

SAN JOAQUIN COUNTY LABOR FORCE ANALYSIS

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Prepared for:

SAN JOAQUIN WORKFORCE INVESTMENT BOARD

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INTRODUCTION AND SUMMARY

INTRODUCTION

This report presents information on growing industry clusters in San Joaquin County and related business demand for selected occupational skills. The report describes characteristics of the labor force and in particular focuses on the skills and employment needs of key population segments such as unemployed and underemployed workers, veterans, the disabled and workers in major ethnic groups.

The industry cluster analysis updates the recent work completed by the CSU Fresno Office of Community and Economic Development, in the report, "San Joaquin Valley Regional Industry Cluster Analysis and Action Plan," published in September 2012. In that report, six major industry clusters were identified and evaluated, including:

- Agriculture
- Energy
- Logistics
- Health Care
- Manufacturing
- Water Technology

The present report updates the analysis of the cluster beyond 2010 and provides projection of job growth and occupational demand to the year 2017, based on data provided by Employment Management Systems Inc. (EMSI).

In addition, the report provides a detailed demographic analysis of the workforce using the Public UMS data, which permits cross-tabulations of survey data collected through the American Community Survey (ACS). The resulting analysis is consistent with published ACS population totals for San Joaquin County, but provides greater detail on the employment status and skills levels of selected demographic groups.

SUMMARY

Economic Conditions. The San Joaquin County unemployment rate had improved to 7.4% just prior to the recession in 2006, but reached a high of 17.3% by 2010. It has since declined slightly to an annual average level of about 15.2% in 2012.

Industry Clusters. Agriculture is the largest industry cluster in San Joaquin County, with more than 34,400 jobs in 2010 and a concentration 3.0 times the statewide average. Agricultural jobs grew over the past decade and, except for production related activities, are projected to continue increasing over the next five years. Health care is the second largest cluster with 22,246 jobs. This cluster was the

fastest growing cluster in the county with 20 percent growth rate between 2001 and 2010 and is projected to add another 2,705 jobs by 2017. Logistics is the third largest cluster in San Joaquin County, at 13,983 jobs. It has been growing since 2010, with a projected further increase of 2,583 jobs by 2017. Declining clusters between 2001 and 2010 included the Energy cluster with 11 percent decline, Water Technology cluster with 40 percent decline, and Manufacturing with 36 percent decline in San Joaquin County. In contrast, government, retail, and tourism jobs are projected to grow by 2017 as well.

Labor Force Demographics and Skills. The report documents the correlation between education and employment, with unemployment rates much higher for non-college graduates. Whites and other non-Latino groups have higher rates of college graduation.

Under-utilized Workers. Prime working-age Latinos have lower full time utilization rates (52.8 percent) than do Whites (65.6 percent). In terms of unemployment rates by industry, many sectors posted double-digit unemployment rates, with key economic drivers such as agriculture (NAICS 11) and construction (NAICS 23) posting jobless rates of 21 percent and 24 percent, respectively. Healthcare (NAICS 62) and Education (NAICS 61) were sectors that exhibited relatively low unemployment rates of 6 - 7 percent.

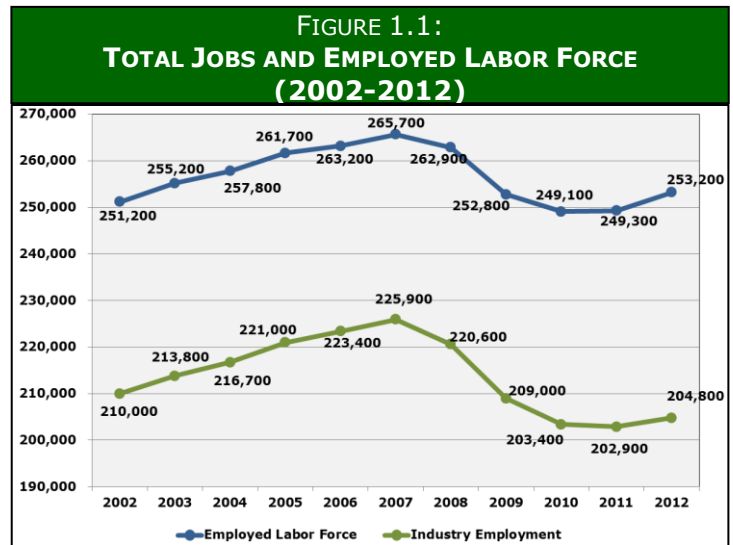
Veterans. Based on the most recent ACS data, there are about 17,216 veterans in the labor force in the San Joaquin County, representing about 5.4 percent of the labor force. It is estimated that 9.8 percent of veterans were unemployed in 2011, compared to 17.3 percent for the non-veterans labor force. Among the unemployed veterans, the largest group is in the 35-54 age group, within which persons who did not graduate high school showed an extremely high rate of unemployment (38.2 percent). Also, veterans 20-29 years old without a high school diploma had a 72.3 percent unemployment rate.

Disabled Workers. There are an estimated 19,522 disabled workers in the labor force, comprising 6.1 percent of all workers in the County. The unemployment rate for disabled workers in 2011 is estimated at 28.2 percent, compared to 16.4 percent for the non-disabled labor force. Disabled workers with a Bachelor's degree or higher exhibit a group jobless rate that at 12.8 percent is lower than the overall County rate of 17.3 percent but almost twice that of persons with no disability and with at least a Bachelor's degree (7.8 percent).

Training Programs. The report screens all of the projected growth occupations against the list of WIB-approved training vendors and identifies which occupations appear to have available training programs in San Joaquin County where there are gaps. The Health and Wellness cluster is projected to grow by 2,700 new jobs between 2012 and 2017, with most of the new jobs requiring prior experience (1,173 new jobs between 2012 and 2017), or short-term OJT (482 jobs) and moderate-term OJT (550 jobs). Future Health and Wellness cluster jobs requiring an Associate's degree are also expected to grow by 450 new jobs between 2012 and 2017. There are 19 occupations in the Health and Wellness cluster that are expected to increase in numbers; for 7 of these growing occupations, there are no job training programs, according to the California EDD ETPL database.

1. LOCAL ECONOMIC CONDITIONS

Employment growth in San Joaquin County was on upward trend until 2007. Between 2002 and 2007, the County added 15,900 jobs, reaching a peak of 225,900 wage and salary jobs (Figure 1.1). Job losses from the recession began to occur in 2008 and accelerated in 2009, continuing until 2011, when employment declined to less than 202,900 jobs. The employed labor force, which includes self employed and out-commuters, followed a very similar pattern. After the 2008 recession, employers struggled to add new jobs but ended with 204,800 jobs in 2012 which is 21,100 jobs lower than the peak in 2007.



Source: ADE, Inc., California Economic Development Department

The county had 265,700 employed residents in 2007 but due to the recession, employment dropped and 16,600 residents lost their jobs by 2010 (Figure 1.1). In 2010, the unemployment rate peaked at 17.3 percent and then began to drop as employment recovered. By 2012, 253,200 residents were employed (Figure 1.2).

**TABLE 1.1:
DEMOGRAPHIC AND LABOR FORCE TRENDS**

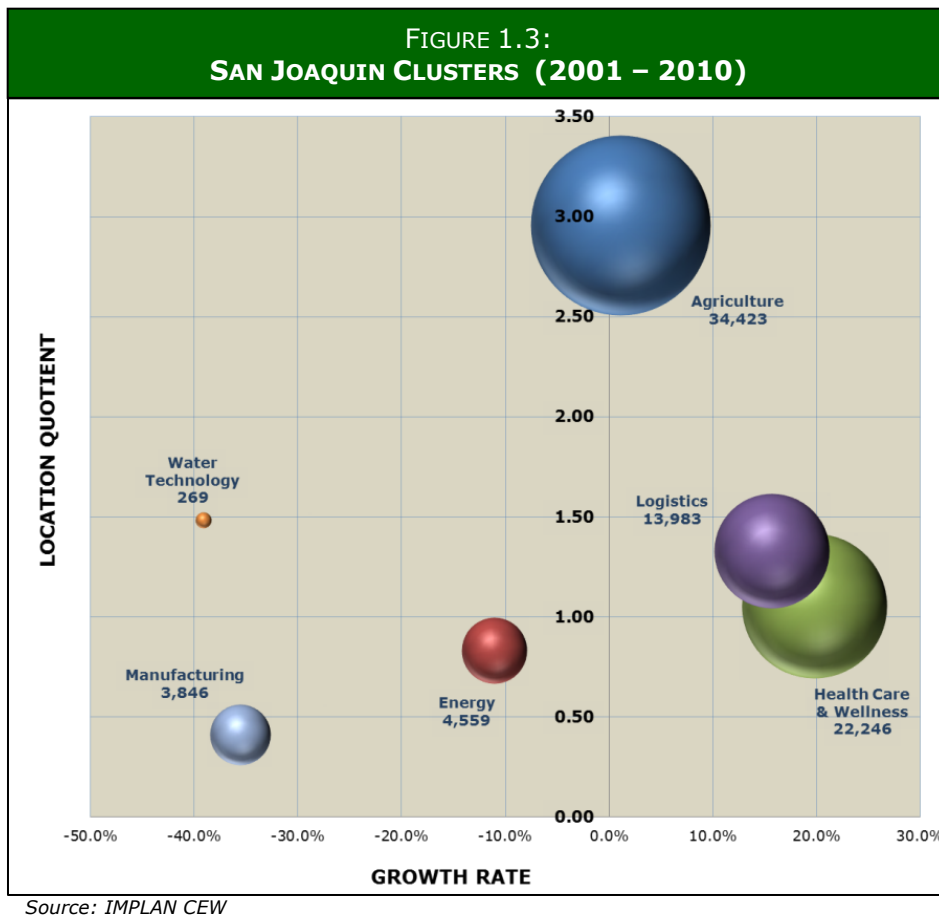
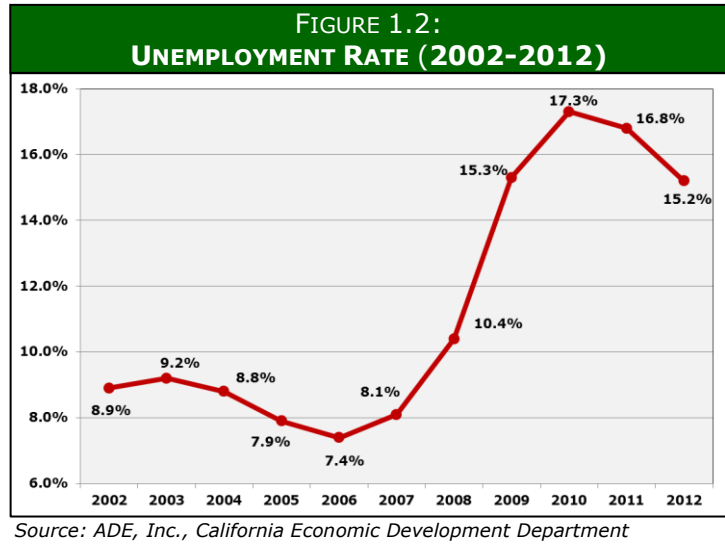
	2002	2012	2000-2012
Population	603,544	699,003	15.8%
Labor Force	275,700	298,500	8.3%
Employed Labor Force	251,200	253,200	0.8%
Wage and Salary Jobs	210,000	204,800	-2.5%

Source: ADE, Inc., Department of Finance, California Economic Development Department

According to the California DOF and EDD, population and people over 16 years of age included in the county's labor force increased annually from 2002 to 2012. Population increased close to 16 percent between 2002 and 2012; labor force, however, had an increase of 8 percent. The percentage of residents who found employment between 2002 and 2012 increased less than 1 percent. Additionally, in contrast to labor force, jobs had a reverse growth trend and the county lost 2.5 percent in wage and salary jobs between 2002 and 2012 (Table 1.1).

The number of wage and salary jobs is almost 30 percent below the size of the labor force in San Joaquin County in 2012. Some of this difference would be due to self-employment, but it is also clear there is a large out-commute for workers from the County to employment centers in Sacramento and the Bay Area.

Agriculture is the largest cluster with 34,423 employees (Figure 1.3). The Health and Wellness cluster, with 22,246 employees, and the Logistics, with 13,983 employees, are the second and third large industries in the San Joaquin County. Water Technology is the smallest industry with 269 employees. Energy and Manufacturing clusters have 4,559 and 3,846 employees, respectively. Health Care and Logistics clusters have shown the highest growth rate over the past ten years. Agriculture also showed a positive but minimal growth rate of 1.1 percent through 2010. Energy, Manufacturing, and Water Technology, on the other hand declined within the last decade. Agriculture is not only the largest industry but also the highest concentrated job sector (see Appendix A for industry cluster definitions by NAICS code).



2. KEY DEMOGRAPHIC GROUPS

This chapter provides data on the educational levels and employment status for key demographic groups in the population. Data comes from the US Census’ American Community Survey (“ACS”) one-year sample for years 2009, 2010, and 2011, the most-current data available at the time of this analysis.

