

# **MADERA COUNTY LABOR FORCE ANALYSIS**

**OCTOBER 23, 2013**

Prepared for:

**MADERA COUNTY  
WORKFORCE INVESTMENT BOARD**

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# INTRODUCTION AND SUMMARY

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## INTRODUCTION

This report presents information on growing industry clusters in Madera 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 Madera County, but provides greater detail on the employment status and skills levels of selected demographic groups.

## SUMMARY

**Economic Conditions.** The Madera County unemployment rate improved to 7.0% just prior to the recession in 2006, but reached a high of 15.6% by 2010. It has since declined to an annual average level of about 13.6% in 2012.

**Industry Clusters.** Agriculture is the largest industry cluster in Madera County, with more than 12,450 jobs and a concentration 5.4 times the statewide average. Agricultural jobs grew over the past decade and, except for processing related activities, are projected to continue growing over the next five years. Health care, as the second largest cluster with 5,472 jobs, increased employment by 33 percent and is projected to add close to 1,000 new jobs between 2012 and 2017. After Health Care and Wellness, the Energy cluster was the second fastest growing cluster with 26 percent growth rate. Water Technology and Manufacturing clusters declined in Madera County between 2001 and 2010 and are projected decrease jobs between 2010 and 2017. On the contrary, retail and tourism jobs are projected to grow between 2012 and 2017.

**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.** Non-college graduates also tend to be underutilized more often in the workforce and again, Latinos have lower full time utilization rates (61.8 percent) than do whites (68.4 percent). In the Central Valley region almost every sector posted double-digit unemployment rates, this is not the case in Madera County. Key economic drivers such as agriculture (NAICS 11) and healthcare (NAICS 62) posted relatively low unemployment rates of 6 and 8 percent. On the other hand, housing-related industries such as construction (NAICS 23) and real estate (NAICS 53) continued their dramatic slide with jobless rates of 26 and 24 percent.

**Veterans.** Based on the most recent ACS data, there are about 3,732 veterans in the labor force in the Madera County, representing about 6.1 percent of the labor force. It is estimated that 8.4 percent of veterans were unemployed in 2011, compared to 11.4 percent for the non-veterans labor force. Among the unemployed veterans, the largest group is in the 35-54 age group, which contains 158 out of a total of 315 unemployed veterans of all ages.

**Disabled Workers.** There are an estimated 3,228 disabled workers in the labor force, comprising 5.3 percent of all workers in the County. The unemployment rate for disabled workers in 2011 is estimated at 15.6 percent, compared to 11.2 percent for the non-disabled labor force. More than half of the unemployed disabled persons are between 35 and 54, or 386 out of 504.

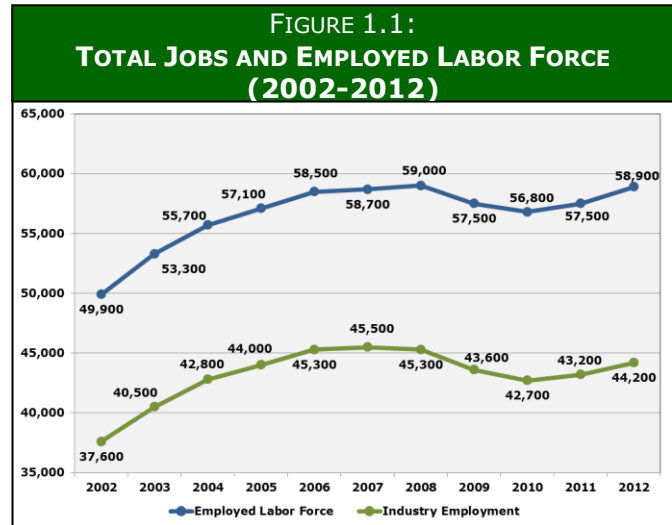
**Training Programs.** The report screens all of the projected growth occupations against the list of WIB-approved training vendors and identifies which occupations appear to have available training programs in Madera County where there are gaps. Health and Wellness is projected to grow by 974 new jobs, which are found in significant numbers across all rungs of the educational ladder: Of the 974 new jobs, at 460, almost half will require an AA degree, with another 186 requiring relevant work experience. Almost 250 of the 974 new positions will require lowest levels of education and training, i.e. moderate-term OJT (154) and/or short-term OJT (93). There are 18 occupations in the Health and Wellness cluster that are expected to increase in numbers; for 12 of these growing occupations, there are no job training programs at in the County, according to the California EDD ETPL database.

# 1. LOCAL ECONOMIC CONDITIONS

## EMPLOYMENT TRENDS

Employment growth in Madera County was on upward trend until 2006, when it began to stagnate until 2008. Between 2002 and 2008, the County added 7,700 jobs, reaching 45,300 wage and salary jobs (Figure 1.1). Job losses from the recession began to occur in 2008 and continued declining in 2009 and 2010, when employment decreased to less than 42,700 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 44,200 Jobs in 2012 which is 1,300 jobs lower than the peak in 2007.



Source: ADE, Inc., California Economic Development Department

The county had 59,000 employed residents in 2008 but due to the recession, employment dropped and 2,200 residents lost their jobs by 2010 (Figure 1.1). In 2010, the unemployment rate peaked at 15.6 percent and then began to drop as employment recovered (Figure 1.2). By 2012, 58,900 residents were employed.

According to the DOF and the EDD population and percentage of people over 16 years of age included in the county's labor force had a slight and steady increase from 2000 to 2012. Population increased by 18 percent between 2002 and 2012; labor force had a higher increase of 22 percent. However the percentage of residents who found employment between 2000 and 2012 increased by only 18 percent. Additionally, compared to labor force, jobs had a slower growth rate of 18 percent from 2002 while labor force grew by 22 percent (Table 1.1).

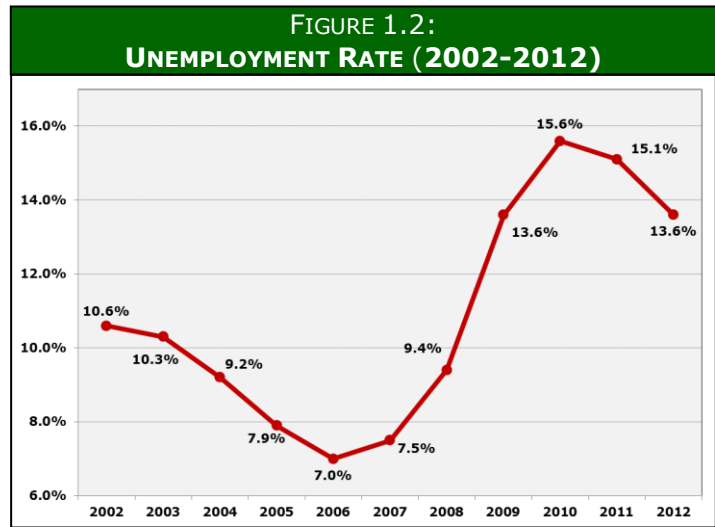
**TABLE 1.1:  
DEMOGRAPHIC AND LABOR FORCE TRENDS**

	2002	2012	2000-2012
Population	128,484	151,790	18.1%
Labor Force	55,900	68,200	22.0%
Employed Labor Force	49,900	58,900	18.0%
Wage and Salary Jobs	37,600	44,200	17.6%

