter.

From this geographic center, logistics distribution facilities in the southern end of the Valley have access to 22 million Southern California consumers, and to 10 million Bay Area/Sacramento consumers. As shown in Figure 4.2-2, the logistics cluster also is strong in San Joaquin County and reaches additional Northern California and Nevada consumers (as well as other regions and countries). The Kern COG and the Kern EDC have identified the benefit of increasing rail service by moving more truckloads to rail service, and the goods most suited for transfer to rail. These and other analyses are being integrated with the San Joaquin Valley Interregional Goods Movement Plan.



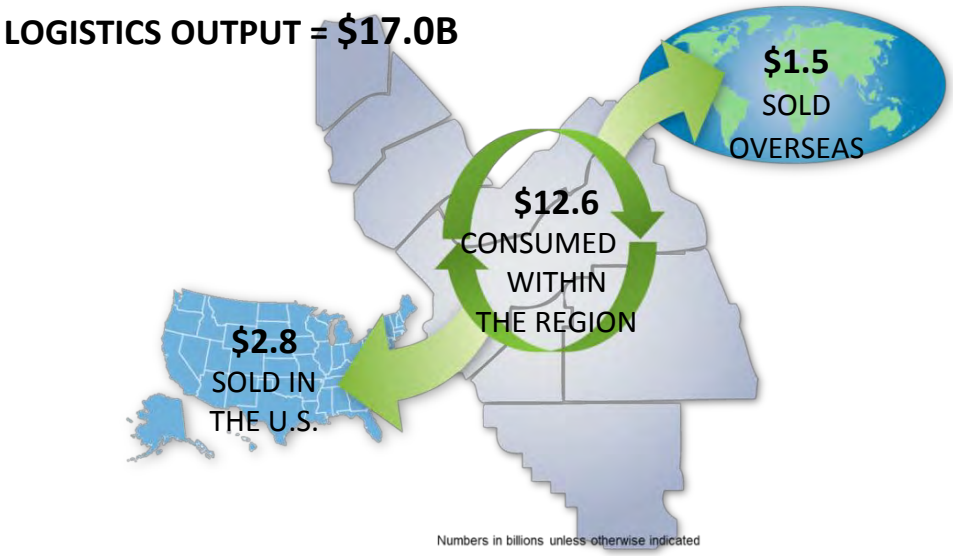
TRADE FLOW INDICATORS

This section presents information on regional trade flows – outputs, inputs required to produce the Logistics Cluster's outputs, and the gaps, or leakge – that represent potential economic development opportunities for filling the leakage. This information is based on an analysis of the IMPLAN data for 2010, the most recent year data is available.

- Logistics companies in the Valley sold $17.0 billion in services in 2010, of which $12.6 billion was sold within the Valley (see Figure 4.4-3). In addition, the cluster businesses provided $1.5 billion in services to overseas customers and sold another $2.8 billion to customers elsewhere in the U.S. Of the amount sold within the Valley, $7.8 billion was in business-to-business transactions and $4.8 represented institutional or consumer demand.
- The Logistics Cluster needed $7.0 billion in supplier inputs; it obtained about half of that from within the region and imported the other half (Figure 4.4-4).
- The Valley economy needed $16.8 million in logistics services, outside of internal demand from the Logistics Cluster itself[49] (Figure 4.4-5). The Valley obtained $11.5 billion from regional logistics firms and used outside firms for the remaining $5.3 billion. Of this amount, businesses imported $3.1 billion while $2.2 billion represented direct consumer demand that was imported. Since outside logistics services will often be used to transport goods into the region, it is normal to expect that regional demand will not be completely served by local firms.

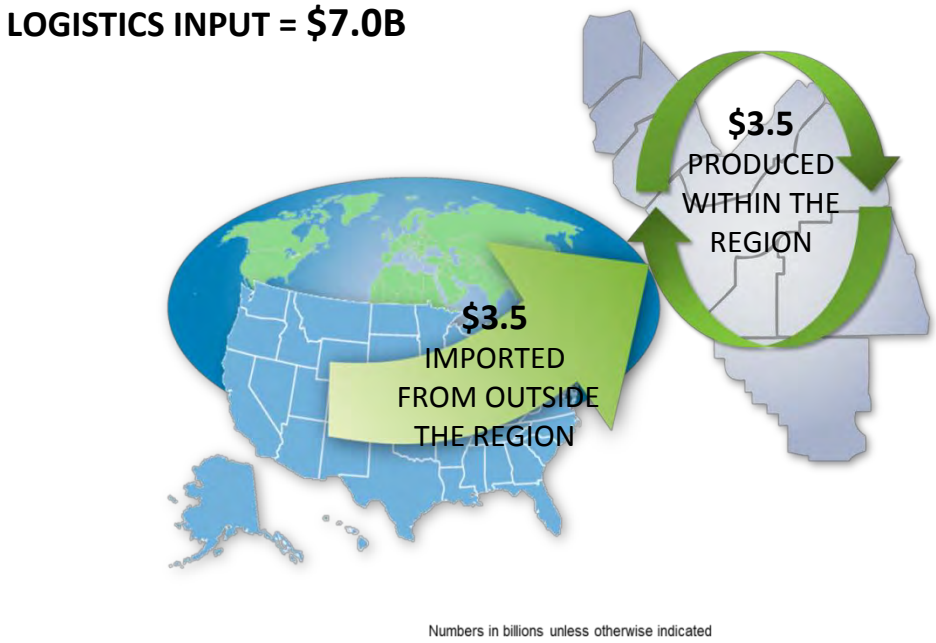
[49] The difference between the $12.6 billion in Figure 6.4-2 and this $11.5 billion is the internal demand from the logistics cluster itself.

FIGURE 4.4-3
VALUE OF LOGISTICS SERVICES AND MARKETS



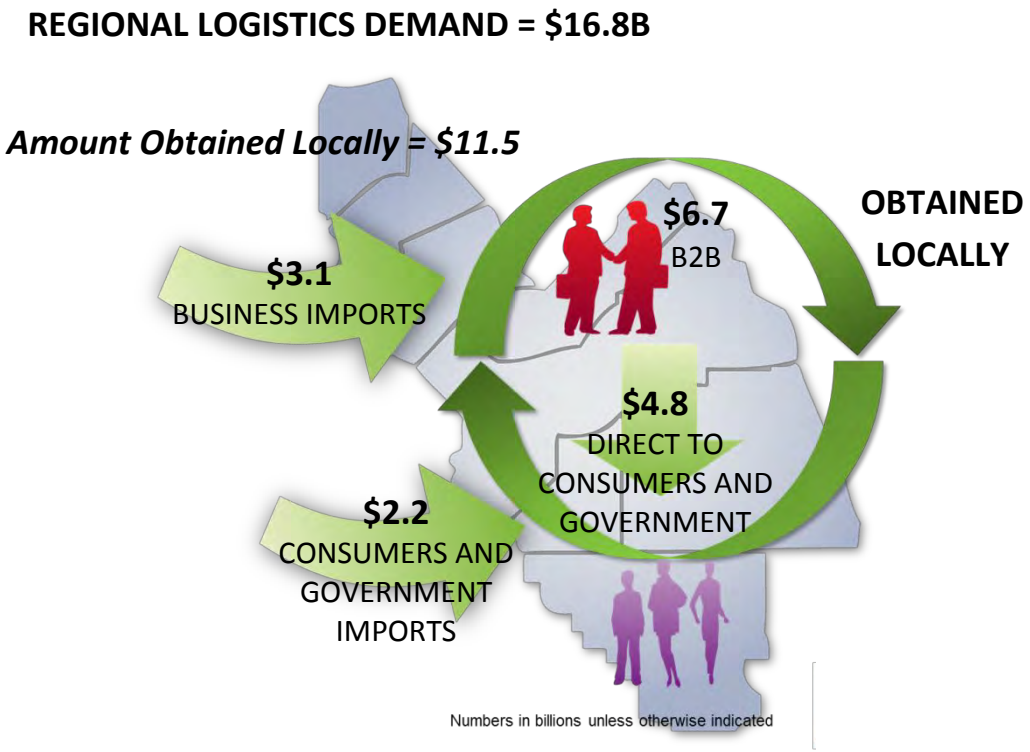
Source: ADE, Inc.; data IMPLAN3 input-output model

FIGURE 4.4-4
REQUIRED INPUTS FOR LOGISTIC SERVICES AND SOURCES OF SUPPLIERS



Source: ADE, Inc.; data IMPLAN3 input-output model

FIGURE 4.4-5



Source: ADE, Inc.; data IMPLAN3 input-output model

Table 4.4-2 shows some of the industries where the largest amounts of imports occured. This represents an economic development and jobs growth opportunity to replace some of this "leakage," which reached more than $3.5 billion. Potential targets include selected manufacturing and services.

TABLE 4.4-2

CLUSTER SUPPLIER PURCHASES – TOTAL DEMAND AND LEAKAGE (SELECTED INDUSTRIES)

Description	Gross Commodity Demand	Regional Purchase Percentage	Regional Commodity Inputs	Commodity Leakage
Total Commodity Demand	$7,025,827,000	N/A	$3,474,307,000	$3,551,521,000
Petroleum refineries	$771,080,000	15.0%	$115,340,000	$655,740,000
Other logistics establishments	$1,627,522,000	68.5%	$1,114,067,000	$513,455,000
Motor vehicle parts manufacturing	$170,648,000	7.6%	$13,018,000	$157,630,000
Management of companies and enterprises	$299,246,000	51.6%	$154,262,000	$144,984,000
Insurance carriers	$265,956,000	48.6%	$129,155,000	$136,801,000
Advertising and related services	$294,437,000	64.7%	$190,356,000	$104,081,000
Real estate establishments	$347,574,000	70.8%	$245,966,000	$101,608,000
Other aircraft parts and auxiliary equipment manufacturing	$99,793,000	0.2%	$188,000	$99,605,000
Management, scientific, and technical consulting services	$136,592,000	32.9%	$44,947,000	$91,645,000
Aircraft manufacturing	$72,535,000	1.6%	$1,180,000	$71,354,000
Semiconductor and related device manufacturing	$67,717,000	0.2%	$114,000	$67,603,000
Nondepository credit intermediation and related activities	$111,477,000	40.6%	$45,267,000	$66,220,000
Other engine equipment manufacturing	$60,974,000	0.1%	$47,000	$60,927,000
Lessors of nonfinancial intangible assets	$70,855,000	17.1%	$12,100,000	$58,755,000
Telecommunications	$164,541,000	72.4%	$119,133,000	$45,409,000
Legal services	$83,174,000	46.5%	$38,654,000Z	$44,520,000
Business support services	$85,218, 000	54.7%	$46,594,000	$38,624,000

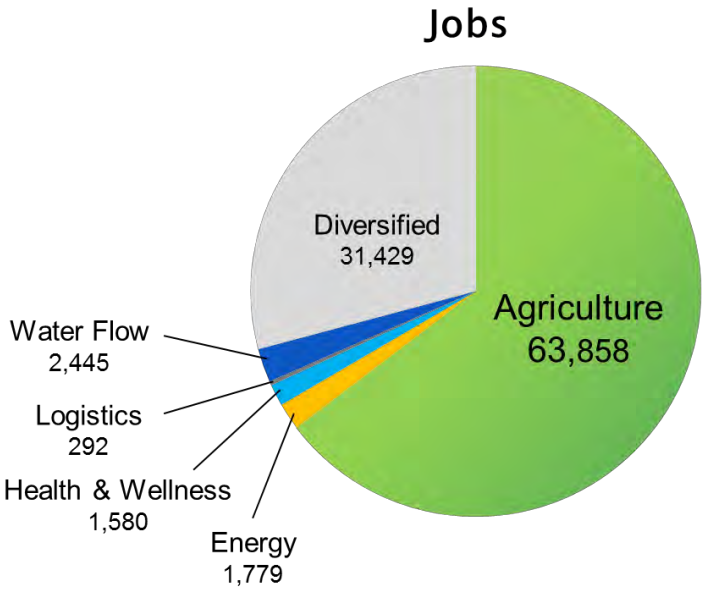
Source: ADE, Inc.; data from IMPLAN3 input-output model.

4.5 MANUFACTURING CLUSTER

Manufacturing is a lynchpin cluster in that it is a component of virtually all of the other regional clusters in addition to other "diversified" manufacturing companies. As shown in Figure 4.5-1, more than 70 percent of manufacturing jobs are associated with one of the five other clusters. Most of this employment is in food processing and is part of the agriculture value chain. However, as manufacturing processes have a number of commonalities across product lines, this analysis addresses all manufacturing industries in the Valley together. As the analysis shows, manufacturing has generally lost employment during the past decade, although this loss occurred more slowly in the Valley than it did statewide. It is worth noting, though, that nearly 60 percent of the losses were in non-cluster related diversified manufacturing industries.

FIGURE 4.5-1

MANUFACTURING EMPLOYMENT DISTRIBUTION AMONG CLUSTERS



Source: ADE, data from IMPLAN CEW/ES202 county employment database.

EMPLOYMENT INDICATORS

- Manufacturing supported about 101,400 jobs in the San Joaquin Valley and accounted for 8.1 percent of total regional jobs in 2010.
- Manufacturing declined by 9.3 percent between 2001 and 2010. However, the regional job loss occurred at a slower rate than the statewide average (shift-share: +21.3%). During this period, the total jobs declined by over 10,400 (Table 4.5-1).

- The concentration of employment in manufacturing is about on par with the statewide average (location quotient: 0.99). The Valley is highly concentrated in food processing and water technology manufacturing (location quotient of 3.29 and 2.47, respectively).
- There was variation in growth within the component areas. While most declined, agricultural-related processing employment grew by almost 5,900 jobs, or 10.7%, from 2001 to 2010, although with variation across the counties (see Appendix D).

TABLE 4.5-1

MANUFACTURING EMPLOYMENT INDICATORS, SAN JOAQUIN VALLEY

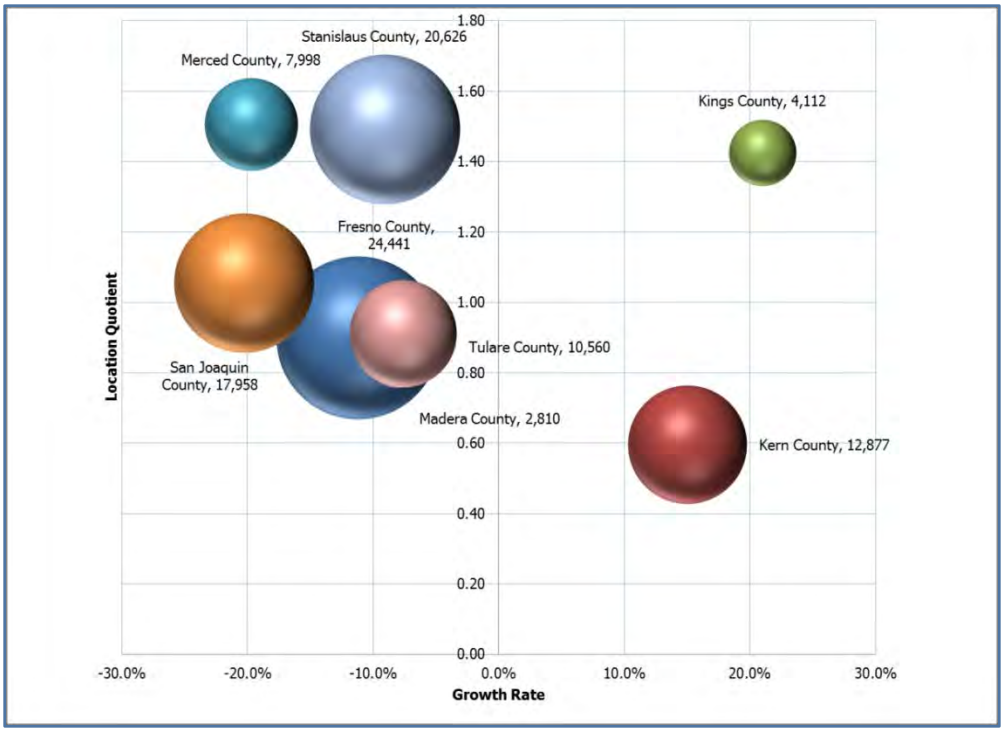
Industry Description	Employment 2001	Employment 2010	Employment Change 2001 to 2010	Percentage Change 2001 to 2010	Location Quotient 2010	Shift-share
Food Processing and Ag. Support	61,141	63,858	2,717	4.4%	3.29	17.25%
Medical Device Mfg. & Pharmaceuticals	1,802	1,580	-222	-12.3%	0.20	-15.6%
Logistics	380	292	-88	-23.3%	0.34	-24.1%
Energy Equipment & Petroleum Prod.	1,121	1,779	658	58.7%	0.47	108.6%
Water Flow Technolgy	3,439	2,445	-994	-28.9%	2.47	1.9%
Diversified Manufacturing	43,903	31,429	-12,474	-28.4%	0.46	4.6%
Manufacturing Total	111,786	101,382	-10,404	-9.3%	0.99	21.3%

Source: ADE, Inc.; data from IMPLAN CEW/ES202 county employment database.
Note: Location quotients and shift share factors are based on comparisons with statewide private sector employment.

GEOGRAPHIC CONSIDERATIONS

- Manufacturing had the largest job counts in Fresno and Stanislaus Counties, with more than 24,400 and 20,600 manufacturing jobs, respectively (Figure 4.5-2).
- San Joaquin County was next with almost 18,000 jobs, followed by Kern County with almost 12,900 jobs.
- Most counties had an employment concentration that was above or close to the State average, with the highest concentration in Stanislaus County (location quotient: 1.51) and the lowest concentration in Kern County (location quotient: 0.60).
- All counties lost manufacturing jobs between 2001 and 2010, except for Kings and Kern Counties. Food processing and packaging were major contributors to this growth.

FIGURE 4.5-2
MANUFACTURING CLUSTER EMPLOYMENT BY COUNTY



Source: ADE, Inc.; data from IMPLAN CEW/ES202 county employment database

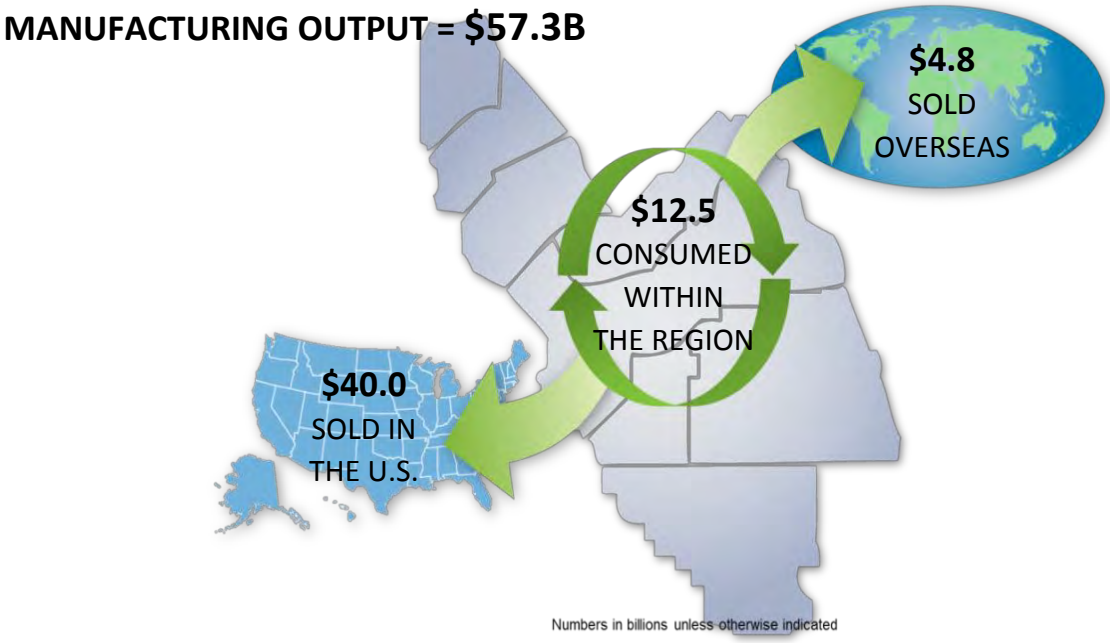
TRADE INDICATORS

This section presents information on the regional trade flows – outputs, inputs required to produce the Manufacturing Cluster's outputs, and the gaps, or leakage, that represent potential economic development opportunities in terms of filling the leakage. This information is based on an analysis of the IMPLAN data for 2010, the most recent year available.

- Regional manufacturers produced $57.3 billion in 2010, selling $4.8 billion overseas and $40.0 billion to other domestic markets. Approximately $12.5 billion of regional manufacturing production was consumed in the San Joaquin Valley (Figure 4.5-3).
- The manufacturers required $44.6 billion in supplier inputs to produce the $57.3 billion in goods. They obtained $15.0 billion of that from within the region and $29.6 billion from outside the San Joaquin Valley (Figure 4.5-4).
- The San Joaquin Valley economy had a demand for $38.7 billion in manufactured goods but obtained only $12.5 billion of that demand from regional manufacturers (Figure 4.5-5). Of this $12.5 billion, $8.0 billion was consumed by other businesses and $4.5 billion by consumers (households) and government entities. To meet the remaining demand, businesses in the Valley imported $7.8 billion in manufactured goods from outside the region awhile another $18.4 billion was imported directly to (purchased by) consumers and government entities.

FIGURE 4.5-3

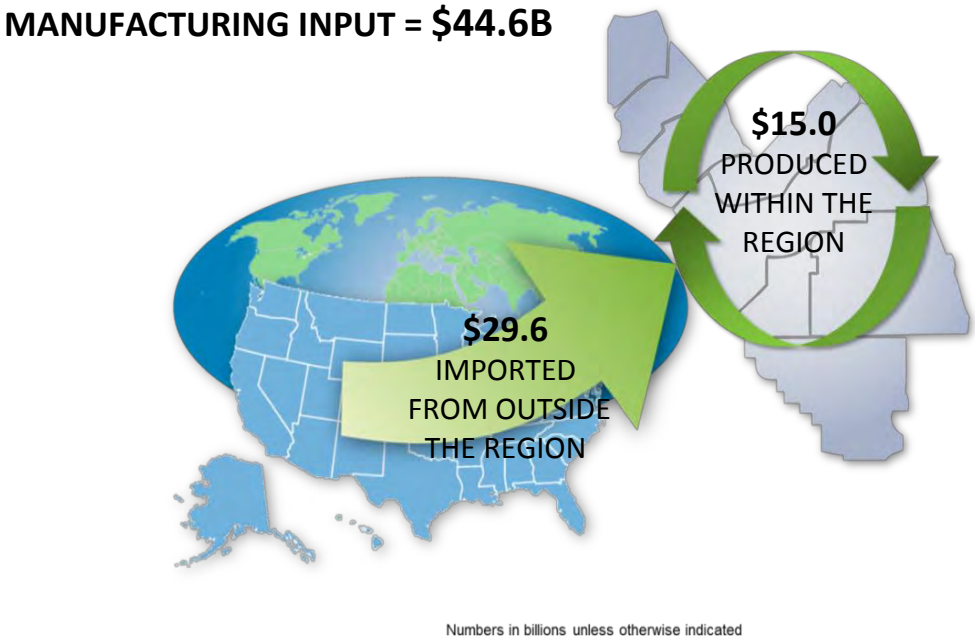
MANUFACTURING PRODUCTION VALUES AND MARKETS



Source: ADE, Inc.; data IMPLAN3 input-output model

FIGURE 4.5-4

PRODUCTION INPUTS NEEDED FOR REGIONAL MANUFACTURING



Source: ADE, Inc.; data IMPLAN3 input-output model

Table 4.5-2 shows the total inputs (goods and services) purchased by manufacturers regionally versus imported from outside the region, by type of commodity. Import substitution to address "leakage" of commodity purchases from outside the region ($29.6 billion) is a potential economic development opportunity.

TABLE 4.5-2

TOTAL INPUT (PURCHASES) AND LEAKAGE (SELECTED INDUSTRIES), 2010

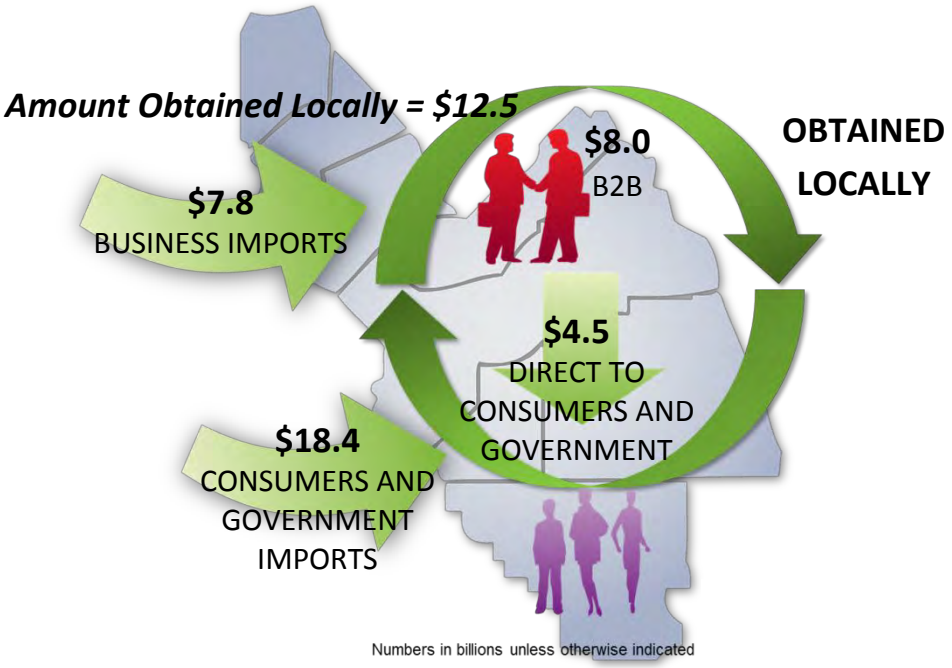
Description	Gross Commodity Demand	Regional Purchase Percentage	Regional Commodity Inputs	Commodity Leakage (Imports)
Total Commodity Demand	$44,649,857,000	NA	$14,996,335,000	$29,653,523,000
Other manufacturing industries	$24,771,029,000	19.8%	$4,894,751,000	$19,876,278,000
Extraction of oil and natural gas	$3,159,514,000	3.2%	$102,098,000	$3,057,415,000
Wholesale trade businesses	$3,486,386,000	66.3%	$2,310,351,000	$1,176,036,000
Management of companies and enterprises	$2,032,848,000	48.7%	$990,814,000	$1,042,035,000
Scientific research and development services	$530,748,000	15.9%	$84,148,000	$446,601,000
Software publishers	$345,937,000	0.5%	$1,640,000	$344,297,000
Lessors of nonfinancial intangible assets	$355,978,000	15.4%	$54,860,000	$301,118,000
Grain farming	$308,740,000	19.0%	$58,570,000	$250,170,000
Oilseed farming	$219,813,000	4.9%	$10,775,000	$209,037,000
Electric power generation, transmission, and distribution	$719,075,000	75.3%	$541,482,000	$177,593,000
Advertising and related services	$387,957,000	64.5%	$250,138,000	$137,819,000
Mining gold, silver, and other metal ore	$128,911,000	0.1%	$115,000	$128,796,000
Automotive equipment rental and leasing	$197,848,000	37.0%	$73,111,000	$124,738,000
Management, scientific, and technical consulting services	$175,727,000	30.9%	$54,259,000	$121,468,000
Animal production, except cattle and poultry and eggs	$154,709,000	23.8%	$36,811,000	$117,897,000
Legal services	$192,108,000	45.6%	$87,562,000	$104,546,000

Source: ADE, Inc.; data from IMPLAN3 input-output model.

FIGURE 4.5-5

DEMAND FOR MANUFACTURED PRODUCTS AND SOURCES OF SUPPLY IN THE SAN JOAQUIN VALLEY

MANUFACTURING DEMAND = $38.7B



Source: ADE, Inc.; data IMPLAN3 input-output model

4.6 WATER TECHNOLOGY CLUSTER

As noted in the Partnership's *2010-2011 Annual Report*, "Water is scarce in most parts of California, creating tremendous pressure to redistribute the state's water resources and to find new sources and ways to store and deliver water more efficiently."[50] At the San Joaquin Valley Regional Economic Summit in March, 2012, water supply was identified as the top priority for economic prosperity in the Valley.

The Water Technology Cluster's strategic plan states that "Access to usable water is developing into the greatest challenge of this century. The world's ability to find, use, clean, recycle, transport, distribute, sell, tax, and conserve water will determine in large measure whether the world will progress or digress over the next 100 years. The technology to properly use and manage this precious resource is the critical tool to providing sufficient water supplies for the world's major uses, such as agricultural, municipal, and commercial applications."[51]

Numerous reports have documented the challenges to the Valley's water resources and infrastructure and the critical importance of these resources to the region and the state. Among these challenges are the health and viability of the San Joaquin Valley Aquifer (which includes the Tulare Basin in the southern part of the Valley), the Sacramento-San Joaquin Delta which provides water to 25 million Californians, the California Water Project, and the watershed systems supporting the Valley's communities, economy and natural systems. Water table depth as a measure of sustainable water use is one of the key indicators being tracked by the Partnership. According to a recent study, the current depletion rate of the Aquifer is not sustainable, especially with the threat of future droughts.[52] Changing climate patterns will exacerbate these challenges.

Valley leaders have long recognized water availability, quality and infrastructure as a critical issue for the agriculturally-based regional economy and overall regional economic growth. Fresno State has a state leadership role directing the CSU system's Water Resources and Policy Initiative (WRPI), and provides water technology research, testing, policy development, public-private sector collaboration and sustainability innovation. Among its programs, the Center for Irrigation Technology (CIT), created in 1980, was an early leader in establishing a regional expertise in water and agriculture. The California Water Institute was created subsequently to provide education, research and analysis of water policy issues; it was the lead for preparing the *San Joaquin Valley Regional Water Plan Framework,* which was adopted by the Partnership.

The Water Technology Cluster was formed in 2001 as part of a collaborative effort between the Fresno Business Council and OCED. Seed funding was provided by the Great Valley Center as a means to implement the cluster-networking recommendations of its report, *The Economic Future of the San*

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[50] *Partnership 2010-2011 Annual Report*, Ibid., p. 85.
[51] Zoldoske, D.,CIT, OCED, CVBI, I*CWT Regional Strategic Plan,* August, 2010
[52] "Warning Issued on Groundwater," Edward Ortiz, Sacramento Bee, July 22, 2012.

Joaquin Valley. The Water Technology Cluster was the first cluster in the region and served as a model for subsequent clusters initiated by OCED and the Regional Jobs Iinitiative. The initial goals for the cluster were to: increase investment in research and development; increase sales through joint marketing efforts and foreign trade missions; and improve workforce development and internship programs geared to the types of jobs available at member firms.

The cluster adopted the name International Center for Water Technology (ICWT) to reflect the goal of being recognized as a globally-recognized center of water innovation and technology. This goal was made more real when Fresno State and the Central Valley Business Incubator (CVBI) collaborated to build the WET (Water and Energy Technology) Center to incubate new businesses and to provide testing facilities for new products.

The CVBI manages the WET Center Incubator program, focusing on commercialization of high-potential start-ups within water, energy, clean air, and ag technology. CIT manages the testing lab. The Fresno Workforce Investment Board provides a large share of the funding for the WET Center and for ICWT.

While the Water Technology Cluster was initially centered in the area between Fresno and Bakersfield, firms in the region have developed a special expertise in water efficiency systems that is now exported worldwide. "BlueTech Valley" is an initiative of the CVBI to brand the region as a global water technology hub and a catalyst for innovation in water, energy and related sectors.

To reflect the importance of innovation in water technologies to the future of the Valley, this project's cluster analysis was expanded beyond the five core Partnership clusters to include the Water Technology Cluster, to assess the performance and scope of the cluster and to identify possible Partnership actions that could support the cluster's regional efforts. As with the manufacturing sector in general, recent economic conditions have led to employment declines in the cluster. Still, the concentration of water technology employment in the Valley remains nearly three times the level in California. Water sustainability and infrastructure challenges at all levels, and regional comparative advantage and expertise, set the stage to advance the vision of the "BlueTechValley."

CLUSTER COMPONENTS

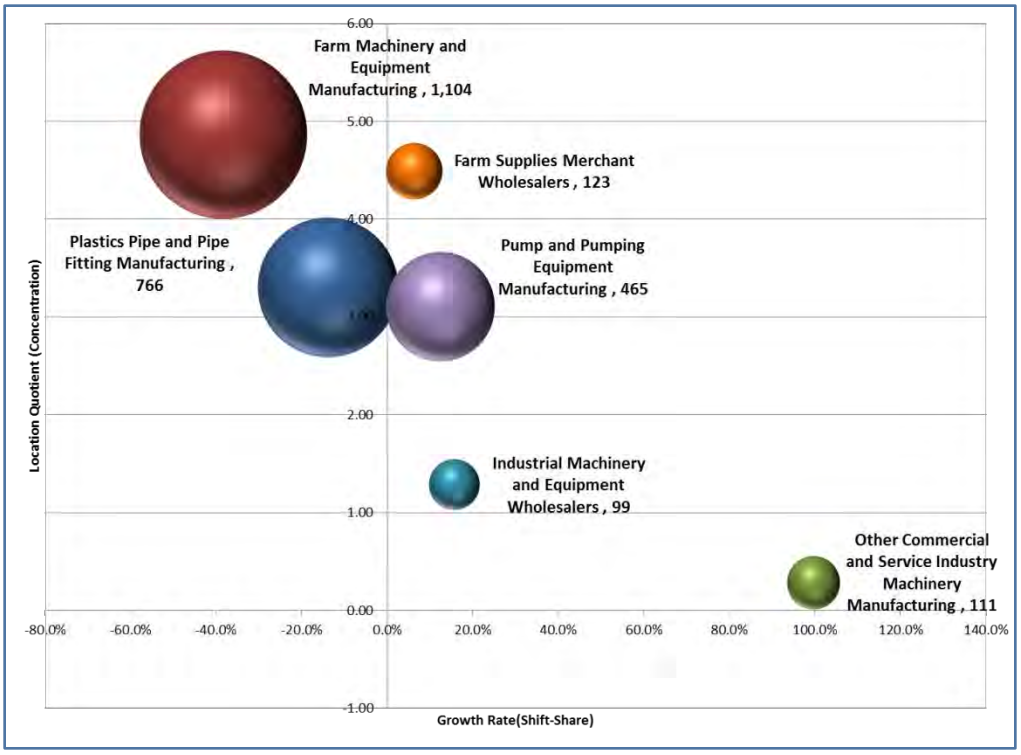
The Water Technology Cluster is comprised of the following components; the specific industries that are included in each cluster component as defined by their NAICS codes as included in Appendix B.

- Pump and pumping equipment manufacturing
- Plastic pipe and pipe fitting manufacturing
- Farm machinery and equipment manufacturing
- Other commercial and service industry machinery
- Farm supplies and merchant wholesalers
- Industrial machinery and equipment wholesalers

As indicated in Figure 4.6-1, water-related farm machinery manufacturing and plastic pipe manufacturing were the largest cluster components but contributed to the largest employment losses over the past decade. Non-farm related water technologies and distribution (wholesalers) provided much of the growth within the cluster.

FIGURE 4.6-1

COMPONENTS OF THE WATER TECHNOLOGY CLUSTER: SIZE AND GROWTH



Source: ADE, Inc.; data from IMPLAN CEW/ES202 county employment database

EMPLOYMENT INDICATORS

Table 4.6-1 summarizes Water Technology employment trends from 2001 through 2010, including employment changes and rate of growth, concentration (compared to the state), and shift-share (a ratio derived from the region's rate of growth compared to that of the state. The following is a summary of key trends:

- The Water Technology Cluster accounted for nearly 2,700 jobs in the San Joaquin Valley.
- Cluster employment declined by 26.9 percent between 2001 and 2010. This regional job decline occurred at a slower rate than the statewide average. During this period, the total jobs in the cluster declined by nearly 1,000 positions (Table 4.6-1).
- The concentration of employment in the cluster was more than twice the statewide average, showing the region's comparative advantage.

TABLE 4.6-1

WATER CLUSTER EMPLOYMENT AND GROWTH BY COUNTY

Description	Employment 2001	Employment 2010	Employment Change 2001 to 2010	Percentage Change 2001 to 2010	Location Quotient 2010	Shift-share
Water Flow Technology Cluster Total	3,651	2,668	-983	-26.9%	2.44	2.77%

GEOGRAPHIC CONSIDERATIONS

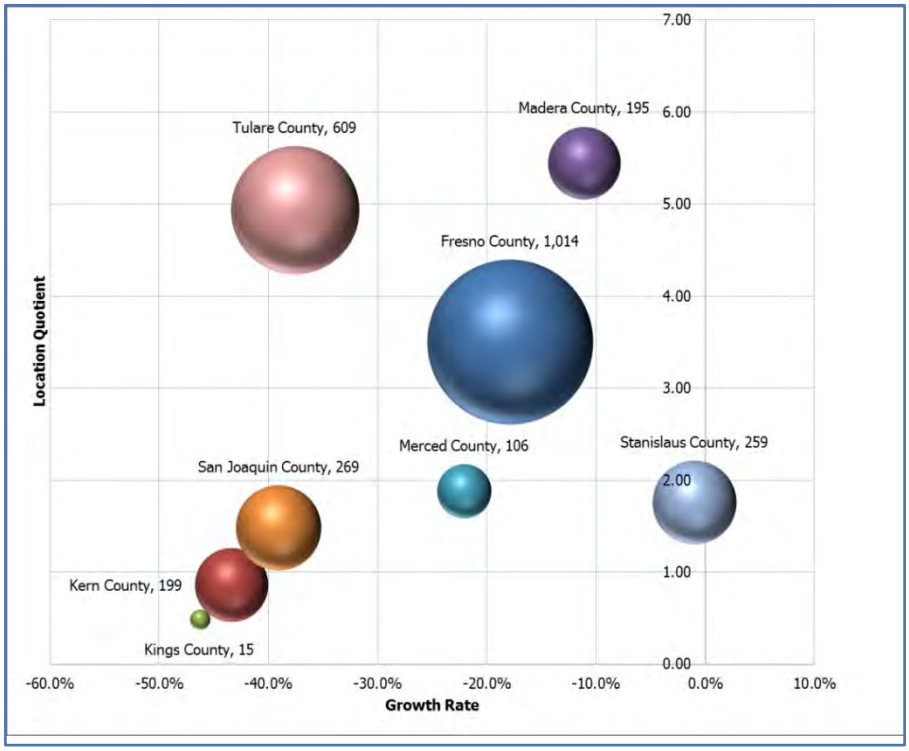
Figure 4.6-2 illustrates the growth trends geographically of the Water Technology Cluster by each county in the Valley.