EDUCATIONAL ATTAINMENT BY RACE/ETHNIC AND AGE CATEGORY

ACS estimates that there are 318,120 persons in the county labor force, with 145,145 in the 35 to 54 prime working age category (see Table 2.1)¹. Of the 145,145, 60,013 (or 41.3 percent) are White, 50,529 (34.8 percent) are Latino, and the 34,604 (23.8 percent) are some other race (e.g. Black, Asian-Pacific Islander, Other, and/or Two or More). Of the 60,013 persons who are White, 16,167 (26.9 percent) earned at least a Bachelor’s degree. In comparison, 7.9 percent of all prime working-age Latino adults in the labor force earned at least a Bachelor’s, or 4,036 out of 50,529. For persons in the Other category, an estimated 10,177 (29.4 percent) prime working age adults out of a labor force of 34,604 earned at least a Bachelor’s degree.

**TABLE 2.1:
LABOR FORCE BY RACE/ETHNICITY, AGE AND EDUCATIONAL ATTAINMENT:
SAN JOAQUIN COUNTY (2009-2011)
ALL PERSONS 16 IN SAN JOAQUIN COUNTY -- IN LABOR FORCE**

	16 - 19	20 - 29	30 - 34	35 - 54	55 - 64	65 & over	San Joaquin County
	15,462	72,656	35,280	145,145	39,766	9,811	318,120
01 White	4,327	21,388	10,932	60,013	22,321	5,845	124,826
Did not earn HS dipl/GED or degree: not in school	478	1,146	369	3,610	1,034	562	7,200
High school graduate (includes equivalency)	985	5,414	2,913	15,967	5,169	1,562	32,010
Some college - no degree & not attending	104	5,013	2,712	16,215	6,657	1,774	32,476
Associates degree/still attending college	1,251	5,466	1,606	8,053	2,714	536	19,626
Bachelor's degree or higher	0	4,255	3,303	16,167	6,747	1,411	31,883
NA	1,509	94	28	0	0	0	1,631

¹As noted in Table 1.1, EDD estimates a higher labor force figure of 298,500 in 2012. We use the ACS figure in this chapter in order to present the demographic characteristics that are not available from EDD. For a detailed difference in methodology for estimating labor force between the US ACS and US Census CPS (on which California EDD’s findings are based), go to [//www.bls.gov/lau/acsqa.htm#Q08](http://www.bls.gov/lau/acsqa.htm#Q08) and [//www.bls.gov/lau/acsqa.htm#Q09](http://www.bls.gov/lau/acsqa.htm#Q09). It is also important to note that while the US Census CPS is the federal government’s official survey for purposes of tracking monthly and annual unemployment, the US ACS is based on a significantly larger sample of survey respondents.

	16 - 19	20 - 29	30 - 34	35 - 54	55 - 64	65 & over	San Joaquin County
02 Latino	7,436	32,506	15,770	50,529	8,871	1,720	116,831
Did not earn HS dipl/GED or degree: not in school	894	9,068	5,377	19,989	3,555	694	39,577
High school graduate (includes equivalency)	2,273	10,892	4,879	13,147	2,007	252	33,450
Some college - no degree & not attending	386	4,815	2,836	9,648	1,686	466	19,837
Associates degree/still attending college	1,793	5,636	1,458	3,625	718	71	13,301
Bachelor's degree or higher	0	1,716	1,169	4,036	882	237	8,039
NA	2,090	378	52	84	24	0	2,627
03 Other	3,699	18,763	8,578	34,604	8,573	2,245	76,462
Did not earn HS dipl/GED or degree: not in school	206	2,042	1,190	3,523	1,493	539	8,992
High school graduate (includes equivalency)	1,037	5,271	1,729	7,692	1,461	487	17,677
Some college - no degree & not attending	203	2,860	2,502	8,685	1,910	274	16,433
Associates degree/still attending college	987	5,042	1,028	4,491	1,065	193	12,806
Bachelor's degree or higher	0	3,322	2,130	10,177	2,644	753	19,026
NA	1,266	227	0	35	0	0	1,529

Source: Applied Development Economics, Inc., based on US Census PUMS One-year Sample for Years 2009, 2010, and 2011 {Data Source: Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010.}

The educational attainment gap between the Latinos and either the White or Other labor force is present across the various age cohorts. Starting with the 20s age cohort, we see that an estimated 1,716 out of 32,506 Latinos earned at least a Bachelor's degree, or 5.3 percent, which is less than rates estimated for Whites (19.9 percent, or 4,255 out of 21,388) and Others (17.7 percent, or 3,322 out of 18,763). Across all age categories, approximately 25-to-26 percent of White or Other persons in the labor force earned at least a Bachelor's degree, versus 6.9 percent for Latinos.

The importance of a college degree becomes evident in the data presented below. While the overall annual unemployment rate for the historic downturn three-year period of 2009-2011 averaged 17.1 percent, for persons with at least a Bachelor's degree, the jobless rate was significantly lower (see Table 2.2). Across all age categories, White persons in the labor force with at least a Bachelor's experienced an unemployment rate of 5.8 percent; while unemployment rates for Latinos (10.5 percent) and Others (10.9 percent) with at least a Bachelor's degree in all age categories was significantly lower than the 17.1 percent County average, it is worth noting that their rates were almost twice that of Whites. For prime working age Latinos with at least a Bachelor's, the joblessness rate was 7.5 percent, versus 5.6 percent of Whites and 10.4 percent for Others. While the effects of the historic downturn were felt by persons of all races, all ages, and most educational attainment categories, those most-affected by the downturn that began in late 2008 were persons who had no more than a high school diploma or GED, and persons who were in their 20s and/or early 30s, as their jobless rates hovered around and/or exceed 25 percent.

**TABLE 2.2:
UNEMPLOYMENT RATE BY RACE/ETHNICITY, AGE AND EDUCATIONAL ATTAINMENT:
SAN JOAQUIN COUNTY (2009-2011)
ALL PERSONS 16 IN SAN JOAQUIN COUNTY -- IN LABOR FORCE**

	16 - 19	20 - 29	30 - 34	35 - 54	55 - 64	65 & over	San Joaquin County
	45.1%	21.7%	16.8%	13.9%	11.4%	11.7%	17.1%
01 White	39.4%	16.2%	13.1%	12.0%	8.9%	10.9%	13.2%
Did not earn HS dipl/GED or degree: not in school	58.5%	39.5%	47.0%	26.7%	12.7%	23.2%	29.6%
High school graduate (includes equivalency)	40.2%	15.0%	16.9%	18.1%	12.0%	13.3%	16.9%
Some college - no degree & not attending	81.8%	16.0%	15.7%	8.7%	6.8%	12.0%	10.5%
Associates degree/still attending college	29.4%	18.2%	10.2%	13.0%	12.3%	10.9%	15.1%
Bachelor's degree or higher	0.0%	7.5%	4.6%	5.6%	6.6%	2.2%	5.8%
NA	38.1%	81.9%	100.0%	0.0%	0.0%	0.0%	41.7%
02 Latino	43.2%	22.9%	19.1%	16.0%	16.5%	15.2%	20.1%
Did not earn HS dipl/GED or degree: not in school	52.8%	23.7%	18.8%	19.0%	29.2%	15.5%	21.7%
High school graduate (includes equivalency)	29.0%	25.4%	17.1%	16.3%	10.4%	0.0%	19.8%
Some college - no degree & not attending	21.6%	21.4%	19.4%	10.7%	7.4%	23.5%	14.8%
Associates degree/still attending college	26.8%	15.9%	26.6%	20.3%	13.3%	0.0%	19.5%
Bachelor's degree or higher	0.0%	17.9%	16.2%	7.5%	0.0%	18.5%	10.5%
NA	72.4%	76.1%	68.4%	60.2%	0.0%	0.0%	71.8%
03 Other	55.6%	26.2%	17.3%	14.0%	12.7%	11.1%	19.1%
Did not earn HS dipl/GED or degree: not in school	83.2%	44.1%	21.4%	25.9%	12.0%	0.0%	26.9%
High school graduate (includes equivalency)	51.1%	24.4%	24.4%	14.2%	11.8%	19.5%	20.4%
Some college - no degree & not attending	32.8%	22.7%	23.4%	12.0%	20.7%	17.5%	17.0%
Associates degree/still attending college	33.6%	30.4%	3.5%	15.2%	9.3%	0.0%	20.9%
Bachelor's degree or higher	0.0%	14.4%	8.9%	10.4%	9.0%	14.1%	10.9%
NA	75.7%	27.6%	0.0%	100.0%	0.0%	0.0%	69.1%

Source: Applied Development Economics, Inc., based on US Census PUMS One-year Sample for Years 2009, 2010, and 2011 {Data Source: Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010.}

LABOR FORCE UTILIZATION

Here, we present data illustrating to what extent, if any, the region's labor force, including those who are employed, is not being fully utilized. This discussion further underscores the importance of a college degree. Of the 318,120 persons in the county labor force in any given year during the 2009-2011 period, 167,343 were employed full-time and all-year, (i.e., 52.6 percent) (see Table 2.3). On average, an estimated 65.6 percent of all prime working-age persons in the labor force who are White are fully utilized, versus the rate for Latinos, or 52.8 percent. In other words, almost 47 percent of all prime working-age Latinos are either unemployed or under-employed, versus approximately 35 percent of prime working age Whites. A college degree makes a significant impact for prime working-age Latinos, as 61.7 percent of all prime working-age Latinos with at least a Bachelor's degree work full-time and all-year, a rate that still lags the 72.2 percent rate for prime working age Whites with at least a Bachelor's degree.

TABLE 2.3: FULLY UTILIZED LABOR FORCE: FULL-TIME AND ALL-YEAR WORKERS BY RACE/ETHNICITY, AGE AND EDUCATIONAL ATTAINMENT: SAN JOAQUIN COUNTY (2009-2011) ALL PERSONS 16 IN SAN JOAQUIN COUNTY -- IN LABOR FORCE							
	16 - 19	20 - 29	30 - 34	35 - 54	55 - 64	65 & over	San Joaquin County
	1,028	29,848	19,950	88,011	23,869	4,636	167,343
01 White	171	10,344	6,794	39,416	14,012	2,671	73,408
Did not earn HS dipl/GED or degree: not in school	0	403	154	1,748	459	231	2,995
High school graduate (includes equivalency)	58	2,657	1,835	9,424	2,953	757	17,684
Some college - no degree & not attending	0	2,577	1,602	11,357	4,462	938	20,936
Associates degree/still attending college	113	2,044	1,048	5,211	1,611	171	10,198
Bachelor's degree or higher	0	2,664	2,154	11,676	4,527	574	21,595
NA	0	0	0	0	0	0	0
02 Latino	719	12,841	8,535	26,717	4,627	774	54,213
Did not earn HS dipl/GED or degree: not in school	0	2,706	2,576	9,194	1,454	426	16,356
High school graduate (includes equivalency)	334	4,513	2,781	7,154	1,055	60	15,896
Some college - no degree & not attending	138	2,401	1,671	6,199	1,255	246	11,910
Associates degree/still attending college	193	2,256	755	1,661	423	21	5,309
Bachelor's degree or higher	0	897	736	2,492	441	21	4,587
NA	54	68	16	18	0	0	156
03 Other	138	6,663	4,621	21,878	5,230	1,191	39,722
Did not earn HS dipl/GED or degree: not in school	0	504	438	1,521	677	184	3,325
High school graduate (includes equivalency)	75	2,400	831	5,297	841	243	9,687
Some college - no degree & not attending	0	1,301	1,315	5,472	1,190	167	9,445
Associates degree/still attending college	64	1,068	667	2,499	639	172	5,108
Bachelor's degree or higher	0	1,374	1,370	7,090	1,883	425	12,142
NA	0	15	0	0	0	0	15

Source: Applied Development Economics, Inc., based on US Census PUMS One-year Sample for Years 2009, 2010, and 2011 {Data Source: Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010.}

Differences in unemployment rates between persons with a college degree and those without are also more pronounced along sectoral lines. This is especially true in sectors having to do with agriculture and housing. The agriculture super sector (NAICS 11) exhibits a 12 percent unemployment rate for persons with degrees versus 22 percent unemployment rate for persons without a degree, and warehousing (NAICS 49) shows a 6 percent unemployment for persons with a college degree and 24 percent for those without (see Table 2.4). With respect to housing, the unemployment for construction (NAICS 23) was above overall countywide average (17.1 percent) at 24 percent, but for college and non-college educated the rates were 14 percent versus 25 percent respectively. Overall real estate (NAICS 53) unemployment was similar to the overall county rate at 17 percent, but for those without a degree, the unemployment was 22 percent versus the 9 percent rate for those with a college degree.