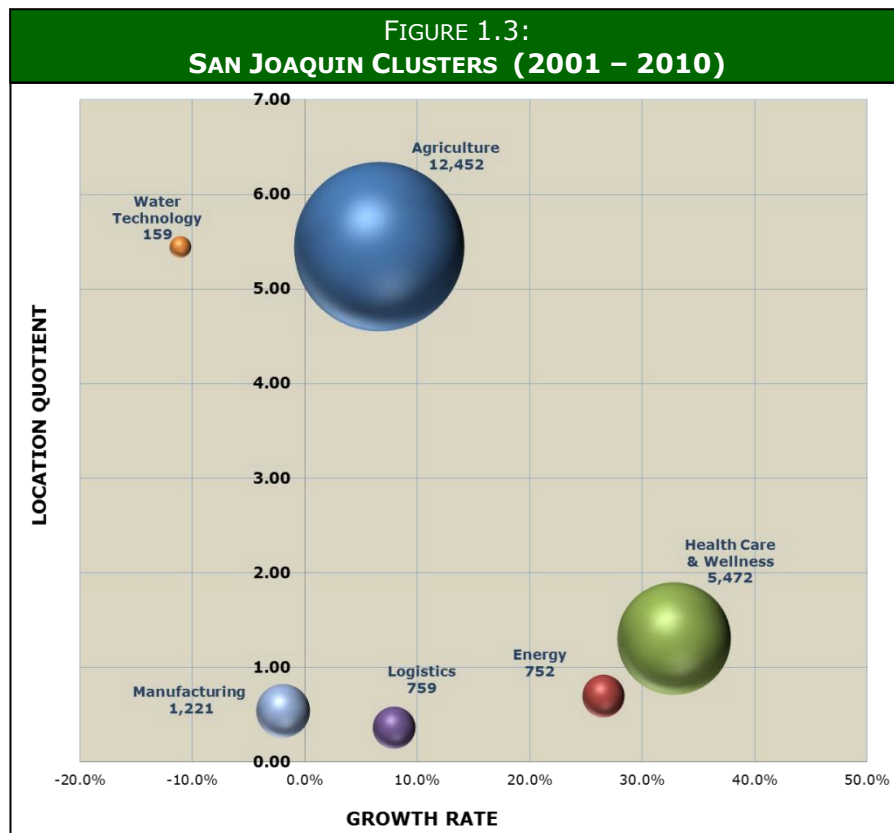
Source: ADE, Inc., Department of Finance, California Economic Development Department

The number of wage and salary jobs is almost 64 percent of the size of the labor force in Madera County. 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 elsewhere in the Central Valley.

Agriculture was the largest cluster with 12,452 employees in 2010 (Figure 1.3). Health Care cluster with 5,472 employees and Manufacturing with 1,221 employees were the second and third large industries in Madera County between 2001 and 2010. Water Technology is the smallest industry with 159 employees. Logistics and Energy clusters have 759 and 752 employees, respectively. While the Health and Wellness and Energy clusters are not the largest industries in the county they have shown the highest growth rate over the past ten years with 32 and 26 percent growth rates, respectively. Manufacturing and Water Technology clusters, on the other hand, have declined between 2001 and 2010. Agriculture is not only the largest industry but also the highest concentrated job sector. All other industries have similar concentration rates with Logistics as the least concentrated job sector (see Appendix A for industry cluster definitions by NAICS code).



Source: ADE, Inc., California Economic Development Department



Source: IMPLAN CEW

# 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 61,272 persons in the county labor force, with 26,435 in the 35 to 54 prime working-age category (Table 2.1)<sup>1</sup>. Of the 26,435, 11,490 (or 43.6 percent) are White, 13,352 (50.5 percent) are Latino, and the 1,593 (6.0 percent) are some other race (e.g. Black, Asian-Pacific Islander, Other, and/or Two or More). Of the 11,490 persons who are prime working-age Whites, 2,916 (25.4 percent) earned at least a Bachelor’s degree. In comparison, 9.9 percent of all prime working-age Latino adults in the labor force earned at least a Bachelor’s, or 1,331 out of 13,352. For persons in the Other category, an estimated 608 (38.2 percent) prime working-age adults out of a labor force of 1,593 earned at least a Bachelor’s degree.

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

	16 - 19	20 - 29	30 - 34	35 - 54	55 - 64	65 & over	Madera County
	2,449	13,818	6,936	26,435	9,435	2,199	61,272
<b>01 White</b>	<b>712</b>	<b>3,544</b>	<b>1,814</b>	<b>11,490</b>	<b>5,711</b>	<b>1,472</b>	<b>24,742</b>
Did not earn HS dipl/GED or degree: not in school	0	224	120	672	187	124	1,327
High school graduate (includes equivalency)	186	1,272	448	2,674	1,209	121	5,910
Some college - no degree & not attending	24	594	442	3,271	2,059	380	6,771
Associates degree/still attending college	174	1,223	423	1,957	796	346	4,918
Bachelor's degree or higher	0	231	381	2,916	1,460	501	5,489
NA	327	0	0	0	0	0	327

<sup>1</sup>As noted in Table 1.1, EDD estimates a higher labor force figure of 68,200 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	Madera County
<b>02 Latino</b>	<b>1,654</b>	<b>9,648</b>	<b>4,539</b>	<b>13,352</b>	<b>2,594</b>	<b>667</b>	<b>32,454</b>
Did not earn HS dipl/GED or degree: not in school	544	4,303	2,416	6,733	1,164	614	15,773
High school graduate (includes equivalency)	350	1,965	702	2,549	695	0	6,261
Some college - no degree & not attending	94	1,342	530	1,572	452	0	3,990
Associates degree/still attending college	297	1,672	433	1,167	108	0	3,677
Bachelor's degree or higher	0	243	458	1,331	140	53	2,225
NA	369	122	0	0	36	0	527
<b>03 Other</b>	<b>83</b>	<b>626</b>	<b>584</b>	<b>1,593</b>	<b>1,130</b>	<b>60</b>	<b>4,076</b>
Did not earn HS dipl/GED or degree: not in school	0	223	100	345	9	11	687
High school graduate (includes equivalency)	0	0	42	193	335	7	576
Some college - no degree & not attending	83	88	158	340	229	29	927
Associates degree/still attending college	0	45	143	107	40	0	335
Bachelor's degree or higher	0	221	141	608	517	14	1,501
NA	0	50	0	0	0	0	50

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 243 out of 9,648 Latinos earned at least a Bachelor's degree, or 2.5 percent, which is somewhat less than rate estimated for Whites (6.5 percent, or 231 out of 3,544) and significantly lower than the rate for Others (35.2 percent, or 221 out of 626). Across all age categories, approximately 22 percent (5,489 out of 24,742) of White and 36 percent (1,501 out of 4,076) of Other persons in the labor force earned at least a Bachelor's degree, versus 6.9 percent (2,225 out of 32,454) for Latinos.