- The Water Technology Cluster had the largest job counts in Fresno and Tulare counties, which together accounted for 60 percent of jobs in the cluster.
- The employment concentration was above average in every county, except for Kern and Kings counties. The highest employment concentrations were in Fresno, Madera, and Tulare counties, each of which has a concentration more than triple the statewide average.
- All counties lost jobs in this cluster between 2001 and 2010, with Stanislaus County having the smaller rate of loss.

While the amount of employment was small in most counties, it will be important to track how this cluster is recovering and identify opportunities to build the cluster regionally.

FIGURE 4.6-2

WATER CLUSTER EMPLOYMENT AND GROWTH BY COUNTY



Source: ADE, Inc.; data from IMPLAN CEW/ES202 County Employment Database - STANDARDIZE the source

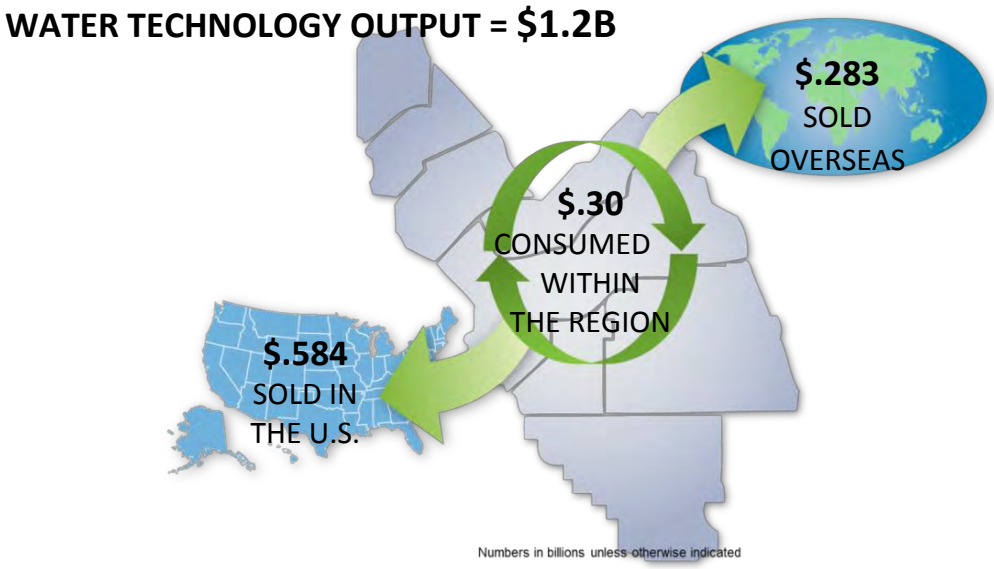
TRADE INDICATORS

This section presents information on the regional trade flows – outputs, inputs required for regional commodity inputs to produce the Water Technology Cluster's outputs, and the gaps, or leakage – that represent potential economic development opportunities in terms of filling the leakage.

- The commodity value of the Water Technology cluster in the region totaled $1.2 billion (Figure 4.6-3). Only 24 percent of that production was sold within the Valley, with 50 percent sold elsewhere in the US and nearly 25 percent sold to foreign markets.
- Total commodity demand for this cluster was $945 million ($565 million in final demand by consumers and institutions, and $379 million in trade with other businesses).
- The supplier purchases that support the Water Technology cluster had a total value of $871 million, of which $187 million is purchased from suppliers within the region. An additional $684 million in commodity demand (leakage) came from outside the region (Figure 4.6-4).

FIGURE 4.6-3

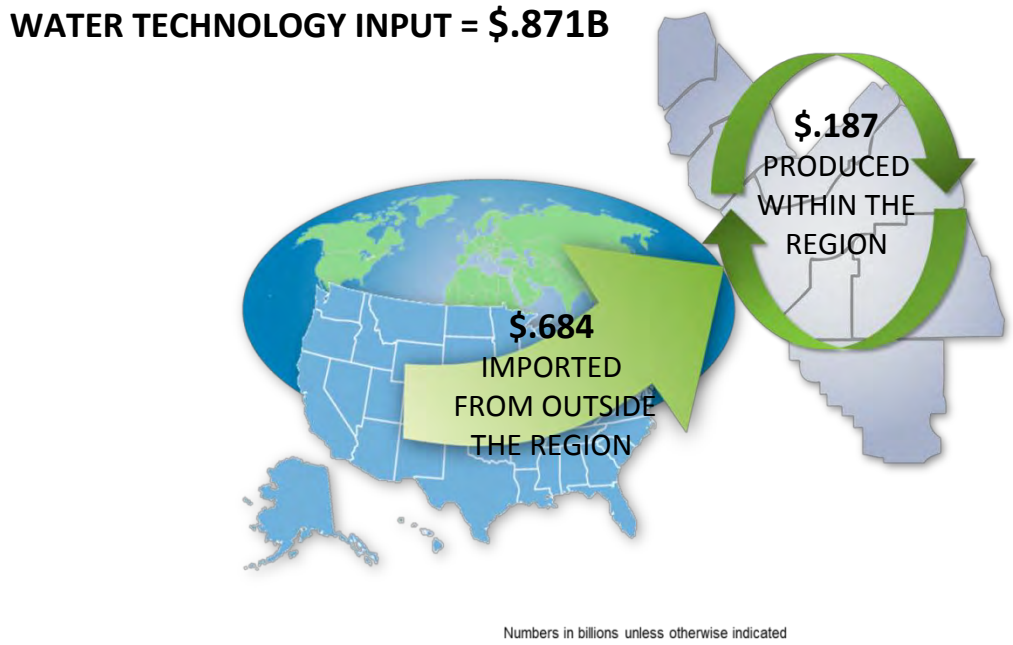
VOLUME OF SALES AND MARKETS PRODUCED WITHIN THE REGION FOR THE WATER TECHNOLOGY CLUSTER



Source: ADE, Inc.; data IMPLAN3 input-output model

FIGURE 4.6-4

PRODUCTION INPUTS REQUIRED FOR THE WATER TECHNOLOGY CLUSTER



Source: ADE, Inc.; data IMPLAN3 input-output model

Table 4.6-2 indicates top sectors where commodity leakages from the Water Technology Cluster may represent economic development opportunities in the Valley. While not all are likely candidates, there are large gaps in several manufacturing inputs that could be import substitution opportunities.

TABLE 4.6-2

TOTAL INPUT (PURCHASES) AND LEAKAGE (SELECTED INDUSTRIES), 2010

Description	Total Input Purchases	Share Purchased w/in Region	Inputs Purchased in Region	Commodity Leakage (Inputs)
Total Commodity Inputs	$871,674,000	NA	$187,321,000	$684,353,000
Plastics material and resin manufacturing	$130,416,000	1.0%	$1,364,000	$129,052,000
Iron and steel mills and ferroalloy manufacturing	$60,963,000	7.5%	$4,567,000	$56,397,000
Other engine equipment manufacturing	$32,447,000	0.1%	$37,000	$32,410,000
Valve and fittings other than plumbing manufacturing	$31,279,000	3.5%	$1,093,000	$30,187,000
Motor and generator manufacturing	$28,535,000	1.5%	$430,000	$28,105,000
Wholesale trade businesses	$70,745,000	64.6%	$45,666,000	$25,079,000
Motor vehicle parts manufacturing	$23,509,000	7.6%	$1,783,000	$21,726,000
Ferrous metal foundries	$21,705,000	5.6%	$1,212,000	$20,493,000
Fluid power process machinery manufacturing	$18,527,000	1.0%	$183,000	$18,343,000
Other plastics product manufacturing	$18,136,000	6.5%	$1,186,000	$16,951,000
Other water flow technology cluster establishments	$23,427,000	31.7%	$7,432,000	$15,994,000
Semiconductor and related device manufacturing	$15,593,000	0.2%	$27,000	$15,566,000
Crown and closure manufacturing and metal stamping	$18,410,000	21.1%	$3,892,000	$14,519,000
Management of companies and enterprises	$27,347,000	52.0%	$14,225,000	$13,122,000
Machine shops	$11,747,000	4.6%	$542,000	$11,205,000

Source: ADE, Inc.; data from IMPLAN3 Input-Output Model

4.7 OVERALL REGIONAL CLUSTER LEAKAGE AND ECONOMIC DEVELOPMENT TARGETS

Each of the cluster analyses discussed earlier in this chapter listed industry sectors from which the regional clusters import significant portions of the production inputs they require in order to manufacture their products or provide services (output). These gaps are defined as business-to-business leakage. When these leakage gaps are aggregated across the region and all the clusters, they represent an additional level of scale regarding potential new economic development opportunities for the Valley.

This section summarizes key targets that are an aggregation of possible market opportunities across the Valley's shared clusters, selected by ADE as a starting point for further consideration. In particular, this information is intended as a resource for the California Central Valley Economic Development Corporation (CCVEDC), which markets investment opportunities for business location and expansion in the Valley and provides site location assistance, especially for targeted industry clusters, along with Pacific Gas and Electric Company, individual economic development agencies and other partners. These partners include the Central Valley Business Incubator, the California Small Business Development Network, UC Merced Regional Network, and other organizations working on business attraction, expansion, retention and entrepreneurship.

METHODOLOGY

ADE evaluated each cluster with regard to the inputs of goods and services needed to support production within each cluster, using the Implan Input-Output (I-O) model described in Section 2.2. Analyzing the results of the model, ADE estimated the portion of inputs that each cluster obtained from other businesses within the San Joaquin Valley region, and what portion was obtained from outside the region. The I-O model makes these estimates based on the industry requirements derived from a national economic model and the employment distributions by industry within the region. The dollar values of industry inputs are regional averages and do not necessarily reflect actual buyer-supplier relationships for individual businesses within the region.

As such, the figures provide an indication of potential gaps or supplier "leakages" but may not be an exact estimate of supply chain behavior throughout the entire cluster. Also, industry sectors that are not likely to be located in the Valley have been eliminated from the list of targets. Further investigation and validation of the cluster leakage data is required in order to identify realistic opportunities for economic development purposes.

POTENTIAL ECONOMIC DEVELOPMENT TARGETS

Table 4.7-1 summarizes the potential economic development targets for business expansion, attraction, start-ups and marketing by type of commodity supplied from outside the region and the estimated level of "leakage" and therefore market support for these new or expanded businesses. Figure 4.7-1 illustrates the same information emphasizing the targets by level of market support. With refinement, the analysis can also indicate the potential number of establishments that could be supported with an increase in local market share.

TABLE 4.7-1

POTENTIAL SAN JOAQUIN VALLEY ECONOMIC DEVELOPMENT TARGETS BY TYPE OF COMMODITY

Description	Market Support
Lessors of nonfinancial intangible assets	$712,684,902
Scientific research and development services	$699,203,194
Paper mills	$611,657,224
Oilseed farming	$457,939,735
Other basic organic chemical manufacturing	$395,251,263
Petrochemical manufacturing	$388,307,767
Artificial and synthetic fibers and filaments manufacturing	$385,174,775
Software publishers	$375,381,255
Plastics material and resin manufacturing	$363,583,853
Automotive equipment rental and leasing	$336,797,184
Plastics bottle manufacturing	$336,106,827
Management, scientific, and technical consulting services	$323,596,782
Aluminum product manufacturing from purchased aluminum	$303,463,414
Advertising and related services	$284,775,137
Paperboard Mills	$257,933,907
Other plastics product manufacturing	$244,701,794
Semiconductor and related device manufacturing	$241,774,577
Metal can, box, and other metal container (light gauge) manufacturing	$222,663,225
Plastics packaging materials and unlaminated film and sheet manufacturing	$220,030,995
Motor vehicle parts manufacturing	$212,772,162
All other chemical product and preparation manufacturing	$169,215,313
All other basic inorganic chemical manufacturing	$166,138,528
Architectural, engineering, and related services	$165,780,479

Source: IMPLAN3 I-O model, ADE

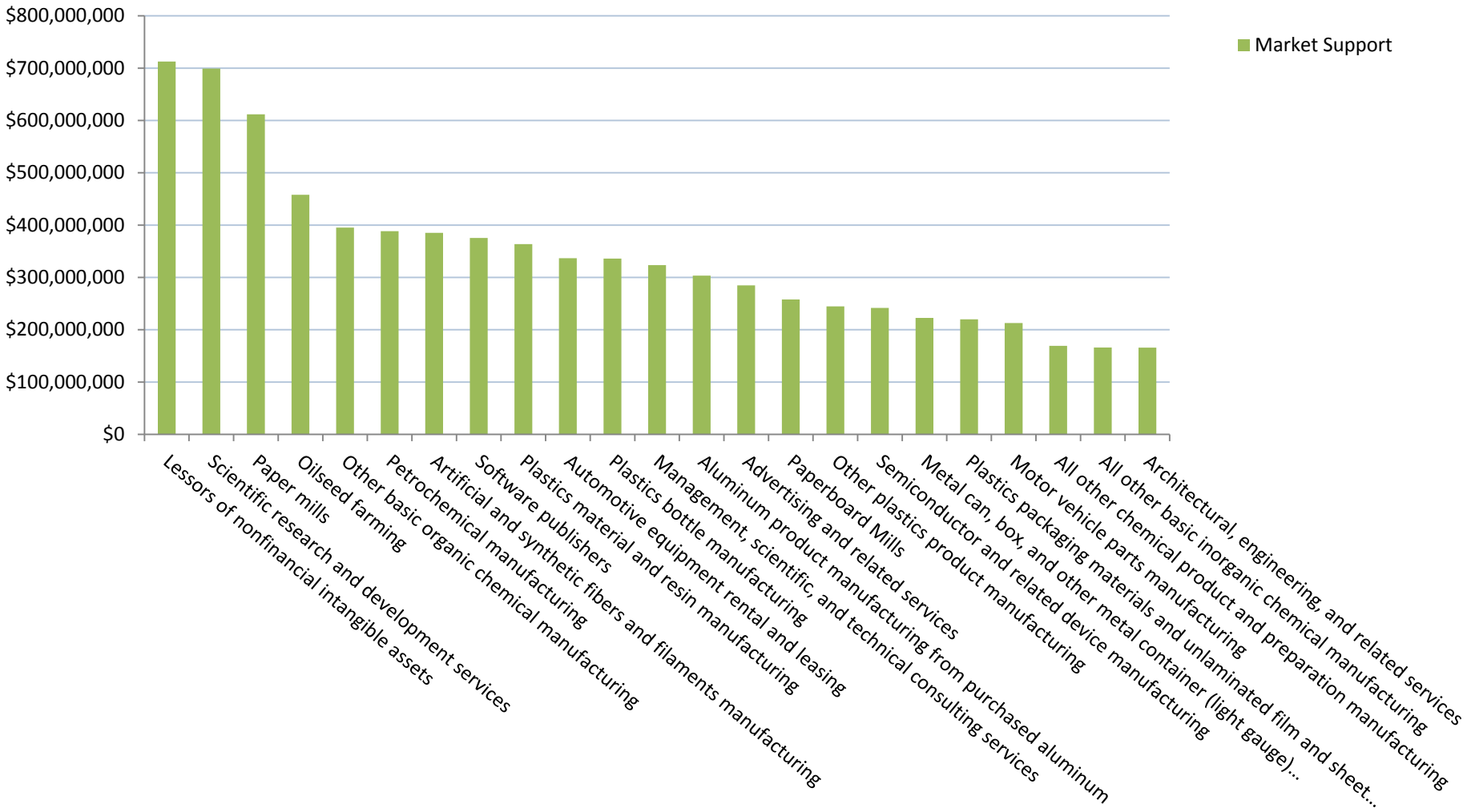
“Lessors of nonfinancial intangible assets” was the largest category shown. According to the NAICS definition, this industry “comprises establishments primarily engaged in assigning rights to assets, such as patents, trademarks, brand names, and/or franchise agreements for which a royalty or licensing fee is paid to the asset holder.” Activities include brand name licensing; franchising agreements, leasing, selling or licensing; oil royalty companies; oil royalty leasing; industrial design licensing; patent buying and licensing; patent leasing; and trademark licensing. This industry represents specialization including legal expertise that is sought outside of the Valley.

Scientific research and development services was the next largest market gap. Combined with management, scientific and consulting services, these industries provide another professional services target for developing specialized expertise within the Valley. As noted in the Energy Cluster analysis, research and scientific consulting services are a growth opportunity. Oilseed farming was the fourth largest gap and also relates to the Energy Cluster, as an input for biofuels. Most of the other potential targets are in manufacturing industries. The architechtural, engineering, and related services industry is another potential growth area, especially with opportunities related to public sector infrastructure construction as described in the next section of this report.

OCED and ADE met with the CCVEDC to discuss the findings and next steps related developing a collaborative valley-wide strategy to pursue these opportunities. Recommendations are presented in Chapter 5.

FIGURE 4.7-1

ECONOMIC DEVELOPMENT TARGETS BASED ON CLUSTER REQUIREMENT



Source: Applied Development Economics

4.8 PUBLIC SECTOR INFRASTRUCTURE (CONSTRUCTION)

The Great Recession affected the construction industry more than any other sector in the Valley, especially with residential construction and the collapse of the housing market. According to California Employment Development Department (EDD) data for the eight county San Joaquin Valley region, construction employment fell from 89,400 jobs in 2006 to 45,900 in 2010, a loss of almost 50 percent in just four years (43,500 jobs).[53] A slow recovery is starting to be evident with the creation of 5,700 new construction jobs between July 2011 and July 2012 (preliminary) but it will take time to replace the jobs lost and absorb the existing unemployed labor force which was estimated.

To address the large number of layoffs in the region's construction industry, the Central California Workforce Collaborative (CCWC) secured a National Emergency Grant in 2010 to assess workforce opportunities related to the region's planned public sector infrastructure investments. With the decline in residential construction, construction of public infrastructure and facilities represents perhaps the largest current investment underway in Central California and an opportunity to revitalize the construction sector and the regional economy, and build new skills for workers, especially for middle-skill infrastructure jobs. Skills building will help ensure the Valley's workforce is qualified for local construction jobs that will be created by these investments.

The CCWC region spans the San Joaquin Valley south of Sacramento, the Mother Lode foothill counties, and the high desert areas of Kern, Inyo and Mono counties, so it is larger than the San Joaquin Valley itself. However, the Valley comprises the greatest part of the jobs and workforce, and the analysis and the strategy are reflective of conditions in the Valley region.

ADE prepared the project analysis of the construction workforce, planned public sector infrastructure investments and construction workforce needs and skills for fifteen high-demand occupations over the next ten years. The analysis – *Workforce Needs for Public Sector Infrastructure* (April, 2011), incorporated a broader definition of public sector infrastructure than is commonly used, and included an initial scan of regional education and training resources to meet projected occupational demand across several areas of infrastructure. The Council for Adult and Experiential Learning (CAEL) prepared the project implementation strategy – *the Public Infrastructure Workforce Plan* (2012).

Because construction is generally considered a primarily local-serving sector, there is only one construction-related cluster in the Valley, which was formed as part of the Regional jobs Initiative (RJI). A cluster SWOT analysis prepared by RJI cluster leaders in 2009 identified several challenges, including those posed by the economic downturn, lack of momentum to keep diverse private sector participation, and missing out on funding sources (such as ARRA funds) due to lack of representation and organization.

[53] California Employment Development Department, Labor Market Information Division, Industry Employment Data, Monthly Profiles. Note: Figures for the counties of Kings, Madera, Merced, Stanislaus and Tulare counties also include mining and logging activities but construction employment is the primary source of jobs.

It also identified the potential to build network "infrastructure," be a collective voice, and prepare for the future upturn of the economy.[54] The Cluster is in transition and OCED has discussed with cluster leaders, the CCWC, the CCVEDC, the Regional Policy Council and other partners the opportunity for its revitalization and regionalization based on leveraging public sector infrastructure investments.

PUBLIC SECTOR INFRASTRUCTURE CLUSTER OPPORTUNITIES

The major infrastructure categories covered in the CCWC analysis are: transportation (not rail); rail transit including High Speed Rail; infrastructure including water and wastewater systems, flood control, and other public works; buildings/community assets including hospitals, educational facilities and correctional facilities; broadband infrastructure; and energy facilities, including solar farms and wind energy projects and transmission. When aggregated across these infrastructure categories, major construction projects budgeted by the public sector, utilities and institutional entities for the CCWC region totaled an estimated $36.6 billion between 2010 and 2020 (Table 4.8-1).

Most of these projects were planned for the first three to five years of this period, since the information for local government Capital Improvement Programs (CIPs) - a primary data source - is not yet available beyond that time frame. Regional projects with longer time frames include the High Speed Rail at $6 billion and the Delta Conveyance at $6-$10 billion. Non-rail transportation projects comprise 30 percent of expenditures, and alternative energy/broadband projects totaled approximately 25 percent. Projected expenditures in public buildings/community facilities such as schools, colleges, hospitals, and prisons were estimated at $3.1 billion or almost nine percent, and "other infrastructure" (minus the Delta Conveyance) estimated at about $863 million.

TABLE 4.8-1

SUMMARY OF MAJOR INFRASTRUCTURE EXPENDITURES IN CCWC REGION, 2010-2020

Infrastructure Category	Planned Expenditures ($billions)	Percent
Transportation (not rail)	$10.46	28.56%
Rail transit (including high-speed rail)	$6.10	16.63%
Infrastructure (including water and wastewater)	$7.53	20.57%
Buildings/community assets	$3.15	8.60%
Broadband	$0.13	0.36%
Energy	$9.26	25.28%
TOTAL	**$36.61**	**100%**

Source: ADE, based on data from state and local government agencies, CPUC, CEC, California High-Speed Rail Authority, California Secretary of State (bond and sales tax measures), Regional Transportation Plans, project team interviews and other research.

[54] SWOT Analysis, Construction Cluster, June 2009, Regional Jobs Initiative.

According to the analysis, construction jobs associated with these public infrastructure expenditures were projected to create 197,300 person-years of employment across a variety of construction industries (Table 4.8-2). It is estimated that these projects would have the potential to support 31,500 jobs in 2010 and would support an average of 24,500 jobs per year between 2011 and 2014. Of the total jobs, about 6.1 percent are in professional services – design and engineering – occupations.

Based on the results of the analysis, CAEL developed a workforce development strategy for CCWC to focus on the opportunity to link local workers with the public infrastructure investments planned for the region. Training strategies are geared to helping workers with residential construction experience transition to the skill sets needed for heavy construction, as well as working with labor organizations to anticipate the skill needs associated with the impending retirement of union workers. There is a strong need for ongoing intelligence gathering and communications in order to track effectively the changing opportunities in public infrastructure development and the timing of these opportunities. Chapter 5 contains recommendations to support the implementation of the Workforce Plan.

TABLE 4.8-2

SUMMARY OF PROJECTED JOBS FROM MAJOR INFRASTRUCTURE EXPENDITURES IN CCWC REGION, 2010-2020

Project Type	*Total*	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Transportation	***54,646***	**7,595**	**7,012**	**6,700**	**6,263**	**8,168**	**4,383**	**3,805**	**3,790**	**3,544**	**3,385**	**0**
Construction	*52,828*	7,342	6,779	6,477	6,055	7,896	4,237	3,679	3,664	3,426	3,272	0
Design/Engineering	*1,818*	253	233	223	208	272	146	127	126	118	113	0
High Speed Rail	***25,499***	**0**	**237**	**2,285**	**4,416**	**6,838**	**6,090**	**4,189**	**1,443**	**0**	**0**	**0**
Construction	*24,209*	0	225	2,176	4,205	6,487	5,776	3,966	1,374	0	0	0
Design/Engineering	*1,290*	0	11	110	211	352	315	223	69	0	0	0
Other Rail Transit	***597***	**276**	**258**	**31**	**1**	**1**	**1**	**1**	**27**	**1**	**1**	**0**
Construction	*577*	266	250	30	1	1	1	1	26	1	1	0
Design/Engineering	*20*	9	9	1	0	0	0	0	1	0	0	0
Infrastructure	***5,175***	**1,978**	**1,921**	**811**	**331**	**134**	**0**	**0**	**0**	**0**	**0**	**0**
Construction	*4,792*	1,832	1,779	751	307	124	0	0	0	0	0	0
Design/Engineering	*383*	146	142	60	25	10	0	0	0	0	0	0
Delta Conveyance	***33,283***	**0**	**0**	**2,142**	**4,545**	**4,383**	**4,229**	**4,076**	**3,931**	**3,447**	**3,324**	**3,206**
Construction	*30,819*	0	0	1,983	4,209	4,058	3,916	3,774	3,640	3,192	3,078	2,969
Design/Engineering	*2,464*	0	0	159	336	324	313	302	291	255	246	237
Buildings/Other Government	***19,897***	**7,413**	**5,913**	**5,878**	**555**	**138**	**0**	**0**	**0**	**0**	**0**	**0**
Construction	*18,714*	6,965	5,558	5,541	521	130	0	0	0	0	0	0
Design/Engineering	*1,183*	448	355	337	34	9	0	0	0	0	0	0
Broadband	***868***	**442**	**426**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Construction	*804*	409	395	0	0	0	0	0	0	0	0	0
Design/Engineering	*64*	32	31	0	0	0	0	0	0	0	0	0
Energy	***57,334***	**13,853**	**10,954**	**9,835**	**6,236**	**6,263**	**5,096**	**5,096**	**0**	**0**	**0**	**0**
Construction	*53,119*	12,835	10,149	9,112	5,778	5,802	4,721	4,721	0	0	0	0
Design/Engineering	*4,215*	1,018	805	723	458	460	375	375	0	0	0	0
Total All Projects	***197,299***	**31,556**	**26,722**	**27,683**	**22,348**	**25,925**	**19,799**	**17,167**	**9,191**	**6,992**	**6,710**	**3,206**
Construction	*185,862*	29,649	25,135	26,070	21,074	24,498	18,651	16,142	8,704	6,619	6,351	2,969
Design/Engineering	*11,437*	1,907	1,587	1,612	1,273	1,427	1,148	1,026	487	373	359	237

Source: ADE, Inc.; data from state and local government agencies, CPUC, CEC, California High-Speed Rail Authority, California Secretary of State (bond and sales tax measures), Regional Transportation Plans, project team interviews and other research.

CHAPTER 5

CHARTING THE COURSE FOR THE SAN JOAQUIN VALLEY'S ECONOMIC FUTURE

"If we work together we can make a difference."

Participant, Manufacturing, Energy and Logistics Cluster Meeting, Fresno, June 11, 2012

This chapter presents overall findings and recommendations for the New Valley's next stage of implementation, as well as specific cluster priorities and recommendations, and recommendations for alignment of organizational capacity and support for cluster strategy implementation.

The Valley has significant assets. There are an almost overwhelming number of initiatives underway throughout the Valley related to the clusters, including those that are increasingly a convergence across the clusters, such as with energy, water and agriculture. A great deal of leadership and expertise resides with the partners involved in these initiatives, but they are dealing with diminished resources, the very large scale of the Valley, a diversity of issues facing the clusters, and the inherent challenges of collaboration such as dedication of time and capacity. However, partners increasingly are developing the capacity to regionalize their networks and ways to engage in specific initiatives on behalf of their networks. This network-to-network process is proving to be very beneficial. The Partnership and OCED's goal should be to connect, support and optimize these assets and initiatives.

5.1 OVERALL FINDINGS

A number of the findings cut across the individual clusters and pertain to the overall economy and the region's organizational context. Overall Project findings include the following:

- The Valley's economy is beginning a slow recovery but lags behind many other California regions, especially coastal areas with technology sectors. Innovation indicators such as venture capital investment and patents show a similar disparity.
- The Valley had an estimated Gross Domestic Product of $140 billion and of $228.6 billion in economic output in 2010. Several areas (components) within the Valley's clusters showed resilience during the recession and are a platform for the next stage of the New Valley Economy. Overall, the clusters have been the engine of most of the Valley's employment growth since 2001.
- However, even in clusters where the Valley has comparative advantage, such as agriculture and logistics, the Valley is not "capturing the value chain." There is leakage through outsourcing for industry supplier inputs, talent (workers commuting out of the Valley for jobs), innovation (inventions and ideas leaving the Valley for specialized services and capital), and loss of value-added activities such as processing of raw materials into more finished products.

- Leakage occurs across all the clusters and there is a strong economic development opportunity to fill these gaps, both within the clusters and aggregated across the clusters.
- The Partnership's five original SAP clusters continue to be shared priorities across the Valley, with some adaptations. They are the foundation for the Cluster Action Plan along with the Water Technology Cluster and consideration of Public Sector Infrastructure (construction).
- Initiatives, including county industry cluster activities and the Partnership's New Valley Work Groups, are challenged by resource and capacity issues, calling for a restructuring and alignment of organizational approaches, including the role of OCED and the Work Groups.

Several common themes were expressed by cluster meeting participants, partners, and Valley leaders to guide recommendations for the Cluster Action Plan:

- Given the Valley's many cluster and sector-focused assets, what is needed is leadership and support to connect and convene them in order to identify the shared priorities that can best be addressed and advanced at the regional level.
- Improving the educational status and skills levels of the workforce, and creating pathways for opportunity is a high priority and a focus of many of the Valley's sector-based strategies. There is a strong commitment to connecting students with educational opportunities that are present; to create a college-going culture in the Valley; and to train people for jobs that are here and in sectors that are growing. Additional information is needed on priority occupational demand.
- There is a clear nexus across the clusters. Issues are interconnected and the clusters need to be addressed synergistically. As an example, combining manufacturing, energy and logistics in a broad coalition was recommended as the right way to engage to move the Valley forward.
- The list of economic development leakage targets, aggregated and by cluster, needs to be refined by those working on the ground to determine the most realistic targets. Closing the gaps will require a concerted collaborative strategy and a designated lead to execute the strategy.
- Regional collaboration across systems and across the Valley will create efficiencies, better labor market information on high demand workforce skills and occupations, and market export opportunities. This collaboration should be made more systematic where possible.
- The New Valley Work Groups leads, with support from OCED, should convene the cluster groups regularly to advance shared Action Plan priorities, identify partnership opportunities, network, and seek new project and funding opportunities for the region. Participation of Partnership Board members for high level conversations will help identify and advance strategic priorities. Action Plan implementation should be guided by the Partnership Executive Committee.
- The Valley needs to have a stronger voice in Sacramento, both with the Legislature and state agencies.

The Valley is poised for a shift in the next phase of its economy, especially through attention to "capturing the value chain" and becoming a leader in new technologies for water, energy, air quality, recycling and other resource efficiencies and infrastructure. For example, the vision is for the San Joaquin Valley to be recognized as a global leader for water and energy technology – for being the best area for testing and getting water and energy technologies to market – the BlueTech Valley. This shift can both drive specific cluster growth and improve the efficiencies, competitiveness and environmental outcomes of other clusters such as Agriculture. It also will help improve the Valley's overall health and well-being of people, communities and life-sustaining systems.

5.2 KEY CLUSTER RECOMMENDATIONS

The Project's planning process generated many ideas, priorities and recommendations for the overall New Valley Cluster Action Plan and individual clusters. They have been distilled into a summary list of specific issues and proposed actions for each cluster, and are presented on page 119. They are a starting point for clarifying the highest priority issues and actions, and developing targeted implementation plans under the umbrella of the overall Cluster Action Plan. These plans should be developed through the New Valley Cluster Work Groups (and Cluster Action Teams), with a focus on areas where the Partnership can add value through its regional mission, leadership and state-regional collaboration assets, along with the resources, expertise and networks of OCED (see Section 5.3 for organizational recommendations). Working with OCED, the Partnership Executive Committee will guide the identification of a selected set of tangible initiatives across the clusters for implementation in 2013.

Recommendations for the Agriculture Cluster and the Public Sector Infrastructure Cluster are based on the Regional Economic Summit held in March, 2012, and the economic analysis and Regional Workforce Plan prepared for the Central California Workforce Collaborative, respectively. The San Joaquin Valley Interregional Good Movement Plan being prepared for the Regional Policy Council provided information for recommendations for the Logistics and Public Sector Infrastructure Clusters.

Based on the framework for the State Economic Summit which was used for the Regional Economic Summit for the Agriculture Value Chain, recommendations for the other clusters were grouped into the following five areas: infrastructure (goods movement, water, broadband, energy); workforce needs; innovation; regulations and sustainability; and access to capital. The emphasis varied by cluster. Some of the issues areas such as energy are also a cluster. Others like broadband are an enabling technology across all of the clusters. The majority of the recommendations are in the category of workforce needs, followed by regulations and sustainability. Access to capital was raised as a more general issue, especially for various stages of capital related to promoting research, commercialization of technology, and innovation. Further exploration of these issue areas by the Cluster Work Groups is merited.

Addressing workforce needs is a strong area of focus due to the concerted efforts on the part of Valley leaders to raise the educational attainment of the Valley's youth and adults; provide a skilled workforce

that meets the needs of employers and provides a pathway to prosperity for workers; and reduce unemployment and stagnation of workers in low-skill low-wage jobs, especially in the Valley's rural areas. As noted in other parts of this report, there are several innovative regional workforce sector strategies underway, focused on occupations across many clusters. Many of these are successful models that need to be brought to scale. This will continue to be a high priority for the Valley and is reflected in action priorities across the clusters.

The Ation Plan also addresses the need for cultivation of and support for an entrepreneurial culture and "eco-system" to reduce the intellectual/innovation leakage gap and to foster new jobs, start-ups and business expansions in the Valley. This approach should capitalize on new research assets such as UC Solar, the UC Merced Health Sciences Research Institute (HSRI), and the UC Merced Sierra Nevada Research Institute, as well as numerous existing research assets. The existing assets are many and include: other University institutes and research stations, the WET Center (Water, Energy, Technology), the Lyles Center for Innovation and Entrepreneurship, the Central Valley Business Incubator, the Cal Valley Tech iHub, the UC Merced Small Business Development Center Regonal Network, the Business and Entrepreneurship Center, the Central Valley Fund, the Center for Applied Competitive Techologies, the California Centers for International Trade Development, CalFOR, and private sector, federal and state research and development assets.

OCED can play an important role in helping to connect, coordinate and leverage these assets to addresss the targets and opportunities identified in the Cluster Action Plan. Elevating these assets will in turn help address capital needs, catalyze entrepreneurship and the commercialization of new technologies, and foster the Valley's pipeline of innovation.

Additional detailed information and resources generated during the planning process will be available through OCED and the Partnership's website as resources for the Cluster Work Groups.

KEY CLUSTER ACTION PLAN PRIORITIES		
Cluster	**Issues/Opportunities**	**Recommended Actions**
Agriculture	• All 5 issue areas addressed in Regional Economic Summit	• All actions have designated champions and recommended actions; Partnership & OCED are tracking progress. See www.sjvpartnership.org
Energy	• Regional focus on cluster development & coordination needed; opportunity to develop biofuels;, better define cluster components • Conditional Use permits vary by county – frustrating for international companies willing to invest in the Valley; results in project delays or cancellations • Increase entrepreneurial climate; need to create culture of early stage investment, create dialogue with entrepreneurs, &encourage students to create the next generation of solar technology • Leakage of energy use	• SJV Clean Energy Organization should be lead for cluster development action plan; expand networking to connect more stakeholders • Advocate for funding for SJV Regional Energy Plan Roadmap • Coordinate with County Planners (CSAC) working on simpler expedited solar permitting process throughout the state; coordinate locally • Coordinate with UC Solar Research Institute, CVBI, Lyles Center for Innovation and Entrepreneurship, Central Valley Fund, Business and Entrepreneurship Center, UC Merced SBDC Regional Network, CalFOR & others to accelerate technology commercialization & entrepreneurship • Provide input to PUC on energy facilities sitings • See Regional Economic Summit Strategy recommendations
Health and Wellness	• Difficult to coordinate with so many initiatives across the Valley • Need for consistent and regionalized standards and curriculum for same occupations/certificates, and for transferability of credits from Community Colleges to CSUs • Need to standardize residency requirements for nurses • Address gaps in workforce skills – need for better information, programs to increase skill levels • Need to prepare for health information technologies; expand broadband infrastructure • Need improved access to jobs and health care services in rural areas • Wellness/prevention focus will increase demand for services and workers	• Partnership health leaders should convene high level cluster meetings • Advocate for transfers within regional network of accredited courses (C6 project is opportunity to standardize curriculum), including for nursing • Collaborate with hospitals to unify employee competencies, translate to college curriculum • Expand nursing residencies across the Valley; coordinate with hospitals, community colleges, universities • Advocate for Regional Industry Clusters of Opportunity (RICO) funding • Expand mentoring programs • Coordinate with SJV Regional Broadband Consortium, employer networks like Central Valley Health Network, WIBs, etc. for e-health • Collaborate with Councils of Government, employers, transit agencies to develop more regional, coordinated transportation systems • Expand Patient Navigator, Promotora and other model programs • Coordinate with UC Merced Health Sciences Research Institute, CVBI, and entrepreneurship centers
Logistics	• Additional options for goods movement needed (non-truck) • Foreign Trade Zones underutilized • Emissions impact air quality and health • Issues identified at Regional Economic Summit	• Ensure coordination between Regional Policy Council/COGs (stakeholder planning process underway), SJV Air Pollution Control District, CCVEDC, Caltrans, Partnership Sustainable Communities Work Group, railroad companies on planning/projects • See Regional Economic Summit Strategy recommendations
Manufacturing	• Main issue for employers is workforce development • Lack of high-level engineering jobs in the Valley, so many students leave the region • Need cross-pollination of engineering workplace skills with existing workforce • Need appropriate infrastructure to create new products out of recycled products; waste commodities being shipped overseas	• Coordinate with C6 and California Center for Applied Competitive Technologies for increased training • Match resources of the universities to the manufacturers; connect internships with employers; support UCAM • Develop a strategy to close supplier gaps • Do policy advocacy (coordinated by REACON) on increase markets for recycling in California (Recycling BIN – Build Infrastructure Now)
Water Technology	• Demand for clean water, sustainable water resources & infrastructure is creating new business opportunities beyond agriculture • Issues identified at Regional Economic Summit	• Broaden focus of R&D to address diverse water supply and quality issues across an increased range of industries; coordinate with WET Center, Lyles College of Engineering, CVBI and other partners • Focus on growth of specific technologies (BlueTech Valley) • See Regional Economic Summit Strategy recommendations
Public Sector Infrastructure - (CCWC Project)	• RJI Construction Cluster not active • Lack of awareness regarding aggregated impact of public sector investments • Updated inventory of projects & schedules needed on ongoing basis • Coordination needed with economic development and planning to secure project funding	• Implement CCWC Regional Plan as Cluster Strategy for workforce • Coordinate with Partnership to advocate for public sector investment/local hiring • Identify lead to update project inventory and schedule • Coordinate with Regional Policy Council and SJV Economic Development District to link project priorities with possible funding sources

5.3 ORGANIZATIONAL RECOMMENDATIONS

The Cluster Action Plan findings and engagement process provide a platform to align organizational focus, initiatives and resources to support the evolution of the Valley's regional cluster initiatives. This section of the report provides recommendations for the role of the Partnership, and OCED at the regional scale, focused on the next stage of the New Valley initiative, including the organization of Work Groups to lead or support the Valley's Regional Innovation Clusters.