**TABLE 2.4:
LABOR FORCE AND UNEMPLOYMENT TRENDS BY ECONOMIC SECTOR AND BY COLLEGE DEGREE STATUS:
SAN JOAQUIN COUNTY (2009-2011)**

	Degree			No Degree			Degree or No Degree		
	Employed	Not Employed	Unemployment rate of persons w/degree	Employed	Not Employed	Unemployment rate of persons with no degree	Employed	Not Employed	Unemployment Rate
11 Ag, Forestry, etc.	1,061	150	12%	11,633	3,313	22%	12,694	3,463	21%
21 Mining, oil, gas	64	0	0%	97	48	33%	161	48	23%
22 Utilities	738	11	1%	1,365	105	7%	2,102	116	5%
23 Construction	3,080	511	14%	14,451	4,912	25%	17,532	5,424	24%
31 Manufacturing	1,598	315	16%	6,011	1,087	15%	7,609	1,402	16%
32 Manufacturing	1,157	64	5%	4,881	743	13%	6,039	807	12%
33 Manufacturing	3,403	499	13%	9,030	2,211	20%	12,433	2,710	18%
42 Wholesale	2,192	176	7%	10,377	1,462	12%	12,569	1,638	12%
44 Retail	4,805	940	16%	15,702	2,965	16%	20,507	3,905	16%
45 Retail	1,460	284	16%	8,626	2,309	21%	10,086	2,593	20%
48 Transportation/Warehousing	1,411	102	7%	8,620	1,193	12%	10,032	1,294	11%
49 Transportation/Warehousing	1,239	74	6%	3,068	946	24%	4,307	1,020	19%
51 Information	1,669	546	25%	2,792	641	19%	4,461	1,187	21%
52 Finance and Insurance	3,566	544	13%	5,338	1,190	18%	8,904	1,734	16%
53 Real Estate and Leasing	1,601	162	9%	2,745	757	22%	4,347	919	17%
54 Professional, Scientific and Technical	5,626	724	11%	5,172	709	12%	10,798	1,433	12%
55 Mgt. of Companies and Enterprises	104	77	43%	0	0	0%	104	77	43%
56 Administrative and Support	2,052	430	17%	9,512	2,779	23%	11,563	3,209	22%
56 Waste Management	409	0	0%	1,781	180	9%	2,190	180	8%
61 Education	13,174	741	5%	8,685	551	6%	21,859	1,292	6%
62 Health Care	12,574	441	3%	14,022	1,623	10%	26,596	2,064	7%
62 Social Assistance	2,450	303	11%	4,008	1,119	22%	6,459	1,422	18%
71 Arts, Entertainment and Rec.	1,183	94	7%	3,247	690	18%	4,430	783	15%
72 Accommodations	253	0	0%	977	205	17%	1,229	205	14%
72 Food Services	1,184	118	9%	15,003	3,423	19%	16,187	3,541	18%
81 Other Services	2,928	222	7%	9,571	1,930	17%	12,499	2,152	15%
92 Public Administration	6,330	456	7%	8,156	932	10%	14,486	1,389	9%
99 Unclassified	0	342	100%	0	7,711	100%	0	8,053	100%

Source: Applied Development Economics, Inc., based on US Census PUMS One-year Sample for Years 2009, 2010, and 2011 {Data Source: Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010.}

VETERANS

Based on the most recent ACS data, there are about 17,216 veterans in the labor force in San Joaquin County, representing about 5.4 percent of the labor force. It is estimated that 9.8 percent of veterans were unemployed in 2011, compared to 17.3 percent for the non-veterans labor force (Table 2.5). Among the unemployed veterans, the largest group is in the 35-54 age group, which includes 655 out of a total of 1,691 unemployed veterans of all ages. Within the 35-54 unemployed veterans, those without a high school diploma exhibit an unemployment rate of 38.2 percent.

**TABLE 2.5:
UNEMPLOYED PERSONS AND UNEMPLOYMENT RATES OF ALL PERSONS 16 AND OVER BY VETERAN STATUS
AND EDUCATIONAL ATTAINMENT IN SAN JOAQUIN COUNTY
PERSONS IN THE LABOR FORCE AND NOT EMPLOYED (US CENSUS ACS 3-YEAR 2009-2011)**

	16 - 19	20 - 29	30 - 34	35 - 54	55 - 64	65 & over	San Joaquin County
Total Number of Unemployed Persons	6,971	15,798	5,932	20,126	4,537	1,150	54,515
Unemployment Rates	45.1%	21.7%	16.8%	13.9%	11.4%	11.7%	17.1%
01 Not a Veteran							
Number of Unemployed Persons Who Are Not Veterans	6,072	15,490	5,773	19,471	4,244	874	51,924
Unemployment Rates for Persons Who Are Not Veterans	43.5%	21.7%	16.7%	14.2%	12.3%	11.6%	17.3%
Did not earn HS dipl/GED or degree: not in school	61.8%	28.3%	20.8%	20.9%	22.4%	12.7%	23.6%
High school graduate (includes equivalency)	36.9%	22.6%	18.4%	16.8%	11.2%	13.4%	19.0%
Some college -- no degree and not attending	34.0%	19.3%	18.6%	10.2%	11.0%	15.6%	13.5%
Associates degree/still attending college	29.3%	21.5%	14.5%	16.1%	13.6%	5.8%	18.8%
Bachelor's degree or higher	0.0%	11.9%	8.1%	7.8%	7.1%	6.7%	8.3%
NA	62.2%	61.1%	79.6%	72.0%	0.0%	0.0%	62.3%
02 Veterans							
Number of Unemployed Persons Who Are Veterans	0	308	159	655	293	275	1,691
Unemployment Rates for Persons Who Are Veterans	0.0%	21.9%	25.0%	8.6%	5.6%	12.1%	9.8%
Did not earn HS dipl/GED or degree: not in school	0.0%	72.3%	0.0%	38.2%	0.0%	16.3%	28.1%
High school graduate (includes equivalency)	0.0%	20.3%	15.2%	14.3%	13.5%	12.4%	14.7%
Some college -- no degree and not attending	0.0%	29.9%	37.7%	9.5%	3.4%	11.9%	10.5%
Associates degree/still attending college	0.0%	5.5%	0.0%	1.6%	3.1%	12.4%	3.4%
Bachelor's degree or higher	0.0%	12.3%	0.0%	3.2%	3.0%	10.1%	4.5%
NA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Applied Development Economics, Inc., based on US Census PUMS One-year Sample for Years 2009, 2010, and 2011 {Data Source: Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010.}

DISABLED WORKERS

There are an estimated 19,522 disabled persons in the labor force, comprising 6.1 percent of all workers in the County. The unemployment rate for disabled workers in 2011 is estimated at 28.2 percent, compared to 16.4 percent for the non-disabled labor force (Table 2.6).

Unemployment rates appear to be higher for younger disabled workers under 34 relative to those who are older than 35. Disabled workers with a Bachelor's degree or higher exhibit an overall unemployment rate that at 12.8 percent is lower than the overall county rate of 17.1 percent but almost twice that of persons with no disability with at least a Bachelor's degree (7.8 percent).

**TABLE 2.6:
NUMBER OF UNEMPLOYED PERSONS AND UNEMPLOYMENT RATES OF ALL PERSONS 16 AND OVER BY DISABILITY STATUS AND EDUCATIONAL ATTAINMENT IN SAN JOAQUIN COUNTY
PERSONS IN THE LABOR FORCE AND NOT EMPLOYED (US CENSUS ACS 3-YEAR 2009-2011)**

	16 - 19	20 - 29	30 - 34	35 - 54	55 - 64	65 & over	San Joaquin County
Total Number of Unemployed Persons	6,971	15,798	5,932	20,126	4,537	1,150	54,515
Unemployment Rates	45.1%	21.7%	16.8%	13.9%	11.4%	11.7%	17.1%
01 No Known Disability							
Number of Unemployed Persons w/No Known Disability	6,440	14,905	5,397	17,658	3,737	872	49,009
Unemployment Rates for Persons w/No Known Disability	43.4%	21.3%	16.0%	12.9%	10.6%	10.6%	16.4%
Did not earn HS dipl/GED or degree: not in school	48.9%	28.0%	20.9%	20.0%	19.4%	12.6%	22.4%
High school graduate (includes equivalency)	37.1%	22.3%	16.7%	15.2%	11.6%	10.2%	18.0%
Some college -- no degree and not attending	34.0%	19.3%	18.6%	9.2%	7.8%	14.3%	12.5%
Associates degree/still attending college	29.4%	21.0%	12.7%	14.1%	13.4%	6.4%	17.7%
Bachelor's degree or higher	0.0%	11.1%	8.1%	7.2%	6.5%	7.4%	7.8%
NA	61.4%	58.5%	79.6%	72.0%	0.0%	0.0%	61.3%
02 At Least One Disability							
Number of Unemployed Persons w/at Least One Disability	531	893	535	2,469	800	277	5,505
Unemployment Rates for Persons w/at Least One Disability	85.7%	34.2%	36.9%	28.8%	17.1%	17.3%	28.2%
Did not earn HS dipl/GED or degree: not in school	100.0%	43.2%	18.9%	36.6%	39.1%	17.0%	39.6%
High school graduate (includes equivalency)	0.0%	27.9%	60.6%	41.9%	11.1%	25.8%	32.7%
Some college -- no degree and not attending	0.0%	24.0%	34.6%	21.1%	21.3%	16.7%	22.2%
Associates degree/still attending college	0.0%	32.8%	55.8%	32.1%	0.0%	19.8%	25.1%
Bachelor's degree or higher	0.0%	34.8%	0.0%	13.5%	7.5%	8.5%	12.8%
NA	82.9%	68.9%	0.0%	0.0%	0.0%	0.0%	77.5%

Source: Applied Development Economics, Inc., based on US Census PUMS One-year Sample for Years 2009, 2010, and 2011 {Data Source: Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010.}

3. EMPLOYMENT AND OCCUPATION PROJECTIONS

This section of the report provides the employment projections by cluster for the 2012 to 2017 period, as well as the related occupational demand by employers. The employment and occupational projections have been prepared by EMSI. The industry cluster definitions follow the Regional San Joaquin Valley analysis completed in 2012 (see Appendix B).²

- Agriculture
- Energy
- Health and Wellness
- Logistics
- Manufacturing
- Water Technology

The value of industry clusters is that they generally represent the economic base of the region, in which products and services are exported out of the county and draw income into the county. In this way, they create worker incomes that then support local serving industries such as retail and services businesses, which may also see employment growth. In the case of health and wellness, this cluster is not an export sector, but it is a growing industry with many high paid jobs and warrants attention on that basis.

EMPLOYMENT PROJECTIONS

San Joaquin County had a job total of 206,259 in 2012. The total number of jobs is estimated to increase by 13,730 between 2012 and 2017 with the total employment count reaching 219,989 during the 2012 to 2017 projection period (Table 3.1). While Table 3.1 presents the jobs projections in major NAICS sectors, the following points highlight the cluster projections which are provided in later tables in this chapter.

- Agriculture, Health and Wellness, and Logistics are the three clusters in San Joaquin County with a projected employment growth of more than 2,500 between 2012 and 2017.
- Health and Wellness cluster had a total of 22,399 employees in 2012 and EMSI foresees an additional 2,705 workers by the end of the projection period in 2017. As part of this Cluster, EMSI expects 2,300 new jobs for the health care delivery sub-cluster (Table 3.7). This sub-cluster does not include Social Assistance related establishments (NAICS 624).
- The Health Care and Social assistance major-sector will add 2,900 new jobs by 2017 (Table 3.1). This major industry includes Ambulatory Health Care Services (NAICS 621), Private Hospitals (NAICS 622), Nursing and Residential Care Facilities (NAICS 623), and Social Assistance (NAICS 624). The social assistance sub-sector is not included in the Health and

² Applied Development Economics. *San Joaquin Valley Regional Industry Cluster Analysis and Action Plan*. CSU Fresno Office of Community and Economic Development. September 2012.

Wellness cluster. This can partially explain the difference between employment changes in health care as a major sector and as a cluster.

- The Logistics cluster, with 2,583 new jobs, is the second largest growing cluster (Table 3.8). Freight and warehousing is the top hiring sub cluster with a projected 2,462 new workers or 95 percent of the growth in this cluster.
- The top growing subcomponents for Agriculture are the distribution and support sectors. These sectors will provide 1,287 and 1,104 new jobs while production is estimated to lose 219 jobs between 2012 and 2017. (Table 3.4).
- The non-cluster related manufacturing cluster in San Joaquin County is projected to decline by 339 jobs (Table 3.9). At a more detailed industry level, food processing types of manufacturing are expected to see gains, but as discussed further below they are included in the Agriculture cluster.
- Non-cluster related employment with projected gains include government, retail, other services, and tourism (accommodations, food services, but not arts and entertainment) (Table 3.1).