The importance of a college degree becomes evident in the following table. While the overall annual unemployment rate for the historic downturn three-year period of 2009-2011 averaged 11.4 percent, for persons with at least a Bachelor's degree, the jobless rate was significantly lower (Table 2.2). While the overall annual unemployment rate for the historic downturn three-year period of 2009-2011 averaged 11.4 percent, for persons with at least a Bachelor's degree, the jobless rate was significantly lower. Across all age categories, White persons in the labor force with at least a Bachelor's experienced an unemployment rate of 5.8 percent, and for Latinos, 4.9 percent. For prime working-age Latinos with at least a Bachelor's, the joblessness rate was 5.1 percent, versus 4.7 percent of Whites. 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. Twenty-year olds with no more than a high school diploma exhibit unemployment rates of 21.9 percent for Whites and 16.7 percent for Latinos.



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

	<b>16 - 19</b>	<b>20 - 29</b>	<b>30 - 34</b>	<b>35 - 54</b>	<b>55 - 64</b>	<b>65 &amp; over</b>	<b>Madera County</b>
	<b>29.3%</b>	<b>15.1%</b>	<b>12.8%</b>	<b>8.9%</b>	<b>7.7%</b>	<b>8.0%</b>	<b>11.4%</b>
<b>01 White</b>	<b>24.0%</b>	<b>16.4%</b>	<b>9.6%</b>	<b>7.7%</b>	<b>7.5%</b>	<b>10.8%</b>	<b>9.7%</b>
Did not earn HS dipl/GED or degree: not in school	0.0%	38.3%	0.0%	30.2%	10.2%	0.0%	23.2%
High school graduate (includes equivalency)	0.0%	21.9%	15.8%	4.4%	0.0%	46.8%	8.9%
Some college - no degree & not attending	0.0%	23.8%	8.2%	10.2%	8.2%	18.1%	11.0%
Associates degree/still attending college	17.4%	6.2%	0.0%	5.0%	15.7%	9.6%	7.4%
Bachelor's degree or higher	0.0%	0.0%	17.6%	4.7%	8.0%	0.0%	5.8%
NA	43.0%	0.0%	0.0%	0.0%	0.0%	0.0%	43.0%
<b>02 Latino</b>	<b>33.1%</b>	<b>14.2%</b>	<b>13.3%</b>	<b>8.7%</b>	<b>11.4%</b>	<b>2.5%</b>	<b>12.3%</b>
Did not earn HS dipl/GED or degree: not in school	0.0%	13.8%	13.6%	10.9%	11.0%	2.8%	11.4%
High school graduate (includes equivalency)	62.7%	16.7%	18.3%	8.4%	17.8%	0.0%	16.2%
Some college - no degree & not attending	29.9%	15.6%	5.0%	7.4%	9.9%	0.0%	10.7%
Associates degree/still attending college	7.0%	12.7%	23.8%	2.9%	0.0%	0.0%	10.0%
Bachelor's degree or higher	0.0%	9.9%	3.9%	5.1%	0.0%	0.0%	4.9%
NA	75.5%	0.0%	0.0%	0.0%	0.0%	0.0%	52.9%
<b>03 Other</b>	<b>0.0%</b>	<b>22.8%</b>	<b>18.8%</b>	<b>18.9%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>13.6%</b>
Did not earn HS dipl/GED or degree: not in school	0.0%	64.2%	100.0%	75.9%	0.0%	0.0%	73.5%
High school graduate (includes equivalency)	0.0%	0.0%	23.2%	20.2%	0.0%	0.0%	8.4%
Some college - no degree & not attending	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Associates degree/still attending college	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bachelor's degree or higher	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
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.}

## LABOR FORCE UTILIZATION

Here, we present data illustrating to what extent, if any, Madera County'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 61,272 persons in the county labor force, 33,352 were employed full-time and all-year, (i.e., 54.4 percent) (Table 2.3). On average, an estimated 64.5 percent of all prime working-age persons in the labor force regardless of race were fully utilized, with Whites at 68.4 percent (7,864 out of 11,490) and Latinos at 61.8 percent (8,258 out of 13,352). In other words, almost 38 percent of all prime working-age Latinos are either unemployed or under-employed, versus approximately 32 percent of prime working-age Whites. A college degree makes a significant impact for prime working-age Latinos, as 77.9 percent (1,037 out of 1,331) of all prime working-age Latinos with at least a Bachelor's degree work full-time and all-year, a rate surpassing the 59.7 percent (1,744 out of 2,916) 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: MADERA COUNTY (2009-2011)  
ALL PERSONS 16 IN MADERA COUNTY -- IN LABOR FORCE**

	16 - 19	20 - 29	30 - 34	35 - 54	55 - 64	65 & over	Madera County
	<b>195</b>	<b>5,415</b>	<b>3,591</b>	<b>17,055</b>	<b>6,234</b>	<b>862</b>	<b>33,352</b>
<b>01 White</b>	<b>66</b>	<b>1,305</b>	<b>1,176</b>	<b>7,864</b>	<b>4,117</b>	<b>690</b>	<b>15,219</b>
Did not earn HS dipl/GED or degree: not in school	0	117	120	402	105	46	791
High school graduate (includes equivalency)	66	484	244	2,154	943	32	3,924
Some college - no degree & not attending	0	172	265	2,150	1,504	245	4,337
Associates degree/still attending college	0	301	285	1,414	589	77	2,666
Bachelor's degree or higher	0	231	261	1,744	975	290	3,501
NA	0	0	0	0	0	0	0
<b>02 Latino</b>	<b>129</b>	<b>3,825</b>	<b>2,063</b>	<b>8,258</b>	<b>1,770</b>	<b>148</b>	<b>16,192</b>
Did not earn HS dipl/GED or degree: not in school	31	1,472	875	3,383	740	117	6,618
High school graduate (includes equivalency)	69	1,002	391	1,583	505	0	3,550
Some college - no degree & not attending	28	663	310	1,261	279	0	2,542
Associates degree/still attending college	0	495	107	994	108	0	1,705
Bachelor's degree or higher	0	160	380	1,037	101	31	1,710
NA	0	31	0	0	36	0	67
<b>03 Other</b>	<b>0</b>	<b>286</b>	<b>352</b>	<b>933</b>	<b>347</b>	<b>24</b>	<b>1,941</b>
Did not earn HS dipl/GED or degree: not in school	0	0	0	83	0	11	94
High school graduate (includes equivalency)	0	0	0	54	68	0	122
Some college - no degree & not attending	0	69	68	235	29	0	401
Associates degree/still attending college	0	45	143	72	13	0	273
Bachelor's degree or higher	0	172	141	489	236	14	1,052
NA	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.}

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 housing. In construction (NAICS 23), the unemployment rate for persons without a degree is 29 percent, versus 13 percent for those with a degree (Table 2.4). In real estate (NAICS 53), persons without a college exhibit unemployment rate of 28.9 percent, versus zero percent for those with a degree, although the latter may be due more so to sampling error on the part of the US Census. There are a few sectors in which jobless rates are higher for persons with a college degree versus for those without, such as durable goods manufacturing (NAICS 33), specialty retail (NAICS 45), and administrative and support (NAICS 56).