ROLE OF THE PARTNERSHIP

Given its mission and role, how and where can the Partnership best add value at the regional level for successful on-the-ground implementation and overall progress for the Valley? The stakeholder engagement process clearly identified that an important value-added role for the Partnership is to:

Network - Help connect the many efforts across the region that are cluster-based or support the clusters (cluster foundations such as infrastructure – including broadband, sustainable communities, financing, environmental quality, and education and workforce).

Convene – Play a convening role for the bigger valley-wide issues that are not being addressed in other forums, to drive the agenda for the growth and vitality of the clusters.

Integrate - Provide synergy across the region, helping to knit together the clusters, the issues and the initiatives to pursue shared priorities.

Advocate - Promote and advocate regarding cluster priorities on behalf of the Valley, including the removal of barriers, elevation of regional issues and opportunities, resource needs including funding, and networking with partners and investors outside of the region.

Catalyze – Be a catalyst for collaboration and the diffusion of innovation, including through the elevation of models.

The Partnership plays this role to varying degrees already. The next step is for more intentional engagement around a cluster-based economic strategy. Cluster processes are by their nature vehicles for engagement of champions, businesses, stakeholders and partners in regional strategies. During the course of the Project, ADE found that awareness of the Partnership was mixed. Proactive engagement of the Partnership around a core set of tangible initiatives will increase this awareness and expand its impact. Involvement of Board members in specific cluster areas such as health and wellness in a high level convening role (as well as participation in implementiation initiatives) was identified by cluster meeting participants as a very value-added activity. At the Partnership's September 2012 Boad meeting, the Executive Committee agreed to convene to discuss follow up on Project opportunities, including to identify a specific set of tangible initiatives for 2013, and provide guidance for the ongoing implementation of the Action Plan.

ROLE OF OCED/NEW VALLEY WORK GROUPS

As described in the report's Executive Summary, OCED plays a critical backbone role for the work of the Partnership and the New Valley. Implementation of the Cluster Action Plan will require an increase in or realignment of existing OCED capacity to support or lead the New Valley Work Groups; continue OCED's outreach, networking, coordination and consultation process around cluster opportunities; and engage new partners, stakeholders and leaders in Work Group and Action Plan initiatives.

As described earlier, there are ten Work Groups implementing aspects of the New Valley Initiative. Most of the Work Groups are led by regional partners, such as the California Central Valley EDC (Economic Development Work Group) and the Central California Workforce Collaborative (co-lead of the Higher Education and Workforce Development Work Group). Several of the Work Groups are managed by Fresno State institutes. As the Secretariat for the Partnership, OCED provides onoing support to the Work Groups. OCED also is the lead for the Advanced Communications Services Work Group (San Joaquin Valley Regional Broadband Consortium) and the Housing Work Group, and is reorganizing the Health and Human Services Work Group as the Health and Wellness Cluster Work Group, taking the opportunity to align the Work Group with cluster opportunities. OCED will manage this Work Group's for this transition. In addition, OCED supports the RJI which has twelve clusters, staffing two of them.

The Work Groups are in varying levels of capacity and operational status. Some need to be revitalized or refocused in terms of leads/champions, partners and work plans. Table 5.3-1 on p. 123 presents a proposed Work Group structure to facilitate Action Plan implementation. The table lists the proposed Work Groups, the lead and support entity, and key regional initiatives and partners to be involved. This listing is illustrative of the wide range of partners. There are other entities that need to be involved.

The Work Groups are sorted by those which are directly related to the specific clusters, such as Health and Wellness, Energy and Economic Development - the CCVEDC has targets across four clusters, and those which are related to the cluster foundations, such as broadband, air quality and workforce. These foundations support all the clusters. In most cases the Work Groups and lead groups are the same as before, but the Plan calls for a more proactive role for some of them, as described in the Key Cluster Action Plan Priorities in Section 5.2. OCED has been discussing with the partners the role they can and would like to play in Action Plan implementation, and will be following up with them to discuss specific Action Plan recommendations, how they fit with existing Work Group roles and activities, and how OCED can support the Work Groups to integrate the recommendations into their work plans.

Several of the recommended actions are related to the Economic Development Work Group. A major priority is the creation of a strategy to refine the list of economic development leakage targets identified in Chapter 4.7, and lead entity to execute the strategy. These targets are an opportunity for the Work Group and partners to take a more proactive role in leveraging regional and county-level economic development opportunities. Another opportunity is via the newly designated EDA-funded Economic Development District, wherein economic development leaders can collaborate with the San Joaquin

Valley Regional Policy Council as it identifies infrastructure project priorities that will be recommended through the San Joaquin Valley Interregional Goods Movement Plan process. Some of the projects may be eligible for EDA and other public sector infrastructure funds. These projects could contribute to the revitalization of the Construction Cluster, while helping to achieve mobility, air quality and other goals.

In addition to CCWC's regional work in the health and green economy arena (the Regional Industry Clusters of Opportunity Project funded by the California Workforce Investment Board, and the State Energy Sector Partnership Grant for renewable energy and recyclables), CCWC can play a major role in the public sector infrastructure arena related to workforce development and local job creation and skills building, through the implementation of the 2012 Workforce Development Plan. CCWC is encouraged to utilize the Partnership's website and other resources to establish increased visibility and a regional portal for the excellent information and strategies that have been developed, and to continue its model of collaboration and resource leveraging related to the region's industry cluster strategic priorities.

Figure 5.3-1 below illustrates the proposed New Valley Work Groups, the foundational support provided by OCED, and the role of the Partnership Executive Committee to support and guide the overall implementation of the Cluster Action Plan. Section 5.4 on implementation "Next Steps" (page 126) provides specific recommendations for the Partnership and OCED as well as the Work Groups.

FIGURE 5.3-1
PROPOSED WORK GROUPS

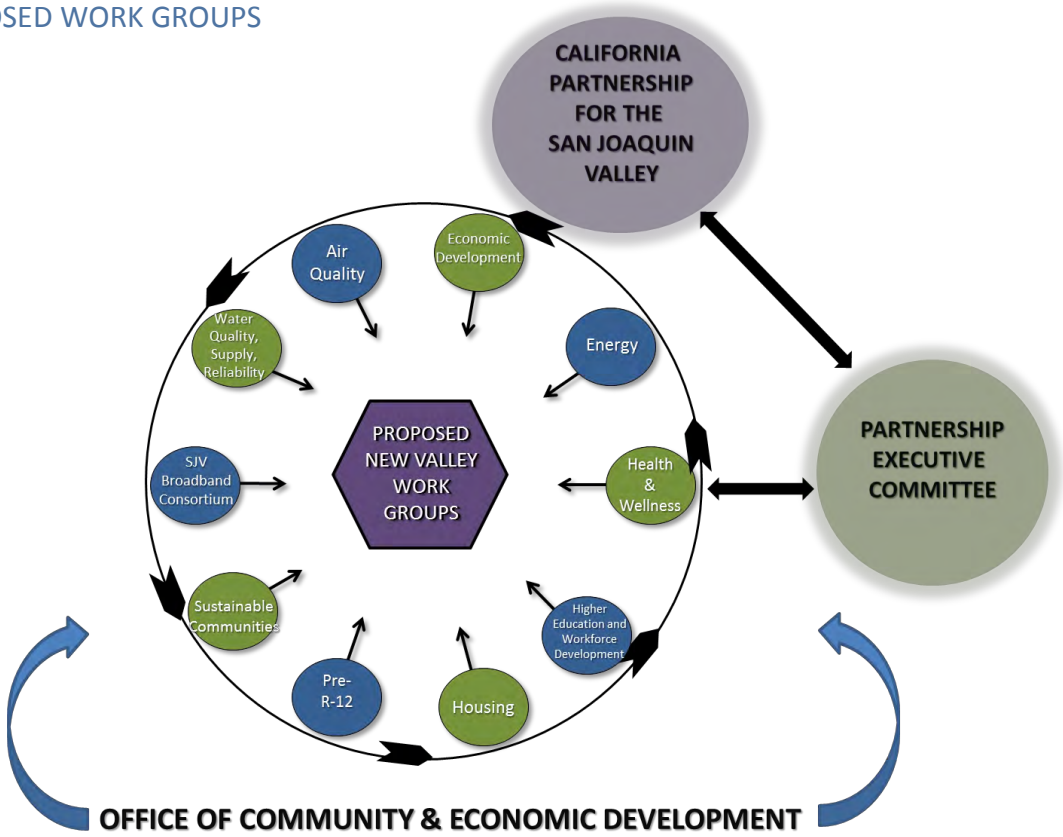


TABLE 5.3-1

PROPOSED WORK GROUP STRUCTURE FOR CLUSTER ACTION PLAN IMPLEMENTATION

Current Work Group	Proposed Work Group	Lead / Support	Key Regional Initiatives/Partners
Health and Human Services (not active)	Health and Wellness Cluster	Partnership Health Sector Board Members/OCED	• Central California Workforce Collaborative (CCWC) (RICO – Regional Industry Clusters of Opportunity) • C6 – Central California Community Colleges Committed to Change • Central Region Consortium (Community Colleges) • Hospital Council of Northern and Central California • Central Valley Health Network • San Joaquin Valley Nursing Education Consortium • UC Merced Health Sciences Research Institute • Councils of Government
Energy	Energy	SJV Clean Energy Organization/ OCED	• Regional Policy Council • CCVEDC • SJV Air Pollution Control District • Water and Energy Technology (WET) Center • Central Valley Business Incubator (Innovation Hub) • Utilities • Valley REACON (Recycling, Energy, Air, Conservation). Greater Stockton Chamber • Clean Energy Center, KCCD • CCWC (State Energy Sector Partnership) • C6 • Central Region Consortium • Business and Entrepreneurship Center • UC Advanced Solar Technologies Institute
Economic Development	Economic Development	California Central Valley EDC (CCVEDC)/ OCED	• Manufacturers Council of the Central Valley • Central Valley Business Incubator (Innovation Hub) • UC Merced SBDC Regional Network • Lyles Center for Innovation and Entrepreneurship • Merced College Business, Industry and Community Services • Business and Entrepreneurship Center, KCCD • CCWC • C6 • Central Region Consortium • International Center for Water Technology • California Centers for International Trade Development (State Center) • Valley REACON (Recycling, Energy, Air, Conservation). Greater Stockton Chamber • Jordan College of Agricultural Sciences and Technology, CSU Fresno • Craig School of Business, CSU Fresno • California Center for Applied Competitive Technologies (College of the Sequoias) • San Joaquin Valley Regional Policy Council • Fresno-Madera-Tulare-Kings Labor Council • North Valley Labor Federation
Advanced Communications	SJV Broadband Consortium	OCED	• Many Consortium Members, USDA Rural Development • Great Valley Center • Telecoms

TABLE 5.3-1

PROPOSED WORK GROUP STRUCTURE FOR CLUSTER ACTION PLAN IMPLEMENTATION (CONTINUED)

Current Work Group	Proposed Work Group	Lead / Support	Key Regional Initiatives/Partners
Air Quality	Air Quality	The Maddy Institute, CSU Fresno	• SJV Air Quality Pollution Control District • Regional Policy Council • Valley CAN (Clean Air Now) • Clean Energy Organization
Higher Education and Workforce Development	Higher Education and Workforce Development	Central California Workforce Collaborative, Central California Higher Education Consortium	• C6 • Central California Consortium • Workplace Learning Center Resource, Merced College • San Joaquin Valley Nursing Education Consortium • Centers of Excellence, Central California • Fresno-Madera-Tulare-Kings Labor Council • North Valley Labor Federation
Pre-K-12	Pre-K-12	Central Valley Educational Leadership Institute (Fresno State)	• C6 • Central California Workforce Collaborative
Housing	Housing	San Joaquin Valley Housing Collaborative/ OCED	• Councils of Government • Other Work Group Partners
Sustainable Communities (integration of Land Use, Housing and Agriculture Work Groups & Transportation Work Group in 2011)	Sustainable Communities	San Joaquin Valley Regional Policy Council	• Councils of Government • Smart Valley Places • SJV Rural Development Center • Central California Workforce Collaborative (Public Sector Infrastructure)
Water Quality, Supply and Reliability	Water Work Group	California Water Institute	• C6 • International Center for Water Technology (ICWT) • Water, Energy and Technology (WET) Center • Center for Irrigation Technology • SJV Clean Energy Org

Integrating the Action Plan's recommendations into the Work Group work plans will help align their work with and support key cluster priorities, but it will not address all of the seven Valley-wide clusters explicitly in terms of having a cluster lead entity and a specific action plan. Table 5.3-2 presents an option to organize regional Cluster Action Teams for each cluster, building on existing efforts and leaders. Some of these efforts currently have more capacity than others and OCED would need to work with the partners to see if they can take on a lead cluster role, and if CCVEDC could take on a support role with increased resources. The table shows how the action teams line up with the targeted cluster initiatives of the CCVEDC, CCWC and the Community Colleges.

TABLE 5.3-2

CLUSTER WORK GROUP OPTIONS FOR ACTION PLAN IMPLEMENTATION

PROPOSED NEW VALLEY CLUSTER ACTION TEAMS				
Valley-Wide Clusters	**Proposed Lead/Support**	**California Central Valley EDC (CCVEDC) Targets**	**Central California Workforce Collaborative (CCWC) Targets**	**Community Colleges Consortium Targets**
Agriculture Value Chain	Regional Economic Summit identified leads for different areas through the Partnership/ CCVEDC, OCED	Food Processing		C6 Project (Central California Community Colleges Committed to Change) (trades)
Health and Wellness	Health and Wellness Cluster Work Group/OCED		Regional Industry Clusters of Opportunity (seeking funding)	C6 Project
Manufacturing (cross-cluster)	Manufacturing Council of the San Joaquin Valley/ University Center to Advance Manufacturing/Center for Applied Competitive Technologies, OCED, CCVEDC	Manufacturing	State Sector Energy Partnership (recyclables)	C6 Project (trades)
Energy Including Renewable	San Joaquin Valley Clean Energy Org/ CCVEDC	Renewable Energy	State Sector Energy Partnership	C6 Project (trades)
Logistics and Distribution	San Joaquin Valley Regional Policy Council/ CCVEDC	Logistics		
Water Technology	International Center on Water Technology			
Public Sector Infrastructure – Construction (cross-cluster)	San Joaquin Valley Regional Policy Council		Public Sector Infrastructure Grant/Strategy	

5.4 NEXT STEPS

The following is a list of next steps for OCED and the Partnership to initiate and organize the implementation process for the Cluster Action Plan. Cluster strategies are vehicles for ongoing engagement of partners and stakeholders, but need dedicated focus and resources to yield action and results.

1.	**Work Group Leads/Work Plans.** OCED staff will meet with Work Group leads and partners to review Project findings and recommendations and alignment with existing work plans; confirm lead partners and expanded/refined roles; identify 2013 priority cluster initiatives; and support work plan updates and expanded engagement of stakeholders. OCED should convene the stakeholders from the June meeting of the Manufacturing/Energy/Logistics Clusters to identify cross-cluster priorities and actions. This process will be coordinated with the Partnership's Executive Committee. OCED should coordinate with USDA Rural Development and other champions on the implementation of the Ag Value Chain Regional Economic Summit action priorities.
2.	**Health and Wellness Cluster Work Group.** OCED should work with Partnership board members to convene the Cluster stakeholders to identify priorities, develop the work plan around Action Plan recommendations, and drive the implementation of the work plan.
3.	**Economic Development Targets.** OCED is working with CCVEDC and other partners on the process to develop a strategy for the Economic Development Targets (aggregated and cluster-specific), and identify a lead for implementation of the strategy. Partners should coordinate with TeamCalifornia to enhance marketing and outreach opportunities on the Valley's cluster priorities.
4.	**Economic Development/Education/Workforce Coordination.** OCED should develop a process for increased, systemic linkages between economic development, education, and workforce development partners (CCVEDC, CCWC, Central Region Consortium, C6, universities) around regionalized cluster-focused issues. The partners should collaborate to seek funding support for: research to identify priority workforce gaps and occupational demand; designated staff to facilitate the coordination process across the clusters and the systems; expanding the reach of innovative training programs. OCED should facilitate integrated connections with state partners such as the California Workforce Investment Board, California Labor and Workforce Development Agency, Chancellor's Office, the Employment Training Panel, and the U.S. Dept. of Labor.
5.	**Public Sector Infrastructure/Logistics.** OCED should convene the CCWC, the SJV Regional Policy Council, CCVEDC, Caltrans, labor, and other partners to link the interregional goods movement planning process and CCWC's Public Sector Infrastructure Workforce Plan, including for identification of project funding priorities, funding sources for construction projects, and workforce development needs. Leverage the new Economic Development District.
6.	**Work Group Coordination.** OCED should convene the leadership of the New Valley Work Groups quarterly for updates on their work plans, and facilitate coordination across Work Groups and initiatives on an ongoing basis.
7.	**Regional/State Economic Summits.** The Partnership and OCED will continue coordination with the statewide economic summit process, and align the annual outcomes of the Work Group work plans for the Valley's next regional economic summit (fall of 2013) and state-wide summit (late 2013). OCED and the Work Groups should report on the progress of the 2013 cluster initiatives at the next Regional Economic Summit.
8.	**Reporting Process.** OCED should develop a process to report on Cluster Action Plan activities, metrics and progress to the Partnership's Executive Committee on an ongoing basis. The growth of the clusters should be tracked as an annual metric.
9.	**Communications.** OCED should create a dedicated location on the Partnership's website for the Cluster Action Plan and resource materials, building upon the Regional Economic Summit materials. It should use the Cluster Action Plan implementation as a vehicle for communications about the Partnership, and as a portal to partner initiatives and resources.

As part of its ongoing mission and role, OCED will continue to connect with state, federal and other partners to ensure alignment with the Cluster Action Plan. One of the most timely is the *"Doing What Matters for Jobs and the Economy,"* a new initiative of the California Community Colleges, Division of Workforce and Economic Development. Its goals are to supply in-demand skills for employers, create relevant career pathways and stackable credentials, promote student success, and get Californias into open jobs. The focus is on spurring job creation and bridging skills gaps in priority/emergent sectors and clusters; taking effective practices to scale; integrating and leveraging programming between funding streams; promoting metrics for student success; and removing structural barriers. This initiative is in collaboration with the California Workforce Investment Board as it prepares the State Strategic Workforce Plan.

The Central California Community Colleges Committed to Change (C6) Project and the Central Region Consortium (Community Colleges members) are partners in the development of the Cluster Action Plan and OCED will host and is planning with these partners for a Valley-wide meeting on linking the clusters with the initiative.

Other examples of resource assets include the federal partnership for the Strong Cities Strong Communities (SC2) initiative, especially related to the development of the region's Ag Tech Cluster and regional broadband capacity; the new resource guide on access to capital to support local economies and regional clusters, developed by the California Financial Opportunities Roundtable (CalFOR); and a possible new regional task force on workforce and small business development opportunities, organized by the Federal Reserve Bank of California. OCED also will connect with Valley Vision which is preparing the regional cluster strategy for the Sacramento region – the Next Economy – to explore cross-regional collaboration opportunities related to common clusters such as food and agriculture.

In terms of the RJI and OCED's role, it will be important for OCED to concentrate on supporting the organization and management of the core regional cluster priority action areas, and filling in leadership gaps where necessary. There is an opportunity for the RJI to benefit from integration with a more regionalized approach on shared issues.

APPENDIX – A: CLUSTER MEETING PARTICIPANTS

HEALTH AND WELLNESS CLUSTER MEETING PARTICIPANTS

FRESNO STATE UNIVERSITY, MAY 24, 2012, FRESNO		
NAME	TITLE	ORGANIZATION
Arakel Arisian	Principal	Arisian Development
Lynn Ashbeck	Regional Vice President	Hospital Council of Northern and Central California
Tim Curley	Director, Community and Government Relations	Childrens Hospital Central California
Jerry Dickerson, PMP	Project Manager, Corp. IT	Community Medical Centers
Randy Dodd	Vice President, Business Development and Strategic Planning	Adventist Health
Mike Dozier	Executive Director, Office of Community & Economic Development	Fresno State
Chaz Felix, J.D.	Health Policy Fellow	Central Valley Health Policy Institute
Nicole Ferreira	Workforce Analyst	Tulare Workforce Investment Board
Carole Goldsmith	Vice Chancellor, Project Director C6	Educational Services & Workforce Development, West Hills Community College
Jose Gonzalez	Health Promotion Specialist	Health Net Community Solutions
Nancy Hoff	MSN,RN, Health Care RED Team Leader	Central California Community Colleges Committed to Change (C6) Consortium
Trish Kelly	Principal	Applied Development Economics
Mary Renner	Chief Operations Officer	Central Valley Health Network
Stephanie Robinson	Director of Nursing	Fresno City College
Veronica Salas	Economic Development Analyst	Fresno Economic Development Corporation
Matt Severson	Corporate Locations Coordinator	Fresno Economic Development Corporation
Susan Smilie Janecek	Director of Research and Development	San Joaquin Valley College
Kathie Studwell	Senior Associate	Applied Development Economics
John G. Taylor	Director, Public Affairs	Community Medical Centers
Jim VanDeVelde	Associate Administrator	Community Regional Medical Center
Reyna Villalobos	Community Building Specialist	Central California Regional Obesity Prevention Program (CCROPP)

APPENDIX – A (CONTINUED)

HEALTH AND WELLNESS CLUSTER MEETING PARTICIPANTS

GREAT VALLEY CENTER, JUNE 6, 2012, MODESTO		
NAME	TITLE	ORGANIZATION
Mike Amman	President/CEO	San Joaquin Partnership
Arakel Arisian	Principal	Arisian Development
Janalynn Castillo	Public Affairs Representative	Planned Parenthood Mar Monte
Paula Chiarmonte	Senior Research Analyst Business Resource Center	Stanislaus Economic Development and Workforce Alliance
Charleen Chituras	Owner	InVision Development
Jennifer Downs-Colby	Assistant Manager, Community Benefits and Volunteer Services	Memorial Medical Center
Valerie A. Fisher, RN, MA	Project Director, Innovate What Matters-Allied Health	Ca. Community College Chancellor's Office Division of Workforce and Economic Development
Cathy Frey	CEO	Central Valley Health Network
Heidi E. Hall	Program Manager	Merced County Human Services Agency
Corwin N. Harper	Senior Vice President/Area manager	Kaiser Permanente, Central Valley, Modesto
Ismael Herrera	Director, Rural Development Center	Fresno State
Nancy Hoff	MSN,RN, Health Care RED Team Leader	Central California Community Colleges Committed to Change (C6) Consortium
Linda Hoile	Program Manager	Great Valley Center
Trish Kelly	Principal	Applied Development Economics
Warren Kirk	CEO	Doctors Medical Center of Modesto
Adolph Lopez	Program Manager	Alliance Worknet, Stanislaus County
Dotty Nygard, RN, BSN	Vice Mayor	City of Riverbank
Rebecca Petty	Family Services Supervisor	Merced County Human Services Agency
Jeff Rowe	Workforce Development Director	Alliance Worknet, Stanislaus County
Heidi Santino	Executive Director	Stanislaus Health Foundation
Kurt Schuparra, Ph.D.	Assistant Secretary	California Labor & Workforce Development Agency
Scott Seamons	Regional Vice President	Hospital Council of Northern and Central California
Dejeune Shelton	Executive Director	Great Valley Center
Geneva Skram	Community Coordinator	University of California, Merced
Kathie Studwell	Senior Associate	Applied Development Economics
Robert Tse	Special Projects Lead	USDA CA Rural Development
Kim Viviano	Fitness Program Manager	Health Aging Association

APPENDIX – A (CONTINUED)

HEALTH AND WELLNESS CLUSTER MEETING PARTICIPANTS

WEILL CENTER, KERN COMMUNITY COLLEGE DISTRICT, JUNE 21, 2012, BAKERSFIELD		
NAME	TITLE	ORGANIZATION
Debra Anderson	Agency Representative	San Joaquin Valley College, Bakersfield
Arakel Arisian	Principal	Arisian Development
Aurora Cooper	Human Resources Director	National Health Services, Inc.
Candy Gettman	Deputy Director	Employers' Training Resource
Karen K. Goh	Supervisor	Fifth District, County of Kern
Freddy Hernandez	Assistant Director	Clinica Sierra Vista
Teresa Hitchcock	Administrative Analyst, Economic Development	Kern County Administrative Office
Nancy Hoff, MSN, RN	Health Care RED Team Leader	Ca. Community College colleges Committed to Change (C6) Consortium
Pam Holiwell	Assistant Director	Employment and Financial Services, Department of Human Services, Kern County
Myrna James	Case Manager	Kern County Career Services Center
Fiona Kelly	Business Services Coordinator	Business and Entrepreneurship Center Kern Community College District
Trish Kelly	Principal	Applied Development Economics
Sean Kenny	Wellness Coordinator	Mercy and Memorial Hospitals
Cori Kitchen	Business and Grants Development Coordinator	Kern Economic Development Corporation
Dr. Kathleen Knutzen	Dean, School of Social Sciences and Education	California State University Bakersfield
Robin Mangarin-Scott	Director of Strategic Marketing	Dignity Health
John Means	Associate Vice Chancellor, Economic and Workforce Development President, CCCAOE	Kern Community College District
Ali Morris	President	Kern County Black Chamber of Commerce
Ralph Martinez	Director, Planning, Research and Development	Community Action Partnership of Kern
David Michael	Associate Direction of Administrative Health Services	National Health Services, Inc.
Dan Murray	Kern/Inyo/Mono WIB Executive Committee Member	NTrust Healthcare LLC

APPENDIX – A (CONTINUED)

HEALTH AND WELLNESS CLUSTER MEETING PARTICIPANTS

WEILL CENTER, KERN COMMUNITY COLLEGE DISTRICT, JUNE 21, 2012, BAKERSFIELD (CONTINUED)		
NAME	TITLE	ORGANIZATION
Dr. Avtar Nijjer-Sidhu	Senior Health Educator, Environmental Health Division	Public Health Services Dept., County of Kern
Robert Pimentel	Interim, Director, C6 Project	West Hills Community College District
Pritika Ram	Executive Assistant	Clinica Sierra Vista
Mary Renner	Chief Operations Officer	Central Valley Health Network
Stefanie Robinson	Director of Nursing	Fresno City College
Annalisa Robles	Program Manager	The California Endowment
Lucas Rucks	Educational Advisor/ Program Manager	Bakersfield College Allied Health Department
Steve Schilling	CEO	Clinica Sierra Vista
Cheryl Scott	Vice President	Kern Economic Development Corporation
Eman Shurabaji	Grant Writer	Alzheimer's Disease Association of Kern County
Andy Stanley	Field Representative	Office of Supervisor Karen Goh, County of Kern Fifth District
Bonita Steele	Director, Grants/Resource Development	Kern Community College District
Ashley Vorhees	NHWP Community Director - Kern County, Viridian Region Manager	Viridian Health Management
Kelly Walters	Campus Director	San Joaquin Valley College, Bakersfield
Gayle Winters	Case Manager	Kern County Career Services Center
Dr. Jim Young	Arvin Resident	"We the People," Arvin High School

APPENDIX – A (CONTINUED)

MANUFACTURING/LOGISTICS/ENERGY TECHNOLOGY CLUSTER MEETING PARTICIPANTS

San Joaquin Valley Air Pollution Control District, June 11th, 2012, Fresno		
Name	**Title**	**Organization**
Angela Allison	Director, Special Grants	West Hills Community College District
Mike Ammann	CEO	San Joaquin Partnership
Arakel Arisian	Principal	Arisian Development
Darnell Austin	Professor, Industrial Technology, Co-Director	Fresno State
Vincent Bischoff	Western Region Sales Manager	National Pump Company
Justine Blanchet	Training Associate	GRID Alternatives
Melinda Brown	Director of Business Development	Kern EDC
Clint Cowden	Instructor, Ag Science & Technology	West Hills College
Monica Cuevas	Dean of Students, Madera Center	State Center Community College
Nathalie Culver-Dockins	Dean, Workforce Development	Fresno City College
Mike Dozier	Director, Office of Community and Economic Development	Fresno State
Ron Durbin	Executive Director	University of California Advanced Solar Technologies Institute
Shari Bender Ehlert	Director, District 6	Caltrans
Frank J. Ferral	Program & Public Policy Director	Greater Stockton Chamber of Commerce
Charles Francis	Director	Fresno City College Training Institute
Candy Gettman	Deputy Director	Employers Training Resources
Carole Goldsmith, Ed. D.	Vice Chancellor, Educational Services & Workforce Development	West Hills Community College District
Steve Haze	1st Vice President	Yosemite Sequoia
Terri Hicks	Director, Business & Entrepreneurship Center	Kern Community College District
Aaron Husak	Home Energy Auditor	ConSol (Independent Contractor)
Jerry James	Director of Corporate Sales	Farm Grown
Ed Jones	Division Director	Sequoia Community Corps
Tom Jordan	Senior Policy Advisor	San Joaquin Valley Air Pollution Control District
Courtney Kalashian	Associate Executive Director	Clean Energy Organization, California Partnership for the San Joaquin Valley
Kristin Kawaguchi	Investor Relations Manager	EDC Serving Fresno County

APPENDIX – A (CONTINUED)

MANUFACTURING/LOGISTICS/ENERGY TECHNOLOGY CLUSTER MEETING PARTICIPANTS

SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, JUNE 11TH, 2012, FRESNO (CONTINUED)		
NAME	**TITLE**	**ORGANIZATION**
Trish Kelly	Principal	Applied Development Economics
Pam Lassetter	RICO Program Manager	Workforce Connection, Fresno WIB
John Lehn	President	Kings County Economic Development Corporation
Adriane Lepage	Project Assistant	Applied Development Economics
Ed Martin	Regional Manager	Proteus Group
Donald McCoon	Owner	McCoon Commercial Real Estate
Sandi Miller	Business Services Team	Tulare Workforce Investment Board
Mark Miller	Talent Acquisition Manager	Jason Ryan & Associates
William Myers	Managing Partner	Fresno Strategic Consulting
Walter Mizuno	Co-Director, UCAM	Lyles College for Engineering, Fresno State
Helle Peterson	General Manager	Water, Energy & Technology Center
Robert Pimentel, MSW	Interim Director, C6 Project	West Hills Community College District
Tim Rainey	Executive Director	California Workforce Investment Board
Barbara Rodiek	COO	Central Valley Business Incubator
Paulette Rush	Business Development Associate	Kern EDC
Michael A. Sandoval	Facilities & Engineering Manager	I Love to Create
Michael Sigala	Valleywide Coordinator	Regional Policy Council
Jay Sayler	Economic Development Manager	Kings County Economic Development Corporation
Kurt Schuparra (by phone)	Deputy Secretary	California Labor & Workforce Development Agency
Dejeune Shelton	Executive Director	Great Valley Center
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Bonita Steele	Director, Grants and Resource Development	Kern Community College District
Tina Summer	Director of Community & Economic Dev.	City of Clovis
Doug Svensson	President	Applied Development Economics
Rob Terry	Associate Regional Planner	Fresno Council of Governments
Robert Tse	Special Projects Lead	USDA California, Rural Development
Louann Waldner, PhD	Director	Center for Applied Competitive Technologies
Pete Weber	Executive Committee Chair	California Partnership for the San Joaquin Valley

APPENDIX – B: CLUSTER NAICS DEFINITIONS BY COMPONENTS

AGRICULTURE CLUSTER

SUPPORT			
221310	Water Supply and Irrigation Systems	541380	Testing Laboratories
237110	Water and Sewer Line and Related Structures Construction	541613	Marketing Consulting Services
325311	Nitrogenous Fertilizer Manufacturing	541614	Process, Physical Distribution, and Logistics Consulting Services
325312	Phosphatic Fertilizer Manufacturing	541820	Public Relations Agencies
325314	Fertilizer (Mixing Only) Manufacturing	541830	Media Buying Agencies
325320	Pesticide and Other Agricultural Chemical Manufacturing	541840	Media Representatives
326291	Rubber Product Manufacturing for Mechanical Use	541850	Display Advertising
326299	All Other Rubber Product Manufacturing	541870	Advertising Material Distribution Services
332311	Prefabricated Metal Building and Component Manufacturing	541890	Other Services Related to Advertising
332420	Metal Tank (Heavy Gauge) Manufacturing	541940	Veterinary Services
333111	Farm Machinery and Equipment Manufacturing	551111	Offices of Bank Holding Companies
333112	Lawn and Garden Tractor and Home Lawn and Garden Equipment Manufacturing	551112	Offices of Other Holding Companies
333294	Food Product Machinery Manufacturing	551114	Corporate, Subsidiary, and Regional Managing Offices
333911	Pump and Pumping Equipment Manufacturing	561110	Office Administrative Services
333924	Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing	561310	Employment Placement Agencies
333992	Welding and Soldering Equipment Manufacturing	561320	Temporary Help Services
333993	Packaging Machinery Manufacturing	551112	Offices of Other Holding Companies
423820	Farm and Garden Machinery and Equipment Merchant Wholesalers	551114	Corporate, Subsidiary, and Regional Managing Offices
423830	Industrial Machinery and Equipment Merchant Wholesalers	561110	Office Administrative Services
423840	Industrial Supplies Merchant Wholesalers	561310	Employment Placement Agencies
423850	Service Establishment Equipment and Supplies Merchant Wholesalers	561320	Temporary Help Services
423860	Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers	561710	Exterminating and Pest Control Services
444210	Outdoor Power Equipment Stores	561730	Landscaping Services
444220	Nursery, Garden Center, and Farm Supply Stores	562213	Solid Waste Combustors and Incinerators
522292	Real Estate Credit	562219	Other Nonhazardous Waste Treatment and Disposal
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	562920	Materials Recovery Facilities
541360	Geophysical Surveying and Mapping Services	811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance
541370	Surveying and Mapping (except Geophysical) Services		

PRODUCTION			
111	Crop Production	115111	Cotton Ginning
112	Animal Production	115112	Soil Preparation, Planting, and Cultivating
113110	Timber Tract Operations	115113	Crop Harvesting, Primarily by Machine
113210	Forest Nurseries and Gathering of Forest Products	115114	Postharvest Crop Activities (except Cotton Ginning)
114111	Finfish Fishing	115115	Farm Labor Contractors and Crew Leaders
114112	Shellfish Fishing	115116	Farm Management Services
114119	Other Marine Fishing	115210	Support Activities for Animal Production
114210	Hunting and Trapping	115310	Support Activities for Forestry
114210	Crop Production		

APPENDIX – B (CONTINUED)