TABLE 3.1: EMPLOYMENT PROJECTIONS BY MAJOR INDUSTRIES, SAN JOAQUIN COUNTY					
NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
62	Health Care and Social Assistance	24,133	27,041	2,908	12.0%
48	Transportation and Warehousing	13,051	15,605	2,554	19.6%
42	Wholesale Trade	10,545	12,305	1,760	16.7%
44	Retail Trade	24,935	26,490	1,555	6.2%
81	Other Services (except Public Administration)	9,423	10,946	1,523	16.2%
72	Accommodation and Food Services	15,004	16,418	1,414	9.4%
56	Administrative and Support and Waste	10,197	11,542	1,345	13.2%
61	Educational Services (Private)	4,162	4,653	491	11.8%
54	Professional, Scientific, and Technical Services	4,476	4,920	444	9.9%
90	Government	34,420	34,793	373	1.1%
22	Utilities	1,286	1,482	196	15.2%
71	Arts, Entertainment, and Recreation	1,928	2,057	129	6.7%
99	Unclassified Industry	428	506	78	18.2%
53	Real Estate and Rental and Leasing	2,602	2,665	63	2.4%
21	Mining, Quarrying, and Oil and Gas Extraction	88	56	(32)	(36.4%)
55	Management of Companies and Enterprises	1,810	1,711	(99)	(5.5%)
51	Information	2,094	1,935	(159)	(7.6%)
11	Agriculture, Forestry, Fishing and Hunting	15,596	15,436	(160)	(1.0%)
31	Manufacturing	17,587	17,423	(164)	(0.9%)
52	Finance and Insurance	4,866	4,626	(240)	(4.9%)
23	Construction	7,628	7,381	(247)	(3.2%)
TOTAL		206,259	219,989	13,730	6.7%

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

AGRICULTURE CLUSTER

Agriculture oriented jobs include activities such as farm production, food processing, distribution, and support services. We have grouped the agriculture related industries into these four categories based on the significant role they play in the agriculture economy.

Food and farm product-related wholesale trade activities, transportation services, and warehousing jobs are grouped as Distribution. Retail related jobs in grocery and supermarkets establishments are also part of the Distribution group. The distribution job sector, will add net 1,287 new positions by 2017 with a 13 percent growth rate. In this group, EMSI reports that general line grocery merchant wholesalers are expected to increase employment by 614 net jobs and farm supplies merchant wholesalers by 238 jobs. Nondurable goods merchant wholesalers (NAICS 424) including confectionary products, dairy products, meat products, and beer wholesaler establishments have a total change of 1,230 in their employment trends (Table 3.2).

**TABLE 3.2:
JOB PROJECTIONS BY AGRICULTURE CLUSTER – DISTRIBUTION**

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
424410	General Line Grocery Merchant Wholesalers	1,581	2,195	614	39%
424910	Farm Supplies Merchant Wholesalers	715	953	238	33%
424490	Other Grocery and Related Products Merchant Wholesalers	583	704	121	21%
424480	Fresh Fruit and Vegetable Merchant Wholesalers	798	902	104	13%
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	469	566	97	21%
424820	Wine and Distilled Alcoholic Beverage Merchant Wholesalers	226	289	63	28%
445110	Supermarkets and Other Grocery (except Convenience) Stores	3,872	3,929	57	1%
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	230	278	48	21%
424420	Packaged Frozen Food Merchant Wholesalers	112	148	36	32%
445292	Confectionery and Nut Stores	79	108	29	37%
445299	All Other Specialty Food Stores	366	394	28	8%
424450	Confectionery Merchant Wholesalers	155	179	24	15%
445210	Meat Markets	226	246	20	9%
488991	Packing and Crating	54	39	(15)	(28%)
424470	Meat and Meat Product Merchant Wholesalers	96	66	(30)	(31%)
424440	Poultry and Poultry Product Merchant Wholesalers	52	15	(37)	(71%)
493120	Refrigerated Warehousing and Storage	245	204	(41)	(17%)
445310	Beer, Wine, and Liquor Stores	152	83	(69)	(45%)
TOTAL		10,011	11,298	1,287	13%

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

In the Processing group we have included activities related to manufacturing, packaging, and food and beverage processing, all of which are classified as manufacturing (NAICS 31). In San Joaquin County, wineries (NAICS 312130) include the highest employment count, at 1,587 workers in 2017. However, they are projected to add only 140 new jobs while establishments providing processed meat grow by 374 jobs (Table 3.3). Overall, EMSI estimates the processing component of the Agricultural cluster will add 620 jobs by 2017 as the cluster's third growing sub-sector. Establishments that manufacture breakfast

cereal will lose the most number of employees, at 266 between 2012 and 2017, followed by fruit and vegetable canning losing 147 jobs (Table 3.3).

**TABLE 3.3:
JOB PROJECTIONS BY AGRICULTURE CLUSTER – PROCESSING**

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
311612	Meat Processed from Carcasses	928	1,302	374	40%
311812	Commercial Bakeries	766	1,087	321	42%
327213	Glass Container Manufacturing	348	537	189	54%
312130	Wineries	1,447	1,587	140	10%
311911	Roasted Nuts and Peanut Butter Manufacturing	894	1,003	109	12%
311423	Dried and Dehydrated Food Manufacturing	389	467	78	20%
311991	Perishable Prepared Food Manufacturing	99	160	61	62%
312111	Soft Drink Manufacturing	81	126	45	56%
311830	Tortilla Manufacturing	104	148	44	42%
326111	Plastics Bag and Pouch Manufacturing	86	121	35	41%
311999	All Other Miscellaneous Food Manufacturing	40	60	20	50%
311212	Rice Milling	64	78	14	22%
311221	Wet Corn Milling	336	325	(11)	(3%)
322215	Nonfolding Sanitary Food Container Manufacturing	64	46	(18)	(28%)
311811	Retail Bakeries	38	17	(21)	(55%)
321920	Wood Container and Pallet Manufacturing	158	136	(22)	(14%)
322211	Corrugated and Solid Fiber Box Manufacturing	227	203	(24)	(11%)
311411	Frozen Fruit, Juice, and Vegetable Manufacturing	74	41	(33)	(45%)
311615	Poultry Processing	119	76	(43)	(36%)
311111	Dog and Cat Food Manufacturing	185	128	(57)	(31%)
326160	Plastics Bottle Manufacturing	105	35	(70)	(67%)
322212	Folding Paperboard Box Manufacturing	246	148	(98)	(40%)
311421	Fruit and Vegetable Canning	1,146	999	(147)	(13%)
311230	Breakfast Cereal Manufacturing	407	141	(266)	(65%)
TOTAL		8,351	8,971	620	7%

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

The Production group includes animal and crop production related activities. The Production group is expected to reduce employment by 219 jobs, although there is projected to be some increase in post-harvest production activities and some growth in farm management services (Table 3.4).

The final group of industries under the Agriculture cluster includes all establishments that support agriculture related activities. A diverse set of services from water utilities, construction, business support services, professional services, fertilizer and chemicals, and repair services are all included under the supporting services group. Altogether, EMSI projects a 1,104 job increase between 2012 and 2017. Temporary help services (NAICS 561320) would gain 1,068 jobs while phosphatic fertilizer manufacturing (NAICS 325312) would lose 54 jobs (Table 3.5).

**TABLE 3.4:
JOB PROJECTIONS BY AGRICULTURE CLUSTER – PRODUCTION**

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
115114	Postharvest Crop Activities (except Cotton Ginning)	2,570	2,918	348	14%
115116	Farm Management Services	285	381	96	34%
115210	Support Activities for Animal Production	212	281	69	33%
113210	Forest Nurseries and Gathering of Forest Products	110	167	57	52%
115310	Support Activities for Forestry	24	38	14	58%
112	Animal Production	1,446	1,433	(13)	(1%)
115113	Crop Harvesting, Primarily by Machine	140	98	(42)	(30%)
115112	Soil Preparation, Planting, and Cultivating	293	245	(48)	(16%)
115115	Farm Labor Contractors and Crew Leaders	3,546	3,255	(291)	(8%)
111	Crop Production	6,682	6,273	(409)	(6%)
TOTAL		15,308	15,089	(219)	(1%)

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

**TABLE 3.5:
JOB PROJECTIONS BY AGRICULTURE CLUSTER – SUPPORT**

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
561320	Temporary Help Services	4,206	5,274	1,068	25%
541940	Veterinary Services	458	541	83	18%
541890	Other Services Related to Advertising	175	237	62	35%
423840	Industrial Supplies Merchant Wholesalers	251	307	56	22%
541614	Process, Physical Distribution, and Logistics Consulting Services	124	178	54	44%
221310	Water Supply and Irrigation Systems	117	159	42	36%
423830	Industrial Machinery and Equipment Merchant Wholesalers	399	425	26	7%
561710	Exterminating and Pest Control Services	143	132	(11)	(8%)
333111	Farm Machinery and Equipment Manufacturing	109	96	(13)	(12%)
551112	Offices of Other Holding Companies	31	17	(14)	(45%)
237110	Water and Sewer Line and Related Structures Construction	166	150	(16)	(10%)
562920	Materials Recovery Facilities	47	30	(17)	(36%)
444210	Outdoor Power Equipment Stores	35	16	(19)	(54%)
326299	All Other Rubber Product Manufacturing	156	133	(23)	(15%)
423820	Farm and Garden Machinery and Equipment Merchant Wholesalers	317	289	(28)	(9%)
561730	Landscaping Services	637	594	(43)	(7%)
444220	Nursery, Garden Center & Farm Supply Stores	124	75	(49)	(40%)
325312	Phosphatic Fertilizer Manufacturing	208	154	(54)	(26%)
TOTAL		7,703	8,818	1,104	14%

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

ENERGY CLUSTER

Energy cluster will decline by 190 jobs by 2017. This cluster is comprised of establishments engaged in alternative energy generation, production, and distribution, energy efficiency, equipment manufacturing, petroleum production and distribution, and power generation and transmission. EMSI estimates a large job loss of 280 workers by 2017 for Drywall and Insulation Contractors (NAICS 23831). Establishments related to this sub-sector provide energy efficiency services by engaging in drywall, plaster work, and building insulation work. Natural gas distribution establishments will add 129 net jobs by 2017 (NAICS 2212) (Table 3.6).

**TABLE 3.6:
JOB PROJECTIONS BY CLUSTER – ENERGY**

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change	Sub-Cluster
221210	Natural Gas Distribution	1,013	1,142	129	13%	6
238160	Roofing Contractors	342	426	84	25%	1
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	244	325	81	33%	2
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	191	236	45	24%	2
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	137	171	34	25%	5
221112	Fossil Fuel Electric Power Generation	103	128	25	24%	6
486910	Pipeline Transportation of Refined Petroleum Products	55	74	19	35%	5
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	435	432	(3)	(1%)	7
221119	Other Electric Power Generation	24	15	(9)	(38%)	6
237110	Water and Sewer Line and Related Structures Construction	166	150	(16)	(10%)	1
23822	Plumbing, Heating, and Air-Conditioning Contractors	756	625	(131)	(17%)	3
23821	Electrical Contractors and Other Wiring Installation Contractors	935	767	(168)	(18%)	3
23831	Drywall and Insulation Contractors	445	165	(280)	(63%)	3
TOTAL		4,846	4,656	(190)	(4%)	
Energy Sub-Clusters						
1 - Alternative Energy Generation/Production		5 - Petroleum Production & Petroleum Distribution				
2 - Alternative Energy Distribution		6 - Power Generation and Transmission				
3 - Energy Efficiency		7 - Research & Services				
4 - Equipment Manufacturing						

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

HEALTH AND WELLNESS CLUSTER

This cluster is projected to have a positive increase in its employment by adding 2,705 additional employees. Ambulatory and health care services (NAICS 621) and Hospitals (NAICS 622) are covered under this cluster. Other sectors such as medical device manufacturing, pharmaceuticals, supplies and services, and wellness and fitness services are also part of this cluster. For San Joaquin County, health maintenance organization (HMO) medical centers provide 1,156 employment opportunities. Workers in this industry comprise of physicians and health practitioners who provide outpatient medical services to HMOs. On the contrary, general medical and surgical private hospitals lose 463 jobs between 2012 and 2017 (Table 3.7).