**TABLE 2.4:  
LABOR FORCE AND UNEMPLOYMENT TRENDS BY ECONOMIC SECTOR AND BY COLLEGE DEGREE STATUS: MADERA 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.	661	0	0%	9,998	663	6%	10,659	663	6%
21 Mining, oil, gas	0	0	0%	31	0	0%	31	0	0%
22 Utilities	417	0	0%	346	17	5%	763	17	2%
23 Construction	680	105	13%	2,493	1,022	29%	3,173	1,127	26%
31 Manufacturing	149	17	10%	1,645	341	17%	1,794	358	17%
32 Manufacturing	307	0	0%	895	106	11%	1,202	106	8%
33 Manufacturing	203	44	18%	1,352	200	13%	1,555	243	14%
42 Wholesale	66	0	0%	1,108	86	7%	1,174	86	7%
44 Retail	947	0	0%	3,594	378	10%	4,541	378	8%
45 Retail	261	24	8%	1,526	55	3%	1,787	79	4%
48 Transportation/Warehousing	125	0	0%	1,654	161	9%	1,779	161	8%
49 Transportation/Warehousing	31	0	0%	516	45	8%	546	45	8%
51 Information	299	0	0%	640	0	0%	939	0	0%
52 Finance and Insurance	639	71	10%	490	53	10%	1,129	124	10%
53 Real Estate and Leasing	178	0	0%	683	277	29%	861	277	24%
54 Professional, Scientific and Technical	612	134	18%	638	226	26%	1,249	360	22%
55 Mgt. of Companies and Enterprises	0	0	0%	0	0	0%	0	0	0%
56 Administrative and Support	219	168	43%	1,886	123	6%	2,104	291	12%
56 Waste Management	0	0	0%	175	0	0%	175	0	0%
61 Education	2,416	0	0%	1,694	18	1%	4,110	18	0%
62 Health Care	2,331	71	3%	1,999	289	13%	4,331	360	8%
62 Social Assistance	432	35	7%	1,126	239	18%	1,558	274	15%
71 Arts, Entertainment and Rec.	301	0	0%	601	162	21%	902	162	15%
72 Accommodations	278	0	0%	265	56	18%	543	56	9%
72 Food Services	268	25	8%	1,813	311	15%	2,082	335	14%
81 Other Services	513	0	0%	1,511	188	11%	2,023	188	9%
92 Public Administration	1,738	0	0%	1,145	201	15%	2,882	201	7%
99 Unclassified	0	73	100%	0	971	100%	0	1,045	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 3,732 veterans in the labor force in Madera County, representing about 6.1 percent of the labor force. It is estimated that 8.4 percent of veterans were unemployed in 2011, compared to 11.4 percent for the non-veterans labor force (Table 2.5). Among the unemployed veterans, the largest group is in the 35-54 age group, who comprise of 158 unemployed veterans out of a total of 315 unemployed veterans. Among this age cohort, those with no more than a high school diploma exhibit high rates of unemployment.

**TABLE 2.5:  
UNEMPLOYED PERSONS AND UNEMPLOYMENT RATES OF ALL PERSONS 16 AND OVER BY VETERAN STATUS  
AND EDUCATIONAL ATTAINMENT MADERA 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	Madera County
<b>Total Number of Unemployed Persons</b>	<b>718</b>	<b>2,092</b>	<b>887</b>	<b>2,356</b>	<b>726</b>	<b>176</b>	<b>6,955</b>
<b>Unemployment Rates</b>	<b>29.3%</b>	<b>15.1%</b>	<b>12.8%</b>	<b>8.9%</b>	<b>7.7%</b>	<b>8.0%</b>	<b>11.4%</b>
<b>01 Not a Veteran</b>							
<b>Number of Unemployed Persons Who Are Not Veterans</b>	<b>640</b>	<b>2,037</b>	<b>887</b>	<b>2,198</b>	<b>666</b>	<b>133</b>	<b>6,561</b>
<b>Unemployment Rates for Persons Who Are Not Veterans</b>	<b>27.4%</b>	<b>15.1%</b>	<b>12.9%</b>	<b>8.8%</b>	<b>8.3%</b>	<b>8.0%</b>	<b>11.4%</b>
Did not earn HS dipl/GED or degree: not in school	0.0%	17.3%	16.2%	14.9%	10.8%	2.4%	14.5%
High school graduate (includes equivalency)	40.9%	19.1%	17.5%	6.6%	3.6%	58.8%	12.5%
Some college -- no degree and not attending	13.9%	15.5%	5.8%	8.4%	9.9%	9.5%	9.9%
Associates degree/still attending college	10.8%	10.2%	10.3%	4.6%	13.8%	17.4%	8.9%
Bachelor's degree or higher	0.0%	3.5%	8.6%	3.9%	6.5%	0.0%	4.8%
NA	58.7%	0.0%	0.0%	0.0%	0.0%	0.0%	43.2%
<b>02 Veterans</b>							
<b>Number of Unemployed Persons Who Are Veterans</b>	<b>0</b>	<b>55</b>	<b>0</b>	<b>158</b>	<b>60</b>	<b>42</b>	<b>315</b>
<b>Unemployment Rates for Persons Who Are Veterans</b>	<b>0.0%</b>	<b>18.5%</b>	<b>0.0%</b>	<b>11.2%</b>	<b>4.2%</b>	<b>7.9%</b>	<b>8.4%</b>
Did not earn HS dipl/GED or degree: not in school	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	54.3%
High school graduate (includes equivalency)	0.0%	0.0%	0.0%	12.2%	12.4%	0.0%	11.0%
Some college -- no degree and not attending	0.0%	47.8%	0.0%	11.2%	0.0%	32.2%	11.1%
Associates degree/still attending college	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bachelor's degree or higher	0.0%	0.0%	0.0%	8.2%	0.0%	0.0%	3.0%
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 3,228 disabled persons in the labor force, comprising 5.3 percent of all workers in the County. The unemployment rate for disabled workers in 2011 is estimated at 15.6 percent, compared to 11.2 percent for the non-disabled labor force (Table 2.6). Among the unemployed disabled, the largest group is in the 35-54 age group, who comprise of 386 unemployed disabled persons out of a total of 504 unemployed disabled persons. Among this age cohort, those with no high school diploma have a 50.3 percent unemployment rate.