PROCESSING			
311111	Dog and Cat Food Manufacturing	311919	Other Snack Food Manufacturing
311119	Other Animal Food Manufacturing	311920	Coffee and Tea Manufacturing
311211	Flour Milling	311930	Flavoring Syrup and Concentrate Manufacturing
311212	Rice Milling	311941	Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing
311213	Malt Manufacturing	311942	Spice and Extract Manufacturing
311221	Wet Corn Milling	311991	Perishable Prepared Food Manufacturing
311222	Soybean Processing	311999	All Other Miscellaneous Food Manufacturing
311223	Other Oilseed Processing	312111	Soft Drink Manufacturing
311225	Fats and Oils Refining and Blending	312112	Bottled Water Manufacturing
311230	Breakfast Cereal Manufacturing	312113	Ice Manufacturing
311311	Sugarcane Mills	312120	Breweries
311312	Cane Sugar Refining	312130	Wineries
311313	Beet Sugar Manufacturing	312140	Distilleries
311320	Chocolate and Confectionery Manufacturing from Cacao Beans	312210	Tobacco Stemming and Redrying
311330	Confectionery Manufacturing from Purchased Chocolate	312221	Cigarette Manufacturing
311340	Nonchocolate Confectionery Manufacturing	312229	Other Tobacco Product Manufacturing
311411	Frozen Fruit, Juice, and Vegetable Manufacturing	313111	Yarn Spinning Mills
311412	Frozen Specialty Food Manufacturing	313112	Yarn Texturizing, Throwing, and Twisting Mills
311421	Fruit and Vegetable Canning	313113	Thread Mills
311422	Specialty Canning	313210	Broadwoven Fabric Mills
311423	Dried and Dehydrated Food Manufacturing	313221	Narrow Fabric Mills
311511	Fluid Milk Manufacturing	313230	Nonwoven Fabric Mills
311512	Creamery Butter Manufacturing	313241	Weft Knit Fabric Mills
311513	Cheese Manufacturing	313249	Other Knit Fabric and Lace Mills
311514	Dry, Condensed, and Evaporated Dairy Product Manufacturing	316110	Leather and Hide Tanning and Finishing
311520	Ice Cream and Frozen Dessert Manufacturing	321113	Sawmills
311611	Animal (except Poultry) Slaughtering	321920	Wood Container and Pallet Manufacturing
311612	Meat Processed from Carcasses	322211	Corrugated and Solid Fiber Box Manufacturing
311613	Rendering and Meat Byproduct Processing	322212	Folding Paperboard Box Manufacturing
311615	Poultry Processing	322213	Setup Paperboard Box Manufacturing
311711	Seafood Canning	322214	Fiber Can, Tube, Drum, and Similar Products Manufacturing
311712	Fresh and Frozen Seafood Processing	322215	Nonfolding Sanitary Food Container Manufacturing
311811	Retail Bakeries	322291	Sanitary Paper Product Manufacturing
311812	Commercial Bakeries	325411	Medicinal and Botanical Manufacturing
311813	Frozen Cakes, Pies, and Other Pastries Manufacturing	325414	Biological Product (except Diagnostic) Manufacturing
311821	Cookie and Cracker Manufacturing	326111	Plastics Bag and Pouch Manufacturing
311822	Flour Mixes and Dough Manufacturing from Purchased Flour	326160	Plastics Bottle Manufacturing
311823	Dry Pasta Manufacturing	327213	Glass Container Manufacturing
311830	Tortilla Manufacturing	332115	Crown and Closure Manufacturing
311911	Roasted Nuts and Peanut Butter Manufacturing	332431	Metal Can Manufacturing

APPENDIX – B (CONTINUED)

DISTRIBUTION			
424410	General Line Grocery Merchant Wholesalers	481212	Nonscheduled Chartered Freight Air Transportation
424420	Packaged Frozen Food Merchant Wholesalers	481219	Other Nonscheduled Air Transportation
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	482	Rail Transportation
424440	Poultry and Poultry Product Merchant Wholesalers	483111	Deep Sea Freight Transportation
424450	Confectionery Merchant Wholesalers	483112	Deep Sea Passenger Transportation
424460	Fish and Seafood Merchant Wholesalers	483113	Coastal and Great Lakes Freight Transportation
424470	Meat and Meat Product Merchant Wholesalers	483114	Coastal and Great Lakes Passenger Transportation
424480	Fresh Fruit and Vegetable Merchant Wholesalers	483211	Inland Water Freight Transportation
424490	Other Grocery and Related Products Merchant Wholesalers	483212	Inland Water Passenger Transportation
424510	Grain and Field Bean Merchant Wholesalers	484110	General Freight Trucking, Local
424520	Livestock Merchant Wholesalers	484121	General Freight Trucking, Long-Distance, Truckload
424590	Other Farm Product Raw Material Merchant Wholesalers	484122	General Freight Trucking, Long-Distance, Less Than Truckload
424810	Beer and Ale Merchant Wholesalers	484220	Specialized Freight (except Used Goods) Trucking, Local
424820	Wine and Distilled Alcoholic Beverage Merchant Wholesalers	484230	Specialized Freight (except Used Goods) Trucking, Long-Distance
424910	Farm Supplies Merchant Wholesalers	488111	Air Traffic Control
424930	Flower, Nursery Stock, and Florists' Supplies Merchant Wholesalers	488119	Other Airport Operations
445110	Supermarkets and Other Grocery (except Convenience) Stores	488190	Other Support Activities for Air Transportation
445120	Convenience Stores	488210	Support Activities for Rail Transportation
445210	Meat Markets	488310	Port and Harbor Operations
445220	Fish and Seafood Markets	488320	Marine Cargo Handling
445291	Baked Goods Stores	488390	Other Support Activities for Water Transportation
445292	Confectionery and Nut Stores	488510	Freight Transportation Arrangement
445299	All Other Specialty Food Stores	488991	Packing and Crating
445310	Beer, Wine, and Liquor Stores	493110	General Warehousing and Storage
481111	Scheduled Passenger Air Transportation	493120	Refrigerated Warehousing and Storage
481112	Scheduled Freight Air Transportation	493190	Other Warehousing and Storage
481211	Nonscheduled Chartered Passenger Air Transportation		

ENERGY CLUSTER

ALTERNATIVE ENERGY GENERATION/PRODUCTION			
23711	Water and Sewer Line and Related Structures Construction	311223	Other Oilseed Processing
23816	Roofing Contractors	325193	Ethyl Alcohol Manufacturing

ALTERNTIVE ENERGY DISTRIBUTION			
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers
423690	Other Electronic Parts and Equipment Merchant Wholesalers		

APPENDIX – B (CONTINUED)

ENERGY EFFICIENCY			
23821	Electrical Contractors and Other Wiring Installation Contractors	23831	Drywall and Insulation Contractors
23822	Plumbing, Heating, and Air-Conditioning Contractors		

EQUIPMENT MANUFACTURING			
333132	Oil and Gas Field Machinery and Equipment Manufacturing	335110	Electric Lamp Bulb and Part Manufacturing
333414	Heating Equipment (except Warm Air Furnaces) Manufacturing	335121	Residential Electric Lighting Fixture Manufacturing
333611	Turbine and Turbine Generator Set Units Manufacturing	335122	Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing
334512	Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use	335129	Other Lighting Equipment Manufacturing
334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals	335311	Power, Distribution, and Specialty Transformer Manufacturing
334517	Irradiation Apparatus Manufacturing		

PETROLEUM PRODUCTION & PETROLEUM DISTRIBUTION			
211111	Crude Petroleum and Natural Gas Extraction	424710	Petroleum Bulk Stations and Terminals
211112	Natural Gas Liquid Extraction	424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)
212399	All Other Nonmetallic Mineral Mining	486110	Pipeline Transportation of Crude Oil
213111	Drilling Oil and Gas Wells	486210	Pipeline Transportation of Natural Gas
324110	Petroleum Refineries	486910	Pipeline Transportation of Refined Petroleum Products
324199	All Other Petroleum and Coal Products Manufacturing		

POWER GENERATION AND TRANSMISSION			
221111	Hydroelectric Power Generation	221121	Electric Bulk Power Transmission and Control
221112	Fossil Fuel Electric Power Generation	221122	Electric Power Distribution
221113	Nuclear Electric Power Generation	221210	Natural Gas Distribution
221119	Other Electric Power Generation	237120	Oil and Gas Pipeline and Related Structures Construction
		237130	Power and Communication Line and Related Structures Construction

RESEARCH & SERVICES			
541	Professional, Scientific, and Technical Services	533110	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)
523910	Miscellaneous Intermediation	811219	Other Electronic and Precision Equipment Repair and Maintenance
523999	Miscellaneous Financial Investment Activities	811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance

APPENDIX – B (CONTINUED)

HEALTH AND WELLNESS CLUSTER

HEALTH CARE DELIVERY			
621111	Offices of Physicians (except Mental Health Specialists)	621512	Diagnostic Imaging Centers
621112	Offices of Physicians, Mental Health Specialists	621512	Diagnostic Imaging Centers
621210	Offices of Dentists	621610	Home Health Care Services
621310	Offices of Chiropractors	621910	Ambulance Services
621320	Offices of Optometrists	621991	Blood and Organ Banks
621330	Offices of Mental Health Practitioners (except Physicians)	622110	General Medical and Surgical Hospitals
621340	Offices of Physical, Occupational and Speech Therapists, and Audiologists	622210	Psychiatric and Substance Abuse Hospitals
621391	Offices of Podiatrists	622310	Specialty (except Psychiatric and Substance Abuse) Hospitals
621410	Family Planning Centers	623110	Nursing Care Facilities
621420	Outpatient Mental Health and Substance Abuse Centers	623210	Residential Mental Retardation Facilities
621491	HMO Medical Centers	623220	Residential Mental Health and Substance Abuse Facilities
621492	Kidney Dialysis Centers	623311	Continuing Care Retirement Communities
621493	Freestanding Ambulatory Surgical and Emergency Centers	623312	Homes for the Elderly
621498	All Other Outpatient Care Centers	623990	Other Residential Care Facilities
621511	Medical Laboratories	624310	Vocational Rehabilition Services

MEDICAL DEVICE MANUFACTURING			
339112	Surgical and Medical Instrument Manufacturing	339115	Ophthalmic Goods Manufacturing
339113	Surgical Appliance and Supplies Manufacturing	339116	Dental Laboratories
339114	Dental Equipment and Supplies Manufacturing		

PHARMACEUTICALS			
325411	Medicinal and Botanical Manufacturing	325413	In-Vitro Diagnostic Substance Manufacturing
325412	Pharmaceutical Preparation Manufacturing	325414	Biological Product (except Diagnostic) Manufacturing

SUPPLIES AND SERVICES			
423450	Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers	424210	Drugs and Druggists' Sundries Merchant Wholesalers
423460	Ophthalmic Goods Merchant Wholesalers	813212	Voluntary Health Organizations
423490	Other Professional Equipment and Supplies Merchant Wholesalers		

WELLNESS AND FITNESS			
446110	Pharmacies and Drug Stores	532291	Home Health Equipment Rental
446130	Optical Goods Stores	621399	Offices of All Other Miscellaneous Health Practitioners
446191	Food (Health) Supplement Stores	621999	All Other Miscellaneous Ambulatory Health Care Services
446199	All Other Health and Personal Care Stores	812191	Diet and Weight Reducing Centers

APPENDIX – B (CONTINUED)

LOGISTICS CLUSTER

AIR, RAIL, WATER TRANSPORTATION			
481111	Scheduled Passenger Air Transportation	483211	Inland Water Freight Transportation
481112	Scheduled Freight Air Transportation	483212	Inland Water Passenger Transportation
481211	Nonscheduled Chartered Passenger Air Transportation	488111	Air Traffic Control
481212	Nonscheduled Chartered Freight Air Transportation	488119	Other Airport Operations
481219	Other Nonscheduled Air Transportation	488190	Other Support Activities for Air Transportation
482	Rail Transportation	488210	Support Activities for Rail Transportation
483111	Deep Sea Freight Transportation	488310	Port and Harbor Operations
483112	Deep Sea Passenger Transportation	488320	Marine Cargo Handling
483113	Coastal and Great Lakes Freight Transportation	488330	Navigational Services to Shipping
483114	Coastal and Great Lakes Passenger Transportation	488390	Other Support Activities for Water Transportation

FREIGHT & WAREHOUSING			
484110	General Freight Trucking, Local	493110	General Warehousing and Storage
484121	General Freight Trucking, Long-Distance, Truckload	493120	Refrigerated Warehousing and Storage
484122	General Freight Trucking, Long-Distance, Less Than Truckload	493130	Farm Product Warehousing and Storage
484210	Used Household and Office Goods Moving	493190	Other Warehousing and Storage
484220	Specialized Freight (except Used Goods) Trucking, Local	541614	Process, Physical Distribution, and Logistics Consulting Services
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	561910	Packaging and Labeling Services

OTHER SERVICES			
488410	Motor Vehicle Towing	488999	All Other Support Activities for Transportation
488490	Other Support Activities for Road Transportation	492110	Couriers and Express Delivery Services
488510	Freight Transportation Arrangement	492210	Local Messengers and Local Delivery
488991	Packing and Crating		

RELATED MANUFACTURING			
336120	Heavy Duty Truck Manufacturing	336611	Ship Building and Repairing
336510	Railroad Rolling Stock Manufacturing	336612	Boat Building

TRANSIT			
485111	Mixed Mode Transit Systems	485310	Taxi Service
485112	Commuter Rail Systems	485410	School and Employee Bus Transportation
485113	Bus and Other Motor Vehicle Transit Systems	485510	Charter Bus Industry
485119	Other Urban Transit Systems	485991	Special Needs Transportation
485210	Interurban and Rural Bus Transportation	485999	All Other Transit and Ground Passenger Transportation

MANUFACTURING CLUSTER (CROSS-CLUSTER)

HEALTH & WELLNESS MANUFACTURING			
339112	Surgical and Medical Instrument Manufacturing	325411	Medicinal and Botanical Manufacturing
339113	Surgical Appliance and Supplies Manufacturing	325412	Pharmaceutical Preparation Manufacturing
339114	Dental Equipment and Supplies Manufacturing	325413	In-Vitro Diagnostic Substance Manufacturing
339115	Ophthalmic Goods Manufacturing	325414	Biological Product (except Diagnostic) Manufacturing
339116	Dental Laboratories		

APPENDIX – B (CONTINUED)

FOOD PROCESSING			
311111	Dog and Cat Food Manufacturing	311920	Coffee and Tea Manufacturing
311119	Other Animal Food Manufacturing	311930	Flavoring Syrup and Concentrate Manufacturing
311211	Flour Milling	311941	Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing
311212	Rice Milling	311942	Spice and Extract Manufacturing
311213	Malt Manufacturing	311991	Perishable Prepared Food Manufacturing
311221	Wet Corn Milling	311999	All Other Miscellaneous Food Manufacturing
311222	Soybean Processing	312111	Soft Drink Manufacturing
311223	Other Oilseed Processing	312112	Bottled Water Manufacturing
311225	Fats and Oils Refining and Blending	312113	Ice Manufacturing
311230	Breakfast Cereal Manufacturing	312120	Breweries
311311	Sugarcane Mills	312130	Wineries
311312	Cane Sugar Refining	312140	Distilleries
311313	Beet Sugar Manufacturing	312210	Tobacco Stemming and Redrying
311320	Chocolate and Confectionery Manufacturing from Cacao Beans	312221	Cigarette Manufacturing
311330	Confectionery Manufacturing from Purchased Chocolate	312229	Other Tobacco Product Manufacturing
311340	Nonchocolate Confectionery Manufacturing	313111	Yarn Spinning Mills
311411	Frozen Fruit, Juice, and Vegetable Manufacturing	313112	Yarn Texturizing, Throwing, and Twisting Mills
311412	Frozen Specialty Food Manufacturing	313113	Thread Mills
311421	Fruit and Vegetable Canning	313210	Broadwoven Fabric Mills
311422	Specialty Canning	313221	Narrow Fabric Mills
311423	Dried and Dehydrated Food Manufacturing	313230	Nonwoven Fabric Mills
311511	Fluid Milk Manufacturing	313241	Weft Knit Fabric Mills
311512	Creamery Butter Manufacturing	313249	Other Knit Fabric and Lace Mills
311513	Cheese Manufacturing	316110	Leather and Hide Tanning and Finishing
311514	Dry, Condensed, and Evaporated Dairy Product Manufacturing	321113	Sawmills
311520	Ice Cream and Frozen Dessert Manufacturing	321920	Wood Container and Pallet Manufacturing
311611	Animal (except Poultry) Slaughtering	322211	Corrugated and Solid Fiber Box Manufacturing
311612	Meat Processed from Carcasses	322212	Folding Paperboard Box Manufacturing
311613	Rendering and Meat Byproduct Processing	322213	Setup Paperboard Box Manufacturing
311615	Poultry Processing	322214	Fiber Can, Tube, Drum, and Similar Products Manufacturing
311711	Seafood Canning	322215	Nonfolding Sanitary Food Container Manufacturing
311712	Fresh and Frozen Seafood Processing	322291	Sanitary Paper Product Manufacturing
311811	Retail Bakeries	325411	Medicinal and Botanical Manufacturing
311812	Commercial Bakeries	325414	Biological Product (except Diagnostic) Manufacturing
311813	Frozen Cakes, Pies, and Other Pastries Manufacturing	326111	Plastics Bag and Pouch Manufacturing
311821	Cookie and Cracker Manufacturing	326160	Plastics Bottle Manufacturing
311822	Flour Mixes and Dough Manufacturing from Purchased Flour	327213	Glass Container Manufacturing
311823	Dry Pasta Manufacturing	332115	Crown and Closure Manufacturing
311830	Tortilla Manufacturing	332431	Metal Can Manufacturing
311911	Roasted Nuts and Peanut Butter Manufacturing	332439	Other Metal Container Manufacturing
311919	Other Snack Food Manufacturing	339112	Surgical and Medical Instrument Manufacturing

APPENDIX – B (CONTINUED)

ENERGY RELATED MANUFACTURING			
333132	Oil and Gas Field Machinery and Equipment Manufacturing	311225	Fats and Oils Refining and Blending
333414	Heating Equipment (except Warm Air Furnaces) Manufacturing	311613	Rendering and Meat Byproduct Processing
333611	Turbine and Turbine Generator Set Units Manufacturing	322299	All Other Converted Paper Product Manufacturing
334512	Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use	333298	All Other Industrial Machinery Manufacturing
334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals	334413	Semiconductor and Related Device Manufacturing
334517	Irradiation Apparatus Manufacturing	334519	Other Measuring and Controlling Device Manufacturing
335110	Electric Lamp Bulb and Part Manufacturing	335312	Motor and Generator Manufacturing
335121	Residential Electric Lighting Fixture Manufacturing	335314	Relay and Industrial Control Manufacturing
335122	Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing	335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing
335129	Other Lighting Equipment Manufacturing	311223	Other Oilseed Processing
335311	Power, Distribution, and Specialty Transformer Manufacturing	325193	Ethyl Alcohol Manufacturing
311225	Fats and Oils Refining and Blending	324110	Petroleum Refineries
335311	Power, Distribution, and Specialty Transformer Manufacturing	324199	All Other Petroleum and Coal Products Manufacturing

LOGISTICS MANUFACTURING			
336120	Heavy Duty Truck Manufacturing	336611	Ship Building and Repairing
336510	Railroad Rolling Stock Manufacturing		

WATER TECHNOLOGY MANUFACTURING			
326122	Plastics Pipe and Pipe Fitting Manufacturing	333319	Other Commercial and Service Industry Machinery Manufacturing
333111	Farm Machinery and Equipment Manufacturing	333911	Pump and Pumping Equipment Manufacturing

HEALTH & WELLNESS MANUFACTURING			
339112	Surgical and Medical Instrument Manufacturing	325411	Medicinal and Botanical Manufacturing
339113	Surgical Appliance and Supplies Manufacturing	325412	Pharmaceutical Preparation Manufacturing
339114	Dental Equipment and Supplies Manufacturing	325413	In-Vitro Diagnostic Substance Manufacturing
339115	Ophthalmic Goods Manufacturing	325414	Biological Product (except Diagnostic) Manufacturing
339116	Dental Laboratories		

OTHER MANUFACTURING			
31-33	All Manufacturing Industries not listed above		

WATER TECHNOLOGY CLUSTER

2007 NAICS U.S. TITLE			
326122	Plastic Pipe and Pipe Fitting Manufacturing	333911	Pump and Pumping Equipment Manufacturing
333111	Farm Machinery and Equipment Manufacturing	423830	Industrial Machinery and Equipment Merchant Wholesalers
333319	Other Commercial and Service Industry Machinery Manufacturing	424910	Farm Supplies Merchant Wholesalers

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APPENDIX – D: CLUSTER COMPONENT DATA BY COUNTY

AGRICULTURE CLUSTER

Regional Total	Agriculture and Food Cluster Total	Agriculture and Food Cluster - Support	Agriculture and Food Cluster - Production	Agriculture and Food Cluster - Processing and Packaging	Agriculture and Food Cluster - Distribution
2010 Allocated Employment	289,014	119,394	81,795	62,579	25,246
Percent Change, 2001 to 2010	2.9%	2.9%	-6.6%	9.0%	27.5%
Location Quotient	4.14	5.50	4.93	3.33	1.98
Shift-Share	4.56%	-0.53%	2.61%	18.19%	12.13%
Fresno County Total					
2010 Allocated Employment	71,454	32,519	18,093	14,673	6,169
Percent Change, 2001 to 2010	-2.7%	-3.3%	-10.4%	5.5%	7.4%
Location Quotient	3.87	5.66	4.12	2.96	1.83
Shift-Share	-1.10%	-6.65%	-1.25%	14.66%	-7.97%
Kern County Total					
2010 Allocated Employment	57,107	30,451	17,221	5,768	3,667
Percent Change, 2001 to 2010	9.6%	7.2%	-1.8%	51.2%	54.5%
Location Quotient	3.89	6.67	4.93	1.46	1.37
Shift-Share	11.21%	3.86%	7.39%	60.31%	39.08%
Kings County Total					
2010 Allocated Employment	10,712	2,931	3,934	3,515	332
Percent Change, 2001 to 2010	8.0%	-16.0%	6.9%	46.7%	-5.8%
Location Quotient	5.46	4.81	8.44	6.67	0.93
Shift-Share	9.68%	-19.33%	16.10%	55.86%	-21.19%
Madera County Total					
2010 Allocated Employment	12,452	6,160	4,737	1,138	416
Percent Change, 2001 to 2010	6.6%	9.1%	2.7%	-4.8%	85.4%
Location Quotient	5.45	8.67	8.72	1.85	1.00
Shift-Share	8.27%	5.77%	11.86%	4.34%	69.98%
Merced County Total					
2010 Allocated Employment	19,788	4,477	7,333	6,085	1,894
Percent Change, 2001 to 2010	-1.9%	0.4%	-5.6%	-6.2%	30.3%
Location Quotient	5.48	3.99	8.54	6.27	2.88
Shift-Share	-0.23%	-2.97%	3.56%	2.99%	14.94%
San Joaquin Total					
2010 Allocated Employment	34,423	10,482	8,051	9,079	6,811
Percent Change, 2001 to 2010	1.1%	3.0%	-24.5%	1.6%	58.9%
Location Quotient	2.96	2.91	2.93	2.86	3.23
Shift-Share	3.01%	-0.33%	-15.31%	11.52%	43.54%
Stanislaus County Total					
2010 Allocated Employment	34,258	7,825	7,299	15,595	3,539
Percent Change, 2001 to 2010	-6.8%	-23.2%	-4.5%	-0.8%	10.6%
Location Quotient	3.65	2.68	3.27	6.18	2.07
Shift-Share	-5.15%	-26.59%	4.67%	8.38%	-4.80%
Tulare County Total					
2010 Allocated Employment	48,819	24,549	15,127	6,725	2,418
Percent Change, 2001 to 2010	14.4%	22.1%	-2.0%	35.8%	11.7%
Location Quotient	6.21	10.04	8.08	3.18	1.69
Shift-Share	16.05%	18.67%	7.15%	44.91%	-3.70%

APPENDIX – D (CONTINUED) – ENERGY CLUSTER

Regional Total	Energy Cluster Total	Energy Core – Alt Energy Distribution	Energy Core - Alt Energy Production	Energy Core - Energy Efficiency	Energy Core - Equipment Mfg.	Energy Core - Petroleum	Energy Core - Petroleum Distribution	Energy Core - Power Generation	Energy Related - Services and Research
2010 Allocated Employment	33,353	1,572	3,758	13,697	820	4,516	1,701	4,781	2,507
Percent Change, 2001 to 2010	-6.9%	-0.7%	1.7%	-27.1%	38.3%	5.3%	24.3%	35.9%	26.2%
Location Quotient	1.01	0.40	1.06	0.96	0.31	2.18	2.03	1.39	1.11
Shift-Share	13.32%	20.55%	-5.55%	-0.33%	80.04%	2.80%	21.39%	50.89%	21.91%
Fresno County Total									
2010 Allocated Employment	8,222	469	1,176	3,696	50	87	243	1,756	745
Percent Change, 2001 to 2010	-2.7%	-10.2%	12.8%	-22.4%	305.1%	278.3%	49.1%	29.5%	32.0%
Location Quotient	0.94	0.45	1.25	0.98	0.07	0.16	1.10	1.93	1.24
Shift-Share	17.53%	11.13%	5.52%	4.34%	346.81%	275.83%	46.15%	44.48%	27.64%
Kern County Total									
2010 Allocated Employment	11,679	396	879	3,238	447	4,381	663	905	769
Percent Change, 2001 to 2010	9.4%	-7.1%	43.0%	-3.8%	57.5%	4.3%	94.4%	1.9%	38.8%
Location Quotient	1.68	0.47	1.18	1.08	0.81	10.06	3.77	1.25	1.62
Shift-Share	29.59%	14.15%	35.79%	22.94%	99.21%	1.76%	91.50%	16.86%	34.50%
Kings County Total									
2010 Allocated Employment	578	24	144	243	0	0	34	69	64
Percent Change, 2001 to 2010	-11.1%	2.2%	79.3%	-24.2%	-100.0%	-100.0%	-46.8%	-35.5%	140.8%
Location Quotient	0.62	0.21	1.45	0.61	0.00	0.00	1.43	0.71	1.01
Shift-Share	9.14%	23.48%	72.10%	2.59%	-58.29%	-102.51%	-49.70%	-20.53%	136.44%
Madera County Total									
2010 Allocated Employment	752	10	168	297	52	12	37	127	49
Percent Change, 2001 to 2010	-26.5%	N/A	-39.8%	-38.1%	7619.4%	N/A	-77.0%	92.4%	29.4%
Location Quotient	0.70	0.08	1.45	0.64	0.60	0.18	1.34	1.13	0.66
Shift-Share	-6.27%	N/A	-47.04%	-11.35%	7661.12%	N/A	-79.88%	107.41%	25.06%
Merced County Total									
2010 Allocated Employment	1,005	27	129	431	61	0	47	213	96
Percent Change, 2001 to 2010	-32.5%	-24.3%	-1.5%	-34.8%	-75.0%	N/A	-34.7%	-23.9%	50.6%
Location Quotient	0.59	0.13	0.70	0.59	0.45	0.00	1.09	1.20	0.82
Shift-Share	-12.29%	-3.01%	-8.74%	-8.05%	-33.28%	N/A	-37.65%	-8.92%	46.27%
San Joaquin Total									
2010 Allocated Employment	4,559	374	506	2,283	108	33	193	757	304
Percent Change, 2001 to 2010	-11.1%	75.5%	-10.1%	-38.8%	467.5%	-23.8%	161.5%	313.8%	1.2%
Location Quotient	0.83	0.57	0.86	0.97	0.25	0.10	1.40	1.33	0.81
Shift-Share	9.14%	96.78%	-17.35%	-12.04%	509.21%	-26.29%	158.53%	328.78%	-3.12%
Stanislaus County Total	**4,559**	**374**	**506**	**2,283**	**108**	**33**	**193**	**757**	**304**
2010 Allocated Employment	3,836	157	386	2,176	96	1	303	386	330
Percent Change, 2001 to 2010	-29.9%	-34.9%	-28.2%	-44.2%	309.0%	N/A	21.2%	78.9%	9.6%
Location Quotient	0.86	0.29	0.81	1.13	0.27	0.01	2.69	0.83	1.08
Shift-Share	-9.69%	-13.58%	-35.48%	-17.47%	350.72%	N/A	18.27%	93.87%	5.24%
Tulare County Total	**3,836**	**157**	**386**	**2,176**	**96**	**1**	**303**	**386**	**330**
2010 Allocated Employment	2,723	116	370	1,332	6	2	181	568	148
Percent Change, 2001 to 2010	-7.3%	-5.4%	-17.3%	-14.6%	364.8%	N/A	-26.4%	34.6%	8.6%
Location Quotient	0.73	0.26	0.92	0.83	0.02	0.01	1.92	1.46	0.58
Shift-Share	12.95%	15.84%	-24.52%	12.16%	406.48%	N/A	-29.35%	49.58%	4.32%

APPENDIX – D (CONTINUED) – HEALTH AND WELLNESS CLUSTER

Regional Total	Health and Wellness Cluster Total	Health Care - Delivery	Health Care - Medical Device Manufacturing	Health Care – Pharmaceutical	Health Care - Supplies and Services	Health Care - Wellness and Fitness
2010 Allocated Employment	128,178	114,585	1,269	311	2,434	9,579
Percent Change, 2001 to 2010	21.5%	22.6%	-24.3%	145.1%	80.7%	8.0%
Location Quotient	1.01	1.08	0.30	0.09	0.53	1.10
Shift-Share	3.49%	1.50%	-22.26%	134.86%	68.58%	5.93%
Fresno County Total						
2010 Allocated Employment	35,540	31,609	521	90	674	2,646
Percent Change, 2001 to 2010	15.4%	17.6%	-28.0%	70.2%	-12.4%	11.6%
Location Quotient	1.05	1.12	0.47	0.10	0.55	1.15
Shift-Share	-2.62%	-3.51%	-26.04%	60.02%	-24.47%	9.55%
Kern County Total						
2010 Allocated Employment	23,500	21,123	382	0	131	1,864
Percent Change, 2001 to 2010	22.5%	23.1%	-13.8%	N/A	4.7%	28.4%
Location Quotient	0.88	0.94	0.44	0.00	0.13	1.02
Shift-Share	4.51%	2.00%	-11.77%	N/A	-7.40%	26.35%
Kings County Total						
2010 Allocated Employment	3,903	3,632	1	9	15	246
Percent Change, 2001 to 2010	44.2%	48.4%	-86.4%	-13.8%	-36.2%	12.9%
Location Quotient	1.09	1.22	0.01	0.09	0.12	1.01
Shift-Share	26.24%	27.36%	-84.41%	-24.01%	-48.35%	10.86%
Madera County Total						
2010 Allocated Employment	5,481	5,160	1	0	12	308
Percent Change, 2001 to 2010	32.8%	34.8%	-95.2%	N/A	16.1%	16.8%
Location Quotient	1.31	1.48	0.01	0.00	0.08	1.08
Shift-Share	14.83%	13.70%	-93.19%	N/A	4.00%	14.73%
Merced County Total						
2010 Allocated Employment	5,960	5,462	22	29	18	430
Percent Change, 2001 to 2010	18.7%	17.8%	8.3%	104.7%	51.4%	26.8%
Location Quotient	0.90	0.99	0.10	0.15	0.08	0.96
Shift-Share	0.65%	-3.32%	10.28%	94.46%	39.25%	24.75%
San Joaquin Total						
2010 Allocated Employment	23,328	20,194	117	16	1,276	1,725
Percent Change, 2001 to 2010	25.5%	23.3%	-50.2%	-6.3%	2401.7%	-9.2%
Location Quotient	1.10	1.15	0.17	0.03	1.67	1.20
Shift-Share	7.50%	2.17%	-48.22%	-16.53%	2389.59%	-11.26%
Stanislaus County Total						
2010 Allocated Employment	21,261	19,420	213	136	129	1,363
Percent Change, 2001 to 2010	21.5%	24.0%	6.5%	423.7%	-33.8%	-4.4%
Location Quotient	1.24	1.36	0.38	0.28	0.21	1.17
Shift-Share	3.45%	2.94%	8.50%	413.47%	-45.87%	-6.41%
Tulare County Total						
2010 Allocated Employment	9,204	7,985	12	32	179	996
Percent Change, 2001 to 2010	21.6%	23.3%	-45.5%	352.4%	11.1%	10.4%
Location Quotient	0.64	0.67	0.03	0.08	0.34	1.02
Shift-Share	3.64%	2.26%	-43.46%	342.14%	-0.98%	8.38%

APPENDIX – D (CONTINUED) - LOGISTICS CLUSTER

Regional Total	Logistics Total	Logistics - Related Manufacturing	Logistics - Air, Rail, and Water Transport	Logistics - Truck Transport	Logistics - Freight and Warehousing	Logistics - Transit	Logistics - Other Transportation Services
2010 Allocated Employment	33,192	292	2,420	13,118	12,368	2,523	2,472
Percent Change, 2001 to 2010	15.2%	-23.3%	9.3%	1.3%	29.7%	1.8%	98.4%
Location Quotient	1.04	0.34	0.37	1.78	1.06	0.96	0.89
Shift-Share	24.92%	-24.06%	32.60%	13.64%	39.26%	-2.62%	62.76%
Fresno County Total							
2010 Allocated Employment	7,091	4	1,273	2,774	2,116	516	409
Percent Change, 2001 to 2010	14.5%	-96.4%	93.6%	4.8%	-1.9%	17.8%	109.8%
Location Quotient	0.84	0.02	0.73	1.42	0.69	0.74	0.56
Shift-Share	24.14%	-97.23%	116.88%	17.19%	7.64%	13.29%	74.11%
Kern County Total							
2010 Allocated Employment	4,950	0	363	2,335	1,725	180	347
Percent Change, 2001 to 2010	-6.7%	N/A	-62.2%	-5.8%	29.9%	-49.8%	93.5%
Location Quotient	0.74	0.00	0.26	1.51	0.70	0.32	0.60
Shift-Share	2.98%	N/A	-38.95%	6.57%	39.41%	-54.31%	57.85%
Kings County Total							
2010 Allocated Employment	553	0	52	310	54	112	25
Percent Change, 2001 to 2010	102.5%	N/A	285.7%	47.7%	125.2%	N/A	-3.3%
Location Quotient	0.62	0.00	0.28	1.50	0.17	1.51	0.32
Shift-Share	112.19%	N/A	308.98%	60.08%	134.72%	N/A	-38.90%
Madera County Total							
2010 Allocated Employment	534	0	52	321	53	14	94
Percent Change, 2001 to 2010	34.5%	N/A	449.7%	28.2%	186.3%	-81.3%	115.8%
Location Quotient	0.51	0.00	0.24	1.33	0.14	0.16	1.03
Shift-Share	44.21%	N/A	472.99%	40.57%	195.88%	-85.72%	80.16%
Merced County Total							
2010 Allocated Employment	1,789	172	16	891	469	198	43
Percent Change, 2001 to 2010	41.4%	-37.2%	-57.5%	62.7%	222.7%	7.6%	-44.5%
Location Quotient	1.09	3.87	0.05	2.34	0.78	1.45	0.30
Shift-Share	51.06%	-38.04%	-34.25%	75.10%	232.27%	3.09%	-80.19%
San Joaquin Total							
2010 Allocated Employment	10,140	7	431	3,639	4,453	338	1,272
Percent Change, 2001 to 2010	13.2%	N/A	18.2%	-9.9%	25.5%	-29.9%	141.1%
Location Quotient	1.92	0.05	0.40	2.98	2.30	0.77	2.78
Shift-Share	22.87%	N/A	41.48%	2.47%	35.09%	-34.37%	105.47%
Stanislaus County Total							
2010 Allocated Employment	4,721	100	139	1,644	1,917	710	211
Percent Change, 2001 to 2010	67.0%	2412.0%	32.6%	11.2%	223.0%	36.8%	65.1%
Location Quotient	1.10	0.87	0.16	1.66	1.22	2.00	0.57
Shift-Share	76.67%	2411.23%	55.89%	23.56%	232.58%	32.35%	29.50%
Tulare County Total							
2010 Allocated Employment	3,415	8	94	1,205	1,581	456	71
Percent Change, 2001 to 2010	-4.6%	N/A	42.9%	-7.6%	-8.1%	8.2%	2.9%
Location Quotient	0.95	0.08	0.13	1.45	1.20	1.53	0.23
Shift-Share	5.05%	N/A	66.17%	4.78%	1.40%	3.75%	-32.74%

APPENDIX – D (CONTINUED) –
MANUFACTURING CLUSTER

Regional Total	Manufacturing Total	Food Processing, Ag Support, Water Flow	Medical Device Mfg. & Pharmaceuticals	Logistics - Related Manufacturing	Energy Equipment & Petroleum Mfg.	Diversified Manufacturing
2010 Allocated Employment	101,382	66,303	1,580	292	1,779	31,429
Percent Change, 2001 to 2010	-9.3%	6.0%	-12.3%	-23.3%	75.1%	-31.7%
Location Quotient	0.99	3.30	0.20	0.34	0.47	0.45
Shift-Share	21.33%	17.25%	-15.62%	-24.06%	108.64%	5.22%
Fresno County Total						
2010 Allocated Employment	24,441	16,072	611	4	206	7,548
Percent Change, 2001 to 2010	-11.2%	3.6%	-21.3%	-96.4%	1574.8%	-32.1%
Location Quotient	0.90	3.02	0.30	0.02	0.21	0.41
Shift-Share	19.45%	14.87%	-24.64%	-97.23%	1608.30%	4.83%
Kern County Total						
2010 Allocated Employment	12,877	6,021	382	0	1,236	5,237
Percent Change, 2001 to 2010	15.0%	44.2%	-13.8%	#DIV/0!	78.9%	-11.0%
Location Quotient	0.60	1.42	0.23	0.00	1.57	0.35
Shift-Share	45.64%	55.39%	-17.07%	N/A	112.42%	25.94%
Kings County Total						
2010 Allocated Employment	4,112	3,554	10	0	0	549
Percent Change, 2001 to 2010	21.0%	45.9%	-43.7%	N/A	-100.0%	-41.4%
Location Quotient	1.43	6.29	0.04	0.00	0.00	0.28
Shift-Share	51.65%	57.13%	-46.99%	N/A	-78.83%	-4.19%
Madera County Total						
2010 Allocated Employment	2,810	1,504	1	0	52	1,252
Percent Change, 2001 to 2010	-8.1%	-7.5%	-95.2%	N/A	7619.4%	-11.0%
Location Quotient	0.84	2.29	0.00	0.00	0.42	0.54
Shift-Share	22.53%	3.75%	-98.49%	N/A	7652.92%	25.97%
Merced County Total						
2010 Allocated Employment	7,998	6,202	50	172	36	1,538
Percent Change, 2001 to 2010	-19.7%	-6.7%	48.0%	-37.2%	N/A	-48.9%
Location Quotient	1.51	5.97	0.13	3.87	0.40	0.41
Shift-Share	10.91%	4.53%	44.67%	-38.04%	N/A	-11.70%
San Joaquin Total						
2010 Allocated Employment	17,958	9,632	133	7	120	8,066
Percent Change, 2001 to 2010	-20.3%	-2.3%	-47.3%	N/A	241.4%	-34.9%
Location Quotient	1.06	2.89	0.10	0.05	0.19	0.69
Shift-Share	10.34%	8.94%	-50.55%	N/A	274.88%	2.08%
Stanislaus County Total						
2010 Allocated Employment	20,626	15,927	349	100	97	4,152
Percent Change, 2001 to 2010	-9.1%	-0.9%	54.5%	2412.0%	315.3%	-34.7%
Location Quotient	1.49	5.89	0.33	0.87	0.19	0.44
Shift-Share	21.56%	10.36%	51.19%	2411.23%	348.78%	2.22%
Tulare County Total						
2010 Allocated Employment	10,560	7,391	44	8	6	3,111
Percent Change, 2001 to 2010	-7.6%	18.8%	50.6%	N/A	421.1%	-40.0%
Location Quotient	0.91	3.26	0.05	0.08	0.01	0.39
Shift-Share	23.01%	30.09%	47.27%	N/A	454.63%	-3.01%