**TABLE 3.7:
JOB PROJECTIONS BY CLUSTER – HEALTH AND WELLNESS**

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change	Sub-Cluster
621491	HMO Medical Centers	1,840	2,996	1,156	63%	1
623110	Nursing Care Facilities	3,142	3,757	615	20%	1
621111	Offices of Physicians (except Mental Health Specialists)	3,061	3,374	313	10%	1
621610	Home Health Care Services	782	1,031	249	32%	1
621910	Ambulance Services	378	559	181	48%	1
446110	Pharmacies and Drug Stores	1,362	1,539	177	13%	5
621210	Offices of Dentists	1,622	1,791	169	10%	1
623311	Continuing Care Retirement Communities	535	686	151	28%	1
621340	Offices of Physical, Occupational and Speech Therapists, and Audiologists	341	476	135	40%	1
446191	Food (Health) Supplement Stores	174	276	102	59%	5
623312	Homes for the Elderly	822	910	88	11%	1
424210	Drugs and Druggists' Sundries Merchant Wholesalers	107	184	77	72%	4
621399	Offices of All Other Misc. Health Practitioners	117	164	47	40%	5
621493	Freestanding Ambulatory Surgical and Emergency Centers	145	185	40	28%	1
621420	Outpatient Mental Health and Substance Abuse Centers	139	178	39	28%	1
621330	Offices of Mental Health Practitioners (except Physicians)	50	83	33	66%	1
423450	Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers	109	139	30	28%	4
621492	Kidney Dialysis Centers	209	234	25	12%	1
621320	Offices of Optometrists	173	196	23	13%	1
812191	Diet and Weight Reducing Centers	63	75	12	19%	5
621999	All Other Miscellaneous Ambulatory Health Care Services	21	32	11	52%	5
621310	Offices of Chiropractors	147	130	(17)	(12%)	1
339116	Dental Laboratories	85	68	(17)	(20%)	2
621511	Medical Laboratories	42	19	(23)	(55%)	1
623220	Residential Mental Health and Substance Abuse Facilities	288	263	(25)	(9%)	1
446199	All Other Health and Personal Care Stores	78	40	(38)	(49%)	5
621410	Family Planning Centers	94	42	(52)	(55%)	1
623990	Other Residential Care Facilities	76	10	(66)	(87%)	1
624310	Vocational Rehabilitation Services	267	169	(98)	(37%)	1
623210	Residential Mental Retardation Facilities	477	308	(169)	(35%)	1
622110	General Medical and Surgical Hospitals (Private)	5,653	5,190	(463)	(8%)	1
	TOTAL	22,399	25,104	2,705	12%	

Health and Wellness Sub-Clusters

- | | |
|---|----------------------------------|
| 1 - Health Care Delivery | 4 - Supplies and Services |
| 2 - Medical Device Manufacturing | 5 - Wellness and Fitness |
| 3 - Pharmaceuticals | |

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

LOGISTICS CLUSTER

Under the logistics cluster, in San Joaquin County, long distance freight trucking (NAICS 484121) will add 1,235 jobs. The general warehousing and storage establishments included the most number of employees since 2010. Also as part of the Logistics cluster, activities that support long distance or local freight or trucking services, transportation, and air transportation showed positive change in their employment count. For example, specialized freight trucking for local area or long distance will add 271 new jobs (Table 3.8).

**TABLE 3.8:
JOB PROJECTIONS BY CLUSTER – LOGISTICS**

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change	Sub-Cluster
484121	General Freight Trucking, Long-Distance, Truckload	2,443	3,678	1,235	51%	2
493110	General Warehousing and Storage	4,810	5,723	913	19%	2
484220	Specialized Freight (except Used Goods) Trucking, Local	1,200	1,423	223	19%	2
541614	Process, Physical Distribution, and Logistics Consulting Services	124	178	54	44%	2
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	230	278	48	21%	2
488510	Freight Transportation Arrangement	149	192	43	29%	3
488210	Support Activities for Rail Transportation	137	176	39	28%	1
484110	General Freight Trucking, Local	1,171	1,202	31	3%	2
485999	All Other Transit and Ground Passenger Transportation	48	75	27	56%	4
488320	Marine Cargo Handling	45	71	26	58%	1
541910	Marketing Research and Public Opinion Polling	64	89	25	39%	2
488310	Port and Harbor Operations	128	152	24	19%	1
492110	Couriers and Express Delivery Services	431	451	20	5%	3
484122	General Freight Trucking, Long-Distance, Less Than Truckload	755	770	15	2%	2
493190	Other Warehousing and Storage	70	80	10	14%	2
488999	All Other Support Activities for Transportation	67	54	(13)	(19%)	3
488991	Packing and Crating	54	39	(15)	(28%)	3
485410	School and Employee Bus Transportation	117	87	(30)	(26%)	4
493120	Refrigerated Warehousing and Storage	245	204	(41)	(17%)	2
484210	Used Household and Office Goods Moving	73	22	(51)	(70%)	2
TOTAL		12,361	14,944	2,583	21%	
Logistics Sub-Clusters						
1 - Air, Rail, Water Transportation		3 - Other Services				
2 - Freight & Warehousing		4 - Transit				

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

WATER TECHNOLOGY CLUSTER

In San Joaquin, the only two sectors under the Water Technology cluster that are expected to have an employment increase are related to wholesalers of farm and non-farm machinery and supplies; however, it is unclear if these are related to irrigation or other water-related activities, so we have included the jobs in the broader manufacturing and agricultural clusters instead.

MANUFACTURING CLUSTER

Manufacturing industries are projected to lose employment during the next five years (Table 3.9). With anticipated large job losses in other millwork (including flooring) and flat glass manufacturing, this cluster shows a total 339 net jobs loss between 2012 and 2017. (Industries that would grow or decline by less than 10 employees are not listed.)

**TABLE 3.9:
JOB PROJECTIONS BY CLUSTER – MANUFACTURING**

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
336413	Other Aircraft Parts and Auxiliary Equipment Manufacturing	428	568	140	32.7%
332312	Fabricated Structural Metal Manufacturing	647	775	128	19.8%
333999	All Other Miscellaneous General Purpose Machinery Manufacturing	158	241	83	52.5%
331513	Steel Foundries (except Investment)	129	201	72	55.8%
326140	Polystyrene Foam Product Manufacturing	375	434	59	15.7%
327331	Concrete Block and Brick Manufacturing	79	137	58	73.4%
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	246	294	48	19.5%
333298	All Other Industrial Machinery Manufacturing	49	84	35	71.4%
327215	Glass Product Manufacturing Made of Purchased Glass	81	115	34	42.0%
332322	Sheet Metal Work Manufacturing	244	278	34	13.9%
332323	Ornamental and Architectural Metal Work Manufacturing	64	93	29	45.3%
337129	Wood Television, Radio, and Sewing Machine Cabinet Manufacturing	68	97	29	42.6%
335313	Switchgear and Switchboard Apparatus Manufacturing	161	187	26	16.1%
326150	Urethane and Other Foam Product (except Polystyrene) Manufacturing	206	231	25	12.1%
332114	Custom Roll Forming	212	233	21	9.9%
327390	Other Concrete Product Manufacturing	276	293	17	6.2%
333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	74	90	16	21.6%
336212	Truck Trailer Manufacturing	167	182	15	9.0%
323119	Other Commercial Printing	49	61	12	24.5%
325120	Industrial Gas Manufacturing	16	27	11	68.8%
334419	Other Electronic Component Manufacturing	31	42	11	35.5%
334310	Audio and Video Equipment Manufacturing	19	29	10	52.6%
339920	Sporting and Athletic Goods Manufacturing	32	42	10	31.3%
325510	Paint and Coating Manufacturing	29	19	(10)	(34.5%)
333120	Construction Machinery Manufacturing	49	39	(10)	(20.4%)
323114	Quick Printing	29	16	(13)	(44.8%)
337110	Wood Kitchen Cabinet and Countertop Manufacturing	366	353	(13)	(3.6%)
332996	Fabricated Pipe and Pipe Fitting Manufacturing	66	48	(18)	(27.3%)
326299	All Other Rubber Product Manufacturing	156	133	(23)	(14.7%)
332313	Plate Work Manufacturing	53	30	(23)	(43.4%)
325211	Plastics Material and Resin Manufacturing	34	10	(24)	(70.6%)
327991	Cut Stone and Stone Product Manufacturing	63	38	(25)	(39.7%)
323110	Commercial Lithographic Printing	42	12	(30)	(71.4%)

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
332710	Machine Shops	276	245	(31)	(11.2%)
327320	Ready-Mix Concrete Manufacturing	117	85	(32)	(27.4%)
323112	Commercial Flexographic Printing	67	32	(35)	(52.2%)
334513	Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables	119	81	(38)	(31.9%)
339950	Sign Manufacturing	102	61	(41)	(40.2%)
336399	All Other Motor Vehicle Parts Manufacturing	56	11	(45)	(80.4%)
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	87	34	(53)	(60.9%)
325312	Phosphatic Fertilizer Manufacturing	208	154	(54)	(26.0%)
321911	Wood Window and Door Manufacturing	73	18	(55)	(75.3%)
326199	All Other Plastics Product Manufacturing	125	54	(71)	(56.8%)
321912	Cut Stock, Resawing Lumber, and Planning	219	136	(83)	(37.9%)
327332	Concrete Pipe Manufacturing	164	68	(96)	(58.5%)
332311	Prefabricated Metal Building and Component Manufacturing	145	35	(110)	(75.9%)
327211	Flat Glass Manufacturing	164	13	(151)	(92.1%)
321918	Other Millwork (including Flooring)	213	35	(178)	(83.6%)
TOTAL		6,833	6,494	(339)	(5.0%)

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

OCCUPATIONAL DEMAND BY CLUSTER

To assess the projected occupational demand created by employment increase in any of the above clusters, we tabulated the occupational staffing patterns for each of clusters. EMSI gives us the ability to identify specific occupations that will create the highest number of jobs between 2012 and 2017. Analyzing the staffing pattern for the county provides knowledge of the future demand for workforce training and educational requirements. Please note that at this point in the report we provide the list of growing occupations at the cluster level and not at the sub-group level under each cluster.

AGRICULTURE CLUSTER

Laborers & Freight, Stock & Material Movers (SOC 53-7062) is the largest growing agriculture related occupation in the county with 426 anticipated new jobs. Heavy & Tractor-Trailer Truck Drivers (SOC 53-3032) is the second largest occupation to employ 318 persons by 2017. The third occupational category with more than 150 new employees is the sales representatives (SOC 41-4012). This table shows that occupational estimates are corresponding with the employment projection tables presented in the previous section. As mentioned before, distribution and support are the two most growing sub-clusters under Agriculture and the growing occupational trends responds to this projection as well (Table 3.10). The production sub-cluster, on the other hand, is estimated to decline by 2017 and so does the agriculture workers (45-2000) with more than 260 job loss by 2017.

**TABLE 3.10:
AGRICULTURE CLUSTER**

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	2,272	2,698	426	19%	\$14.08	1
53-3032	Heavy and Tractor-Trailer Truck Drivers	2,069	2,387	318	15%	\$19.85	1
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	500	657	157	31%	\$24.83	2
53-7051	Industrial Truck and Tractor Operators	1,206	1,338	132	11%	\$17.38	1
53-7064	Packers and Packagers, Hand	738	831	93	13%	\$9.37	1
53-3031	Driver/Sales Workers	270	363	93	34%	\$12.82	1
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	679	767	88	13%	\$14.08	1
43-5081	Stock Clerks and Order Fillers	1,237	1,318	81	7%	\$11.02	1
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	144	216	72	0.5	\$11.74	1
53-3033	Light Truck or Delivery Services Drivers	380	448	68	18%	\$16.44	1
51-3023	Slaughterers and Meat Packers	276	341	65	0.24	\$12.50	2
43-5071	Shipping, Receiving, and Traffic Clerks	510	568	58	11%	\$15.13	1
43-9061	Office Clerks, General	262	318	56	21%	\$15.88	1
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	235	291	56	24%	\$23.02	4
51-9198	Helpers--Production Workers	363	418	55	15%	\$11.39	1
51-3011	Bakers	100	147	47	0.47	\$12.35	3
43-9061	Office Clerks, General	378	424	46	12%	\$15.88	1
51-2092	Team Assemblers	213	256	43	20%	\$12.56	2
53-7064	Packers and Packagers, Hand	178	220	42	24%	\$9.37	1
53-7064	Packers and Packagers, Hand	230	271	41	0.18	\$9.37	1
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	4,376	4,412	36	1%	\$8.79	1
13-1078	Human Resources, Training, and Labor Relations Specialists, All Other	77	108	31	40%	\$26.57	8
29-2056	Veterinary Technologists and Technicians	131	161	30	23%	\$13.93	6
51-3092	Food Batchmakers	337	367	30	0.09	\$15.41	1
49-9041	Industrial Machinery Mechanics	188	214	26	0.14	\$24.88	3
51-9399	Production Workers, All Other	174	198	24	0.14	\$15.54	2
51-9111	Packaging and Filling Machine Operators and Tenders	287	310	23	8%	\$9.13	2
29-1111	Registered Nurses	101	124	23	23%	\$46.17	6
51-2099	Assemblers and Fabricators, All Other	77	98	21	27%	\$10.83	2
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	343	364	21	0.06	\$14.08	1
43-4051	Customer Service Representatives	281	301	20	7%	\$15.73	1
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	39	59	20	51%	\$8.90	1
47-2061	Construction Laborers	106	125	19	18%	\$17.25	1