TABLE 2.6:  
**NUMBER OF UNEMPLOYED PERSONS AND UNEMPLOYMENT RATES OF ALL PERSONS 16 AND OVER BY DISABILITY STATUS AND EDUCATIONAL ATTAINMENT IN MADERA 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	Madera County
<b>Total Number of Unemployed Persons</b>	<b>718</b>	<b>2,092</b>	<b>887</b>	<b>2,356</b>	<b>726</b>	<b>176</b>	<b>6,955</b>
<b>Unemployment Rates</b>	<b>41.5%</b>	<b>17.8%</b>	<b>14.7%</b>	<b>9.8%</b>	<b>8.3%</b>	<b>8.7%</b>	<b>12.8%</b>
<b>01 No Known Disability</b>							
<b>Number of Unemployed Persons w/No Known Disability</b>	<b>718</b>	<b>2,092</b>	<b>868</b>	<b>1,970</b>	<b>697</b>	<b>132</b>	<b>6,478</b>
<b>Unemployment Rates for Persons w/No Known Disability</b>	<b>29.3%</b>	<b>15.5%</b>	<b>12.9%</b>	<b>7.9%</b>	<b>8.1%</b>	<b>7.6%</b>	<b>11.2%</b>
Did not earn HS dipl/GED or degree: not in school	0.0%	17.6%	16.6%	13.2%	11.3%	0.0%	14.0%
High school graduate (includes equivalency)	40.9%	18.7%	17.1%	6.7%	6.1%	44.3%	12.6%
Some college -- no degree and not attending	13.9%	18.0%	5.7%	7.8%	8.6%	15.8%	9.9%
Associates degree/still attending college	10.8%	10.3%	10.3%	3.3%	10.5%	9.6%	7.9%
Bachelor's degree or higher	0.0%	3.6%	8.8%	3.9%	6.3%	0.0%	4.7%
NA	60.3%	0.0%	0.0%	0.0%	0.0%	0.0%	47.8%
<b>02 At Least One Disability</b>							
<b>Number of Unemployed Persons w/at Least One Disability</b>	<b>0</b>	<b>26</b>	<b>20</b>	<b>386</b>	<b>29</b>	<b>43</b>	<b>504</b>
<b>Unemployment Rates for Persons w/at Least One Disability</b>	<b>0.0%</b>	<b>7.3%</b>	<b>9.7%</b>	<b>26.5%</b>	<b>3.8%</b>	<b>9.6%</b>	<b>15.6%</b>
Did not earn HS dipl/GED or degree: not in school	0.0%	0.0%	0.0%	50.3%	0.0%	6.4%	27.0%
High school graduate (includes equivalency)	0.0%	0.0%	22.4%	11.5%	0.0%	0.0%	8.4%
Some college -- no degree and not attending	0.0%	0.0%	0.0%	20.5%	0.0%	18.7%	11.2%
Associates degree/still attending college	0.0%	0.0%	0.0%	15.5%	100.0%	0.0%	15.5%
Bachelor's degree or higher	0.0%	0.0%	0.0%	10.5%	0.0%	0.0%	4.9%
NA	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%

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.}

# 3. EMPLOYMENT AND OCCUPATION PROJECTIONS

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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).<sup>2</sup>

- 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

Madera County had a job total of 45,446 in 2012. The total number of jobs is estimated to increase by 4,808 jobs between 2012 and 2017 with the total employment count reaching 50,254 by 2017 (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 and Health and Wellness are the two clusters in Madera County with a considerable projected employment growth between 2012 and 2017.
- Health and Wellness had 5,357 employees in total by 2012 and EMSI foresees an additional 974 workers by the end of the projection period in 2017. As part of this super-sector, EMSI expects about 903 new jobs for the health care delivery sub-cluster (Table 3.7).
- The Agriculture cluster with 975 new jobs is the only other growing cluster (Table 3.2, 3.3, 3.4 and 3.5). Production is the top hiring sub cluster with a projected 505 new workers or 51 percent of the growth in this cluster.

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

- The only declining subcomponent for Agriculture is the processing sector. While distribution, support, and production present positive changes of 288 jobs, 199 jobs, and 505 jobs the processing sector will lose 17 new jobs (Table 3.2).
- Logistics, Energy, and Manufacturing clusters in Madera County are projected to decline by 10 jobs, 26 jobs, and 101 jobs, respectively.
- Non-cluster related employment with projected gains include retail, other services, and tourism (accommodations, food services, arts and entertainment) (Table 3.1).

**TABLE 3.1:  
EMPLOYMENT PROJECTIONS BY MAJOR INDUSTRIES, MADERA COUNTY**

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
62	Health Care and Social Assistance	5,728	6,735	1,007	17.6%
56	Administrative and Support and Waste Management and Remediation Services	1,881	2,585	704	37.4%
72	Accommodation and Food Services	2,490	3,184	694	27.9%
11	Agriculture, Forestry, Fishing and Hunting	11,576	12,098	522	4.5%
81	Other Services (except Public Administration)	1,757	2,236	479	27.3%
44	Retail Trade	3,398	3,875	477	14.0%
90	Government	9,892	10,345	453	4.6%
61	Educational Services (Private)	349	541	192	55.0%
54	Professional, Scientific, and Technical Services	637	817	180	28.3%
23	Construction	1,066	1,232	166	15.6%
42	Wholesale Trade	719	856	137	19.1%
71	Arts, Entertainment, and Recreation	209	236	27	12.9%
99	Unclassified Industry	80	94	14	17.5%
51	Information	364	368	4	1.1%
52	Finance and Insurance	402	398	(4)	(1.0%)
53	Real Estate and Rental and Leasing	356	352	(4)	(1.1%)
21	Mining, Quarrying, and Oil and Gas Extraction	23	19	(4)	(17.4%)
22	Utilities	205	192	(13)	(6.3%)
48	Transportation and Warehousing	536	500	(36)	(6.7%)
55	Management of Companies and Enterprises	372	318	(54)	(14.5%)
31	Manufacturing	3,409	3,272	(137)	(4.0%)
<b>TOTAL</b>		<b>45,446</b>	<b>50,254</b>	<b>4,808</b>	<b>10.6%</b>

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 288 new positions by 2017 with a 24 percent growth rate. In this group, EMSI reports that supermarkets and other grocery (except convenience) stores are expected to increase employment by 121 jobs. All other anticipated growing sectors will provide less than 50 jobs (Table 3.2).