APPENDIX – D (CONTINUED) – WATER TECHNOLOGY CLUSTER

	Regional Total
2010 Allocated Employment	2,668
Percent Change, 2001 to 2010	-26.9%
Location Quotient	2.44
Shift-Share	2.77%
Fresno County Total	
2010 Allocated Employment	1,014
Percent Change, 2001 to 2010	-17.9%
Location Quotient	3.50
Shift-Share	11.81%
Kern County Total	
2010 Allocated Employment	199
Percent Change, 2001 to 2010	-43.4%
Location Quotient	0.86
Shift-Share	-13.70%
Kings County Total	
2010 Allocated Employment	15
Percent Change, 2001 to 2010	-46.3%
Location Quotient	0.49
Shift-Share	-16.59%
Madera County Total	
2010 Allocated Employment	195
Percent Change, 2001 to 2010	-11.1%
Location Quotient	5.45
Shift-Share	18.59%
Merced County Total	
2010 Allocated Employment	106
Percent Change, 2001 to 2010	-22.1%
Location Quotient	1.88
Shift-Share	7.62%
San Joaquin Total	
2010 Allocated Employment	269
Percent Change, 2001 to 2010	-39.1%
Location Quotient	1.48
Shift-Share	-9.40%
Stanislaus County Total	
2010 Allocated Employment	259
Percent Change, 2001 to 2010	-1.0%
Location Quotient	1.76
Shift-Share	28.68%
Tulare County Total	
2010 Allocated Employment	609
Percent Change, 2001 to 2010	-37.6%
Location Quotient	4.94
Shift-Share	-7.88%

FOR ADDITIONAL INFORMATION CONTACT:
MIKE DOZIER, DIRECTOR, OFFICE OF COMMUNITY AND ECONOMIC DEVELOPMENT
mdozier@csufresno.edu
559-294-6027

ATTACHMENT 7

List of Regional Forums

Host WDB	Date/Time/Location	Topic
San Joaquin	11/4/2016 2:00-4:00 p.m.	Job Quality
Stanislaus	11/7/2016 2:30-4:30 p.m.	Career Pathways
Fresno	11/8/2016 10:00 a.m.-12:00 p.m.	Workforce & Education Resources
Kern	11/14/2016 11:00 a.m.-1:00 p.m.	Career Pathways
Madera	11/15/2016 8:30-10:30 a.m.	Industry Valued Credentials
Fresno	11/17/2016 1:30-3:30 p.m.	System Accessibility
Kern	11/28/2016 11:00 a.m.-1:00 p.m.	Pathways to the Middle Class
Tulare	11/30/2016 2:00-4:00 p.m.	Industry Recognized Credentials
Merced	12/5/2016 2:00-4:00 p.m.	Pathways to the Middle Class
Fresno	12/6/2016 9:30-11:30 a.m.	Career Pathways
Tulare	12/6/2016 2:00-4:00 p.m.	Pathways to the Middle Class
Kern	12/12/2016 11:00 a.m.-1:00 p.m.	Workforce and Education Resources
Stanislaus	12/13/2016 10:00 a.m.-12:00 p.m.	Industry Valued Credentials
Fresno	12/14/2016 9:30-11:30 a.m.	Career Pathways
San Joaquin	12/14/2016 3:00-5:00 p.m.	Apprenticeships: Career Pathways to Success
Kings	12/15/2016 10:00 a.m.-12:00 p.m.	Industry Sector Employment Needs

ATTACHMENT 8

CONSOLIDATED INVITE LIST

Fresno

- Fresno Business Council
- Fresno Economic Opportunities Commission
- Fresno Economic Development Agency
- Fresno Building Healthy Communities Center for Advanced Research & Technology (CART) – high tech high school
- HOPE Builds
- Kaiser Permanente
- Fresno Bridge Academy, Reading & Beyond
- Clovis Unified School District
- Disabled Students Program & Services, State Center Community College District
- Clovis Adult School
- Fresno Housing Authority
- San Joaquin Valley Manufacturing Alliance
- Sanger Adult School
- Fresno Adult School
- State Center Adult Education Consortium
- The California Endowment
- Fresno Building Healthy Communities
- West Hills Community College District
- Plumbers & Pipefitters Local 246
- Fresno County Office of Education
- Fresno County Department of Social Services
- Fresno, Madera, Tulare, Kings Counties Building Trades Council
- IBEW 100
- Fresno City College
- Fresno State University
- Sheet Metal Workers 104
- Cradle to Career Fresno County
- CA Department of Apprenticeship Standards
- College of the Sequoias
- Northern California Carpenters Apprenticeship
- District Council 16 JATC – Painters & Allied Workers
- Teamsters Local 431
- Operating Engineers Local 3
- Fresno City College Training Institute

- Reading and Beyond
- California Health Sciences University
- Central/Mother Lode Community College Consortium

Kern/Inyo/Mono

Business:

- Johasee Rebar, Inc.
- Grimmway Farms, Inc.
- California Electric Supply Company
- Howard Supply Company
- BW Implement Co.
- Golden Empire Transit
- Clinica Sierra Vista
- Kern Medical
- Frito-Lay
- Hold Your Horses
- HR Professional
- Townsend Design
- Wonderful Company
- Target Distribution
- Tejon Ranch Company
- Famous Footwear
- MacPherson Oil Company
- EDF Renewables
- World Wind & Solar
- JTS Modular, Inc.
- Journey Air Conditioning Co.
- Gazelle Transportation, Inc.
- Kern Health Systems
- Chevron
- Walter Mortensen Insurance
- Kern Oil & Refining Co.
- K. Cornell Capital & Consulting
- PCL Industrial Services, Inc.
- INTEG Enterprises LLS
- Journey Air Conditioning Co.
- Kern County Hispanic Chamber of Commerce
- Greater Tehachapi Chamber of Commerce

- Bakersfield Chamber of Commerce
- Kern County Black Chamber of Commerce

Education:

- Kern County Superintendents of Schools
- Kern Community College District
- Kern High School District
- Delano Joint Union High School District
- California State University, Bakersfield
- Taft College
- Bakersfield College
- Cerro Coso Community College
- Delano Adult School
- Bakersfield Adult School
- College Community Services

Labor:

- IBEW Local 428
- Plumbers & Steamfitters Local 460
- International Union of Operating
- California Rail Builders, LLC
- Kern, Inyo, Mono Building Trades Council
- Southern California Laborers

Community-Based Organizations:

- Mexican American Opportunity Foundation
- Community Action Partnership of Kern
- Golden Empire Gleaners
- Independent Living Center of Kern County
- Bakersfield Homeless Center
- Mission at Kern County
- Bakersfield Rescue Mission
- United Way of Kern County

Economic Development:

- CSUB Small Business Development Center

- Kern Economic Development Corporation

One-Stop Partners:

- California Indian Manpower Consortium, Inc.
- Department of Rehabilitation
- SER - Jobs for Progress
- Housing Authority of Kern County
- Employers' Training Resource
- Employment Development Department
- Cornerstone Solutions, Inc. - Job Corps Service
- Farmworker Institute for Education & Leadership Development
- Kern County Department of Human Services
- Inyo County Health & Human Services
- Mono County Social Services Department

Kings

- AARP
- Adventist Health
- All Valley Printing
- Aqua Azul Water Corporation
- Bank of the West
- B&D Quality Cleaners
- California Department of Rehabilitation
- College of the Sequoias
- Comfort Inn
- CPAs,
- Employment Development Department
- Hanford Mall
- Homac Manufacturing
- International Brotherhood of Electrical Workers Fresno Area Electrical Training Center
- International Brotherhood of Electrical Workers Local 100
- Kenneth A Silva, DDS
- Kings County Board of Supervisors
- Kings County Human Services Agency
- Kings County Office of Education
- Kings View Mental Health Services
- Lowe's

- M. Green and Company
- Marquez Brothers International, Inc.
- Northern California Carpenters Union
- OLAM Spices and Vegetable Products
- Proteus Inc.
- SEIU Local 1000
- SEIU Local 521
- Southern California Edison
- Tree Frog Specialties and Printing
- West Hills Community College District
- A Design For You
- Action Equipment Rentals
- Adventist Health
- Aera Energy LLC, AGUSA Inc.
- Airgas Specialty Products
- All Valley Printing
- Aqua Azul Corporation
- Art Print Service
- Baker Commodities, Inc.
- Bank of the West
- Beco Dairy Automation, Inc.
- Bennett & Bennett Inc.
- Britz-Simplot Grower Solutions
- Burrows, Gary Inc.
- Buttonwillow Warehouse Company
- Calcot Ltd.
- California Bio-Productex Inc.
- California Organic Fertilizers, Inc.
- Camfil Farr Company
- CBS Doors
- Cemex
- Central Valley Meat Company
- City of Hanford
- Champi Fencing
- Cobalt Safes
- College of the Sequoias
- Corcoran Machine Works
- Coveris

- Crown Natural Foods
- County of Kings
- Del Monte Foods
- Enterprise & Commerce Industrial Park
- Fagundes Agri Business
- Fry's Electronics Warehouse
- Gibson Gates & Fencing Systems
- Golden State Feed & Grain
- Hanford Commodities, LLC
- Hanford Grain Company
- Hanford Joint Union High School Dist.
- HCT, Inc.
- Helena Chemical Co.
- Iron Industries Inc.
- J G Boswell Company
- J G Boswell Tomato Company, LLC
- Kahn, Soares, & Conway
- Karl M. Smith, Inc.
- Keenan Farms, Inc.
- Kings Cabinet Systems
- Kings County Air
- Kings County EDC
- Kings Rehabilitation Center
- Lacey Milling Co.
- Leprino Foods Lemoore East
- Leprino Foods Lemoore West
- Mar Vista Resources, LLC
- Marquez Brothers International
- McClard Masonry Inc.
- McLellan Industries
- Mid-State Precast, Morgan & Slates
- Naval Air Station Lemoore
- Nichols Farms
- Northland Process Piping, Inc.
- Norwesco, Inc.
- Olam Spices & Vegetable Ingredients
- Pacific Gas & Electric
- Pitman Family Farms

- Proctor/Crookshanks Companies
- Pyramid Cabinet Systems, Inc.
- Quinn Company
- Robinson's Sheet Metal
- Sasser Specialties
- Sawtelle & Rosprim
- Silveira's Ground Service, Inc.
- South Valley Materials, Inc./Hanford
- Superior Soil Supplements
- Telstar Instruments
- Tessenderlo Kerley, Inc.
- The Gas Co.
- The Hanford Sentinel
- TriCal, Inc.
- Tulare Lake Compost
- Valley Oak Cabinet Mfg.
- Valley Pallet Inc.
- Valley Pump & Dairy Systems
- Verdegaal Brothers Inc.
- Veterinary Pharmaceuticals, Inc.
- Virtus Nutrition, LLC
- Walmart Distribution Center
- Waste Management
- Wells Fargo Bank
- West Hills College Lemoore
- West Pacific Electric Co.
- Westside Transplant
- Windtamer Tarps
- Woodside Electronics Corp.

Madera

- Alfred A. Gallegos Attorney at Law
- AM/PM
- Ardagh Group
- California Employers Association
- California Gastroenterology Associates
- California Indian Manpower Consortium, Inc.
- Camarena Health

- Central California Workforce Collaborative
- CertainTeed
- Chancellor’s Office of the California Community Colleges
- Charles Diaz Trucking
- Children's Hospital Central California
- Church & Dwight Co., Inc.
- Citizens Business Bank
- Coarsegold Pharmacy Wellness
- Comfort Inn, Oakhurst
- Community Action Partnership of Madera County
- Constellation Brands, Inc. - Mission Bell Winery
- Control Enterprises Incorporated
- Delaware North, Parks and Resorts at Yosemite
- Department of Rehabilitation
- Domries Enterprises, Inc.
- Employment Development Department
- Eurodrip U.S.A., Inc.
- Fiesta Auto Insurance
- G. Oberti & Sons
- Georgia Pacific
- Gutile Farms
- Harris Enterprises.
- Housing Authority of the City of Madera
- Innovative Rotational Molding
- International Electrical Workers #100
- JBT Food Tech Corporation
- Kings View, Inc.
- KleenRite Equipment Manufacturing
- Kuykendall Solar Corporation
- Laborers International #294
- Madera County Board of Supervisors
- Madera County Department of Social Services
- Madera County Economic Development Commission
- Madera District Chamber of Commerce members
- Madera Unified School District
- Nemat Inc.
- Papa Murphy’s Pizza
- PG&E

- Salter's Distributing, Inc.

Merced

- Merced Union High School District
- University of California-Merced
- Merced County Human Services Agency
- Merced County Community and Economic Development
- Merced College
- AEBG Consortium
- Merced County Office of Education
- Merced County Board of Supervisors
- ASC Agrecom, Inc.
- EDD
- Joseph Gallo Farms
- Mr. INK Pro
- California Indian Manpower Consortium
- Leap/Carpenter/Kemps Insurance Agency
- Coldstone Creamery
- Central Valley Opportunity Center, Inc.
- Laborers International Union of North America
- Amie Marchini Senior Care
- ServiceMaster
- Pacific Gas and Electric
- Department of Rehabilitation
- Image Masters
- Sheet Meter Workers L.U. #104
- BLUM Center
- Sintex Security Services
- The Plumbers and Pipefitters Local 442
- Atwater Chamber of Commerce
- Hispanic Chamber of Commerce
- Los Banos Chamber of Commerce
- Greater Merced Chamber of Commerce
- City of Merced-Economic Development
- International Brotherhood of Electrical Workers
- BA-Local 442
- Dole Packaged Foods International
- Laird Manufacturing

- Quad Graphics
- E&J Gallo Winery
- Manufacturers Council of the Central Valley
- Castle Family Health Center
- WebCorps Builders
- Label Tech
- UC Berkley
- IFMA-Central Valley Chapter
- Lawrence Livermore National Laboratory
- San Joaquin County WorkNet-EEDD
- Madera County Workfroce Investmetn Corporation
- Fresno Regional Workforce Development Board
- Stanislaus Alliance Worknet
- Workforce Investment Board of Tulare County
- Kings EDC and JTO
- Kern County Employers' Training Resource
- Kriby Manufacturing
- TriCounty Flooring
- JBT
- Small Business Development Center Network
- Californai League of Food Processors
- Resources for Independence
- John B. SanFilipo & Sons, Inc.
- Hilmar Cheese
- J Marchini & Son
- Liberty Packing Company
- Live Oak Farms
- Sensient Natural Ingredients
- Hoffman Security
- McClane Pacific
- CertainTeed
- Kagome
- Morningstar
- Teasdale
- Frito Lay
- 51 Fifty
- Richwood Meats
- Black Oak Casino

San Joaquin

- San Joaquin County Board of Supervisors
- Employment & Economic Development Department
- San Joaquin Economic Development Association
- City of Escalon
- City of Lathrop
- City of Lodi/Lodi Electric Utility
- City of Manteca
- City of Ripon
- City of Stockton
- City of Tracy
- Lathrop District Chamber of Commerce
- Greater Stockton Chamber of Commerce
- Lodi Chamber of Commerce
- Manteca Chamber of Commerce
- Ripon Chamber of Commerce
- Tracy Chamber of Commerce
- Escalon Chamber of Commerce
- African American Chamber of Commerce
- San Joaquin County Hispanic Chamber of Commerce
- Central Valley Asian American Chamber of Commerce
- San Joaquin Delta College
- Center for Business and Policy Research, UOP
- County Office of Education
- Deputy Sector Navigator, Region C- Advanced Manufacturing
- Deputy Sector Navigator, Region C- Agriculture, Water & Environmental Technologies
- Deputy Sector Navigator, Region C, Prop 39 Project Director- Energy, Construction & Utilities
- Deputy Sector Navigator, Region C- Global Trade & Logistics
- Deputy Sector Navigator, Region C- Health
- Deputy Sector Navigator, Region C- Information & Communication Technologies (ICT)/Digital Media
- Deputy Sector Navigator, Region C- Retail/Hospitality/Tourism 'Learn and Earn'
- Deputy Sector Navigator, Region C- Small Business
- Stockton Airport
- SMART/San Joaquin RTD
- Altamont Corridor Express/ SJ Regional Rail Commission

- California Dept. of Transportation (Caltrans)
- Visit Stockton
- Visit Lodi! Conference and Visitors Bureau
- Visit Manteca
- Northern California Chapter, National Electrical Contractors Association
- Laborers International Union of Northern America, Local 73
- San Joaquin Calaveras Center Labor Council
- San Joaquin Building Trades
- Carpenters Local 152
- SEIU Local 1021
- OE3 Operators Engineers Local 3
- Labors Trg. & Retrg. Trust Fund
- Carpenters Training Committee for Northern California
- Dept. of Industrial Relations
- OE3 Operators Engineers Local 3
- United Assoc of Plumbers & Pipefitters Local 442
- Sheet Metal Workers Local 104
- San Joaquin County Human Services Agency
- California State Department of Rehabilitation
- California Human Development
- San Joaquin County Probation
- Pacific Gas & Electric
- Port of Stockton
- SJ Partnership/Business Council
- SJ Delta College SBDC
- State EDD-Labor Market Information Division (LMID)
- State EDD
- SJC Council of Governments
- RS Consulting
- San Joaquin General Hospital Behavioral Health Services
- San Joaquin County Veterans Services
- Fathers & Families
- El Concilio
- African-American Community Services
- Puentes
- Premier Finishing
- Eagle Roofing Products
- Ace Electric Motors Co.

- Surtec, Inc.
- All Counties Glass
- Diamond Foods
- Ameron WTG
- GAF

Stanislaus

- Lawrence Livermore National Laboratory
- DH Consulting LLC
- Patterson Unified School District
- MCCV
- JKB Homes
- CUSD
- Learning Quest Stanislaus Literacy Centers
- Turlock Unified School District
- Modesto City Schools
- EDD - Wagner-Preyser
- Department of Rehab
- CSA
- Job Corps
- CIMC
- DRAIL
- El Concilio-Modesto
- Casa Del Rio FRC
- Friends Outside
- Stanislaus Family Justice Center
- World Relief-Modesto
- Interfaith Ministries
- Modesto Gospel Mission
- Society for Disabilities
- Turning Point Community Program
- Housing Authority of County of Stan.
- CVOC
- Senior Community Service
- MJC
- Computer Tutor
- SCOE
- DCSS
- BHRS
- Opportunity Stanislaus
- Manos Unidas Modesto
- Opendoor Services

Tulare

- AgriStar
- ALCOA
- Alexander Groups
- Amarillo Gear Company
- Amarillo Wind Machines
- Bank of the Sierra
- Beckman Coulter
- Bella La Vina Farms
- Bowsmith
- Bradford Steel Construction
- Burton School District
- Caccitore Wines
- California Dairies
- California State Assembly
- California State Senate
- California State University, Fresno
- Career Development Institute
- Carpenters Union 1109
- Central Valley Meat
- Central Valley Scuba Center
- Champion Homes
- Christy Vault Company
- Cigna
- City of Dinuba
- City of Exeter
- City of Farmersville
- City of Lindsay
- City of Porterville
- City of Tulare
- City of Visalia
- City of Woodlake
- College of the Sequioas
- College of the Sequoias Training Center
- Community Health Clinic
- Con Agra Foods
- Consepts in Controls
- Corcoran Unified School District

- CSET
- CSET Board of Directors
- Cutler Orosi Joint Union School District
- DC Brands
- Department of Rehabilitation
- Dinuba Chamber of Commerce
- Dinuba Joint Union High School District
- Dinuba Unified School District
- Dowdy's Sales and Service
- Electric Motor Shop
- Ellonor Roosevelt Community Learning Center
- Empire Supply
- Employment Development Department
- Essilor USA
- Exeter Chamber of Commerce
- Exeter Unified School District
- Family Health Care Network
- Farmersville Unified School District
- Farwest Distributors
- FAST Credit Union
- Ferguson
- Fisher Manufacturing
- Fisher Metal Products
- Foster Farms
- Fresno Pacific University
- Fresno Small Business Development Center
- Fresno Unified School Disctrict
- GEA
- Gibralter
- Go-Titan
- Groppetti Automotive Group
- Haagen Dazs
- Hanford Joint Union High School District
- Health and Human Resources
- Healthcare Conglomerate Associates
- HHSA
- Hispanic Chamber of Commerce
- Horizon Nut

- Hydrite Chemical Co.
- Idea Printing and Graphics
- International Brotherhood of Electrical Workers
- International Paper
- Issue Number
- ITK Leadership Council
- JD Heilskell
- Jim's Formal Wear
- Joann Fabrics
- Job Corps
- John Muir Academy
- Jostens
- K Truss
- Kaweah Delta Health Care District
- Kings County Office of Education
- Kraft Foods
- Lane Engineers
- Lemoore Union High School District
- Lindsay Chamber of Commerce
- Lindsay Joint Union High School District
- Lindsay Unified School District
- MAF Industries
- Mangini Associates, Inc., ITK Leadership Council
- Marriott Visalia at the Convention Center
- McFarland Unified School Disctrict
- MCS Frame
- Merced College
- Moore Medical
- National Builders Supply
- NDS
- Nestle
- Networks 2 Action
- Odwalla
- ORS Nasco
- Pacific Southwest Container
- Pacific Stihl
- PDDA Filtration
- Physician/Surgeon (Retired)

- Pine, Pedroncelli, and Agular
- Pixley Unified School District
- Portervile Unified School District
- Porterville Adult School
- Porterville Chamber of Commerce
- Porterville College
- Porterville Unified School District
- Pregis
- Pro Document Solutions
- Producers Dairy
- Proteus, Inc.
- Provisions Food Company
- Pro-Youth Heart
- PSW Rehab
- Quad Knopf
- Rabobank
- Reedley College
- Research for Hire
- Retired Sunmaid Administrator and Farmer
- Riverside County Economic Development Agency
- Royalty Carpet
- Royalty USA
- RR Donnaelley
- Ruiz Foods
- San Joaquin Valley College
- Screw Conveyor Corp
- Seals and Biehle Contractors
- Seals Biehle Construction
- SEE and Company
- Sempra Energy
- Sequoias Adult Education Consortium
- Sequoias Riverland Trust
- Serpa Packaging
- Service Master
- Sierra View Medical Center
- Soil Basics
- Southern California Edison (Retired), ITK Leadersh
- Spraying Devices

- Springville Chamber of Commerce
- Springville Unified School District
- State Center Community College District
- Suberban Pipe and Steel
- Sun Fresh
- Sundale School District
- SunPower
- Svenhards
- TC Probation
- TCOE
- Tempo Foam
- The Lockwood Agency, ITK Leadership Council
- Tri-Mag
- Tucoemas Federal Credit Union
- Tuff Tubs
- Tulare Adult School
- Tulare Chamber of Commerce
- Tulare Community Health Clinic
- Tulare County
- Tulare County Board of Supervisors
- Tulare County Board of Supervisors
- Tulare County Board of Supervisors
- Tulare County Ecconomic Develop Corporation
- Tulare County Farm Bureau
- Tulare County Federal Credit Union
- Tulare County Health and Human Services Agency
- Tulare County Office of Education
- Tulare County Office of Education/SEE
- Tulare County Public Health Department
- Tulare Economic Development Agency
- Tulare Iron Man
- Tulare Joint Union High School District
- Tulare Regional Medial Center
- Tulare Unified School District
- Tulare Union Joint Unified School District
- Tulare-Kings Hispanic Chamber of Commerce
- Tule River Tribe
- Turning Point of Central California

- United Staffing
- Universal Biopharmareserach Institute
- University of California, Merced
- University Prepatory High School
- UPS
- US Farm Systems
- Valley ROP
- Ventura Coastal
- VF Outdoor, Inc.
- Visalia Adult Education Consortium
- Visalia Adult School
- Visalia Chamber
- Visalia Chamber of Commerce
- Visalia Employment Connection
- Visalia Rescue Mission
- Visalia Unified School District
- Voltage Multipliers
- VWR Distribution
- Warren & Baerg
- West Hills Community College
- Woodlake Unified School District
- Workforce Investment Board of Tulare County

ATTACHMENT 9

Name	Organization
Pang Vangyi	State Center Adult Education Consortium
Pat R. Barr	WDB
Efrain Guizar	Fresno County Office of Education
Ka Xiong	Fresno WDB
Ricky L. Talley	Clovis Adult Education
Courtney McMahan	Clovis Adult School
Ed Schmalzel	Clovis Adult School
Andrea Story	Fresno County DSS
Giselle Simon	West Hills College Lemoore
S. Norman	TRCO
Andrea Reyes	Fresno County Economic Development Corp.
Robert Topete	Plumbers & Pipefitters Apprenticeship
Chuck Staton	Electrical Apprenticeship
Gary Schlueter	Fresno Adult School
Dan Sousa	State Center CCD
Valerie Fisher	Health Workforce Dept
Corinna Reneira	Director of Apprenticeship Standards
David Castillo	West Hills College

Name	Organization
Irma Garcia	Fresno Housing
Jeff Davis Jr.	Fresno EOC
Laneesha Senegal	H.O.P.E.
Deb Nanhulle	FBC
Gary Schlueter	Fresno Adult School
Sherri Watkins	State Center Adult Education Consortium
Patric Farrar	Merced Co. Dept of Workforce
Nancy Penny	Sanger Adult
Brandi Johnson	Fresno Housing
Nikki Newsome	Reading & Beyond - Bridge Academy

Name	Organization
Katrina Starman	DOR
Priscilla Varela	DOR
Imelda Juarez	KCMH - VOC
Mauro Laris	MAOF
Melinda Brown	KEDC
Diane McClanahor	DOR
Gloria Hernandez	HACK
Michael Kane	Cerro Coso
June Martinez	KCMH Ontrack
Kenny Grejoir	Johasee Rebar
April Morris	Grimmway Fund
Shanda Evett	DHS
Brandon Evans	DHS
Mai Knue	Madera Workforce
Rica Galiza	Dept of Rehab
Joel Seal	BW Implant
Magda Menendez	MAOF
Rob Arias	KCSOS
John Means	KCCD
Doug Kremar	Job Corps
Luis Lopez	HSC
Victoria Hernandez	HACK
Jennifer Patino	CSUB
Les Clark	OIW
Greg McGikney	Calif Electric Supply
Sarai Jones	ETR
Ricky Esparza	ETR

Grant Wong	ETR
M. Turnipsoel	KCTA
Ralph Martinez	CAFK
Jan Lemucchi	ILCKC
Gina Knovos	KHS

Name	Organization
Shanda Evett	DHS
Eileen Brush	GET
Ope Jelugbu	GET
Veronica Moore	Dept of Rehab
Jodi Loeffler	Bakersfield Adult
Sarai Jones	ETR
Nikka Vargas	Housing Authority
Pam Holiwell	KCDHS
Stacy Ferreira	Clinica Sierra Vista
Candy Gettman	ETR
Michael Kane	Cerro Coso
Melinad Browly	Kern EDC
June Martinez	KCMH
Jermaine Tyson	
David Villarino	Field Institute
Jimmie Soto	ILCKC
Jan	ILCKC
Mark Wyatt	KHSD-BAS
Lua Hockersmith	Kern Medical
Randi Kizzar	Westec
Ricky Esparza	ETR
Mauro Laris	MAOF
Brandon Evans	DHS
Maida Alveraz	MAOF
Teresa Hitchcock	ETR
Jorge Espinosa	Madera MCWIC
Jun Lopez	HSC

Beth Bgwaters	KIT Community
Katrina Hoagland	Frito Lay
Greg McGiffney	California Electric Supply
Gloria Peleyri	KCMH
Todd Kepez	PCL
Rob Arias	KCSOS
Jennifer Patire	CSUB
John Spaulding	BTC
Grant Wong	ETR
Aaron Ellis	ETR
Nyakundi Michieka	CSUB
Christian Shannon	KCSOS
Denise Crawford	Bakersfield College
Imelda Juarez	KCMH
Russell Jolusa	ABC
Michael Turnipsend	K???
Ralph Martinez	CAPK

Name	Organization
John Lehn	Kings Co. WIB/JTO
Xochityl Rodriguez	Kings Co. /HSA-ETW
Kathlene Brookshire	Kings Co/HAS/ETS
Vince Velo	Kings Co/WDB/JTO
Dusty Ference	Kings Co Farm Bureau
Thad Russell	College of Sequoias
Robert Aura	JTO
Kristin Robinson	COS
Nancy Silva	WIB/Silva Dental
Kelley Mattos	KC Human Resources
Stephanie Murphy	Adventist Health
Kes Andersen	Leprino
Kristin Clark	West Hills College Lemoore
Matt Burden	Mid-State Precost
Paula Lehn	Fast Credit Union

Name	Organization
Bertha Vega	MCWIC
Pam Lowery	MCWIC
Maiknue Vang	MCWIC
Andy Fiskum	Alliance Worknet
Victor Montes	A1
Hilda Castrella	MHS
Lori Marchy	DSA for Ag
Jerry Franksen	SJVC/CEA
Melisa Bushey	MCH
Edilia Perez	Sunsweet Dryers
Abel Alcocer	EDD
Gurminder Sangha	COS/LCCRO
Jennifer Rivera	Madera Co. DSS
Heidi Rousey	EDD/UI
Jesus Gamboa	CVOC
Martha Ramirez	Madera Housing
Wendy Burke	Tenaya Lodge
Robert Paythreus	
Julie Herd	MCEDC
Shelley Attix	DSN-RHTLE Sector
John Andersone	
Vilma Reynoso	MUHSD
Loretta Bagssi	SEL/Rons Towing
Pat Gorda	JBT
Shermaene Roemhildt	Merced County WIB
Lance Lippincott	Merced County WIB
Tracie Contreras	Madera WDB

Jorge Espinosa	Madera WDB
Larry McLaughlin	Comm. Colleges/ATRE Sector
Karri Hammerstrom	Central/ML Reg Consortium
Devon Dilly	SJVC
Monique Figueroa	Madera Comm. Hospital
Javier de la Cerda	Sunsweet Dryers
Steven Gutierrez	EDD
Sofia Muhn	EDD
Sylvia Garibay	EDD
Lucia Avila	MHA

Name	Organization
Harpreet Takhar	MCOE After School
Andre Griggs	MCOE After School
Gail Lopez	Madera
Autumn Gardia	Merced College
Tammy Johnson	UC Merced Extension
Margarita Cabalbag	EDD Workforce Srvc
Valerie Fisher	CCCC-Health Workforce
Rebecca Petty	HSA/Employment Services
Amelia Cuen	HSA/Employment Services
Mary Ruiz	EDD
Lynn C Reimer	UC Merced Extension
Meshan Record	Merced AJCC
Constantino Aguilar	Merced Union High School District
Michelle Watkins	Black Oak Casino Resort
Darren Lockwood	Black Oak Casino Resort
Becky Barabe	Merced College
Shelly Conner	Merced College
Shelley Attix	CA-RHT Sector/Central Region

Name	Organization
Ward Andrus	
Gene Bigler	
Lori Marchy	
David Jimenez	
Pat Patrick	Lodi Chamber
Chris Klement	SJCOE
Julie Jansen	SJCOE
Les Fong	SJRT
Ernest Williams	Worknet
Carlos Magana	EDD
Peter Simon	
Michael Mark	
Steve Lopez	
Lorraine Perry	
Ranita Reed	
Carlos Hirota	
Greg Vincelet	
Sheilah Goulart	
Kathy Hart	
Salvador Vargas	
Jessica Hernandez	SJC Worknet
Valerie Vega	SJC Worknet
Roslyn Burse	
Kathleen Luangrath	SJC Worknet
Julie Riley	SJC Worknet
Hector Quintero	SJC Worknet
Thuan Doan	SJC Worknet

Jacquie Q Thomas	SJC Worknet
Ed Wanket	
Regina Ramam	SJC Worknet
Elena Manqahat	Worknet
Lesli Jones	SJC Worknet

Name	Organization
John M Solis	San Joaquin County Worknet
Rick Aguilera	San Joaquin County Worknet
Tonnie Mallory	San Joaquin County Worknet
Srey Kho	El Concilio
Chris Kleinert	SJCOE
Lily Aman	CA Human Development
Shelley Burcham	City of Tracy
Steve Lantsbergh	San joaquin County EOA
Jessie Garza-Roderick	SJDC-Mountain House Campus
Lorraine Perry	Employment Development Dept
Nati Martinez	EDD/LMID Labor Market Info
Janice Miller	City of Stockton
Sheri Orieto	Orieto Consulting
Jose Moreno	El Concilio Calworks
Gene Bigler	Puentes
Kent Bradbury	San Joaquin RTD
Les Fong	Les Fong & Assoc.
Salvador Vargas	San Joaquin Delta Coll.
Lorinda Forrest	San Joaquin Delta College
Faul Hernandez	UIA Local 442
Michael Mark	Sheet Metal Workers Local #104
Michael Leong	Carpenters Training Committee for Northern CA
Alfredo Mendoza	SJC EEDD
Allet Williams	SJC Worknet
Carol Hirota	Stockton USD Adult Education

Name	Organization
Ed Cuellar	Community Services Agency
Erlinda Cariano	CSA
Irene Lopes	CSA
Vinal Chand	Alliance Worknet
Alfredo Mendoza	SJC Worknet
John Jepson	CVOC
Heidi Rousey	EDD/UI
Dallas Plag	CUSD
Dustin Pact	CUSD
Juan Dendoza	CUSD
Bruce Merchant	Alliance Worknet
Velma While Bear	Cal Indian Manpower Consortium
Irene Espinoza	Alliance Worknet
Teresa Grea	Alliance Worknet
Barbara Morales	Alliance Worknet
Linda Alaniz	Turlock Adult School
Dolores Brunson	SCSEP
Karen Williams	Learning Quest
Lucio Cruz	CVOC
Linda Del Carlo	Housing Authority
John Lowder	Housing Authority
Margarita Cabalbag	EDD Workforce Services
Mahalia Gutice	DOR
David Lathrop	Turlock Adult
Jaskaran Dhesi	Alliance Worknet
Eugene Garcia	Alliance Worknet
John Chamberlin	Planning Consultant

Ron Cripe	Modesto Jr. College
Paul Rodgers	AW
Lynn Sanchez	AW
Eric Anderson	Modesto City Schools

Name	Organization
Martha Alexandros	TCOE/SEE
Ruben Alvarez	Porterville Unified
Randy Baerg	WIB BOD Member - Warren & Baerg Mfg., Inc.
Gilbert Bareng	Mangini Associates Inc.
Cynthia Brown	Porterville Unified School District
Carla Calhoun	CSET
Lisa Castillo	Cutler-Orosi Unifed School District
Eldonna Caudill	WIBTC
Shelley Attix	Central CA-RHT Sector
Bill DeLain	TCWIB
Valerie Fisher	Health Workforce Initiative
Maria Guerrero	CSET
Gil Jaramillo	Fresno State SBDC
Desiree Landeros	WIB of Tulare County
Kenny Lavinder	Carpenters Local 1109
Ryan Leasure	PUSD
Martha Loya	Proteus
Dan Martin	Nestle
Bruce Nicotero	Jo-Ann Fabric and Craft Stores
Craig Plath	CSET
Patricia Pullen	WIB
Steve Reid	Hydrite Chemical Co
Mimi Schuler	Porterville Unified School District
Ryan Stillwater	Visalia Rescue Mission
Joh Werner	SAEC
Jorge Zegarra	College of the Sequoias
Devon Jones	COV

Jennie Bautista	WIB
John Gonzalez	WIB
Gurminder Sangha	COS/CCCCO
Jason Harper	WIB
Blanca Bonilla	WIB
Carlene Estes	Workforce Investment Board
Marianela Fraga	CSET
Karri Hammerstrom	Central/Mother Lode Regional Consortium
David McMunn	Workforce Investment Board of Tulare County
Dan Meinert	City of Dinuba EDC
Linda Mendez	CSET
Paula Murray	Tulare Kings Linked Learning Consortium
Alma Rocha	HHSA-TulareWORKs
Mary Rodarte	WIB of TC
Ephraim Rodriguez	HHSA/TW
Donnette Silva Carter	Tulare Chamber of Commerce
Drew Sorensen	Woodlake USD
Gabbie Alvidrez	Tulare WIB

Name	Organization
Pang Vangyi	State Center Adult Education Constortium
Pat R. Barr	FRWDB
Efrain Fuizar	FCOE
Ka Xiong	FRWDB
Ricky Tallay	Clovis Adult Education
Courtney McMahon	Clovis Adult School
Ed Schmalzel	Clovis Adult School
Andrea Story	Fresno County DSS
Giselle Simon	West Hills College
S. Norman	TRCO
Adnrea Reyes	Fresno County Economic Development Corp.
Robert Topete	Plumbers and Pipefitters Local 246
Chuck Stanton	Electical Apprencticeship Program
Gary Schlueter	Fresno Adult School
Dan Sousa	State Center CCD
Valeire Fisher	Health Workforce Investment
Corinna Renaira	Director of Apprenticeships Standards
David Castillo	West Hills College

Name	Organization
Irma Garcia	Fresno Housing
Jeff Davis, Jr.	Fresno EOC
Lareesha Senegal	H.O.P.E.
Gary Schlueter	Fresno Adult School
Sherri Watkins	State Center Adult Education Constortium
Patric Farrar	Merced County Department of Workforce Investment
Nancy Penny	Sanger Adult
Brandi Johnson	Fresno Housing
Nikki Newsome	Reding and Beyond Bridge Academy

Name	Organization
Shande Evelt	DKTS
Eileen Brush	GET
Jodi Loeffer	Bakersfield Adult
Sarai Jones	ETR
Nikky Vargas	Housing Authority
Pam Holiwell	KCDHS
Candy Getman	ETR
Michal Kane	Cerro Coso CC
Melinda Brwoly	Kern EDC
June Martinez	KCMH
David Villarino	Field Institute
Jimmie Seto	KCKC
Mark Wyatt	KHSD-BAS
Lisa Hockersmith	Kern Medical
Randy Kizzar	Westes
Ricky Esparza	ETR
Mario Laris	MAOF
Brandon Evans	DHS
Teresa Hitchcock	ETR
Jorge Espinosa	Madera MCWIC
Beth Bywaters	KIT Community
Katrina Hoagland	Frito Lay
Gloria Peryizi	KCMH
Todd Kepez	PCL
Rob Arias	KCSOS
Jennifer Patin	CSUB
John Joauld	BTC
Ovant Wong	EFR
Adam Ellis	ETR
Nyakundi Michele	CRYB
Christian Sharon	KCSOS
Denise Crawford	Bakersfield College
Imelda Juarez	KCMH

Name	Organization
Shande Evelt	DKTS
Eileen Brush	GET
Jodi Loeffer	Bakersfield Adult
Sarai Jones	ETR
Nikky Vargas	Housing Authority
Pam Holiwell	KCDHS
Candy Getman	ETR
Michal Kane	Cerro Coso CC
Melinda Brwoly	Kern EDC
June Martinez	KCMH
David Villarino	Field Institute
Jimmie Seto	KCKC
Mark Wyatt	KHSD-BAS
Lisa Hockersmith	Kern Medical
Randy Kizzar	Westes
Ricky Esparza	ETR
Mario Laris	MAOF
Brandon Evans	DHS
Teresa Hitchcock	ETR
Jorge Espinosa	Madera MCWIC
Beth Bywaters	KIT Community
Katrina Hoagland	Frito Lay
Gloria Peryizi	KCMH
Todd Kepez	PCL
Rob Arias	KCSOS
Jennifer Patin	CSUB
John Joauld	BTC
Ovant Wong	EFR
Adam Ellis	ETR
Nyakundi Michele	CRYB
Christian Sharon	KCSOS
Denise Crawford	Bakersfield College
Imelda Juarez	KCMH
Jay Lemucchi	KCKC
Sandra Mitte	
Lupe Aguirre	Bakersfield College
Luis Lopez	HSC
Pam Holiwell	DITS
Kathy Johnson	WKAEN
Art Medina	HOFK
Bryan Maritnez	CRB
John Lopez	
Ricky Esparza	ETR
Grant Wong	ETR
June Martinez	KCMH
Veronica Vega	CRD

Tina Hiroste	WIOA TAFT
Betch Harrison	BC
Shannon Koster	KUJ
Adeline Ramirez	WKAEN
Lael White	Hold Your horses
Tammy Haney	ETR
Saul Lewis	DOR
Sarai Jones	ETR
Imelda Juarez	KCMH
Alyssa Haas	KIT Community
Rob Arias	KCSOS
Shanda Evett	DHS
Bertha Vega	MCUIC
Melinda Brown	KEDR
Shelley Attix	CA Community Colleges
Jennifer Patino	CSXR
Missy Rindge	Frito Lay
Panita Stule	KCCD
Kelly Bearden	CSUB SBDC

ATTACHMENT 10

MEMORANDUM OF UNDERSTANDING
BETWEEN
FRESNO AREA WORKFORCE INVESTMENT CORPORATION,
KERN/INYO/MONO EMPLOYER'S TRAINING RESOURCE,
KINGS COUNTY JOB TRAINING OFFICE,
MADERA COUNTY DEPARTMENT OF EDUCATION, WORKFORCE DEVELOPEMENT OFFICE,
MERCED COUNTY DEPARTMENT OF WORKFORCE INVESTMENT,
SAN JOAQUIN COUNTY EMPLOYMENT AND ECONOMIC DEVELOPMENT DEPARTMENT,
STANISLAUS COUNTY DEPARTMENT OF EMPLOYMENT AND TRAINING, AND
TULARE COUNTY WORKFORCE INVESTMENT BOARD, INC.