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
51-9399	Production Workers, All Other	88	105	17	19%	\$15.54	2
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	176	193	17	0.1	\$17.89	2
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	149	165	16	11%	\$15.81	1
29-2061	Licensed Practical and Licensed Vocational Nurses	67	83	16	24%	\$25.56	5
41-2031	Retail Salespersons	57	73	16	0.28	\$9.97	1
41-2011	Cashiers	56	72	16	0.29	\$9.61	1
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	86	101	15	17%	\$14.12	1
45-2041	Graders and Sorters, Agricultural Products	1,167	1,182	15	1%	\$8.94	1
45-4011	Forest and Conservation Workers	30	45	15	50%	\$8.98	2
29-1131	Veterinarians	76	90	14	18%	\$45.65	9
39-2021	Nonfarm Animal Caretakers	71	85	14	20%	\$9.14	1
31-1012	Nursing Aides, Orderlies, and Attendants	47	61	14	30%	\$13.01	5
51-1011	First-Line Supervisors of Production and Operating Workers	236	250	14	0.06	\$25.83	4
49-9041	Industrial Machinery Mechanics	160	173	13	8%	\$24.88	3
43-4171	Receptionists and Information Clerks	133	146	13	10%	\$12.95	1
31-1011	Home Health Aides	36	49	13	36%	\$10.25	1
51-8031	Water and Wastewater Treatment Plant and System Operators	33	46	13	39%	\$29.46	3
51-2092	Team Assemblers	136	149	13	0.1	\$12.56	2
53-3031	Driver/Sales Workers	53	66	13	0.25	\$12.82	1
51-9195	Molders, Shapers, & Casters, Except Metal & Plastic	28	41	13	0.46	\$15.35	3
41-9011	Demonstrators and Product Promoters	64	76	12	19%	\$10.80	1
39-9021	Personal Care Aides	36	48	12	33%	\$9.15	1
49-9071	Maintenance and Repair Workers, General	139	151	12	0.09	\$19.62	2
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	108	120	12	0.11	\$24.83	2
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	104	115	11	11%	\$20.89	4
51-9198	Helpers--Production Workers	405	416	11	0.03	\$11.39	1
53-3033	Light Truck or Delivery Services Drivers	68	79	11	0.16	\$16.44	1
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	65	76	11	0.17	\$14.12	1
25-3999	Teachers and Instructors, All Other	38	48	10	26%	\$19.10	8
53-3032	Heavy and Tractor-Trailer Truck Drivers	121	131	10	0.08	\$19.85	1
39-2021	Nonfarm Animal Caretakers	32	41	9	28%	\$9.14	1
43-4051	Customer Service Representatives	11	20	9	82%	\$15.73	1

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
43-9061	Office Clerks, General	31	39	8	26%	\$15.88	1
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	28	33	5	18%	\$20.74	2
39-2011	Animal Trainers	11	16	5	45%	\$15.44	2
53-7064	Packers and Packagers, Hand	97	92	(5)	(5%)	\$9.37	1
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	45	40	(5)	(11%)	\$15.81	1
45-2099	Agricultural Workers, All Other	118	112	(6)	(5%)	\$10.95	1
53-3032	Heavy and Tractor-Trailer Truck Drivers	140	133	(7)	(5%)	\$19.85	1
37-3011	Landscaping and Groundskeeping Workers	117	110	(7)	(6%)	\$11.16	1
53-7011	Conveyor Operators and Tenders	26	18	(8)	(31%)	\$22.02	1
45-2041	Graders and Sorters, Agricultural Products	166	157	(9)	(5%)	\$8.94	1
43-3011	Bill and Account Collectors	68	58	(10)	(15%)	\$13.17	2
43-4131	Loan Interviewers and Clerks	25	15	(10)	(40%)	\$18.71	1
49-3041	Farm Equipment Mechanics and Service Technicians	118	107	(11)	(9%)	\$21.82	3
13-2072	Loan Officers	28	17	(11)	(39%)	\$34.64	2
51-9111	Packaging and Filling Machine Operators and Tenders	1973	1962	(11)	(1%)	\$9.13	2
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	219	207	(12)	(5%)	\$20.89	4
11-1021	General and Operations Managers	261	247	(14)	(5%)	\$43.63	8
51-4121	Welders, Cutters, Solderers, and Brazers	110	94	(16)	(15%)	\$18.73	5
51-2041	Structural Metal Fabricators and Fitters	29	12	(17)	(59%)	\$19.83	2
37-3011	Landscaping and Groundskeeping Workers	478	459	(19)	(4%)	\$11.16	1
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	64	45	(19)	(30%)	\$8.79	1
45-2091	Agricultural Equipment Operators	400	379	(21)	(5%)	\$10.28	1
51-9196	Paper Goods Machine Setters, Operators, and Tenders	102	81	(21)	(21%)	\$18.07	2
11-9013	Farmers, Ranchers, and Other Agricultural Managers	497	474	(23)	(5%)	\$37.64	4
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	525	498	(27)	(5%)	\$8.90	1
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	4,110	3,897	(213)	(5%)	\$8.79	1

1 - Short-term on-the-job training 2 - Moderate-term on-the-job training 3 - Long-term on-the-job training 4 - Work experience in a related occupation 5 - Postsecondary non-degree award	6 - Associate's degree 7 - Bachelor's degree 8 - Bachelor's or higher degree, plus work experience 9 - First professional degree 10 - Masters
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Source: EMSI 2013.2 Class of Worker Dataset-QCEW Employees

ENERGY CLUSTER

Business Operations Specialists (SOC 13-0000) is estimated to hire about 100 persons by 2017. These occupations perform business and financial operations. In General, the Energy cluster does not include a high occupation count compared to Agriculture, Health and Wellness, or Logistics.

TABLE 3.11: ENERGY CLUSTER							
SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012- 2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDU- CATION LEVEL*
47-2181	Roofers	183	229	46	25%	\$20.67	2
13-1111	Management Analysts	115	157	42	37%	\$33.90	8
13-2011	Accountants and Auditors	294	315	21	7%	\$31.72	7
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	60	79	19	32%	\$24.83	2
13-1161	Market Research Analysts and Marketing Specialists	36	54	18	50%	\$26.49	7
43-4051	Customer Service Representatives	200	234	34	17%	\$15.73	1
13-1199	Business Operations Specialists, All Other	61	77	16	26%	\$31.19	3
29-1131	Veterinarians	76	90	14	18%	\$45.65	9
39-2021	Nonfarm Animal Caretakers	71	85	14	20%	\$9.14	1
41-3099	Sales Representatives, Services, All Other	64	77	13	20%	\$19.40	1
15-1132	Software Developers, Applications	36	49	13	36%	\$41.95	7
15-1133	Software Developers, Systems Software	36	49	13	36%	\$49.94	7
15-1159	Computer Support Specialists	72	84	12	17%	\$23.80	6
15-1121	Computer Systems Analysts	45	56	11	24%	\$37.11	7
41-3011	Advertising Sales Agents	32	42	10	31%	\$23.53	2
47-2211	Sheet Metal Workers	47	36	(11)	(23%)	\$29.74	3
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	39	28	(11)	(28%)	\$15.81	1
23-2011	Paralegals and Legal Assistants	87	76	(11)	(13%)	\$22.57	6
17-3011	Architectural and Civil Drafters	37	26	(11)	(30%)	\$19.47	6
11-9021	Construction Managers	38	26	(12)	(32%)	\$42.98	7
17-2051	Civil Engineers	77	64	(13)	(17%)	\$43.18	7
47-2082	Tapers	25	11	(14)	(56%)	\$24.64	2
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	128	112	(16)	(13%)	\$27.88	5
13-1051	Cost Estimators	60	40	(20)	(33%)	\$30.74	7
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	68	46	(22)	(32%)	\$34.20	4
47-2061	Construction Laborers	51	29	(22)	(43%)	\$17.25	1
47-2161	Plasterers and Stucco Masons	45	13	(32)	(71%)	\$21.03	3
47-2152	Plumbers, Pipefitters, and Steamfitters	196	161	(35)	(18%)	\$29.94	3
47-2031	Carpenters	65	24	(41)	(63%)	\$24.37	3
47-2081	Drywall and Ceiling Tile Installers	84	42	(42)	(50%)	\$22.18	2

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
47-2111	Electricians	497	405	(92)	(19%)	\$27.41	3
1 - Short-term on-the-job training 2 - Moderate-term on-the-job training 3 - Long-term on-the-job training 4 - Work experience in a related occupation 5 - Postsecondary non-degree award		6 - Associate's degree 7 - Bachelor's degree 8 - Bachelor's or higher degree, plus work experience 9 - First professional degree 10 - Masters					

Source: EMSI 2013.2 Class of Worker Dataset-QCEW Employees

HEALTH AND WELLNESS CLUSTER

The occupations under Health and Wellness cluster show about 1,600 new workers being hired between 2012 and 2017. 265 registered nurses (SOC 29-1111) are estimated to find employment by 2017. In General, the healthcare practitioners and technical occupations (soc 29-000) is anticipated to grow by 700 persons. The second largest growing occupation is related to health care support (31-000). The nursing aides (SOC 31-1012) will grow by 261 new employees (Table 3.12).

TABLE 3.12:
HEALTH AND WELLNESS CLUSTER

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
29-1111	Registered Nurses	2,969	3,234	265	9%	\$46.17	6
31-1012	Nursing Aides, Orderlies, and Attendants	1,926	2,187	261	14%	\$13.01	5
29-2061	Licensed Practical and Licensed Vocational Nurses	1,063	1,208	145	14%	\$25.56	5
31-9092	Medical Assistants	1,089	1,231	142	13%	\$15.41	2
29-2041	Emergency Medical Technicians and Paramedics	264	394	130	49%	\$17.39	5
43-6013	Medical Secretaries	820	947	127	15%	\$16.40	2
31-1011	Home Health Aides	708	807	99	14%	\$10.25	1
43-4171	Receptionists and Information Clerks	490	580	90	18%	\$12.95	1
31-9091	Dental Assistants	678	746	68	10%	\$16.48	5
29-2799	Health Technologists and Technicians, All Other	265	330	65	25%	\$18.29	5
29-2052	Pharmacy Technicians	352	416	64	18%	\$18.37	2
39-9021	Personal Care Aides	360	415	55	15%	\$9.15	1
29-1051	Pharmacists	229	263	34	15%	\$63.28	9
41-2031	Retail Salespersons	136	167	31	23%	\$9.97	1
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	48	73	25	52%	\$30.04	7
41-2011	Cashiers	373	395	22	6%	\$9.61	1
41-1011	First-Line Supervisors of Retail Sales Workers	139	161	22	16%	\$18.08	4
51-9081	Dental Laboratory Technicians	32	16	(16)	(50%)	\$14.60	2
39-9011	Childcare Workers	55	35	(20)	(36%)	\$10.04	1
21-1015	Rehabilitation Counselors	97	68	(29)	(30%)	\$11.64	10

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
1	Short-term on-the-job training		6	Associate's degree			
2	Moderate-term on-the-job training		7	Bachelor's degree			
3	Long-term on-the-job training		8	Bachelor's or higher degree, plus work experience			
4	Work experience in a related occupation		9	First professional degree			
5	Postsecondary non-degree award		10	Masters			

Source: EMSI 2013.2 Class of Worker Dataset-QCEW Employees

LOGISTICS CLUSTER

Similar to other counties with employment growth in Logistics, Stanislaus follows the same projected staffing pattern. The two occupations with a highly considerable positive change between 2012 and 2017 are the heavy tractor trailer drivers (SOC 53-3032) and Laborers and Freight, Stock, and Material Movers (SOC 53-7062) with 961 employees and 353 employees respectively (Table 3.13). In general, transportation and material moving occupations (53-0000) includes most of the growing occupations under the Logistics cluster. The material moving workers (soc 53-7000) is anticipated to have 580 new persons by 2017.

TABLE 3.13:
LOGISTICS CLUSTER

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
53-3032	Heavy and Tractor-Trailer Truck Drivers	3,631	4,592	961	26%	\$19.85	1
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	1,755	2,108	353	20%	\$14.08	1
53-7051	Industrial Truck and Tractor Operators	995	1,112	117	12%	\$17.38	1
53-7064	Packers and Packagers, Hand	315	379	64	20%	\$9.37	1
53-3033	Light Truck or Delivery Services Drivers	295	354	59	20%	\$16.44	1
43-5081	Stock Clerks and Order Fillers	359	413	54	15%	\$11.02	1
43-9061	Office Clerks, General	185	235	50	27%	\$15.88	1
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	172	221	49	28%	\$21.90	5
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	195	242	47	24%	\$23.02	4
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	193	239	46	24%	\$24.83	4
43-5032	Dispatchers, Except Police, Fire, and Ambulance	177	222	45	25%	\$21.58	2
53-7063	Machine Feeders and Offbearers	283	323	40	14%	\$14.52	1
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	62	75	13	21%	\$14.08	1
49-3043	Rail Car Repairers	37	50	13	35%	\$28.40	3
53-7051	Industrial Truck and Tractor Operators	47	59	12	26%	\$17.38	1
1	Short-term on-the-job training		6	Associate's degree			
2	Moderate-term on-the-job training		7	Bachelor's degree			
3	Long-term on-the-job training		8	Bachelor's or higher degree, plus work experience			

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
4	Work experience in a related occupation		9	First professional degree			
5	Postsecondary non-degree award		10	Masters			

Source: EMSI 2013.2 Class of Worker Dataset-QCEW Employees

MANUFACTURING CLUSTER

Very few manufacturing industries are projected to grow. While many occupations within manufacturing are expected to decline by 2017.