TABLE 3.2: JOB PROJECTIONS BY CLUSTER – DISTRIBUTION					
NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
445110	Supermarkets and Other Grocery (except Convenience) Stores	891	1,012	121	14%
424910	Farm Supplies Merchant Wholesalers	80	129	49	61%
424820	Wine and Distilled Alcoholic Beverage Merchant Wholesalers	105	152	47	45%
493120	Refrigerated Warehousing and Storage	37	62	25	68%
424480	Fresh Fruit and Vegetable Merchant Wholesalers	39	57	18	46%
445310	Beer, Wine, and Liquor Stores	39	53	14	36%
445210	Meat Markets	33	47	14	42%
<b>TOTAL</b>		<b>1,224</b>	<b>1,512</b>	<b>288</b>	<b>24%</b>

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 Madera County the flour milling sector (NAICS 311211) is projected to lose 66 workers in 2017. In general, EMSI foresees job loss for the processing sub-cluster (Table 3.3).

TABLE 3.3: JOB PROJECTIONS BY CLUSTER – PROCESSING					
NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
327213	Glass Container Manufacturing	289	333	44	15%
321920	Wood Container and Pallet Manufacturing	41	69	28	68%
312130	Wineries	186	198	12	6%
311919	Other Snack Food Manufacturing	118	108	(10)	(8%)
311421	Fruit and Vegetable Canning	128	117	(11)	(9%)
311119	Other Animal Food Manufacturing	161	147	(14)	(9%)
311211	Flour Milling	107	41	(66)	(62%)
<b>TOTAL</b>		<b>1,030</b>	<b>1,013</b>	<b>(17)</b>	<b>(2%)</b>

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

The Production group includes animal and crop production activities. Similar to the Distribution group, the Production group is also expected to increase employment by 505 jobs. The two main sub-sectors with a considerable change in job numbers between 2012 and 2017 are animal production with 471 jobs and crop production with (-320) jobs (Table 3.4).

TABLE 3.4: JOB PROJECTIONS BY CLUSTER – PRODUCTION					
NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
112	Animal Production	1,733	2,204	471	27%
115114	Postharvest Crop Activities (except Cotton Ginning)	538	708	170	32%
115112	Soil Preparation, Planting, and Cultivating	533	682	149	28%
115115	Farm Labor Contractors and Crew Leaders	4,954	5,008	54	1%
115116	Farm Management Services	373	367	(6)	(2%)
115113	Crop Harvesting, Primarily by Machine	71	58	(13)	(18%)
111	Crop Production	3,234	2,914	(320)	(10%)
<b>TOTAL</b>		<b>11,436</b>	<b>11,941</b>	<b>505</b>	<b>4%</b>

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

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 199 job increase between 2012 and 2017. Temporary help services (NAICS 561320) would gain 117 jobs while food product machinery manufacturing (NAICS 333294) would lose 38 jobs (Table 3.5).

TABLE 3.5: JOB PROJECTIONS BY CLUSTER – SUPPORT					
NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
561320	Temporary Help Services	361	478	117	32%
561710	Exterminating and Pest Control Services	72	113	41	57%
561730	Landscaping Services	103	139	36	35%
561110	Office Administrative Services	49	68	19	39%
541940	Veterinary Services	61	79	18	30%
444220	Nursery, Garden Center, and Farm Supply Stores	88	102	14	16%
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	67	78	11	16%
333111	Farm Machinery and Equipment Manufacturing	46	27	(19)	(41%)
333294	Food Product Machinery Manufacturing	134	96	(38)	(28%)
<b>TOTAL</b>		<b>981</b>	<b>1,180</b>	<b>199</b>	<b>20%</b>

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

## ENERGY CLUSTER

Energy cluster will lose 26 jobs in total by 2017. Most of the industries under this cluster had less than 10 changes in their job numbers and are not presented in this report. Also, industries that are included changed within a range of 50 jobs. 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 (Table 3.6).

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

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change	Sub-Cluster
213111	Drilling Oil and Gas Wells	25	39	14	56%	5
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	67	78	11	16%	7
335129	Other Lighting Equipment Manufacturing	60	68	8	13%	4
237110	Water and Sewer Line and Related Structures Construction	90	98	8	9%	1
221210	Natural Gas Distribution	117	124	7	6%	6
533110	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	19	25	6	32%	7
221122	Electric Power Distribution	40	33	(7)	(18%)	6
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	40	28	(12)	(30%)	5
238160	Roofing Contractors	90	67	(23)	(26%)	1
23822	Plumbing, Heating, and Air-Conditioning Contractors	108	70	(38)	(35%)	3
<b>TOTAL</b>		<b>656</b>	<b>630</b>	<b>(26)</b>	<b>(4%)</b>	
<b>Energy Sub-Clusters</b>						
<b>1</b> - Alternative Energy Generation/Production		<b>5</b> - Petroleum Production & Petroleum Distribution				
<b>2</b> - Alternative Energy Distribution		<b>6</b> - Power Generation and Transmission				
<b>3</b> - Energy Efficiency		<b>7</b> - Research & Services				
<b>4</b> - 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 974 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 Madera County general hospitals and surgical hospitals (NAICS 622110) provide 616 employment opportunities. Health maintenance organization (HMO) medical centers will provide 100 jobs. Workers in this industry comprise of physicians and health practitioners who provide outpatient medical services to HMOs (Table 3.7).

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

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change	Sub-Cluster
622110	General Medical and Surgical Hospitals (Private)	3,389	4,005	616	18%	1
621491	HMO Medical Centers	196	296	100	51%	1
621111	Offices of Physicians (except Mental Health)	459	556	97	21%	1
623220	Resid. Mental Health/Substance Abuse Facilities	104	163	59	57%	1
623312	Homes for the Elderly	88	128	40	45%	1
623110	Nursing Care Facilities	330	369	39	12%	1
621210	Offices of Dentists	236	268	32	14%	1
621340	Offices of Physical, Occup./Speech/ Audiologists	47	66	19	40%	1
621910	Ambulance Services	70	82	12	17%	1
621493	Freestanding Ambulatory Surgical & Emergency Ctr	37	48	11	30%	1
446110	Pharmacies and Drug Stores	263	273	10	4%	5
624310	Vocational Rehabilitation Services	138	77	(61)	(44%)	1
<b>TOTAL</b>		<b>5,357</b>	<b>6,331</b>	<b>974</b>	<b>18%</b>	
<b>Health and Wellness Sub-Clusters</b>						
<b>1</b> - Health Care Delivery		<b>4</b> - Supplies and Services				
<b>2</b> - Medical Device Manufacturing		<b>5</b> - Wellness and Fitness				
<b>3</b> - Pharmaceuticals						

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

## LOGISTICS CLUSTER

Under the logistics cluster, in Madera County, EMSI projects a total of (-10) job change between 2012 and 2017 (Table 3.8).