WHEREAS, Central California Workforce Collaborative (CCWC) was formed to promote a collective effort to address Workforce Investment Act (WIA) issues and funding opportunities on a regional basis;

WHEREAS, the undersigned workforce investment agencies desire to formally collaborate in partnership on a regional basis concerning WIA issues and funding opportunities;

WHEREAS, the parties hereto, individually and collectively, agree by the execution of this Memorandum of Understanding (MOU) to the obligations, performances and accomplishments of the tasks described herein, specifically, to coordinate resources and opportunities to ensure effective and efficient delivery of employment and training services to the region, where regional efforts are appropriate;

WHEREAS, this MOU describes the terms and conditions under which the undersigned workforce investment agencies will participate as the CCWC in pursuing WIA issues and funding opportunities on a regional basis; and

WHEREAS, this MOU is made by and between the undersigned workforce investment agencies, each of which are referred to singularly as "Party", or collectively as the "Parties".

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. PURPOSE

The purpose of this MOU is to establish cooperative and mutually beneficial relationships between the undersigned Parties whose participation in CCWC has been determined to be vital to bringing regional workforce funding opportunities to fruition by aligning and leveraging workforce investment and philanthropic funds for strategic investments to improve the workforce system in Central California. This MOU also sets forth the relative responsibilities of the Parties as they relate to a regional effort to plan and implement an integrated workforce funding effort for the region.

To ensure the maximum flexibility for all Parties under this MOU, it is agreed that the Parties may enter agency-specific agreements that are in furtherance of and complementary to this MOU. At a minimum, however, the Parties to this MOU agree to enforce the aspects of this MOU at the local level and/or encourage local representatives to enter into this MOU locally (including area-specific information).

2. VISION OF THE COLLABORATIVE

CCWC in collaboration with LWIA's[m1] of the region should respond effectively and quickly should federal and state funding opportunities that emphasize regional collaboration be offered. CCWC should implement the grants and undertake collaborative planning and implementation process.

3. TERM OF THE MOU.

This MOU is effective as of the date of the last signature hereto and shall continue for an initial term of one year and from year to year thereafter until terminated by the Parties hereto as set forth herein.

4. DECISION-MAKING PROCESS

The Parties anticipate a collaborative working relationship for this regional approach to workforce issues and funding mechanisms. The Parties agree to take all reasonable steps needed to best serve the collective interests of the Parties. CCWC shall consult with other Parties on major policy matters relating to the development, implementation, operation and funding of projects. CCWC has the responsibility for assuring the accomplishment of the purposes of the MOU. The Parties agree to cooperate through CCWC in carrying out its responsibilities under this MOU. In recognition of these basic principles, the Parties further agree as follows:

a. If there is a dispute over major policy matters not described in paragraph b, that relate to development, implementation, operation, allocation of funds, or other aspects of this MOU, CCWC will attempt to have the Parties reach agreement by consensus. If consensus cannot be reached on such matters, then unresolved issues may be decided by a two-thirds vote of all the Parties. Each party to this agreement is allocated one vote. A quorum for the conduct of business shall be a majority of the voting Parties to the MOU.

b. Notwithstanding sub-paragraph a, CCWC may make any decision that it regards as necessary or desirable to carry out its responsibilities and commitments under this MOU. Before exercising such authority, CCWC shall consult with the Parties to the maximum feasible extent.

c. Notwithstanding any other provisions of this MOU, CCWC shall have the authority to make binding decisions that it believes are either minor or implement previous policy decisions of the Parties.

d. No action shall be taken by CCWC which requires expenditures or involvement by any Party or Parties other than CCWC without prior approval of the named Parties.

5. PROCEDURES FOR AMENDMENT

This MOU and any amendments thereof shall remain in effect until terminated by the Parties hereto as set forth herein. Parties may request, in writing, an amendment to this MOU. The changes shall be documented, signed, dated under the conditions agreed upon by two-thirds or more of the Parties, and attached to the original MOU. If any provision of the MOU is held invalid, the remainder of the MOU shall not be affected.

6. TERMINATION

Participation in this MOU may be terminated by any Party for any reason after the Party complies with all of the conditions of termination. The conditions of termination include:

(a) The Party shall notify all the other Parties to this MOU in writing, of the Party's intention to terminate at least ninety (90) days prior to its termination; and (b) Any reasonable expenses associated with the Party's termination from this MOU shall be paid in full by the terminating Party.

7. PROVISION OF SERVICES

Each Party to this MOU agrees to enforce and/or encourage the following commitments:

* Each Party will select a representative and/or representative's designee to participate in CCWC activities and other required meetings of the Parties;

* Each Party will fund and implement its share of agreed upon activities of CCWC with either in-kind or financial contributions;

* Each Party will assign appropriate staff to work on issues and/or funding mechanisms; and

* Each Party will investigate all funding sources, both workforce investment and private, for projects determined by CCWC to be mutually beneficial to the region.

8. BREACH OF THE MOU

The Parties agree that each shall fulfill its responsibilities under this MOU in accordance with the provisions of law and regulations that govern its activities. This MOU does not negate any operating procedures in effect. If at any time a Party is unable to perform its

agreed functions under this MOU, such Party shall immediately provide written notice to the other Parties describing its inability to fulfill the requirements of this MOU and establish a date at the earliest convenience, but no more than thirty (30) days, to mutually resolve the issue.

Failure to abide by this MOU is basis for expulsion of such Party by the other Parties.

9. MISCELLANEOUS PROVISIONS

a. Mutual respect of organizational practices. All Parties agree to respect each other's

organizational practices and management structures in the activities engaged under this MOU.

b. Retention of individual action. This MOU does not restrict the Parties from the ability to individually (or collectively) pursue any policy, action or funding mechanism that CCWC could under the terms of this MOU; however, any such Party or Parties shall make reasonable efforts to provide advance notice of their action to the other Parties and allow them to comment upon or join in their action before proceeding.

c. Employees. It is expressly understood and agreed by all Parties that employees of Parties receiving compensation for work performed for this MOU shall in no way be deemed employees of CCWC.

d. Brown Act. The Parties acknowledge familiarity with applicable State laws, rules and regulations with regard to public meetings and will abide by them.

e. Indemnification and liability. By executing this MOU, the Parties agrees to work together to address issues and pursue funding streams to the benefit of their respective regions. However, the Parties are not legally "partners" to the extent that the term encompasses joint and several liability. Each Party under this MOU is responsible for its own employees, representatives, agents, and subcontractors.

However, it is understood and agreed that each Party shall, to the extent permitted by law, defend, indemnify and save harmless every other Party, and its officers and employees, from all claims, suits or actions of every name, kind and description resulting from the indemnifying Party's performance of this MOU, excluding any injuries, death, damage, or liability resulting from the negligence or willful misconduct of the other Parties or their officers or employees.

f. Equal opportunity and nondiscrimination. The Parties acknowledge familiarity with applicable Federal and State laws, rules, regulations, policies, procedures, and reporting requirements and will abide by them. This includes, but is not limited to, discrimination policies, compliance with Americans with Disabilities Act, and maintenance of drug free

PER SIGNATURE, WE AGREE TO ENFORCE THE PROVISIONS AND INTENT OF THIS MOU.

FRESNO AREA WORKFORCE INVESTMENT CORPORATION	March 30, 2007 DATE
KERN/INYO/MONO EMPLOYER'S TRAINING RESOURCE	March 30, 2007 DATE
KINGS COUNTY JOB TRAINING OFFICE	March 30, 2007 DATE
MADERA COUNTY WORKFORCE INVESTMENT BOARD	March 30, 2007 DATE
MERCED COUNTY DEPARTMENT OF WORKFORCE INVESTMENT	March 30, 2007 DATE
SAN JOAQUIN COUNTY EMPLOYMENT AND ECONOMIC DEVELOPMENT DEPARTMENT	March 30, 2007 DATE
STANISLAUS COUNTY DEPARTMENT OF EMPLOYMENT AND TRAINING	March 30, 2007 DATE
TULARE COUNTY WORKFORCE INVESTMENT BOARD, INC.	March 30, 2007 DATE

PUBLIC COMMENT

The following comments were received in response to the regional plan:

1. Letter from UC Merced. This letter contains general comments as to the Regional plan.
2. Comments received via Tulare Workforce Development Board received. (Attached)
    a. Suggestions as to additional data; and,
    b. Suggestions as to alternate pathways and resource utilization.

UNIVERSITY OF CALIFORNIA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO SANTA BARBARA • SANTA CRUZ

OFFICE OF RESEARCH & ECONOMIC DEVELOPMENT
UNIVERSITY OF CALIFORNIA, MERCED
5200 N. LAKE ROAD, MERCED, CALIFORNIA 95343
(209) 228-4371 FAX: (209) 228-4424

Lance Lippincott
Merced County Workforce Investment
1880 Wardrobe Avenue
Merced, CA 95341

Via Email: Llippincott@co.merced.ca.us

Dear Mr. Lippincott,

This letter is provided in response to both the *San Joaquin Valley and Associated Counties Regional Planning Unit Regional Workforce Development Plan 2017-2020* (the "Regional Plan") and the *Merced County Workforce Development Board (MCWDB) Local Plan* (the "Local Plan") on behalf of the University of California, Merced ("UC Merced").

UC Merced is one of ten campuses that are part of a coordinated system of higher education across the State of California. While all University of California campuses have a commitment to providing societal benefits through transmitting advanced knowledge, discovering new knowledge, and functioning as an active working repository of organized knowledge, UC Merced is one of only two campuses that places a special emphasis on economic development through an established Office of Research and Economic Development (ORED). At UC Merced, the ORED is led by Vice Chancellor Samuel Traina, a founding member of UC Merced.

Workforce development is fundamental to economic development. Given our shared interests in supporting economic development, we appreciate the opportunity to provide the following comments on the Regional Plan and Local Plan.

1. We appreciate the opportunity to collaborate through our UC Merced Venture Lab with the Workforce Development Board in serving the needs of local entrepreneurs as is reflected in the Local Plan. The UC Merced Venture Lab coordinates with the UC Merced Small Business Development Center Regional Network (the "UC Merced SBDC") so that all types of new companies, from lifestyle businesses to middle-market companies to high-potential, high-growth ventures are served. The UC Merced Venture Lab is currently expanding in the area covered by the Regional Plan, and we look forward to discussion on how we could leverage this expansion to grow the scope of our collaboration.

2. The Regional Plan identifies the following sectors as priorities for workforce development: advanced manufacturing; construction (including public infrastructure); energy (including green energy); healthcare; transportation and logistics; and value-added agriculture. The Local Plan indicates that these Regional Plan priorities been adopted by the Merced County Workforce Development Board and that an additional priority sector has been included: Water Technology. We appreciate the initiative and leadership of the Merced WDB and the Regional Planning Unit in identifying and communicating these priorities ("Priority Sectors").

3. At UC Merced there is active research in each of the Priority Sectors, and in the UC Merced Venture Lab, we are exploring start-up company opportunities in each of these sectors as well. UC Merced would appreciate the opportunity to coordinate with local and regional workforce development professionals to look for synergy between our efforts. One example could be coordination to provide assistance to new companies (that we have

either developed or attracted) in need of skilled workers. We look forward to the possibility of discussion and development of formalized approaches to working together.

4. The UC Merced Venture Lab's Student Entrepreneurship Program is a collaboration with our Center for Career and Professional Advancement, which assists students with career decisions. Our work with students reveals that sometimes a conversation about getting a job can lead to the idea of starting a company, and vice versa. A unifying concept is that of "designing your life." To illustrate: Stanford University has pioneered the use of "design thinking" – usually reserved for product development – to help people develop career goals. It is one of their most popular courses. We believe this out-of-the-box approach to career development is an example of the potential for developing new types of career assistance. We have faculty at UC Merced who would appreciate the opportunity to discuss and potentially develop programs that take new approaches to long-standing problems and provide novel types of career assistance to the local and regional communities.

5. The UC Merced Center for Career and Professional Advancement currently coordinates with other institutions of higher learning to create career fairs that are designed to better meet the needs of employers. We are interested in coordinating with workforce development professionals to find new ways to allow employers to meet with and access a broader scope of regional talent.

6. We appreciate the existing scope of collaboration with both local and regional workforce development professionals with the UC Merced SBDC. This organization is funded through a grant from the UC Merced ORED and reflects our commitment to helping small business owners at every step of the way from idea to launch to growth. We believe that there is an opportunity to coordinate in how we work with our respective clients and would appreciate the opportunity to formalize this. For example, as mentioned earlier, some clients who may initially be interested in starting a company may come to realize that they are interested in finding a great job; and some clients who may be initially interested in finding a job may come to realize that their true interest is in starting a company.

7. UC Merced Extension is an education program that provides innovative and practical education experiences to help people improve their lives and reach their full potential. The focus is on making research and discovery real and applicable in the daily lives of people in the community and region. UC Merced Extension is interested in working with local and regional workforce development professionals to understand the unmet training needs in the Priority Sectors. Examples of outcomes could be certification courses for laboratory technicians, medical professionals, energy auditors, advanced equipment operators, and unmanned aerial vehicle pilots. We are also interested in providing training for K-12 educator needs should that be of interest.

UC Merced, like most universities, can be viewed as an engine of discovery and problem-solving. The UC Merced ORED is a means by which we put this engine to work for the community to grow, diversify, and strengthen the economy. If there are needs or ideas that we're unware of, we look forward to the possibility of learning about them and working together to address and explore them. Thank you again for this opportunity to comment and express our interests in collaboration.

Best regards,

Peter Schuerman, Ph.D.
Associate Vice Chancellor for Research and Economic Development
Director, Office of Business Development
Director, UC Merced Venture Lab
University of California, Merced

REGIONAL COMMENTS-TULARE

Timestamp	Comment:
1/27/2017 10:20:31	Suggested Corrections to the Draft Regional WIB Plan 1.) Healthcare: The Health Care Services industry cluster includes acute care and outpatient hospitals, nursing homes and rehabilitation centers, adult day care centers, and community service agencies for the elderly. It employed nearly 134,000 people in the economic market 2014, accounting for 10.8 percent of the workforce. Industries in this cluster may include both public and private employment. Top industries within this cluster include: General Medical and Surgical Hospitals; Offices of Physicians; Nursing Care Facilities (Skilled Nursing Facilities); Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly; and Outpatient Care Centers. CORRECTIONS: In demand entry-level and middle skills jobs include: medical assistants, certified nursing assistants, licensed vocational nurses, registered nurses, emergency medical technicians and paramedics, medical lab technicians, respiratory therapists,dental assistants a variety of medical support personnel. (Page 7) Note: Items crossed out are either, not a proper health occupational titles or not entry level or middle levels occupations in health care. Consider adding: Pharmacy Technician, Home Health Aides, Physical Therapy Assistants, Dental Hygienist, and Radiologic Technologist. 2.) About 2,000 projected openings per year would require an AA degree. The largest occupational group in this category is followed by registered nurses (430 annual openings) and preschool teachers (203 annual openings). Another 331 projected annual openings are in other medical occupations, such as clinical technicians, health diagnosing support personnel, and respiratory therapists. The remaining openings in this category include a wide range of technical specialties including engineering and drafting technicians, agriculture and food science technicians and radio and telecommunications equipment installers. (page 9) CORRECTIONS: Be specific on the health occupations that REQUIRE an AA Degree: Registered Nurse, Physical Therapy Assistants, Dental Hygienist, and Radiologic Technologist and Respiratory Therapists. 3.) Page 93 - 31-1011 Home Health Aides 179 179 0 0 0 0 0 - CORRECTION: This should be the same as Nursing Assistants - Post-secondary non-degree award as you have to be a CAN before you can train for Home Health Aide. Medical Assistants 72 0 0 0 72 0 0 - CORRECTION - Should be High School Diploma or equivalent. 4.) Also, correct chart on page 115 to match above corrections. Also, Nurse Practitioners and Nurse Midwives - Require a Master's Degree and special certification - so you should remove that SOC code/occupation from the chart. SAME on page 128! 5.) (Page 152 – see above for suggested corrections) About 2,000 projected openings per year would require an AA degree. The largest occupational group in this category is nurse practitioners (560 annual openings), followed by registered nurses (430 annual openings) and preschool teachers (203 annual openings). Another 331 projected annual openings are in other medical occupations, such as clinical technicians,

REGIONAL COMMENTS-TULARE

	health diagnosing support personnel, and respiratory therapists. Contact me for the WORD document with corrections. Formatting was lost here. valerief@cos.edu Thank you.
2/14/2017 16:10:21	Respected CCWDB Family, It is an honor for me to be part of the movement of building the #StrongWorkforce for California. As I was reading the regional plan, I was visualizing an organization that is really proud of their historical work and past accomplishments and is moving forward very cautiously. In general, the regional plan is conservative in nature and the word "cautious" is probably the theme I sensed throughout the plan. I understand the need for the plan to be as flexible as possible with broad set of objectives to accommodate any unknowns. However, given the maturity of the organizations and its leadership, there must be little that is collectively not known. Presumably, the reason for that might be due to the limitations, real or perceived barriers of current system. Is this the best we could do given the wealth of the collective human capital and resources we have available in our region? Recommendations: 1. The plan must begin with the purpose and background on why this regional plan is being developed and how the established objectives and goals will lead to a measurable success (as much as possible, both qualitative and quantitative) 2. Evidenced based problem statement must be clearly stated that is exclusively used to guide the development/validation process of developing objectives and goals to ensure that there is a focused approach that is designed to eliminate ambiguity as much as possible across all stakeholders in the large region as the Central Valley 3. Plan must describe both the short term and long term objectives and SMART (Specific, Measurable, Agreed upon, Realistic, and Time bound) goals 4. There must be an executive body that directs the successful execution of the established objectives and goals and ensures that every success and shortcoming is documented and discussed in a timely manner to develop the new course of actions. 5. There must be resources allocated to always look into the future i.e. emerging skills and occupations 5- 10 years into the future and be used as the feedback to all workforce development systems (K-16) e.g. Central Valley Council for Education Research and Training comprised of subject matter experts who is responsible for working with technology developers, research labs, early technology adopters etc. to ensure the input to the program development is as real-time as possible 6. There must be a system that collects the systematic barriers and provide reports to the executive leadership to be shared with the legislative body to be considered for reforms that enhance the social mobility of Californians and growth of businesses

PROGRAM ADMINISTRATION DESIGNEE AND PLAN SIGNATURES

This regional plan represents the San Joaquin Valley and associated counties Regional Planning Unit's efforts to maximize and coordinate resources available under Title I of the *Workforce Innovation and Opportunity Act*.

This regional plan is submitted for the period of July 1, 2017 through June 30, 2021 in accordance with the provisions of the WIOA. The signatures below indicate the local workforce development area of Merced County's support and approval of the regional plan.

Local Workforce Development Board Chair	**Chief Elected Official**
Signature	Signature
Mike Altomare	Daron McDaniel
Name	Name
Chairman	Chairman
Title	Title
JUL 21 2017	JUL 11 2017
Date	Date

Attachment 2

PROGRAM ADMINISTRATION DESIGNEE AND PLAN SIGNATURES

This regional plan represents the San Joaquin Valley and associated counties Regional Planning Unit's efforts to maximize and coordinate resources available under Title I of the *Workforce Innovation and Opportunity Act*.

This regional plan is submitted for the period of July 1, 2017 through June 30, 2020 in accordance with the provisions of the WIOA. The signatures below indicate the local workforce development area of Stanislaus County's support and approval of the regional plan.

Local Workforce Development Board Chair

Signature

WILLIAM O'BRIEN

Name

WORKFORCE DEVELOPMENT BOARD CHAIR

Title

7/10/17

Date

THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
BOARD ACTION SUMMARY

DEPT: Workforce Development BOARD AGENDA #: *B-8

AGENDA DATE: July 11, 2017

SUBJECT:
Approval of the Stanislaus County Workforce Innovation and Opportunity Act Program Years 2017-2021 Local Plan and the Program Years 2017-2020 Regional Plan

BOARD ACTION AS FOLLOWS:

No. 2017-382

On motion of Supervisor Withrow **, Seconded by Supervisor** Olsen
and approved by the following vote,
Ayes: Supervisors: Olsen, Withrow, Monteith, DeMartini, and Chairman Chiesa
Noes: Supervisors: None
Excused or Absent: Supervisors: None
Abstaining: Supervisor: None
1) X **Approved as recommended**
2) _____ **Denied**
3) _____ **Approved as amended**
4) _____ **Other:**
MOTION:

ATTEST: Elizabeth A. King
ELIZABETH A. KING, Clerk of the Board of Supervisors

File No.

THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
AGENDA ITEM

DEPT: Workforce Development | BOARD AGENDA #: *B-8

Urgent O Routine ◉ | AGENDA DATE: July 11, 2017

CEO CONCURRENCE: | 4/5 Vote Required: Yes O No ◉

SUBJECT:
Approval of the Stanislaus County Workforce Innovation and Opportunity Act Program Years 2017-2021 Local Plan and the Program Years 2017-2020 Regional Plan

STAFF RECOMMENDATIONS:

1) Approve the Stanislaus County Workforce Innovation and Opportunity Act Program Years 2017-2021 Local Plan and the 2017-2020 Regional Plan.

2) Authorize the Chief Local Elected Official to sign the Local Plan.

DISCUSSION:

The Workforce Innovation and Opportunity Act (WIOA) required a regional plan to be submitted to the California Workforce Development Board (State Board) for the first time to align with the State Plan. The State Plan is the controlling state policy document for regional and local plans as it sets the state's policy direction and serves as a conceptual map for local boards and their partners as they jointly develop the regional and local plans required by WIOA. The policy objectives of the State Plan include fostering demand-driven skills attainment, enabling upward mobility for all Californians, including populations with barriers to employment, and aligning, coordinating, and integrating programs and services.

Stanislaus County has been aligned with regional partners in the Central California Workforce Consortium in the development and submittal of the Regional Plan. These partners include: Fresno County, Kern/Inyo/Mono Counties, Kings County, Madera County, Merced County, San Joaquin County, and Tulare County. Several town hall forums were conducted in the local areas by the regional coordinators, John Chamberlin and David Shinder, to assist in providing feedback and insight towards the Regional Plan. Attendees included representatives from business, education, and community members.

The Regional Plan was submitted to the State by the March 15, 2017 deadline. On June 12, 2017 the Department was notified that the Regional Plan had been conditionally approved pending approval by each areas' Chief Local Elected Official. Should any comments be made available by the reviewers of the Regional Plan, adjustments may be required. As of this Board meeting, potential comments were not made available and

there was no anticipation as to when any comments would be made available. The Regional Plan—after approval from the Chief Local Elected Official—must be provided to the regional partners in Merced County by July 14, 2017 for packaging and submittal to the State by August 1, 2017.

Local Plans—as was the case under the Workforce Investment Act (WIA)—are also requirements under WIOA. The Stanislaus County Local Plan was developed in conjunction with workgroups from the Stanislaus County Workforce Development Board. Board members were invited to participate in workgroups to formulate the Local Plan. At the January 9, 2017 Stanislaus County Workforce Development Board meeting, Board members reviewed and approved the Local Plan. Public Meetings for feedback on the Local Plan were required by the State. The Department advertised and held public meetings in Oakdale, Turlock and Modesto for the public to comment in the plan's development. The Department then brought back the Local Plan to the Workforce Development Board on April 3, 2017 for any changes as a result of public comments.

The Local Plan was submitted to the State Board and received conditional approval, pending signature by the Chair of the Workforce Development Board and approval by the Chief Local Elected Official.

POLICY ISSUE:

The Workforce Innovation and Opportunity Act (WIOA) requires a Local and Regional Plan to be submitted to the California Workforce Development Board that aligns with the State Plan. If not approved by the Board of Supervisors, WIOA funding could be placed in significant jeopardy.

FISCAL IMPACT:

There is no fiscal impact associated with the Local and Regional Plan.

BOARD OF SUPERVISORS' PRIORITY:

The recommended action supports the Board of Supervisors' priority of Efficient Delivery of Public Services.

STAFFING IMPACT:

There is no staffing impact associated with this Agenda item.

CONTACT PERSON:

Doris Foster, Director (209)558-2113

ATTACHMENT(S):

A – Local Plan

B – Regional Plan

BEFORE THE BOARD OF SUPERVISORS
COUNTY OF TULARE, STATE OF CALIFORNIA

IN THE MATTER OF APPROVAL OF THE	)	
WORKFORCE INVESTMENT BOARD	)	**Resolution No. 2017-0552**
OF TULARE COUNTY LOCAL PLAN AND	)	
SAN JOAQUIN VALLEY REGIONAL PLAN	)	

UPON MOTION OF SUPERVISOR ENNIS, SECONDED BY SUPERVISOR SHUKLIAN, THE FOLLOWING WAS ADOPTED BY THE BOARD OF SUPERVISORS, AT AN OFFICIAL MEETING HELD JULY 11, 2017, BY THE FOLLOWING VOTE:

AYES: SUPERVISORS CROCKER, VANDER POEL, SHUKLIAN, AND ENNIS
NOES: NONE
ABSTAIN: NONE
ABSENT: SUPERVISOR WORTHLEY

ATTEST: MICHAEL C. SPATA
COUNTY ADMINISTRATIVE OFFICER/
CLERK, BOARD OF SUPERVISORS

BY: _____
Deputy Clerk

* * * * * * * * * * * * * * * * * * * *

The Board of Supervisors:

1. Approved and Authorized the Chairman of the Board to sign the Workforce Investment Board of Tulare County Local Plan.

2. Approved the San Joaquin Valley Regional Plan.

WIB

HAR
7/11/17

PROGRAM ADMINISTRATION DESIGNEE AND PLAN SIGNATURES

This regional plan represents the San Joaquin County Workforce Development Board's efforts to maximize and coordinate resources available under Title I of the *Workforce Innovation and Opportunity Act*.

This regional plan is submitted for the period of July 1, 2017 through June 30, 2021 in accordance with the provisions of the WIOA.

Local Workforce Development Board Chair

Signature

Daniel J. Schroeder

Name

Chair, San Joaquin County Workforce Development Board

Title

June 29, 2017

Date

Chief Elected Official

Signature

Charles Winn

Name

Chair, San Joaquin Board of Supervisors

Title

7/25/2017

Date

COUNTY OF KINGS
BOARD OF SUPERVISORS

GOVERNMENT CENTER HANFORD, CALIFORNIA 93230 (559) 852-2362
Catherine Venturella, Clerk of the Board of Supervisors

AGENDA ITEM
March 21, 2017

Bookmark: 6

SUBMITTED BY: **Job Training Office – John Lehn**

SUBJECT: **SAN JOAQUIN VALLEY WORKFORCE DEVELOPMENT PLAN**

SUMMARY:

Overview:
The Workforce Innovation and Opportunity Act (WIOA) places an increased emphasis on identifying economic regions and the geographic and administrative structure needed to address workforce development on a multi-county basis. Kings County has been assigned to the San Joaquin Valley Regional Planning Unit, which includes the Counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, Kern, Inyo and Mono. It is requested to approve the submission of the original plan to the Governor.

Recommendation:
Approve the submission of the 2017-2020 San Joaquin Valley Regional Workforce Development Plan to the Governor.

Fiscal Impact:
Approval of the Regional Workforce Development Plan paves the way for Local Plan approval and the formula allocation of nearly $2 million in funding through the Workforce Innovation and Opportunity Act. Additional funding is available through the collective of counties for planning and other regional workforce development activities.

Advisory Board Statement:
The Kings County Workforce Development Board approved the San Joaquin Valley Workforce Development Plan on February 27, 2017, and recommends the Board of Supervisors also approve its submission to the Governor.

(Cont'd)

BOARD ACTION: APPROVED AS RECOMMENDED: ✓ OTHER: _____

ROLL CALL: VERBOON, FAGUNDES, NEVES, VALLE - AYE
PEDERSEN- ABSENT

I hereby certify that the above order was passed and adopted on 3/21/2017.

CATHERINE VENTURELLA, Clerk of the Board
By Melanie Crosby, Deputy.

BACKGROUND:

The planning process for WIOA implementation includes a two part planning process. The Regional Plan identifies the physical region and the economic threads that weave the region together. It identifies industries targeted for growth and defines the regional organizations needed to address the workforce development needs. The Local Area Plan is the counterpart to the Regional Plan, and details how the Local Area will create a workforce preparation system of multiple local agencies to support the goals identified in the Regional Plan. The Chief Local Officials in each of the region's counties are the final approval body for both the Regional and Local Plans.

The requested action represents one of the final steps in the transition from the Workforce Investment Act of 1998 to the Workforce Innovation and Opportunity Act (WIOA) of 2014. The WIOA represents a clear charge to work across geography and traditional funding silos toward a fully integrated 'Workforce Development System' to support identified regional industry sectors.

A significant aspect of the Regional Plan is the economic studies that document the targeted growth industries for the Valley. Those targeted industries for the region include:

- Agriculture (particularly, Value-Added Agriculture)
- Healthcare
- Advanced Manufacturing
- Water Technology
- Construction (including Public Infrastructure)
- Transportation and Logistics
- Energy (including Green Energy)

The San Joaquin Valley Regional Planning Unit represents the geographic area where entities such as the educational system, the Department of Rehabilitation, the Employment Development Department and the local job training programs are to coordinate services and strategies to support industry sectors of importance. The Regional Plan contains many studies which were used to identify the industries targeted for training and support.

A copy of the plan is on file with the Clerk of the Board.

SAN JOAQUIN VALLEY AND ASSOCIATED COUNTIES

REGIONAL PLANNING UNIT REGIONAL WORKFORCE DEVELOPMENT PLAN

This regional plan represents the efforts of the San Joaquin Valley and Associated Counties, which include the counties of Kern, Inyo, Mono, Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare under Title I of the Workforce Innovation and Opportunity Act (WIOA).

The Kern County Board of Supervisors approve and authorize the submission of the San Joaquin Valley and Associated Counties Regional Planning Unit Regional Workforce Development Plan (Regional Plan) to the California Workforce Development Board.

This Regional Plan is submitted for the period of July 1, 2017 through June 30, 2020 in accordance with the provisions of the WIOA.

Chief Elected Official

Signature

ZACK SCRIVNER

Name

Chairman of the Board

Title

JUL 11 2017

Date

CERTIFICATE OF ADOPTION OF RESOLUTION
AUTHORIZING CHAIRMAN TO SIGN INSTRUMENT

The undersigned, Clerk of the Board of Supervisors of the County of Kern, hereby certifies that the following resolution was adopted by said Board of Supervisors at a regular meeting duly convened on the 11th of July 2017:

"WHEREAS, this Board has determined that the County of Kern should approve the Regional Plan for Program Years 2017 - 2020 from July 1, 2017 through June 30, 2021 under the Workforce Innovation and Opportunity Act

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors of the County of Kern, State of California, that said instrument be, and it is hereby executed on behalf of and in the name of said County of Kern, and the Chairman of this Board is hereby authorized and directed to sign his name thereto on behalf of said County."

The undersigned further certifies that on the date last mentioned the person who so signed said instrument was the duly elected Chairman of said Board and that his signature on said instrument is genuine.

The undersigned further certifies that said resolution was adopted by the following vote:

Ayes: Gleason, Scrivner, Maggard Couch, Perez

Noes: None

Absent: None

Dated: July 12, 2017

KATHLEEN KRAUSE
Clerk of the Board of
County of Kern

By: Christina Rockwell
Christina Rockwell
Deputy Clerk

Ref: 07/11/17 Agenda Item AM 29

FRESNO REGIONAL WORKFORCE DEVELOPMENT BOARD

AGENDA ITEM:	**8**
MEETING DATE:	**August 9, 2017**
ACTION:	**APPROVE**

2125 Kern Street, Suite 208 • Fresno, CA 93721 • (559) 490-7100 • Fax (559) 490-7199 • www.workforce-connection.com

TO: Executive Committee

FROM: Blake Konczal, Executive Director

SUBJECT: Workforce Innovation and Opportunity Act Local Plan

RECOMMENDATION:

Approve the final Fresno Regional Workforce Development Board (FRWDB) Workforce Innovation and Opportunity Act (WIOA) Local Plan.

REASON FOR RECOMMENDATION:

WIOA Sections 106 and 107 and California UI Code Sections 14221-14222 require that local boards submit a comprehensive four (4) year regional and local plan (Plan) to the state board.

On July 1, 2016, the state released the draft Regional and Local Planning Guidance for 2017-2020 (WSDD-146), which provides guidance for the preparation and submission of both the local and regional workforce plans required by WIOA. As outlined in the draft directive, the final plan must be submitted to the state board no later than August 1, 2017.

On May 1, 2017, the FRWDB received notice from the California Workforce Development Board that its Local Plan has been conditionally approved, pending re-submission of plan sections requiring additional information by June 15, 2017.

Due to the timing of the FRWDB quarterly meeting, and the lead time requirements for submitting the plan to the Chief Local Elected Officials for approval, on June 6, 2017, the FRWDB authorized the FRWDB Executive Committee to approve the FRWDB Local Plan for submission to the state and CLEOs.