TABLE 3.14: MANUFACTURING CLUSTER							
SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
51-4121	Welders, Cutters, Solderers	205	213	8	4%	\$18.73	5
51-2041	Structural Metal Fabricators and Fitters	109	114	5	5%	\$19.83	2
51-4041	Machinists	137	141	4	3%	\$19.83	3
51-4072	Molding, Coremaking, & Casting Machine Setters, Operators, & Tenders, Metal/Plastic	79	82	3	4%	\$11.38	2
17-2112	Industrial Engineers	52	55	3	6%	\$38.83	7
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	233	223	(10)	(4%)	\$17.89	2
43-9061	Office Clerks, General	94	84	(10)	(11%)	\$15.88	1
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	190	178	(12)	(6%)	\$13.54	2
49-9071	Maintenance & Repair Workers	112	100	(12)	(11%)	\$19.62	2
53-7064	Packers and Packagers, Hand	96	84	(12)	(13%)	\$9.37	1
51-9399	Production Workers, All Other	78	65	(13)	(17%)	\$15.54	2
51-2099	Assemblers & Fab's, All Other	78	65	(13)	(17%)	\$10.83	2
51-9041	Extruding, Forming, Pressing, & Compacting Machine Setters, Operators, Tenders	72	59	(13)	(18%)	\$17.25	2
41-4012	Sales Reps, Wholesale & Mfg, Except Tech/Scientific Product	118	104	(14)	(12%)	\$24.83	2
51-7011	Cabinetmakers	180	165	(15)	(8%)	\$14.89	2
51-9195	Molders, Shapers, & Casters	108	90	(18)	(17%)	\$15.35	3
51-9032	Cutting & Slicing Machine Setters, Operators, & Tenders	60	41	(19)	(32%)	\$13.90	1
11-1021	General & Operations Mgrs	148	127	(21)	(14%)	\$43.63	8
51-7042	Woodworking Machine Setters, Operators, & Tenders	53	31	(22)	(42%)	\$12.72	1
43-5071	Shipping, Receiving, and Traffic Clerks	158	135	(23)	(15%)	\$15.13	1
51-5112	Printing Press Operators	82	56	(26)	(32%)	\$20.58	2
	Heavy and Tractor-Trailer Truck Drivers	222	195	(27)	(12%)	\$19.85	1
51-1011	First-Line Supervisors of Prod. & Operating Workers	304	274	(30)	(10%)	\$25.83	4
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	206	171	(35)	(17%)	\$14.08	1

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	65	28	(37)	(57%)	\$11.25	1
51-9111	Packaging and Filling Machine Operators and Tenders	237	196	(41)	(17%)	\$9.13	2
51-9198	Helpers-Production Workers	304	262	(42)	(14%)	\$11.39	1
53-7063	Machine Feeders & Offbearers	134	90	(44)	(33%)	\$14.52	1
53-7051	Indust. Truck/Tractor Operator	198	153	(45)	(23%)	\$17.38	1
51-2092	Team Assemblers	371	325	(46)	(12%)	\$12.56	2
1 - Short-term on-the-job training		6 - Associate's degree					
2 - Moderate-term on-the-job training		7 - Bachelor's degree					
3 - Long-term on-the-job training		8 - Bachelor's or higher degree, plus work experience					
4 - Work experience in a related occupation		9 - First professional degree					
5 - Postsecondary non-degree award		10 - Masters					

Source: EMSI 2013.2 Class of Worker Dataset-QCEW Employees

4. SKILLS ANALYSIS

In this section of the report we focus on analyzing the unemployed labor force who had previously worked in any one of the industry clusters in an effort to analyze the match (or mismatch) between the labor force and future jobs. In general, it does appear that the educational profile of the County's underutilized labor force matches the educational and training requirements of future jobs.

Of the County's clusters, agriculture is projected to grow the most new jobs between 2012 and 2017, at 2,792 over a five year period, or 559 per year on average (Table 4.1). The bulk of the 2,792 new jobs are in the lowest education and training categories of short-term OJT (2,152) and moderate-term OJT (208). The lower-middle rung of the educational/training ladder comprised of jobs requiring long-term OJT and/or relevant work experience are also projected to increase by almost 240 new jobs over the next five years. While a substantial number of new jobs are projected in the Agricultural cluster over the next five years, it is important to remember the seasonal nature of this cluster, which helps explain this cluster's high unemployment numbers. There are almost 9,500 persons who are unemployed who previously worked in industries within the Agricultural cluster. Of the 9,500 unemployed persons, the bulk is in the lower educational attainment rung, of no high school diploma (3,937). Another 4,000 are in the lower-middle educational attainment rung of some college (1,546) and high school diploma (2,470). On the surface, with respect to educational qualifications, the unemployed labor force with previous experience in Agricultural cluster industries matches the educational and training requirements of anticipated jobs within the Agricultural cluster, as both are in the lower- and lower-middle rungs of educational/training ladder.

**TABLE 4.1:
COMPARISON OF UNEMPLOYED LABOR FORCE BY CLUSTER BY EDUCATIONAL ATTAINMENT TO NEW JOBS
BY SAME CLUSTER BY EDUCATION AND TRAINING: SAN JOAQUIN COUNTY
(AGRICULTURE - ALL SUB CLUSTERS)**

Educational Attainment	Unemployed Labor Force in Sub-Cluster			Education and Training Requirements	Job Projections By Educational Attainment		
	Mgrs/ Supervisors	Not Managers	Total Underutilized Labor Force		Mgrs/ Supervisors	Not Managers	Total
01 Advanced degree	0	86	86	01 Advanced degree	0	31	31
02 Bachelor's	182	402	584	02 Bachelor's	38	0	38
03 Associate's	27	514	541	03 Associate's	0	118	118
04 Some college	78	1,469	1,546	04 Relevant work exper.	97	0	97
05 HS diploma/GED	96	2,374	2,470	05 Long-term OJT	0	149	149
06 No HS diploma/GED	193	3,744	3,937	06 Moderate-term OJT	0	208	208
99 NA	35	290	326	07 Short-term OJT	29	2,123	2,152
	612	8,878	9,490		164	2,628	2,792

Source: ADE, Inc. based on US Census PUMS One-year Sample for years 2009-2011 and EMSI Occupational Projections.

The second fastest growing cluster is Health and Wellness, which is projected to grow by 2,700 new jobs, most of which are in the lower-middle educational/training category, i.e., relevant work experience (1,173 new jobs between 2012 and 2017)(see Table 4.2). There are also a substantial number of projected jobs within the lowest educational/training rung, i.e. short-term OJT (482) and moderate-term OJT (550). Jobs requiring an Associate’s degree are also expected to grow considerable between 2012 and 2017, by 450 new jobs. Regarding the underutilized labor force with experience in the Health and Wellness cluster, most are also in the lower-middle educational attainment rungs, with 1,043 with some college and 581 with a high school diploma. There are also 153 unemployed persons with an AA and industry experience. On the surface, there appears to be a match between educational backgrounds of the labor force and educational requirements of the new jobs in the Health and Wellness cluster.

**TABLE 4.2:
COMPARISON OF UNEMPLOYED LABOR FORCE BY CLUSTER BY EDUCATIONAL ATTAINMENT TO NEW JOBS
BY SAME CLUSTER BY EDUCATION AND TRAINING: SAN JOAQUIN COUNTY
(HEALTH AND WELLNESS - ALL SUB CLUSTERS)**

Educational Attainment	Unemployed Labor Force in Sub-Cluster			Education and Training Requirements	Job Projections By Educational Attainment		
	Mgrs/ Supervisors	Not Managers	Total Underutilized Labor Force		Mgrs/ Supervisors	Not Managers	Total
01 Advanced degree	0	0	0	01 Advanced degree	8	0	8
02 Bachelor's	63	0	63	02 Bachelor's	0	42	42
03 Associate's	115	38	153	03 Associate's	0	450	450
04 Some college	58	985	1,043	04 Relevant work exper.	480	692	1,173
05 HS diploma/GED	74	508	581	05 Long-term OJT	0	0	0
06 No HS diploma/GED	39	180	219	06 Moderate-term OJT	0	550	550
99 NA	0	0	0	07 Short-term OJT	168	314	482
	349	1,711	2,060		657	2,048	2,705

Source: ADE, Inc. based on US Census PUMS One-year Sample for years 2009–2011 and EMSI Occupational Projections.

The Logistics cluster is expected to generate the most jobs after the Health and Wellness cluster, at 2,583 over five years, or 517 per year on average (see Table 4.3). The new jobs are primarily in the lowest educational and training categories, as 2,300 of the 2,583 anticipated new jobs require short-term OJT. While the bulk of the 2,583 new jobs are in the lowest education and training categories, a few new jobs are in the lower middle rung of the educational/training ladder such as relevant work experience (191). With respect to the labor force, there are slightly over 350 persons who are unemployed who previously worked in industries within the Logistics cluster. Of the 350 unemployed persons, the bulk is in the lower-middle educational attainment rungs, of some college (197) and high school diploma (28). Another 132 are in the lower educational attainment rung with no high school diploma. On the surface, with respect to educational qualifications, the unemployed labor force with previous experience in Logistics matches the educational and training requirements of anticipated jobs within the cluster although not precisely, as most are in either the lower-middle or lowest educational attainment/educational requirement categories.

**TABLE 4.3:
COMPARISON OF UNEMPLOYED LABOR FORCE BY CLUSTER BY EDUCATIONAL ATTAINMENT TO NEW JOBS
BY SAME CLUSTER BY EDUCATION AND TRAINING: SAN JOAQUIN COUNTY
(LOGISTICS - ALL SUB CLUSTERS)**

Educational Attainment	Unemployed Labor Force in Sub-Cluster			Education and Training Requirements	Job Projections By Educational Attainment		
	Mgrs/ Supervisors	Not Managers	Total Underutilized Labor Force		Mgrs/ Supervisors	Not Managers	Total
01 Advanced degree	0	0	0	01 Advanced degree	0	0	0
02 Bachelor's	0	0	0	02 Bachelor's	0	4	4
03 Associate's	0	0	0	03 Associate's	0	0	0
04 Some college	0	197	197	04 Relevant work exper.	126	65	191
05 HS diploma/GED	0	28	28	05 Long-term OJT	0	17	17
06 No HS diploma/GED	0	132	132	06 Moderate-term OJT	0	68	68
99 NA	0	0	0	07 Short-term OJT	0	2,303	2,303
	0	357	357		126	2,457	2,583

Source: ADE, Inc. based on US Census PUMS One-year Sample for years 2009–2011 and EMSI Occupational Projections.

5. TRAINING RESOURCES

This section identifies whether training programs exist for the occupations in the growing industry clusters, which are Agriculture, Health and Welfare, and Logistics. In Table 5.1 below, occupations under any of the five clusters that are assigned a dash (“---”) are not expected to grow. Occupations assigned a number including zero (“0”) are expected to grow and the assigned number reflects the number of job training programs whose services are relevant to the corresponding occupation. For example, registered nurses (OCCSOC 29-1111) is an occupation within the Health and Wellness cluster that requires an AA; this occupation is expected to increase in number, and there are six job training programs that are specific to this occupation. There will be an increase in the number of veterinary technicians (OCCSOC 29-2056) with Agriculture in the near future but there are no job training programs specifically targeting this occupation, according to the California EDD ETPL database.