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

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change	Sub-Cluster
493120	Refrigerated Warehousing and Storage	37	62	25	68%	2
492110	Couriers and Express Delivery Services	13	21	8	62%	3
488410	Motor Vehicle Towing	33	39	6	18%	3
485210	Interurban and Rural Bus Transportation	16	22	6	38%	4
488510	Freight Transportation Arrangement	17	13	(4)	(24%)	3
484110	General Freight Trucking, Local	62	43	(19)	(31%)	2
493110	General Warehousing and Storage	49	17	(32)	(65%)	2
<b>TOTAL</b>		<b>227</b>	<b>217</b>	<b>(10)</b>	<b>(4%)</b>	
<b>Logistics Sub-Clusters</b>						
<b>1</b> - Air, Rail, Water Transportation		<b>3</b> - Other Services				
<b>2</b> - Freight & Warehousing		<b>4</b> - Transit				

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

## WATER TECHNOLOGY CLUSTER

In Madera, the only two sectors under the Water Technology cluster that are expected to have an employment increase are related to manufacturing and wholesalers of farm 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

Very few manufacturing industries are projected to increase employment by 20 persons or less, during the next five years. In fact, industries are losing more than 50 employees by 2017 (Table 3.9). With anticipated small gains in other concrete product manufacturing, establishments included as part of the Manufacturing cluster show a total 101 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
327390	Other Concrete Product Manufacturing	23	43	20	87.0%
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	59	77	18	30.5%
327331	Concrete Block and Brick Manufacturing	21	34	13	61.9%
335929	Other Communication and Energy Wire Manufacturing	43	56	13	30.2%
334416	Electronic Coil, Transformer, and Other Inductor Manufacturing	36	47	11	30.6%
333515	Cutting Tool and Machine Tool Accessory Manufacturing	30	40	10	33.3%
327332	Concrete Pipe Manufacturing	67	57	(10)	(14.9%)
327993	Mineral Wool Manufacturing	200	187	(13)	(6.5%)
333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	380	348	(32)	(8.4%)
333294	Food Product Machinery Manufacturing	134	96	(38)	(28.4%)
321991	Manufactured Home (Mobile Home) Manufacturing	70	31	(39)	(55.7%)
336340	Motor Vehicle Brake System Manufacturing	131	61	(70)	(53.4%)
<b>TOTAL</b>		<b>1,568</b>	<b>1,467</b>	<b>(101)</b>	<b>(7.2%)</b>

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.

## AGRICULTURE CLUSTER

Farmworkers and laborers, crop, nursery, and greenhouse (SOC 45-2092) is the largest growing agriculture related occupation in the county with an anticipated 240 new persons, while Farmers, ranchers, and other agricultural managers (SO11-9013) will add about 30 persons by 2017. This table shows that occupational estimates are corresponding with the employment projection tables presented in the previous section. As mentioned before, production is one of the growing sub-clusters under Agriculture and the growing occupational trend responds to this projection as well (Table 3.10).

**TABLE 3.10:  
AGRICULTURE CLUSTER**

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	5,636	6,479	6,719	240	4%	\$8.85	1
11-9013	Farmers, Ranchers, and Other Agricultural Managers	310	340	369	29	9%	\$23.90	4
37-3011	Landscaping and Groundskeeping Workers	64	81	109	28	35%	\$11.62	1
37-2021	Pest Control Workers	56	55	83	28	51%	\$14.92	2
53-7063	Laborers and Freight, Stock, and Material Movers, Hand	202	220	244	24	11%	\$11.48	1
45-2092	Agricultural Equipment Operators	525	601	620	19	3%	\$9.71	1
53-7065	Packers and Packagers, Hand	143	168	184	16	10%	\$8.99	1
53-3031	Driver/Sales Workers	31	32	42	10	31%	\$12.20	1
51-3092	Food Batchmakers	85	97	77	(20)	(21%)	\$15.53	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

Source: EMSI 2013.2 Class of Worker Dataset-QCEW Employees

## ENERGY CLUSTER

In Madera, occupations under the Energy cluster that are estimated to decline are related to construction and extraction services; these are related to the energy efficiency, power generation and transmission and alternative energy generation and production sub-clusters (Table 3.11).

**TABLE 3.11:  
ENERGY CLUSTER**

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
23-1011	Lawyers	24	40	16		67%	\$68.51	9
13-1111	Management Analysts	13	21	8		62%	\$31.42	8
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	26	33	7		27%	\$15.60	1
13-1161	Market Research Analysts and Marketing Specialists	17	24	7		41%	\$34.11	7
43-3031	Bookkeeping, Accounting, and Auditing Clerks	28	34	6		21%	\$17.11	2
43-4171	Receptionists and Information Clerks	17	22	5		29%	\$12.06	1
47-2152	Plumbers, Pipefitters, and Steamfitters	14	15	1		7%	\$18.10	3
47-2061	Construction Laborers	42	41	(1)		(2%)	\$18.04	1
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	16	14	(2)		(13%)	\$27.48	4

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	15	11	(4)	(27%)	\$24.82	5
47-2181	Roofers	32	26	(6)	(19%)	\$20.22	2
47-2152	Plumbers, Pipefitters, and Steamfitters	55	36	(19)	(35%)	\$18.10	3
<b>1</b> - Short-term on-the-job training		<b>6</b> - Associate's degree					
<b>2</b> - Moderate-term on-the-job training		<b>7</b> - Bachelor's degree					
<b>3</b> - Long-term on-the-job training		<b>8</b> - Bachelor's or higher degree, plus work experience					
<b>4</b> - Work experience in a related occupation		<b>9</b> - First professional degree					
<b>5</b> - Postsecondary non-degree award		<b>10</b> - Masters					

Source: EMSI 2013.2 Class of Worker Dataset-QCEW Employees

## HEALTH AND WELLNESS CLUSTER

Under this cluster, Registered nurses occupation (SOC 29-1111) is estimated to grow by 269 persons. In general, Healthcare Practitioners and Technical Occupations (SOC 29-000) will add 372 persons. Health Care Support includes the second largest occupational growth with 120 new persons. For instance, nursing aides (SOC 31-1012) will add 60 new employees and medical assistants (SOC 31-9092) will add 36 persons (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	1,302	1,571	269	21%	\$39.24	6
31-1012	Nursing Aides, Orderlies, and Attendants	388	448	60	15%	\$12.71	5
43-6013	Medical Secretaries	206	251	45	22%	\$15.61	2
31-9092	Medical Assistants	217	253	36	17%	\$13.94	2
29-2061	Licensed Practical and Licensed Vocational Nurses	156	179	23	15%	\$23.36	5
29-2037	Radiologic Technologists and Technicians	108	131	23	21%	\$30.04	6
29-1069	Physicians and Surgeons, All Other	125	143	18	14%	\$122.05	9
19-1042	Medical Scientists, Except Epidemiologists	85	103	18	21%	\$47.20	11
29-2052	Pharmacy Technicians	86	103	17	20%	\$19.24	2
11-9111	Medical and Health Services Managers	73	88	15	21%	\$52.59	7
43-4171	Receptionists and Information Clerks	51	66	15	29%	\$12.06	1
31-9091	Dental Assistants	111	124	13	12%	\$19.43	5
43-9061	Office Clerks, General	66	78	12	18%	\$13.74	1
31-9799	Healthcare Support Workers, All Other	84	95	11	13%	\$15.99	1
29-2071	Medical Records and Health Information Technicians	72	83	11	15%	\$16.59	5
37-2012	Maids and Housekeeping Cleaners	65	76	11	17%	\$9.17	1