ATTACHMENT:

Fresno Regional Workforce Development Board Workforce Innovation and Opportunity Act 2017-2020 Local Plan (without attachments)

FRWDB/COMMITTEE ACTION: MOTION MADE BY C. Riojas SECONDED BY L. Zabrycki APPROVED AS RECOMMENDED XX

OTHER N/A

UNANIMOUS XX DISSENTING VOTES None

ABSTENTIONS None BY M. Workmon DATE 8/09/17

DATE: July 20, 2017

TO: Fresno City Council

SUBMITTED BY: Blake Konczal, Executive Director

SUBJECT: Workforce Innovation and Opportunity Act Four (4) Year Local Plan for Program Years 2017-2020

RECOMMENDED ACTION(S):

Approve the Workforce Innovation and Opportunity Act Four (4) Year Regional and Local Plans for Program Years 2017-2020.

ALTERNATIVE ACTION(S):

There is no alternative action. If this item is not approved, Fresno Regional Workforce Development Board (FRWDB) will be out of compliance with Workforce Innovation and Opportunity Act (WIOA) requirements and could lose funding for WIOA activities that benefit the residents of Fresno.

FISCAL IMPACT:

There is no increase in Net City Cost associated with the Recommended Action. The FRWDB is 100% funded by non-City sources. These have their origin primarily with the United States Department of Labor, being supplemented by other federal and State of California grants.

DISCUSSION:

Final rules for WIOA were released jointly by the Department of Labor and Department of Education in late June 2016. Subsequently, on September 16, 2016, the state released the final directive on Regional and Local Planning Guidance for 2017-2020 (WSD 16-07). This directive provides guidance and establishes the procedures regarding the preparation of both regional and local plans required by the WIOA. WIOA Public Law Sections 106 and 107 and California Unemployment Insurance Code Sections 14221 – 14222 require that local boards submit a comprehensive four (4)-year regional and local plan (plan) to the California Workforce Development Board (CWDB).

The CWDB's Strategic Workforce Development Plan for California has a broad vision and outlines ambitious goals for how the public workforce system can work with its partners to shape and support economic prosperity across the state and its regions. Under WIOA, the state has established 14 Regional Planning Units (RPUs) within the State of California that align workforce development activities and resources within the context of a larger regional economy and to develop and deploy available resources to provide coordinated and efficient services to job seekers and employers. Each RPU is required to develop a regional strategic plan. The FRWDB is one (1) of eight (8) Workforce Development Boards in the designated San Joaquin Valley and Associated Counties RPU. The other local boards include Kern-Inyo-Mono, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare.

The Function of the Regional Plans:
Regional plans and partnerships required by WIOA function under California's State Plan as the

primary mechanism for aligning educational and training provider services with regional industry sector needs in California's 14 WIOA RPUs. California state law requires coordination between the K-12, Community Colleges, and WIOA systems and requires the use of sector strategies as the operational framework for the state's workforce system. These two (2) state mandated requirements are met under the State Plan by making federally required WIOA regional plans and partnerships the primary mechanism for aligning educational and training programs with regional industry sector needs. As such, a focal point of regional plans is the identification, development, and utilization of "regional sector pathway" programs, aligned with regional industry sector needs.

The Function of the Local Plans:
Under the State Plan, the primary purpose of local workforce plans and partnerships is to facilitate access to workforce services at the local level. While WIOA Section 106 regional plans and partnerships are specifically focused on construction of a regional training and education architecture that aligns with regional labor markets, individuals will access and experience this regional workforce architecture primarily through local service delivery efforts, principally those of WIOA partners operating in the America's Job Centers of California system, formally known as "One-Stop Centers", but potentially through other partners of the workforce system as well. In this regard, it is typically at the local level where services will be integrated, resources braided, and supportive services provided to individuals being served by partners.

In order to complete all aspects of the requirements of the plans, the draft plans must include input from our community partners, employers, and community organizations. To meet this requirement, FRWDB staff held numerous meetings to obtain input on the development of the draft plans, and released the draft plans for a 30-day public comment period on January 27, 2017. During the public comment period, FRWDB staff held three (3) public comment meetings in Fresno, Reedley, and Mendota to solicit public input.

There were no comments in disagreement with the draft plans received during the public comment period, and there were no comments received that resulted in significant changes to the initial draft plan. In order to meet the submission deadline, the draft plans were sent to the CWDB pending final approvals from the FRWDB, the Fresno County Board of Supervisors, and the City of Fresno.

On May 1, 2017, the FRWDB received conditional approval of its plan from the CWDB.

As outlined in the Directive, the final plans, with all required signatures, must be submitted to the CWDB no later than August 1, 2017.

The plans will be presented to the FRWDB Executive Committee on July 19, 2017, for approval.

OTHER REVIEWING AGENCIES:

Fresno County Board of Supervisors

ATTACHMENTS INCLUDED AND/OR ON FILE:

May 1, 2017, California Workforce Development Board letter

FRWDB WIOA Regional and Local Strategic Workforce Plans – Program Years 2017-2020

City of Fresno

2600 Fresno Street
Fresno, CA 93721
www.fresno.gov

Meeting Minutes - Final
City Council

President - Clinton J. Olivier
Vice President - Esmeralda Z. Soria
Councilmembers:
Oliver L. Baines, III, Steve Brandau, Garry Bredefeld,
Paul Caprioglio, Luis Chavez
City Manager - Wilma Quan-Schecter
City Attorney - Douglas T. Sloan
City Clerk - Yvonne Spence, CMC

Thursday, July 20, 2017 | **8:30 AM** | **Council Chambers**

Regular Meeting

8:38 A.M. ROLL CALL

Council President Olivier announced that the July 27, 2017 meeting was cancelled and the next meeting is scheduled for August 3, 2017.

Present: 6 - President Clinton Olivier
Vice President Esmeralda Soria
Councilmember Oliver L. Baines III
Councilmember Steve Brandau
Councilmember Garry Bredefeld
Councilmember Luis Chavez

Absent: 1 - Councilmember Paul Caprioglio

Invocation by Senior Pastor Steve Williams from NorthPointe Church

Pledge of Allegiance to the Flag

APPROVE AGENDA

City Clerk Spence announced the following changes to the agenda:

File ID 17-865 (1-A) should be listed as a Resolution for adoption for item 1.

File ID 17-833 (3-C) removed from agenda by staff.

On motion of Councilmember Brandau, seconded by Vice President Soria, the above item was adopted as amended. The motion carried by the following vote:

infrastructure dollars are spent and what types of projects the money will be going towards.

Councilmember Chavez thanks Aaron Aguirre and Brian Russell for all the work they have done in District 5.

1. CONSENT CALENDAR

Councilmember Bredefeld moved the following Consent Calendar items 1-G (17-987) and 1-Q (17-946) to the Contested Consent Calendar for further discussion.

APPROVAL OF THE CONSENT CALENDAR

On motion of Councilmember Baines III, seconded by President Olivier, the remainder of the CONSENT CALENDAR was hereby adopted by the following vote:

Aye: 6 - Olivier, Soria, Baines III, Brandau, Bredefeld and Chavez

Absent: 1 - Caprioglio

1-A ID17-865 Actions pertaining to the 2017/2018 Alcoholic Beverage Control (ABC) grant

1. RESOLUTION - Authorizing the Chief of Police to accept $100,000 in grant funding for the 2017/2018 ABC grant awarded to the Fresno Police Department from the State of California Alcoholic Beverage Control
2. Authorize the Chief of Police to execute the agreement and all related documents applicable to the 2017/2018 ABC grant

RESOLUTION 2017-182 APPROVED

This Action Item was approved on the Consent Calendar.

1-B ID17-881 Approve the acquisition of 16,223 square feet for an easement on property owned by JoAnn DiRedo, as Successor of Trustee of the DiRedo Family Trust in the amount of $48,700.00 (APN 505-060-43) for the Veterans Boulevard project. (Council District 2)

This Action item was approved on the Consent Calendar.

1-C ID17-917 Actions pertaining to the Orange Avenue Street Reconstruction from Lowe to Alta Avenue - Bid File 3549 (Council District 5)

1. Adopt a finding of Categorical Exemption per staff determination, pursuant to Section 15301(c) Class 1 of the California Environmental Quality Act Guidelines (CEQA) for the Orange Avenue Street Reconstruction from Lowe to Alta Avenue

Councilmember Bredefeld for further discussion.

1-H ID17-897 Actions pertaining to awarding a sole source agreement to E.J. Ward, Inc., for a fuel management system upgrade

1. RESOLUTION - Award a sole source purchase contract in the amount of $270,000 to E.J. Ward, Inc., of San Antonio, TX, for the purchase of a fuel management system hardware upgrade
2. ***RESOLUTION - 2nd amendment to the Annual Appropriation Resolution (AAR) No. 2017-165 appropriating $270,000 into the Department of Transportation budget (Requires 5 affirmative votes)

RESOLUTION 2017-186 APPROVED
RESOLUTION 2017-187 APPROVED

This Action Item was approved on the Consent Calendar.

1-I ID17-912 Items related to applying for and accepting state funding for Department of Transportation projects:

1. ***RESOLUTION - Authorizing the execution of certifications and assurances, and the annual filing of applications for, acceptance of, and execution of all documents and instruments related to state transportation assistance authorized and administered by the California Office of Emergency Services, the California State Transportation Agency, or the California Department of Transportation
2. ***RESOLUTION - Authorizing the application for and execution of documents related to the Low Carbon Transit Operations Program Project: Operating Support for FAX Extended Night Service (Citywide)

RESOLUTION 2017-188 APPROVED
RESOLUTION 2017-189 APPROVED

This Action Item was approved on the Consent Calendar.

1-J ID17-979 Actions pertaining to awarding a purchase contract to Quinn Company for backhoe loader:

1. Award a purchase contract in the amount of $162,165.54 to Quinn Company for the purchase of one Caterpillar Inc. Model 430F2 Backhoe Loader
2. ***RESOLUTION - 7th amendment to the Annual Appropriation Resolution (AAR) No. 2017-165 appropriating $162,200 in the Fleet Replacement fund (Requires 5 affirmative votes)

RESOLUTION 2017-190 APPROVED

This Action Item was approved on the Consent Calendar.

1-P ID17-922

***RESOLUTION - 536th amendment to Master Fee Schedule (MFS) Resolution No. 80-420 to apply a Consumer Price Index adjustment to Green Fees at Airways Golf Course (Council District 4)

RESOLUTION 2017-192 APPROVED

This Action Item was approved on the Consent Calendar.

1-Q ID17-946 Approve Workforce Innovation and Opportunity Act Four (4) Year Regional and Local Plans for Program Years 2017-2020

The above item was moved to the Contested Consent Calendar by Councilmember Bredefeld for further discussion.

1-R ID17-871

Actions pertaining to the Environmental Protection Agency's Brownfields Area-Wide Planning Grant:

1. ***RESOLUTION - 5th Amendment to the Annual Appropriation Resolution (AAR) No. 2017-165 appropriating $175,000 for the Environmental Protection Agency Brownfields Area-Wide Planning Grant (Requires 5 affirmative votes).
2. Approve a consultant services agreement with Wallace, Roberts and Todd, LLC., in the amount of $134,915, and a contingency of $10,085, to prepare the Elm Avenue Area-Wide Brownfields Plan and Implementation Strategy (Council District 3).
3. Authorize the City Manager, or designee, to sign the agreement on behalf of the City of Fresno.

RESOLUTION 2017-193 APPROVED

This Action Item was approved on the Consent Calendar.

1-S ID17-991 Approve the appointments of Debra McKenzie and Raj K. Sodhi-Layne to the Planning Commission; and the reappointment of Brad Hardie to the Housing and Community Development Commission

This Appointment was approved on the Consent Calendar.

1-T ID17-963 Action relating to marijuana cultivation within the City of Fresno
1. Adopt a finding of No Possibility pursuant to Section 15061(b)(3) of the California Environmental Quality Act (CEQA) Guidelines
2. ***BILL NO. B-35 - (Intro. 6/22/2017) (For adoption) - The adoption of an amendment to sections 12-2104 and 12-2105 of the Fresno Municipal Code relating to the cultivation of marijuana.

Council President Olivier, Vice President Soria and Councilmember Baines III voted, no. Councilmember Chavez, Bredefeld and Brandau voted, yes. Councilmember Caprioglio, absent.

The motion FAILED 3/3 with Councilmember Caprioglio absent

The motion FAILED

CONTESTED CONSENT CALENDAR

1-G ID17-987

Approve a Memorandum of Understanding (MOU) between the City of Fresno and the State of California, San Joaquin River Conservancy, for Additional Environmental Impact Analysis on the River West Eaton Trail Extension (Council District 2)

On motion of Councilmember Bredefeld, seconded by Councilmember Brandau, that the above Action Item be approved. The motion carried by the following vote:

Aye: 6 - Olivier, Soria, Baines III, Brandau, Bredefeld and Chavez

Absent: 1 - Caprioglio

1-Q ID17-946 Approve Workforce Innovation and Opportunity Act Four (4) Year Regional and Local Plans for Program Years 2017-2020

On motion of Councilmember Bredefeld, seconded by Vice President Soria, that the above Action Item be approved. The motion carried by the following vote:

Aye: 5 - Olivier, Soria, Brandau, Bredefeld and Chavez

Absent: 2 - Baines III and Caprioglio

2. SCHEDULED COUNCIL HEARINGS AND MATTERS

10:00 A.M.#1

ID17-992 Discuss ordinance changes to strengthen penalties for illegal fireworks and negligent discharge of firearms, and enforcement efforts

The above item was called for discussion. The item was introduced to Council by Councilmember Bredefeld.

Short video was presented.

Councilmember Bredefeld spoke regarding his concerns for illegal fireworks and the suspension of medical services. Councilmember Bredefeld proposed first offense fine to be $5,000, second offense $25,000, third offense $50,000 and put liens on residents property if they cant afford the

fines.

City Manager Quan-Schecter spoke regarding the Administrations plans for illegal fireworks, to campaign a service announcement starting mid-June past July 4th, using social media, robo calls, hotline and FresGo app. Administration will also work with Police Chief Dyer to enforce $1,000 fine according to the MuniCode.

Chief Dyer spoke regarding community awareness and enforcing illegal fireworks throughout the City of Fresno through more resources and officers in the field whom will be working on July 4th, hotline service outside of dispatch for residence to call, text or email.

Chief Donis spoke regarding increase in grass and fire calls, she stated 4 medical calls were suspended and Chief Donis supports the City Manager's process on Public Service Announcement.

Blake Gunderson, Assistant District Attorney spoke regarding District Attorney's support for public service announcement and will take legal action if necessary.

Upon call the following members of the public addressed Council.

James Bill, spoke regarding his concerns about illegal fireworks on July 4th celebration near Manchester and was unable to get through 911 call center.

Councilmember Chavez spoke regarding his support for the discharge of firearm ordinance and addressed his concerns about the proposed penalties and suggested Community Service in leu of the fines. Chavez asked the District Attorney how offenders are charged and if minors would be charged.

Dennis Revell, TNT Fireworks spoke regarding his support for stronger penalties for illegal fireworks and offers pro bono for legal services.

10:00 A.M.#2

ID17-989 **HEARING** to consider the proposed Annual Assessment for the City of Fresno Landscaping and Lighting Maintenance District No. 1 (Citywide)

1. RESOLUTION - Confirming the diagram and assessment and levy of annual assessment, 2017-2018, for Landscaping and Lighting District No. 1

The above item was called to order at 11:00 A.M. The item was introduced

and his support instead for the original review committee proposal of $360,000 indicating that a reduction in the WestCare award would negatively impact Turning Point by 60% specifically for bridge housing. Police Chief Dyer spoke regarding the Marjaree Mason Center and the domestic violence in the city of Fresno and requested the Council to reconsider their loss of funds. Jody Ketcheside, Executive Director of Turning Point of Central California spoke regarding all things housing and Bridge Point, stating the importance of funding the WestCare application, Bridge Point served 328 chronically homeless individuals last year and is part of the HUD required coordinated entry system. Michelle DiBuduo, Valley Caregiver Resource Center spoke regarding family caregivers and the recommended grant. Linda Espinosa a family caregiver spoke regarding her husband whom she is caring for and how Valley Caregivers helped her and her family. Luciana Ventresca Marjaree Mason Center, spoke regarding emergency safe housing program, and the unfortunate growth of domestic violence in Fresno, indicating that domestic violence victims are provided unique services at the Marjaree Mason Center safe house. Mary Esther Correa spoke regarding her friend who is experiencing domestic violence.

Public Hearing was closed at 11:27 am.

Councilmember Chavez spoke regarding the prioritization of $715,000 in CDBG public facilities and improvements for safe routes to school projects and identified some of the priority Elementary Schools such as Addams, Hidalgo, Lane and Calwa.

Councilmember Brandau asked Assistant Director Furtado how long is the plan good for and does the five year plan have an impact to each action plan. He also asked about the Kerri Park $400,000 expenditure, Furtado responded is it a lighting project. Councilmember Brandau continued to ask about the BMX Park and where the location was, Councilmember Baines III mentioned the community is in the process of selecting a site for the best location. He continued to ask Furtado about how the choices/recommendation of these projects are made and asked if the Department if comfortable with the decision that was before Council. Nicole Linder, Executive Director with Marjaree Mason Center asked the City Council to approve the HCDC recommendations. Brandau further asked if West Care has other sources of funding and if Valley Caregiver gets funding from the County of Fresno or any other funding and asked for examples of last grant that was awarded.

Councilmember Brandau motioned to approve the item as amended. Councilmember Baines III seconded the motion. This item PASSED by unanimous vote. After the vote, Councilmember Caprioglio left the meeting.

APPROVED
RESOLUTION 2017-196 ADOPTED
RESOLUTION 2017-197 APPROVED

10:30 A.M.

ID17-918 ***RESOLUTION - 535th amendment to the Master Fee Schedule (MFS) Resolution No. 80-420 increasing certain entrance fees and adding a discounted student rate to the Shinzen Japanese Garden fees

The above item was called to order at 2:25 P.M. The item was introduced to Council by Assistant Director Kristina Chamberlin, PARCs Department.

Presentation given.

Upon call there was no public comment.

Councilmember Chavez discussed the yearly cost of the Garden and total cost of the whole operation, what the fees were for photography, to keep the senior fee amount at $1 and to eliminate fees for local photography.

Councilmember Bredefeld asked if Shinzen Garden is profitable and what the comparable analysis is with underground gardens.

Councilmember Soria asked about the adult fee, school group tour fees and group rates.

Council President Olivier discussed Central Community Valley fund, parking fees, asked City Manager Quan-Schecter to look into the MOU to see if a volunteer can operate the gate instead of a City Employee.

FAILED ON 2-3 VOTE with Councilmember Brandau and Caprioglio absent

On motion of Councilmember Baines III, seconded by Councilmember Chavez, that the above Action Item be approved. The motion FAILED by the following vote:

Aye: 2 - Baines III and Chavez

Replacement fund (Requires 5 affirmative votes)

The above item was introduced to Council by Assistant Director, Jim Schaad with Transportation.

Upon call, there was no public comment.

Councilmember Chavez asked about the percentage of street sweepers are not Conpressed Natural Gas (CNG), Assistant Director Schaad answered they were all 100 percent.

APPROVED
RESOLUTION NO. 2017-194 APPROVED

On motion of Councilmember Chavez, seconded by President Olivier, that the above Action Item be approved. The motion carried by the following vote:

Aye: 6 - Olivier, Soria, Baines III, Brandau, Bredefeld and Chavez

Absent: 1 - Caprioglio

3-B ID17-950 Actions pertaining to the Clovis Avenue overlay from Jensen Avenue to the Union Pacific Railroad (California Avenue Alignment) - Bid File No. 3547 (Council District 5)

1. Adopt a finding of Categorical Exemption per staff determination, pursuant to Section 15301(c) Class 1 of the CEQA guidelines for the Clovis Avenue overlay from Jensen Avenue to the Union Pacific Railroad (California Avenue Alignment)
2. Award a construction contract in the amount of $989,878 to Cal Valley Construction of Fresno, California for the Clovis Avenue overlay from Jensen Avenue to the Union Pacific Railroad (California Avenue Alignment)

The above item was introduced to Council by Assistant Director, Morrison with Public Works Department

Upon call, there was no public comment

ADOPTED.

On motion of Councilmember Chavez, seconded by Councilmember Bredefeld, that the above Action Item be adopted. The motion carried by the following vote:

Aye: 5 - Olivier, Baines III, Brandau, Bredefeld and Chavez

20. School Liaison Sub-Committee - **Soria - Chair, Olivier, Baines**

21. North Kings Groundwater Sustainability Agency (GSA) Joint Powers Authority - **Mayor Brand (Thomas Esqueda, Georgeanne White - Alternates)**

NO UPDATES

4-B ID17-974 Approve designation of Council President Olivier as a voting delegate, and Councilmember Caprioglio and Vice President Soria as voting alternates for the League of California Cities annual business meeting on Friday, September 15, 12:30 P.M.

Upon call, there was no public comment

APPROVED

On motion of President Olivier, seconded by Councilmember Chavez, that the above Action Item be approved. The motion carried by the following vote:

Aye: 5 - Olivier, Baines III, Brandau, Bredefeld and Chavez

Absent: 2 - Soria and Caprioglio

5. CLOSED SESSION

5-A ID17-854

CONFERENCE WITH LEGAL COUNSEL-EXISTING LITIGATION - Government Code Section 54956.9, subdivision (d)(1)

1. Tellalian vs. City of Fresno; Fresno Superior Court Case No.: 17CECG00275.

The above item was discussed during closed session. No open session announcements were made regarding this item.

5-B ID17-1019

CONFERENCE WITH LEGAL COUNSEL-EXISTING LITIGATION - Government Code Section 54956.9, subdivision (d)(1)

1. April Stillwell v. City of Fresno, et al.; Superior Court Case #16CECG00388.

The above item was discussed during closed session. No open session announcements were made regarding this item.

5-C ID17-942 **CONFERENCE WITH LABOR NEGOTIATOR -** Government Code Section 54957.6

City Negotiator(s): Jeffrey Cardell, Ken Phillips

Board Agenda Item 35

DATE: July 11, 2017

TO: Board of Supervisors

SUBMITTED BY: Blake Konczal, Executive Director,
Fresno Regional Workforce Development Board

SUBJECT: Workforce Innovation and Opportunity Act Four-Year Local Plan for Program Years 2017-2020

RECOMMENDED ACTION(S):

Approve the Workforce Innovation and Opportunity Act Four-Year Local and Regional Plans for Program Years 2017-2020.

ALTERNATIVE ACTION(S):

There is no alternative action. If this item is not approved, Fresno County will be out of compliance with Workforce Innovation and Opportunity Act (WIOA) requirements and could lose funding for WIOA activities that benefit the residents of Fresno County.

FISCAL IMPACT:

There is no increase in Net County Cost associated with the recommended action. The Fresno Regional Workforce Development Board (FRWDB) is 100% funded by non-County sources. These have their origin primarily with the United States Department of Labor, being supplemented by other federal and State of California grants.

DISCUSSION:

Final rules for WIOA were released jointly by the Department of Labor and Department of Education in late June 2016. Subsequently, on September 16, 2016, the state released the final directive on Regional and Local Planning Guidance for 2017-2020 (WSD 16-07). This directive provides guidance and establishes the procedures regarding the preparation of both regional and local plans required by the WIOA. WIOA Public Law Sections 106 and 107 and California Unemployment Insurance Code Sections 14221 - 14222 require that local boards submit a comprehensive four (4)-year regional and local plan (plan) to the California Workforce Development Board (CWDB).

The CWDB's Strategic Workforce Development Plan for California has a broad vision and outlines ambitious goals for how the public workforce system can work with its partners to shape and support economic prosperity across the state and its regions. Under WIOA, the state has established 14 Regional Planning Units (RPUs) within the State of California that align workforce development activities and resources within the context of a larger regional economy and to develop and deploy available resources to provide coordinated and efficient services to job seekers and employers. Each RPU is required to develop a regional strategic plan. The FRWDB is one (1) of eight (8) Workforce Development Boards in the designated San Joaquin Valley and Associated Counties RPU. The other local boards include Kern-Inyo-Mono, Kings, Madera, Merced, San

Joaquin, Stanislaus, and Tulare.

The Function of the Regional Plans:
Regional plans and partnerships required by WIOA function under California's State Plan as the primary mechanism for aligning educational and training provider services with regional industry sector needs in California's 14 WIOA RPUs. California state law requires coordination between the K-12, Community Colleges, and WIOA systems and requires the use of sector strategies as the operational framework for the state's workforce system. These two (2) state mandated requirements are met under the State Plan by making federally required WIOA regional plans and partnerships the primary mechanism for aligning educational and training programs with regional industry sector needs. As such, a focal point of regional plans is the identification, development, and utilization of "regional sector pathway" programs, aligned with regional industry sector needs.

The Function of the Local Plans:
Under the State Plan, the primary purpose of local workforce plans and partnerships is to facilitate access to workforce services at the local level. While WIOA Section 106 regional plans and partnerships are specifically focused on construction of a regional training and education architecture that aligns with regional labor markets, individuals will access and experience this regional workforce architecture primarily through local service delivery efforts, principally those of WIOA partners operating in the America's Job Centers of California system, formally known as "One-Stop Centers", but potentially through other partners of the workforce system as well. In this regard, it is typically at the local level where services will be integrated, resources braided, and supportive services provided to individuals being served by partners.

In order to complete all aspects of the requirements of the plans, the draft plans must include input from our community partners, employers, and community organizations. To meet this requirement, FRWDB staff held numerous meetings to obtain input on the development of the draft plans, and released the draft plans for a 30-day public comment period on January 27, 2017. During the public comment period, FRWDB staff held three (3) public comment meetings in Fresno, Reedley, and Mendota to solicit public input.

There were no comments in disagreement with the draft plans received during the public comment period, and there were no comments received that resulted in significant changes to the initial draft plan. In order to meet the submission deadline, the draft plans were sent to the CWDB pending final approvals from the FRWDB, the Fresno County Board of Supervisors, and the City of Fresno.

On May 1, 2017, the FRWDB received conditional approval of its local plan from the CWDB.

As outlined in the Directive, the final plans, with all required signatures, must be submitted to the CWDB no later than August 1, 2017.

The plans will be presented to the FRWDB Executive Committee on July 19, 2017, for approval.

OTHER REVIEWING AGENCIES:

Fresno City Council

ATTACHMENTS INCLUDED AND/OR ON FILE:

On file with Clerk - Four Year Local Plan
On file with Clerk - Four Year Regional Plan

CAO ANALYST:

Ronald Alexander

County of Fresno
Action Summary - Final
Board of Supervisors

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Brian Pacheco, 1st District, Chairman
Sal Quintero, 3rd District, Vice-Chairman
Andreas Borgeas, 2nd District
Buddy Mendes, 4th District
Nathan Magsig, 5th District

Jean M. Rousseau, County Administrative Officer
Daniel C. Cederborg, County Counsel
Bernice E. Seidel, Clerk to the Board of Supervisors

Tuesday, July 11, 2017 | **9:00 AM** | **Hall of Records**

Present: 5 - Supervisor Andreas Borgeas, Supervisor Nathan Magsig, Supervisor Buddy Mendes, Chairman Brian Pacheco, and Vice Chairman Sal Quintero

Invocation and Pledge of Allegiance

PASTOR JIMMY HODGE, EL SHADDAI CHRISTIAN FELLOWSHIP CHURCH, GAVE THE INVOCATION AND LED THE BOARD IN THE PLEDGE OF ALLEGIANCE

1. Approve Agenda

A MOTION WAS MADE BY SUPERVISOR BORGEAS, SECONDED BY SUPERVISOR MENDES, TO APPROVE REQUEST TO ADD ITEM NOT INCLUDED ON POSTED AGENDA, FINDING THE NEED FOR ACTION AROSE AFTER POSTING OF THE AGENDA PURSUANT TO GOVERNMENT CODE SECTION 54954.2 (SEE PAGE 7 FOR ADDED ITEM). THE MOTION CARRIED BY THE FOLLOWING VOTE:

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

A MOTION WAS MADE BY SUPERVISOR BORGEAS, SECONDED BY SUPERVISOR MENDES, THAT THE AGENDA BE APPROVED AS RECOMMENDED WITH THE EXCEPTION OF ITEM 7 WHICH WAS MOVED TO THE CONSENT CALENDAR, ITEM 14 WAS CONTINUED TO AUGUST 8, 2017, AND ITEM 16 WAS DELETED. THE MOTION CARRIED BY THE FOLLOWING VOTE:

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

2. Approve Consent Agenda - Item Numbers 23 - 72

A MOTION WAS MADE BY SUPERVISOR MAGSIG, SECONDED BY SUPERVISOR BORGEAS, THAT THE CONSENT AGENDA BE APPROVED AS RECOMMENDED WITH THE EXCEPTION OF ITEMS 23, 53, 54, AND 55 WHICH WERE PULLED FOR DISCUSSION AND SEPARATE VOTE. ITEM 7 WAS APPROVED WITH THE CONSENT AGENDA. ITEMS 32 AND 36.1 WERE DELETED. THE MOTION CARRIED BY THE FOLLOWING VOTE:

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

The County of Fresno is an Equal Employment Opportunity Employer

Auditor Controller-Treasurer/Tax Collector

9. Adopt Administrative Policy No. 74 - Fund Balance Policy

A MOTION WAS MADE BY SUPERVISOR BORGEAS, SECONDED BY SUPERVISOR MAGSIG, THAT THIS MATTER BE APPROVED AS RECOMMENDED. THE MOTION CARRIED BY THE FOLLOWING VOTE:

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Sheriff/Coroner

10. Adopt Resolution accepting and expressing gratitude for the monetary donation of $10,000 from Valley Crime Stoppers to purchase a canine for the Sheriff-Coroner's Office during FY 2017-18; adopt Budget Resolution increasing the FY 2017-18 appropriations and estimated revenues for Sheriff-Coroner Org 3111 in the amount of $10,000 (4/5 vote); and approve and authorize the Clerk to the Board to execute Budget Transfer No. 1 ($3,000) transferring appropriations within the Sheriff-Coroner Org 3111, from Account 7385 (Small Tools & Instruments) to Account 8300 (Equipment) for the purchase of a canine

A MOTION WAS MADE BY SUPERVISOR MENDES, SECONDED BY SUPERVISOR MAGSIG, THAT THIS MATTER BE APPROVED AS RECOMMENDED. THE MOTION CARRIED BY THE FOLLOWING VOTE:

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Resolution No. 17-376, Resolution No. 17-377

Administrative Office

11. Accept presentation by the Children and Families Commission of Fresno County on the Commission's FY 2015-16 Audit Report and State Annual Report

A MOTION WAS MADE BY SUPERVISOR MENDES, SECONDED BY SUPERVISOR BORGEAS, THAT THIS MATTER BE APPROVED AS RECOMMENDED. THE MOTION CARRIED BY THE FOLLOWING VOTE:

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Public Works and Planning

12. Adopt Resolution authorizing Partial Cancellation of Agricultural Land Conservation Contract No. 1440 filed by George Tavares, based on the ability to make the five Consistency Findings listed under Government Code Section 51282 (b); and authorize Chair to sign Certificate of Tentative Cancellation and approve recordation of Certificate of Cancellation at such time as all conditions included in Certificate of Tentative Cancellation have been satisfied

A MOTION WAS MADE BY SUPERVISOR MENDES, SECONDED BY VICE CHAIRMAN QUINTERO, THAT THIS MATTER BE APPROVED AS RECOMMENDED. THE MOTION CARRIED BY THE FOLLOWING VOTE:

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Resolution No. 17-379

16. Conduct public hearing under Water Code Section 10723 and adopt Resolution providing that the County of Fresno elects to undertake sustainable groundwater management and serve as the exclusive groundwater sustainability agency for those portions of the Kings Groundwater Subbasin that is defined in the resolution and designated as "Fresno County Management Area"; and direct Department staff to submit to Department of Water Resources a notice, pursuant to Sections 10723.8 and 10724(b) of the Water Code, that County of Fresno intends to undertake sustainable groundwater management and serve as the exclusive groundwater sustainability agency for those portions of the Kings Groundwater Subbasin that are designated as "Fresno County Management Area"

DELETED

Board of Supervisors' Committee Reports and Comments

17. Board of Supervisors' Committee Reports and Comments - Receive and provide direction (this item reserved for committee reports by members of the Board of Supervisors)

SUPERVISOR QUINTERO REQUESTED THAT THE MEETING BE ADJOURNED IN MEMORY OF MIKE MCGARVIN. "PAPA MIKE" WAS FOUNDER OF THE POVERELLO HOUSE. SUPERVISOR QUINTERO STATED THAT SERVICES FOR MIKE MCGARVIN ARE TODAY, JULY 11TH AND JULY 12TH. SUPERVISOR MENDES STATED FOR CLARIFICATION THAT MUCH MORE WATER IS BEING RELEASED OUT OF THE BOTTOM OF FRIANT DAM, THAN WATER BEING RELEASED OVER THE TOP AS REPORTED BY THE MEDIA. THE AMOUNT COMING OUT OF THE TOP OF THE DAM ISN'T NEARLY AS SIGNIFICANT WHEN COMPARED TO ALL OF THE WATER THAT'S BEEN RELEASED. AS OF MIDNIGHT, JULY 9, THE KINGS FLOOD RELEASE ENDED AND IS NOW RELEASING IRRIGATION DEMAND WATER. SUPERVISOR MENDES REPORTED SPEAKING WITH CHIEF JOHNSON REGARDING THE FIRE BETWEEN KINGS COUNTY, FRESNO COUNTY AND MADERA COUNTY. THE CONTAINMENT AREA FOR THE FIRE IS 60,000 ACRES AND THE FIRE IS EXPECTED TO REACH CONTAINMENT LINES WITHIN THE NEXT 3 DAYS. SUPERVISOR BORGEAS ASKED IF THERE WILL BE PRE-DISCUSSION ON ITEMS FOR THE BOARD RETREAT AGENDA OR IS THE BOARD RETREAT BEING USED TO BEGIN THE DISCUSSIONS. JEAN ROUSSEAU STATED THAT SUGGESTIONS FOR THE BOARD RETREAT ITEMS CAN BE SENT TO THE CAO'S OFFICE. CHAIRMAN PACHECO ENCOURAGED BOARD MEMBERS TO SEND ITEMS TO BE DISCUSSED AT THE BOARD RETREAT TO THE CAO'S OFFICE

Special items not included on posted agenda

A MOTION WAS MADE BY SUPERVISOR BORGEAS, SECONDED BY SUPERVISOR MENDES, TO APPROVE REQUEST TO ADD ITEM NOT INCLUDED ON POSTED AGENDA, FINDING THE NEED FOR ACTION AROSE AFTER POSTING OF THE AGENDA PURSUANT TO GOVERNMENT CODE SECTION 54954.2. THE MOTION CARRIED BY THE FOLLOWING VOTE:

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Adopt Resolution proclaiming termination of the accumulating livestock carcasses local emergency in Fresno County

A MOTION WAS MADE BY SUPERVISOR MENDES, SECONDED BY SUPERVISOR BORGEAS, THAT THIS MATTER BE APPROVED AS RECOMMENDED. THE MOTION CARRIED BY THE FOLLOWING VOTE:

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Resolution No. 17-378

Adjourn

A MOTION WAS MADE BY SUPERVISOR BORGEAS, SECONDED BY SUPERVISOR MENDES, TO ADJOURN THE MEETING FOLLOWING CLOSED SESSION. THE MOTION CARRIED BY THE FOLLOWING VOTE:

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

County Clerk/Registrar of Voters

26. Approve Monson-Sultana Joint Union Elementary School District and Bald Mountain Fire Protection Districts' requests to move from odd to even-numbered year elections and set the date for the Districts' elections to occur on the same day as the Statewide General Election

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

District Attorney/Public Administrator

27. Adopt resolution approving and authorizing the District Attorney-Public Administrator to submit and the Chairman to execute retroactive Grant Agreement, including required certifications, for continued funding of the Victim Restitution Program with the California Victim Compensation Board, for the period July 1, 2017 through June 30, 2019 ($127,192)

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Resolution No. 17-353, Agreement No. 17-371

28. Approve and authorize the Chairman to execute a retroactive lease agreement ("Agreement") with Heritage Centre, LLC ("Heritage"), for office and basement storage space located at 3151 N. Millbrook, Fresno, CA for use by the District Attorney-Public Administrator, effective July 1, 2017 through June 30, 2022 not to exceed five consecutive years, consisting of a one-year base term and four automatic one-year extensions, total not to exceed $1,365,473

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Agreement No. 17-372

Sheriff/Coroner

29. Approve and authorize Chairman to execute a retroactive Agreement with the City of Fresno for the shared use of the Satellite Jail Facility office area effective July 1, 2015 through June 30, 2020, which includes a three-year base contract and two optional one-year extensions, total not to exceed $100,000

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Agreement No. 17-373

36. Adopt Resolution proclaiming continuation of the local emergency status relating to the extremely high levels of tree mortality and hazardous conditions created by the drought and request that the Governor continue to provide resources and support to mitigate risk of falling trees and increased fire hazard

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Resolution No. 17-357

36.1 Adopt Resolution proclaiming continuation of the local emergency status as a result of accumulating livestock carcasses

DELETED

Behavioral Health

37. Approve and authorize the Chairman to execute Amendment I to Agreement No. 13-316 with Uplift Family Services for the Assertive Community Treatment Program, effective July 1, 2017, with no change in term to June 30, 2018 and increasing the maximum by $822,384 to a total of $8,859,474; Approve and authorize the Chairman to execute Amendment I to Agreement No. 13-311 with Comprehensive Youth Services for the Functional Family Therapy Program, effective July 1, 2017, with no change in term to June 30, 2018 and increasing the maximum by $403,564 to a total of $8,260,329; and Approve and authorize the Chairman to execute Amendment I to Agreement No. 13-315 with Uplift Family Services, Comprehensive Youth Services, and Exceptional Parents Unlimited for the Bright Beginnings for Families Program, effective July 1, 2017, with no change in term to June 30, 2018 and increasing the maximum by $1,145,340 to a total of $18,162,035