**TABLE 5.1:
NUMBER OF JOB TRAINING PROGRAMS FOR OCCUPATIONS IN TOP GROWING CLUSTERS: SAN JOAQUIN COUNTY**

OCCSOC	DESCRIPTION	Agriculture (44/33)	Health and Welfare (19/7)	Logistics (20/15)	Required Education/Training
13-1078	Human Resources, Training, & Labor Rel. Specialists, All Other	0	---	---	Bachelor's
25-3999	Teachers and Instructors, All Other	0	---	---	Bachelor's
29-1051	Pharmacists	---	0	---	Advanced degree
29-1111	Registered Nurses	---	6	---	Associate's
29-1131	Veterinarians	0	---	---	Advanced degree
29-2041	Emergency Medical Technicians and Paramedics	---	0	---	Work experience in related occupation
29-2052	Pharmacy Technicians	---	5	---	Moderate-term OJT
29-2056	Veterinary Technologists and Technicians	0	---	---	Associate's
29-2061	Licensed Practical and Licensed Vocational Nurses	---	6	---	Work experience in related occupation
29-2799	Health Technologists and Technicians, All Other	---	0	---	Work experience in related occupation
31-1011	Home Health Aides	---	3	---	Short-term OJT
31-1012	Nursing Aides, Orderlies, and Attendants	---	4	---	Work experience in related occupation
31-9091	Dental Assistants	---	3	---	Work experience in related occupation
31-9092	Medical Assistants	---	11	---	Moderate-term OJT
37-2011	Janitors, Cleaners, Except Maids and Housekeeping Cleaners	0	---	---	Short-term OJT
37-3012	Pesticide Handlers, Sprayers, and Applicators, Vegetation	0	---	---	Moderate-term OJT
39-2011	Animal Trainers	0	---	---	Moderate-term OJT
39-2021	Nonfarm Animal Caretakers	0	---	---	Short-term OJT
39-9011	Childcare Workers	---	---	---	Short-term OJT
39-9021	Personal Care Aides	0	0	---	Short-term OJT
41-1011	First-Line Supervisors of Retail Sales Workers	---	0	---	Work experience in related occupation
41-2011	Cashiers	1	1	---	Short-term OJT
41-2031	Retail Salespersons	1	1	---	Short-term OJT
41-4011	Sales Rep., Wholesale and Manufacturing, Tech. & Sci. Products	---	1	---	Bachelor's
41-4012	Sales Rep., Wholesale and Manufacturing, Exc. Tech & Sci.	0	0	---	Moderate-term OJT
41-9011	Demonstrators and Product Promoters	0	---	---	Short-term OJT
43-1011	First-Line Supervisors of Office & Admin. Support Workers	---	---	0	Work experience in related occupation

OCCSOC	DESCRIPTION	Agriculture (44/33)	Health and Welfare (19/7)	Logistics (20/15)	Required Education/Training
43-3011	Bill and Account Collectors	---	---	---	Moderate-term OJT
43-4051	Customer Service Representatives	1	---	---	Short-term OJT
43-4131	Loan Interviewers and Clerks	---	---	---	Short-term OJT
43-4171	Receptionists and Information Clerks	7	7	---	Short-term OJT
43-5032	Dispatchers, Except Police, Fire, and Ambulance	---	---	0	Moderate-term OJT
43-5071	Shipping, Receiving, and Traffic Clerks	0	---	0	Short-term OJT
43-5081	Stock Clerks and Order Fillers	0	---	0	Short-term OJT
43-6013	Medical Secretaries	---	10	---	Moderate-term OJT
43-6014	Secretaries & Admin. Assist's, Except Legal, Medical, Executive	4	---	---	Short-term OJT
43-9061	Office Clerks, General	4	---	4	Short-term OJT
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	---	---	---	Work experience in related occupation
45-2041	Graders and Sorters, Agricultural Products	0	---	---	Short-term OJT
45-4011	Forest and Conservation Workers	0	---	---	Moderate-term OJT
47-2061	Construction Laborers	1	---	---	Short-term OJT
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	---	---	0	Work experience in related occupation
49-3041	Farm Equipment Mechanics and Service Technicians	---	---	---	Long-term OJT
49-3043	Rail Car Repairers	---	---	0	Long-term OJT
49-9041	Industrial Machinery Mechanics	3	---	---	Long-term OJT
49-9071	Maintenance and Repair Workers, General	0	---	---	Moderate-term OJT
51-1011	First-Line Supervisors of Production and Operating Workers	0	---	---	Work experience in related occupation
51-2041	Structural Metal Fabricators and Fitters	---	---	---	Moderate-term OJT
51-2092	Team Assemblers	0	---	---	Moderate-term OJT
51-2099	Assemblers and Fabricators, All Other	0	---	---	Moderate-term OJT
51-3011	Bakers	0	---	---	Long-term OJT
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	0	---	---	Short-term OJT
51-3023	Slaughterers and Meat Packers	0	---	---	Moderate-term OJT
51-3092	Food Batchmakers	0	---	---	Short-term OJT
51-8031	Water and Wastewater Treatment Plant and System Operators	0	---	---	Long-term OJT
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	0	---	---	Moderate-term OJT
51-9111	Packaging and Filling Machine Operators and Tenders	0	---	---	Moderate-term OJT

OCCSOC	DESCRIPTION	Agriculture (44/33)	Health and Welfare (19/7)	Logistics (20/15)	Required Education/Training
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	0	---	---	Long-term OJT
51-9198	Helpers--Production Workers	0	---	---	Short-term OJT
51-9399	Production Workers, All Other	0	---	---	Moderate-term OJT
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	0	---	0	Work experience in related occupation
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	---	---	0	Work experience in related occupation
53-3021	Bus Drivers, Transit and Intercity	---	---	2	Moderate-term OJT
53-3031	Driver/Sales Workers	0	---	---	Short-term OJT
53-3032	Heavy and Tractor-Trailer Truck Drivers	5	---	5	Short-term OJT
53-3033	Light Truck or Delivery Services Drivers	3	---	3	Short-term OJT
53-3041	Taxi Drivers and Chauffeurs	---	---	0	Short-term OJT
53-5021	Captains, Mates, and Pilots of Water Vessels	---	---	0	Bachelor's
53-6051	Transportation Inspectors	---	---	0	Short-term OJT
53-7051	Industrial Truck and Tractor Operators	1	---	1	Short-term OJT
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	0	0	0	Short-term OJT
53-7063	Machine Feeders and Offbearers	---	---	0	Short-term OJT
53-7064	Packers and Packagers, Hand	0	---	0	Short-term OJT
53-7199	Material Moving Workers, All Other	---	---	0	Short-term OJT

Source: Applied Development Economics, based on EMSI and California EDD LMID

There are approximately 44 occupations that are expected to increase in numbers within the Agricultural cluster (Table 5.1). For 33 of these occupations, there are no job training programs, according to the California EDD ETPL database. There are 19 occupations within Health and Wellness; for 7 of these growing occupations, there are no job training programs. There are 20 growing occupations in Logistics and, for 15 of these occupations there are no job training programs.

Below we identify the WIA-approved job training providers that correspond to the occupational needs in the table above. There are 7 job training providers providing services that are relevant to growing occupations in the Agricultural cluster, 9 providers whose services are relevant to Health and Wellness occupations, and 5 providers whose services are aimed at occupations in Logistics (Table 5.2).

TABLE 5.2: SPECIFIC JOB TRAINING PROVIDERS OFFERING TRAINING FOR OCCUPATIONS IDENTIFIED IN TOP GROWING CLUSTERS		
Agriculture (7)	Health and Welfare (9)	Logistics (5)
DE BRABANDER CA COLLEGE NURSING STOCKTON CA 95202	BOSTON REED STOCKTON CA 95202	GOODWILL INDUSTRIES S JOAQUIN STOCKTON CA 95202
GOODWILL INDUSTRIES S JOAQUIN STOCKTON CA 95202	BOSTON REED COLLEGE MANTECA CA 95336	HEALD COLLEGE STOCKTON CA 95210
HEALD COLLEGE STOCKTON CA 95210	DE BRABANDER CA COLLEGE NURSNG STOCKTON CA 95202	KAPLAN COLLEGE STOCKTON CA 95207
KAPLAN COLLEGE STOCKTON CA 95207	GOODWILL INDUSTRIES S JOAQUIN STOCKTON CA 95202	OSC COMPUTER TRAINING STOCKTON CA 95203
MTI BUSINESS COLLEGE STOCKTON CA 95207	INSTITUTE OF TECHNOLOGY STOCKTON CA 95210	OSC COMPUTER TRAINING - SAC STOCKTON CA 95203
OSC COMPUTER TRAINING STOCKTON CA 95203	INSTITUTE OF TECHNOLOGY, INC. STOCKTON CA 95210	
OSC COMPUTER TRAINING - SAC STOCKTON CA 95203	KAPLAN COLLEGE STOCKTON CA 95207	
	MTI BUSINESS COLLEGE STOCKTON CA 95207	
	OSC COMPUTER TRAINING STOCKTON CA 95203	

Source: Applied Development Economics, based on California EDD WIB ("Eligible Training Provider List")

APPENDIX A: CLUSTER DEFINITIONS

AGRICULTURE CLUSTER

CLUSTER COMPONENTS BY NAICS CODE	
Agriculture Cluster - Production	
111	Crop Production
112	Animal Production
1141	Fishing
115112	Soil Preparation, Planting, Cultivating
115113	Crop Harvesting, Primarily by Machine
115114	Postharvest Crop Activities
115115	Farm Labor Contractors and Crew Leaders
115116	Farm Mgmt Svcs
115210	Support Activities for Animal Production
Agriculture Cluster - Processing	
311	Food Manufacturing
312	Beverage and Tobacco Product Manufacturing
321920	Wood Container and Pallet Mfg
322211	Corrugated and Solid Fiber Box Mfg
Agriculture Cluster - Distribution	
424410	General Line Grocery Merchant Wholesalers
424430	Dairy Product Wholesalers
424450	Confectionery Wholesalers
424470	Meat & Meat Product Wholesalers
424480	Fresh Fruit/Veg Wholesalers
424490	Other Grocery Wholesalers
424820	Wine, Alcoholic Beverage Wholesalers
424910	Farm Supplies Wholesalers
424930	Flower, Nursery Stock, and Florists' Supplies Merchant Wholesalers
445110	Supermarkets, Other Grocery
445120	Convenience Stores
445210	Meat Markets
445230	Fruit and Vegetable Markets
445291	Baked Goods Stores
445292	Confectionery and Nut Stores
445299	All Other Specialty Food Stores
445310	Beer, Wine, and Liquor Stores
481111	Scheduled Passenger Air Transportation
481211	Nonscheduled Chartered Passenger Air Trans
482	Rail Transportation
484110	General Freight Trucking, Local
484121	General Freight Trucking, Long-Distance, Truckload
484122	General Freight Trucking, Long-Distance, Less Than Truckload
484220	Specialized Freight Trucking, Local
484230	Specialized Freight Trucking, Long-Dist.
488119	Other Airport Operations
488190	Other Support Activities for Air Transportation
488510	Freight Transportation Arrangement
493110	General Warehousing & Storage
493120	Refrigerated Warehousing and Storage

APPENDIX A: CONTINUED

AGRICULTURE CLUSTER (CONTINUED)

CLUSTER COMPONENTS BY NAICS CODE	
Agriculture Cluster - Support	
221310	Water Supply and Irrigation Systems
237110	Water & Sewer Line & Related Construction
325314	Fertilizer (Mixing Only) Manufacturing
325320	Pesticide and Other Agricultural Chemical Manufacturing
333111	Farm Machinery, Equip Mfg
423820	Farm, Garden Machinery, Equip Wholesalers
423830	Industrial Machinery and Equipment Merchant Wholesalers
423840	Industrial Supplies Merchant Wholesalers
423850	Service Establishment Equipment and Supplies Merchant Wholesalers
444220	Nursery, Garden Ctr, Farm Supply Stores
522292	Real Estate Credit
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing
541380	Testing Laboratories
541613	Marketing Consulting Services
541840	Media Representatives
541870	Advertising Material Distribution Services
541890	Other Services Related to Advertising
541940	Veterinary Services
551114	Corporate, Subsidiary, Regional Offices
561110	Office Administrative Services
561311	Employment Placement Agencies
561320	Temporary Help Services
561710	Exterminating and Pest Control Services
561730	Landscaping Services
562920	Materials Recovery Facilities
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance

Source: ADE, Inc.; data from EMSI.

Notes: Industries included in the cluster each account for a minimum of 10 jobs.

APPENDIX A: CONTINUED

ENERGY CLUSTER

CLUSTER COMPONENTS BY NAICS CODE			
ALTERNATIVE ENERGY GENERATION/PRODUCTION			
23711	Water and Sewer Line and Related Structures Construction	311223	Other Oilseed Processing
23816	Roofing Contractors	325193	Ethyl Alcohol Manufacturing
ALTERNATIVE 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		
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	221122	Electric Power Distribution
221112	Fossil Fuel Electric Power Generation	221210	Natural Gas Distribution
221113	Nuclear Electric Power Generation	237120	Oil and Gas Pipeline and Related Structures Construction
221119	Other Electric Power Generation	237130	Power and Communication Line and Related Structures Construction
221121	Electric Bulk Power Transmission and Control		
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 A: CONTINUED

HEALTH AND WELLNESS CLUSTER

CLUSTER COMPONENTS BY NAICS CODE			
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 Rehabilitation 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 A: CONTINUED

LOGISTICS CLUSTER

CLUSTER COMPONENTS BY NAICS CODE			
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

APPENDIX A: CONTINUED

MANUFACTURING CLUSTER (CROSS-CLUSTER)

CLUSTER COMPONENTS BY NAICS CODE			
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		
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

APPENDIX A: CONTINUED

MANUFACTURING CLUSTER (CROSS-CLUSTER) (CONTINUED)

CLUSTER COMPONENTS BY NAICS CODE			
FOOD PROCESSING (CONTINUED)			
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
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

APPENDIX A: CONTINUED

MANUFACTURING CLUSTER (CROSS-CLUSTER) (CONTINUED)

CLUSTER COMPONENTS BY NAICS CODE			
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			
31-33	All Manufacturing Industries not listed above		

WATER TECHNOLOGY CLUSTER

CLUSTER COMPONENTS BY NAICS CODE			
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