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Agreement No. 13-316-1, Agreement No. 13-311-1, Agreement No. 13-315-1

38. Approve and authorize the Chairman to execute a retroactive Master Agreement with licensed residential care facilities for transitional residential board and care services to severely and persistently mentally ill adult clients, effective July 1, 2017, not to exceed five consecutive years, which includes a three-year base contract and two optional one-year extensions, total not to exceed $25,000,000; and, authorize the Director of the Department of Behavioral Health, or designee, to add and/or delete licensed residential care facilities to the Master Agreement, as necessary

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Agreement No. 17-377

43. Approve the voluntary Without Cause termination of Agreement Nos. 16-360, 16-361, 16-295, and 15-300 with King of Kings Community Center for outpatient and residential substance use disorder treatment services and Sober Living Housing, effective July 11, 2017

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Human Resources

44. Approve Resolutions Rejecting Claims for Damages; and, Resolution Rejecting Application for Leave to Present a Late Claim

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Resolution No. 17-359 through Resolution No. 17-365

45. Approve salary adjustments for Unrepresented (excluding confidential classifications covered by Footnote "y") and Management (excluding Deputy County Counsel I/II/III/IV/Senior) classifications, effective July 3, 2017, as reflected on Appendix B; administrative salary adjustments of 3% for Senior Management classifications (excluding Department Heads and Elected Officials), effective July 3, 2017; and, Amendment to the Salary Resolution modifying Annual Leave IV plan to include employees designated under Unrepresented, Management, Senior Management, and Department Heads, effective July 3, 2017, as reflected on Appendix B

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Salary Resolution No. 17-032

46. Approve the Memorandum of Understanding for Representation Unit 30 - Deputy District Attorneys, represented by the Fresno County Prosecutors Association, effective July 3, 2017, through June 30, 2019; and, approve the related Salary Resolution Amendments as reflected on Appendix C

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Salary Resolution No. 17-033

47. Approve the Addendum to Memorandum of Understanding for Representation Unit 2 - Sheriff's and Probation Personnel, represented by the Fresno County Public Safety Association, effective July 17, 2017

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Library

51. Adopt Resolution accepting and expressing gratitude for the monetary donation of $600 to the Fresno County Public Library to purchase a San Francisco Chronicle subscription

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Resolution No. 17-369

Public Health

52. Retroactively authorize the Department of Public Health's previous submittal of a grant application in the amount of $1,000,000 to the Department of Housing and Urban Development for lead-based paint hazard control remediation service funds

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

53. Approve and authorize the Chairman to execute a retroactive Agreement with the City of Sanger, for paramedic ambulance services, effective July 1, 2017 through June 30, 2018 ($33,750)

A MOTION WAS MADE BY SUPERVISOR MENDES, SECONDED BY SUPERVISOR MAGSIG, THAT THIS MATTER BE APPROVED AS RECOMMENDED. THE MOTION CARRIED BY THE FOLLOWING VOTE:

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Agreement No. 17-393

54. Approve and authorize the Chairman to execute a retroactive Agreement with the City of Coalinga, for paramedic ambulance services, effective July 1, 2017 through June 30, 2019 ($90,000)

A MOTION WAS MADE BY SUPERVISOR MENDES, SECONDED BY SUPERVISOR BORGEAS, THAT THIS MATTER BE APPROVED AS RECOMMENDED. THE MOTION CARRIED BY THE FOLLOWING VOTE:

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Agreement No. 17-394

Public Works and Planning

57. Make a finding that the use of a particular brand of prefabricated pedestrian bridge, manufactured by Contech Engineered Solutions, LLC and specified by brand name, is in the best interest of the public, and authorize the Director of the Department of Public Works and Planning to execute a public interest finding regarding such bridge and to submit the finding to the California Department of Transportation and to the Federal Highway Administration; and adopt plans and specifications for Contract No. 17-10-C, Riverdale Pedestrian Improvements, and authorize the Director of the Department of Public Works and Planning, or his designee, to advertise for bids and set bid opening date contingent upon the Department receiving authorization from the California Department of Transportation

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

58. Approve and authorize Chairman to execute Amendment 1 to Agreement No. 16-504 with Abbe and Associates LLC, to provide consultant services relating to development of County's updated waste management plan, extending the term by one year through August 8, 2018 with one optional one-year extension, and increasing the maximum by $75,000 annually for each extension term, bringing the maximum to a total not to exceed $300,000

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Agreement No. 16-504-1

59. Accept the Deed of Easement from Michael Ohashi, Trustee, for Road Right-of-Way Dedication on the east side of Bethel Avenue, south of North Avenue, on behalf of D.R. Horton CA3, Inc., and authorize the Director of Public Works and Planning to execute the Buyer's Estimated Settlement Statement and Escrow Instructions in conjunction with the City of Sanger, as a condition of the approval of Tract Map No. 5490

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

60. Approve and authorize Chairman to execute student intern agreement with California State University Fresno Foundation to provide student interns for Department of Public Works and Planning, effective upon execution, with a term not to exceed five consecutive years, which includes a three-year base contract and two optional one-year extensions, total not to exceed $80,000

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Agreement No. 17-385

66. Approve and authorize Chairman to execute Agreement with Habitat for Humanity Fresno, Inc. for HOME Investment Partnerships Program funds for Habitat Riverdale Development Project in unincorporated community of Riverdale ($390,000); and authorize Director of Public Works and Planning, or his designee, to execute all loan and related documents necessary to the development, including any amendments thereto, and to approve on the County's behalf, items specified in Section VII of the Agreement

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Agreement No. 17-390

67. Adopt required findings and Resolution approving summary vacation of DeWolf Avenue, Behymer Avenue and Leonard Avenue located within the limits of Big Dry Creek Reservoir if Board finds that: vacation is determined to meet criteria for summary vacation, pursuant to Chapter 4 of Part 3 of Division 9 of the Streets and Highways Code; public right-of-way to be vacated is not useful as non-motorized transportation facility, pursuant to Section 892 of the Streets and Highways Code; and vacation is consistent with County General Plan

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Resolution No. 17-370

68. Approve City of Fresno's request to acquire road easement without eminent domain action from one parcel adjacent to existing County road right-of-way in unincorporated areas of the County as needed in conjunction with City's capital improvement project for traffic signal modifications at intersection of Chestnut Avenue and Shields Avenue

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

69. Approve City of Fresno's request to acquire road easements without eminent domain action from three parcels adjacent to existing County road right-of-way in unincorporated areas of the County as needed in conjunction with the City's conditions of approval for Tentative Tract No. 6139 located at the northeast quadrant of the Olive Avenue and Polk Avenue intersection

APPROVED AS RECOMMENDED

Ayes: 5 - Borgeas, Magsig, Mendes, Pacheco, and Quintero

Board of Supervisors
Regular Meeting
8/8/2017 9:00 AM
Board Chambers
200 West 4th Street 1st Floor Madera, CA 93637

Downloads:
Agenda Agenda Packet
Video

CALL TO ORDER

Roll Call

1. **ADDITIONS TO THE AGENDA: Items identified after preparation of the Agenda for which there is a need to take immediate action. Two-thirds vote required for consideration. (Government Code Section 54954.2(b)(2))**

   THE FOLLOWING ITEMS WILL BE DISCUSSED ON A NONAPPOINTMENT BASIS, NOT NECESSARILY IN THE ORDER LISTED

2. **CLOSED SESSION:**

   a. 3172 : Request for Closed Session: *Discussed; No Action Taken*

   Conference with **Labor Negotiators**, pursuant to Government Code Section 54957.6, **County Negotiators: Adrienne Calip and Ken Caves**, Employee Organization: **All Units**

   AIS Closed Session BOARD LETTER

   b. 3125 : Request for Closed Session: *Discussed; No Action Taken*

   Public Employee Appointment/Employment, pursuant to Government Code Section 54957, **Title of Position: Public Health Director**

   AIS Closed Session BOARD LETTER

   c. 3119 : Request for Closed Session: *Discussed; No Action Taken*

   Request for Closed Session: Conference with Legal Counsel - **Existing Litigation**, pursuant to Government Code Section 54956.9 (d)(1), **American Civil Liberties Union of Northern California vs. County of Madera Board of Supervisors (MCV075558)**

   AIS Closed Session BOARD LETTER

   d. 3120 : Request for Closed Session: *Discussed; No Action Taken*

   Conference with Real Property Negotiators, pursuant to Government Code Section 54956.8, **Agency Negotiator: Maria Miranda, General Services Manager; Negotiating Party: Ignacio Magos; Under Negotiation: Price, terms, and conditions of lease of property; Assessor's Parcel Number: 027-192-025**

   AIS Closed Session BOARD LETTER

e. 3121 : Request for Closed Session: *Discussed; No Action Taken*

Conference with Real Property Negotiators, pursuant to Government Code Section 54956.8, **Agency Negotiator: Maria Miranda, General Services Manager; Negotiating Party: City of Chowchilla; Under Negotiation: Price, terms, and conditions of sale or exchange of property; Assessor's Parcel Number: 002-053-013**

AIS Closed Session BOARD LETTER

f. 3122 : Request for Closed Session: *Discussed; No Action Taken*

Conference With Real Property Negotiators, pursuant to Government Code Section 54956.8, **Agency Negotiator: Maria Miranda, General Services Manager; Negotiating Party: Donna D. and Arthur F. Ross; Under Negotiation: Price, terms, and conditions of sale or exchange of property; Assessor's Parcel Number: 026-271-032**

AIS Closed Session BOARD LETTER

g. 3123 : Request for Closed Session: *Discussed; No Action Taken*

Conference with Real Property Negotiators, pursuant to Government Code Section 54956.8, **Agency Negotiator: Maria Miranda, General Services Manager; Negotiating Party: Madera Valley Water Company; Under Negotiation: Price, terms, and conditions of lease of property; Assessor's Parcel Number: 032-020 -003**

AIS Closed Session BOARD LETTER

h. 3124 : Request for Closed Session: *Discussed; No Action Taken*

Conference with Real Property Negotiators, pursuant to Government Code Section 54956.8, **Agency Negotiator: Maria Miranda, General Services Manager; Negotiating Party: Joan Riley; Under Negotiation: Price, terms, and conditions of sale or exchange of property; Assessor's Parcel Number: 047-101-003**

AIS Closed Session BOARD LETTER

i. Report by County Counsel on Closed Session items.

10:00 A.M.

3. INVOCATION AND PLEDGE OF ALLEGIANCE

OPEN AND CLOSE MEETING IN MEMORY OF

4. PUBLIC COMMENT:

ALL MATTERS LISTED UNDER CONSENT CALENDAR ARE CONSIDERED TO BE ROUTINE AND WILL BE ENACTED BY ONE MOTION

5. CONSENT CALENDAR

A. APPROVAL OF MINUTES

1. Minutes of Jul 18, 2017 9:00 AM *Accepted By Consent Vote [Unanimous]*

B. 3138 : BEHAVIORAL HEALTH SERVICES DEPARTMENT *Approved By Consent Vote [Unanimous]*

Administrative Analyst.

1. Consideration of approval of Receipt of Unanticipated Revenue No. 17-006, in the amount of $181,187.00, derived from Behavioral Health Services - Federal Medi-Cal, Operating Transfer in and Local Revenue 2001-St MH Local Realignment to Behavioral Health Services - Permanent Salaries, Retirement, Health Insurance and Local Revenue 2011 - St MH Local Realignment Transfer Out, for Fiscal Year 2017-2018. **4 Votes Required**

2. Consideration to authorize the funding of two (2) unfunded Administrative Analysts.

AIS TOA/RUR BOARD LETTER

RUR NO. 17-006

C. 3143 : BEHAVIORAL HEALTH SERVICES DEPARTMENT *Approved By Consent Vote [Unanimous]*

Consideration of approval of the 2016-2017 Annual Report of the Madera County Behavioral Health Board.

AIS Regular BOARD LETTER

2016-17 BHB Annual Report signed

D. 3158 : BEHAVIORAL HEALTH SERVICES DEPARTMENT *Approved By Consent Vote [Unanimous]*

Consideration of entering into an Agreement with Newton Property Management for a contract maximum of $6,000.00 annually for the leased storage unit located at 501 North E. Street in Madera, for Fiscal Years 2017-2020.

AIS Contract BOARD LETTER

MCC NO. 10933-C-2017

E. 3163 : CHILDREN AND FAMILIES COMMISSION, FIRST 5 MADERA COUNTY *Approved to Appoint By Consent Vote [Unanimous]*

Consideration of approval to re-appoint Susan Arteaga as the City of Madera Area Representative, and Aftab Naz, M.D. as the Pediatrician Representative, to the Children and Families Commission, for a term ending June 30, 2020.

AIS Regular BOARD LETTER

Appointment Request, dated July 18, 2017

F. 3166 : CLAYTON WATER DISTRICT *Approved By Consent Vote [Unanimous]*

Consideration of approval to adopt the Conflict of Interest Code for Clayton Water District.

AIS Regular BOARD LETTER

Clayton Water District COI

G. 3127 : COMMUNITY & ECONOMIC DEVELOPMENT DEPARTMENT/PLANNING DIVISION *Adopted By Consent Vote [Unanimous]*

Consideration of approval to adopt a Resolution Appropriating Unanticipated Revenue, in the amount of $420,952.00, derived from CDBG Housing Rehabilitation Revolving Loan Fund/Program to Professional & Specialized Services, beginning with Fiscal Year 2017-2018. **4 Votes Required**

AIS Resolution BOARD LETTER

Resolution No. 2017-086

H. 3148 : COMMUNITY & ECONOMIC DEVELOPMENT DEPARTMENT/PLANNING DIVISION
Approved By Consent Vote [Unanimous]

2015 Home Investment Partnership Program (HOME) Housing Rehabilitation.

1. Consideration of entering into an Agreement with Self Help Enterprises, for the administration of the County's State of California Department of Housing and Community Development Home Investment Partnership Program (HOME) Housing Rehabilitation Program.

2. Consideration of approval to adopt a Resolution to enter into Agreement with Self Help Enterprises for housing rehabilitation work on the 2015 Home Investment Partnership Program (HOME) grant.

AIS Contract BOARD LETTER

MCC NO. 10934-C-2017

Resolution No. 2017-087

I. 3155 : COMMUNITY & ECONOMIC DEVELOPMENT DEPARTMENT/PLANNING DIVISION
Adopted By Consent Vote [Unanimous]

Final Map for Tract No. 271, Folkes Estates.

1. Consideration of approval to accept the Final Subdivision Map for Tract No. 271, Folkes Estates.

2. Consideration of approval to adopt a Resolution approving Final Map of Folkes Estates, Tract No. 271 and authorize the Chairman to sign on behalf of the County.

3. Consideration of approval to authorize the Chief Clerk of the Board to sign and record the subdivision map for Tract No. 271, Folkes Estates.

AIS Resolution BOARD LETTER

Final Map

Resolution No. 2017-088

J. 3134 : COUNTY ADMINISTRATION DEPARTMENT/GENERAL SERVICES DIVISION
Approved By Consent Vote [Unanimous]

Consideration of entering into an Amendment to MCC No. 10678-C-2016 with the Judicial Council of California to extend the term to October 31, 2017 for Judicial Council modular units to remain at the former Madera Superior Court.

AIS Contract BOARD LETTER

8.8.17 Lease Amendment_Unsigned

K. 3167 : COUNTY COUNSEL DEPARTMENT *Approved By Consent Vote [Unanimous]*

Consideration to approve Settlement Agreement and Mutual Release of Claims with CertainTeed Corporation pertaining to Madera County Superior Court Case No. MCV071537.

AIS Regular BOARD LETTER

SETTLEMENT AGREEMENT AND MUTUAL RELEASE OF CLAIMS MCV071537

L. 3160 : COUNTY COUNSEL DEPARTMNET *Approved By Consent Vote [Unanimous]*

Consideration of entering into an Amendment to MCC No. 9639-C-2012 with Liebert Cassidy Whitmore for legal services.

AIS Contract BOARD LETTER

8.8.17 Amendment Agreement for Liebert Cassidy Whitmore

M. 3102 : DISTRICT ATTORNEY DEPARTMENT *Approved By Consent Vote [Unanimous]*

VOCA- County Victim Services (XC) Program

1. Consideration of approval of Receipt of Unanticipated Revenue No. 17 -004, in the amount of $252,664.00, derived from VOCA - County Victim Services (XC) Program to Permanent Salaries, Professional and Specialized Services, and Special Departmental Expense, for Fiscal Year 2017-2018. **4 Votes Required**
2. Consideration of approval to authorize the Human Resources / Operations Division to amend the Position Allocation within the District Attorney's Office as follows:
   a. Delete the allocation for Victim Services Specialist by one (1) FTE from Org Key 03510.
   b. Add one (1) FTE Victim Services Specialist to the newly created division Org Key 03570 (VOCA Victim Services XC Program).

AIS TOA/RUR BOARD LETTER

RUR NO. 17-004

N. 3078 : PUBLIC HEALTH DEPARTMENT *Approved By Consent Vote [Unanimous]*

Naloxone Distribution Grant Agreement Number 16-11040

1. Consideration of entering into an Agreement with California Health and Human Services Agency for the Naloxone Distribution Grant Agreement Number 16-11040 in the amount of $620.00 for distribution of Naloxone over two years.
2. Consideration and approval to authorize the Public Health Director or Interim Public Health Director to sign the Agreement, including Contractor Certification Clauses and any subsequent amendments or documents

required for acceptance of funds or execution of agreement.

AIS Contract BOARD LETTER

MCC NO. 10936-C-2017

O. 3131 : PUBLIC HEALTH DEPARTMENT *Approved By Consent Vote [Unanimous]*

Consideration of entering into an Agreement with George Washington University to provide educational experience for students enrolled in the University's School of Public Health and authorize the Public Health Director to sign the agreement and any subsequent amendments required for the provision of this service.

AIS Contract BOARD LETTER

GWU AFFILIATION AGREEMENT FINAL 07.20.17

P. 3137 : PUBLIC HEALTH DEPARTMENT *Approved By Consent Vote [Unanimous]*

Consideration of entering into an Agreement with Supplemental Health Care Services, Inc. in an amount not to exceed $91,520.00 to provide physical therapy services for the Medical Therapy Unit of the California Children's Services program, authorize the Chairman of the Board to sign the agreement.

AIS Contract BOARD LETTER

SHC Inc Contract for Physcial Therapy at MTU

Q. 3146 : PUBLIC HEALTH DEPARTMENT *Approved By Consent Vote [Unanimous]*

Consideration of entering into an Agreement with the County of Plumas for the Cal Administrative Activities (MAA) and Targeted Case Management (TCM) program for scope of work, payment and fee structure and authorize the Public Health Director to sign the agreement and any subsequent documents or amendments.

AIS Contract BOARD LETTER

MAA1718MADERA Agreement prepared for BOS signatures

R. 3101 : PUBLIC WORKS DEPARTMENT/CAPITAL IMPROVEMENT PROJECTS DIVISION *Approved By Consent Vote [Unanimous]*

Cal OES grants.

1. Consideration of approval to adopt Resolution authorizing County Designee(s) to make application for and to sign appropriate documentation for California Governor's Office of Emergency Services (OES) projects or grants.

2. Consideration of approval of the completed "Authorized Agent Form" and "Grant Assurances Form" as required by Cal OES.

3. Consideration of approval to authorize staff to submit the grant applications for Cal OES funding.

AIS Resolution BOARD LETTER

Resolution

Grant Assurances

Authorized Agent form

S. 3140 : PUBLIC WORKS DEPARTMENT/CAPITAL IMPROVEMENT PROJECTS DIVISION
Approved By Consent Vote [Unanimous]

Consideration of entering into an Amendment to PW 10571A-C-2016 with Michael Sutherland & Associates, Inc. to extend the term for County Surveyor Services.

AIS Contract BOARD LETTER

Contract Amendment

T. 3100 : PUBLIC WORKS DEPARTMENT/MAINTENANCE & OPERATIONS DIVISION
Approved By Consent Vote [Unanimous]

Dial-A-Ride Services.

1. Consideration of entering into an Agreement with the City of Madera in the amount of $627,161.00 to provide Dial-A-Ride (DAR) services to county residents for Fiscal Year 2017-2018.

2. Consideration of approval to authorize the Public Works Director to approve invoices.

3. Consideration of approval to authorize the Public Works Director to solely issue and approve contract change orders in accordance with Public Contract Code, not to exceed authorized contingencies.

AIS Contract BOARD LETTER

DAR FY17.18

U. 3108 : PUBLIC WORKS DEPARTMENT/MAINTENANCE & OPERATIONS DIVISION
Approved By Consent Vote [Unanimous]

Chowchilla Area Transit Express (CATX) Services.

1. Consideration of entering into an Agreement with the City of Chowchilla in the amount of $107,274.00 to provide CATX transit services to county residents for Fiscal Year 2017-18.

2. Consideration of approval to authorize the Public Works Director and Deputy Public Works Director to approve invoices.

3. Consideration of approval to authorize the Public Works Director and Deputy Public Works Director to solely issue and approve contract change orders in accordance with Public Contract Code, not to exceed authorized contingencies.

AIS Contract BOARD LETTER

CATX Transit agreement_CAS-32056

V. 3129 : PUBLIC WORKS DEPARTMENT/MAINTENANCE & OPERATIONS DIVISION
Approved By Consent Vote [Unanimous]

Moy & Associates

1. Consideration of entering into an Agreement with Moy & Associates in the amount of $95,246.00 to provide technical transportation planning assistance services.

2. Consideration of approval to authorize the Public Works Director to issue the Notice to Proceed.

3. Consideration of approval to authorize the Auditor-Controller to issue payments for contingencies up to 10% of the contract award amount per established County policy.

4. Consideration of approval to authorize the Public Works Director to solely issue and approve Contract Change Orders in accordance with Public Contract Code, not to exceed authorized contingencies.

AIS Contract BOARD LETTER

Contract

W. 3141 : PUBLIC WORKS DEPARTMENT/MAINTENANCE & OPERATIONS DIVISION
Approved By Consent Vote [Unanimous]

Consideration of approval to adopt Resolution adopting the Madera County Title VI Program.

AIS Resolution BOARD LETTER

Resolution

X. 3157 : PUBLIC WORKS DEPARTMENT/MAINTENANCE & OPERATIONS DIVISION
Approved By Consent Vote [Unanimous]

Eastern Madera County Senior Citizen Bus and Medical Escort Van.

1. Consideration of entering into an Agreement with the Community Action Partnership of Madera County, in an amount not to exceed $130,000.00, for Eastern Madera County Senior Citizen Bus and Medical Escort Van service for eastern Madera County residents for Fiscal Year 2017-2018.

2. Consideration of approval to authorize the Public Works Director to approve invoices.

3. Consideration of approval to authorize the Public Works Director to solely issue and approve Agreement Change Orders in accordance with Public Contract Code, not to exceed authorized contingencies.

AIS Contract BOARD LETTER

Agreement

Y. 3161 : SHERIFF-CORONER'S DEPARTMENT *Approved By Consent Vote [Unanimous]*

Consideration of entering into an Agreement with Vermillion Resource Management, Inc. in an amount not to exceed $50,000.00 for tree mortality marking services.

AIS Contract BOARD LETTER

Contract-Vermillion Resource Management Contract

Z. 3022 : SOCIAL SERVICES DEPARTMENT *Approved By Consent Vote [Unanimous]*

Consideration of entering into Amendment to MCC No. 10608-C-2016 with Orchid Interpreting, Inc., as a fee-for-service, not to exceed $22,000.00, to clarify request for service, a guaranteed response time and adjustment for cost of living.

AIS Contract BOARD LETTER

Orchid Interpreting, Inc_2017_revised

AA. 3087 : SOCIAL SERVICES DEPARTMENT *Approved By Consent Vote [Unanimous]*

Consideration of entering into an Agreement with Shared Vision Consultants; in an amount not to exceed $37,180.00, to facilitate the development of the Madera County Self Assessment of the child welfare and probation placement programs.

AIS Contract BOARD LETTER

a. Shared Vision Agreement

AB. 3070 : SOCIAL SERVICES DEPARTMENT *Approved By Consent Vote [Unanimous]*

Consideration of approval to adopt a Resolution authorizing the Director of the Department of Social Services or his/her designee, to execute contracts with employers for the Expanded Subsidized Employment (ESE) Plan.

AIS Regular BOARD LETTER

Resolution Authorizing Signature of ESE Plan - CRM 32285 (00516327x7AD00)

AC. 3135 : TREASURER-TAX COLLECTOR DEPARTMENT *Approved By Consent Vote [Unanimous]*

Consideration of approval to adopt Resolutions for the distribution of excess proceeds in the amount of $44,029.51, in accordance with Section 4675 of the California Revenue and Taxation Code, claimed by the lien holders from the tax sale held May 23, 2016 as follows:

1. Distribution of excess proceeds of tax sale APN 037-133-013, Madera Irrigation District (Claim of Madera Irrigation District).
2. Distribution of excess proceeds of tax sale APN 054-062-014, Elizabeth Persson (Claim of Elizabeth Persson).
3. Distribution of excess proceeds of tax sale APN014-241-034, Brian Alan Baker, a professional law corporation, (Claim of Brian Alan Baker, a professional law corporation).
4. Distribution of excess proceeds of tax sale APN 014-241-019, Brian Alan Baker, a professional law corporation, (Claim of Brian Alan Baker, a professional law corporation).

AIS Resolution BOARD LETTER

Reso APN 014-241-019

Reso APN 014-241-034

Reso APN 037-133-013

Reso APN 054-062-014

May 23, 2016 Excess Proceeds Worksheet

AD. 3154 : TREASURER-TAX COLLECTOR DEPARTMENT *Approved By Consent Vote [Unanimous]*

Consideration of approval to adopt Resolution for the Discharge of Accountability list for unpaid assessments including and prior to Fiscal Year 2011-2012.

AIS Resolution BOARD LETTER

2017 Discharge of Accountability Resolution

Discharge of Accountability Application 2017-Signed

Discharge of Accountability List 2017

AE. 3133 : WORKFORCE DEVELOPMENT BOARD OF MADERA COUNTY *Approved By Consent Vote [Unanimous]*

Consideration of approval to reappoint Gabriel Gil, Private Sector to the Madera County Workforce Development Board (WDB) for a term ending July 22, 2020 and appoint Deborah Martinez, Department of Social Services to the Madera County Workforce Development Board (WDB) for a term ending August 8, 2020.

AIS Regular BOARD LETTER

Deborah Martinez App

AF. 3136 : WORKFORCE DEVELOPMENT BOARD OF MADERA COUNTY *Approved By Consent Vote [Unanimous]*

Madera County Local Workforce Development Area.

1. Consideration of approval of the 2017-2020 Strategic Local Plan for the Madera County Local Workforce Development Area.

2. Consideration of approval of the Regional Plan for the San Joaquin Valley and Associated Counties Regional Planning Unit, as required by the Governor and the State Workforce Development Board.

3. Consideration of approval to authorize the Chairman of the Board to sign the Local Plan on behalf of County of Madera.

AIS Regular BOARD LETTER

a. WIOA Program Year 2017-2020 Local Area Plan

SJVRPU- Regional Plan - WDP 2017-2020

AG. 3139 : WORKFORCE DEVELOPMENT BOARD OF MADERA COUNTY *Approved By Consent Vote [Unanimous]*

Consideration of entering into a Memorandum of Understanding between the Workforce Development Board (WDB) of Madera County and America's Job Center of California (AJCC) for Phase II of the delivery system in the local area with the following partner agencies:

1. Central Valley Opportunity Center, Inc. (CVOC);
2. Employment Development Department (EDD);
3. The Housing Authority of the City of Madera;
4. Job Corps Northern California Outreach & Admissions;
5. Madera County Department of Social Services;
6. Madera County Workforce Investment Corporation (WIOA);
7. Madera Unified School District (MUSD), Madera Adult School;
8. SER, Jobs for Progress, Inc.;
9. State of California Department of Rehabilitation;
10. State Center Adult Education Consortium;
11. State Center Community College District, Madera Community College Center.

AIS Contract BOARD LETTER

MCC NO. 10946-C-2017

AH. 3128 : BOARD OF DIRECTORS SPECIAL DISTRICTS/COUNTY SERVICE AREA NO. 16, SUMNER HILLS/PUBLIC WORKS DEPARTMENT/ADMINISTRATION DIVISION *Approved By Consent Vote [Unanimous]*

Surface Water Treatment Plant Improvements (Project)

1. Consideration of approval to adopt a Resolution authorizing the Public Works Director or designee to execute a financial assistance application for a financing agreement from the State Water Resources Control Board, County Service Area No. 16, Sumner Hill.

2. Consideration of approval to adopt a Resolution of Madera County Service Area No. 16 (Sumner Hills) authorizing the Public Works Director or designee to facilitate the execution of certain documents needed for pledge revenue and funds.

AIS Resolution BOARD LETTER

Signing Authority Resolution

Authorizing Pledged Revenue and Funds Resolution

AI. 3086 : BOARD OF DIRECTORS SPECIAL DISTRICTS/MAINTENANCE DISTRICT NO. 10A, MADERA RANCHOS/PUBLIC WORKS DEPARTMENT/ADMINISTRATION DIVISION *Approved By Consent Vote [Unanimous]*

Consideration of approval to adopt a Resolution authorizing the Public Works Director or Deputy Director to sign financial agreement, amendments, and certifications for funding under the Drinking Water State Revolving Fund (DWSRF); to approve claims for reimbursement; to execute expenditure summary; to sign form; to sign the certification of completion; and pledging and dedicating new water revenues from to payment of DWSRF Financing, on behalf of MD-10A, Madera Ranchos.

AIS Resolution BOARD LETTER

Resolution

AJ. 3144 : BOARD OF DIRECTORS SPECIAL DISTRICTS/MAINTENANCE NO. 36, EASTIN ARCOLA/MAINTENANCE DISTRICT NO. 73A, QUARTZ MOUNTAIN/COUNTY SERVICE AREA NO. 1, INDIAN LAKES/PUBLIC WORKS DEPARTMENT/MUNICIPAL SERVICES DIVISION *Approved By Consent Vote [Unanimous]*

Consideration of a approval to adopt Resolution of Intent to consider increased water service rates on property within Maintenance Districts 36 Eastin Arcola (MD-36), 73A Quartz Mountain (MD-73) and County Service Area 1 Indian Lakes (CSA-01).

AIS Resolution BOARD LETTER

Resolution of Intent

10:00 A.M. HEARINGS

6. PUBLIC HEARINGS:

a. 3126 : COMMUNITY & ECONOMIC DEVELOPMENT DEPARTMENT/PLANNING DIVISION *Adopted [Unanimous]*

Hearing to consider adoption of a Resolution of the revised Home Investment Partnerships Program (HOME) Housing Rehabilitation Guidelines.

AIS Resolution BOARD LETTER

HCD Approved Rehabilitation Program Guidelines

Signed Resolution

b. 3150 : COMMUNITY & ECONOMIC DEVELOPMENT DEPARTMENT/PLANNING DIVISION *Approved to Set Hearing [Unanimous]*

Hearing to introduce an Ordinance amending Title 13 of the Madera County Code by adding Chapter 13.110 to include a program to address the impact of Large Scale Development projects on Groundwater Balance, by establishing a definition of Large Scale Developments, and by establishing standards for evaluation of Groundwater Balance Determination and standards for conditions of approval for Large Scale Developments that fail to assure compliance with the required Groundwater Balance Determinations; **Waive the Reading and Set the Public Hearing for August 22, 2017.**

AIS Ordinance BOARD LETTER

Settlement Agreement MCC NO. 10822-C-2017

Ground Water Balance Ordinance

a. Madera Irrigation District Letter to Madera County re GW Balance Ordinance

b. Ground Water Ordinance Presentation

Clerk's Notes:

c. 3152 : COMMUNITY & ECONOMIC DEVELOPMENT DEPARTMENT/PLANNING DIVISION *Approved to Set Hearing [Unanimous]*

Hearing to consider an Ordinance amending Chapter 16.06 of the Madera County Code to confirm that the County of Madera shall be the sole entity to prepare and contract for, Environmental Impact Reports, as well as any project-related Water Supply Assessments; **Waive the Reading and Set the Public Hearing for August**

22, 2017.

AIS Ordinance BOARD LETTER

Ordinance

Settlement Agreement

7. REGULAR SESSION:

a. 3162 : BOARD OF SUPERVISORS DEPARTMENT - DISTRICT NO. 2 *Presentation given*

Presentation of a Proclamation recognizing Stephen Serrano for his work in qualifying for and participating in the world-renowned Boston Marathon.

AIS Regular BOARD LETTER

2017 STEPHEN SERRANO PROCLAMATION BOSTON MARATHON

b. 3011 : CHILD SUPPORT SERVICES DEPARTMENT *Presentation given*

Presentation of a Proclamation proclaiming August 2017 as "Child Support Awareness Month."

AIS Regular BOARD LETTER

PROCLAMATION

c. 3182 : BOARD OF SUPERVISORS DEPARTMENT *Presentation given*

Presentation by Supervisor Bob Williams, Tehama County and Chairman, Rural County Representatives of California (RCRC) and Mary-Ann Warmerdam, RCRC Senior Legislative Advocate.

AIS Regular BOARD LETTER

d. 2735 : TREASURER/TAX COLLECTOR DEPARTMENT *Approved [Unanimous]*

Discussion and consideration of entering into an Agreement with AIRBNB for a voluntary collection and remittance of transient occupancy taxes in the unincorporated areas of Madera County at a rate of 9%, effective October 1, 2017.

AIS Contract BOARD LETTER

AIRBNB Voluntary Collection Agreement

Clerk's Notes:

e. 3149 : TREASURER-TAX COLLECTOR DEPARTMENT *Approved [Unanimous]*

Discussion and consideration of entering into an Agreement for collection of taxes and special contractual assessments between the County of Madera and the California Municipal Finance Authority.

AIS Contract BOARD LETTER

Agreement with California Municipal Finance Authority

Clerk's Notes:

f. 3151 : PROBATION DEPARTMENT *Approved [Unanimous]*

Discussion and consideration of entering into an Agreement with cFive Solutions, Inc. in the amount of $7,128.00 for a 90 day Pilot Program followed by an annual agreement thereafter at the conclusion of the 90 day Pilot period.

AIS Contract BOARD LETTER

cFive CC and Company signed contract 7 25 17

g. 3147 : COUNTY ADMINISTRATION DEPARTMENT *Approved [Unanimous]*

Discussion and consideration of approval of Transfer of Appropriations No. 17-007, in the amount of $50,000.00, transfer from Appropriations for Contingencies - General to Special Payments - Contributions to Other Agencies, for Fiscal Year 2017 -2018 for the County's membership contribution to the San Joaquin Valley Water Infrastructure Authority, and authorize the Auditor-Controller to submit payment to the Authority. **4 Votes Required**

AIS TOA/RUR BOARD LETTER

TOA NO. 17-007

h. 3142 : COUNTY ADMINISTRATION DEPARTMENT *Adopted [Unanimous]*

Discussion and consideration of approval to adopt Resolution recognizing the former Madera County Library located at 135 N Yosemite Avenue as a community landmark and adopting the Historical Architectural Survey Report.

AIS Resolution BOARD LETTER

Resolution

Madera County Free Library Historic Survey Report

Clerk's Notes:

i. 3170 : COUNTY ADMINISTRATION DEPARTMENT/HUMAN RESOURCES/OPERATIONS DIVISION *Adopted [Unanimous]*

Discussion and consideration to adopt a Resolution appointing Dennis Koch as the Interim Public Health Director for title/signing purposes, effective August 1, 2017.

AIS HR/Personnel BOARD LETTER

Resolution - Dennis Koch - Interim PH Director - August 2017 (00519971x7AD00)

j. 3099 : COUNTY ADMINISTRATION DEPARTMENT/HUMAN RESOURCES/OPERATIONS DIVISION *Adopted [4 to 1]*

County Administrative Officer

1. Discussion and consideration to adopt a Resolution, granting the County Administrative Officer with a performance-based salary increase to $219,744.39 (Salary Range 485, Step EL15, DHB2 0115) from $214,332.24 (Salary Range 485, EL10, DHB2 0115), effective August 1, 2017.

2. Discussion and consideration to authorize additional compensation in the amount of 10% of the annual salary of $219,744.39 ($21,974.44/year or $1,831.20/month), pursuant to Madera County Code Section 2.60.310, in

recognition of the supplemental management duties associated with oversight of the Office of Development Services.

AIS HR/Personnel BOARD LETTER

Resolution Authorizing CAO Salary Increase Additional Comp 8-2017 (00519871x7AD00)

Clerk's Notes:

k. 3130 : PUBLIC HEALTH DEPARTMENT *Approved [Unanimous]*

Discussion and consideration of approval to grant Mary George-Solorio, Staff Services Manager, Public Health Department, with an additional compensation in the amount of $1,120.46/month pursuant to County Code Section 2.60.310.

AIS HR/Personnel BOARD LETTER

l. 3145 : PUBLIC WORKS DEPARTMENT/MUNICIPAL SERVICES DIVISION *Approved [Unanimous]*

Madera County Waste Management Program

1. Discussion and update on financial challenges for the Madera County Solid Waste program.
2. Discussion on draft Organic Waste Management Plan.
3. Discussion and direction to staff to coordinate with the franchise haulers on amendments to the franchise agreements, including organics collection and recycling services (due to a change in law).

AIS Regular BOARD LETTER

Organic Waste Management Plan_DRAFT

Presentation-Madera County Solid Waste Management Workshop

Clerk's Notes:

8. PENDING LEGISLATION - Discuss, Support or Oppose Legislation Presented by Supervisors and/or Staff

9. SUPERVISORS AND STAFF REPORTS

CLOSED SESSION: CONTINUE FROM 9:00 A.M. SESSION

10. ADJOURNMENT