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
29-2041	Emergency Medical Technicians and Paramedics	51	62	11	22%	\$14.23	5
43-3021	Billing and Posting Clerks	91	101	10	11%	\$17.50	1
39-9021	Personal Care Aides	81	58	(23)	(28%)	\$10.55	1
<b>1</b> - Short-term on-the-job training		<b>6</b> - Associate's degree					
<b>2</b> - Moderate-term on-the-job training		<b>7</b> - Bachelor's degree					
<b>3</b> - Long-term on-the-job training		<b>8</b> - Bachelor's or higher degree, plus work experience					
<b>4</b> - Work experience in a related occupation		<b>9</b> - First professional degree					
<b>5</b> - Postsecondary non-degree award		<b>10</b> - Masters					

Source: EMSI 2013.2 Class of Worker Dataset-QCEW Employees

## LOGISTICS CLUSTER

Unlike other counties with employment growth in Logistics, Madera is estimated to see a smaller change in occupations under the Logistics cluster. The heavy tractor trailer driver (SOC 53-3032) is estimated to lose 12 employees in 2017. It has been declining since 2012, from 166 persons to an estimated 154 persons in 2017 (Table 3.13).

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*
53-3021	Bus Drivers, Transit and Intercity	12	16	4	33%	\$18.43	
53-3032	Heavy and Tractor-Trailer Truck Drivers	13	16	3	23%	\$17.05	1
53-7051	Industrial Truck and Tractor Operators	12	11	(1)	(8%)	\$10.62	1
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	31	29	(2)	(6%)	\$11.84	1
53-3033	Light Truck or Delivery Services Drivers	24	21	(3)	(13%)	\$11.31	1
53-3032	Heavy and Tractor-Trailer Truck Drivers	166	154	(12)	(7%)	\$17.05	1
<b>1</b> - Short-term on-the-job training		<b>6</b> - Associate's degree					
<b>2</b> - Moderate-term on-the-job training		<b>7</b> - Bachelor's degree					
<b>3</b> - Long-term on-the-job training		<b>8</b> - Bachelor's or higher degree, plus work experience					
<b>4</b> - Work experience in a related occupation		<b>9</b> - First professional degree					
<b>5</b> - Postsecondary non-degree award		<b>10</b> - Masters					

Source: EMSI 2013.2 Class of Worker Dataset-QCEW Employees



## MANUFACTURING CLUSTER

Many manufacturing industries are projected to decline. Most occupations within manufacturing are expected to see decrease but not more than 20 persons.

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*
53-3032	Heavy and Tractor-Trailer Truck Drivers	47	53	6	13%	\$17.05	1
51-9121	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	28	29	1	4%	\$12.37	2
47-2061	Construction Laborers	13	14	1	8%	\$18.04	1
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	18	17	(1)	(6%)	\$17.10	2
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	15	14	(1)	(7%)	\$26.60	3
51-2023	Electromechanical Equipment Assemblers	14	13	(1)	(7%)	\$13.73	1
47-2211	Sheet Metal Workers	14	13	(1)	(7%)	\$18.49	3
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	13	12	(1)	(8%)	\$9.74	1
43-4051	Customer Service Representatives	13	12	(1)	(8%)	\$15.82	1
43-1011	First-Line Supervisors of Office and Administrative Support Workers	13	12	(1)	(8%)	\$24.59	4
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	33	31	(2)	(6%)	\$24.36	2
51-9198	Helpers--Production Workers	30	28	(2)	(7%)	\$9.08	1
43-9061	Office Clerks, General	28	26	(2)	(7%)	\$13.74	1
43-3031	Bookkeeping, Accounting, and Auditing Clerks	28	26	(2)	(7%)	\$17.11	2
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	25	23	(2)	(8%)	\$11.84	1
17-2141	Mechanical Engineers	19	17	(2)	(11%)	\$25.58	7
43-5071	Shipping, Receiving, and Traffic Clerks	18	16	(2)	(11%)	\$16.47	1
17-2112	Industrial Engineers	13	11	(2)	(15%)	\$33.42	7
43-5081	Stock Clerks and Order Fillers	13	11	(2)	(15%)	\$11.09	1
15-1132	Software Developers, Applications	12	10	(2)	(17%)	\$40.14	7
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	12	10	(2)	(17%)	\$15.60	1
53-7051	Industrial Truck and Tractor Operators	25	22	(3)	(12%)	\$10.62	1
51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	15	12	(3)	(20%)	\$15.85	2
49-9071	Maintenance and Repair Workers, General	55	51	(4)	(7%)	\$17.50	2
51-1011	First-Line Supervisors of Product. & Operating Workers	54	50	(4)	(7%)	\$27.22	4

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
43-5061	Production, Planning, and Expediting Clerks	45	41	(4)	(9%)	\$27.20	2
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	43	39	(4)	(9%)	\$17.32	2
51-4041	Machinists	38	34	(4)	(11%)	\$20.22	3
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	34	30	(4)	(12%)	\$43.22	7
51-2099	Assemblers and Fabricators, All Other	27	23	(4)	(15%)	\$16.53	2
51-4121	Welders, Cutters, Solderers, and Brazers	76	71	(5)	(7%)	\$17.59	5
11-1021	General and Operations Managers	36	31	(5)	(14%)	\$44.93	8
51-2092	Team Assemblers	177	153	(24)	(14%)	\$13.36	2
<b>1</b> - Short-term on-the-job training <b>2</b> - Moderate-term on-the-job training <b>3</b> - Long-term on-the-job training <b>4</b> - Work experience in a related occupation <b>5</b> - Postsecondary non-degree award		<b>6</b> - Associate's degree <b>7</b> - Bachelor's degree <b>8</b> - Bachelor's or higher degree, plus work experience <b>9</b> - First professional degree <b>10</b> - Masters					

Source: EMSI 2013.2 Class of Worker Dataset-QCEW Employees

## 4. SKILLS ANALYSIS

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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 975 over a five year period, or 195 per year on average (Table 4.1). The bulk of the 975 new jobs are in the lowest education and training categories of short-term OJT (767) and moderate-term OJT (168). While a 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 slightly over 1,500 persons who are unemployed who previously worked in industries within the Agricultural cluster. Of the 1,500 unemployed persons, the bulk is in the lower educational attainment rung, of no high school diploma (655) and not applicable (233). Another 380 are in the lower-middle educational attainment rung of some college (164) and high school diploma (219). 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: MADERA 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	17	<b>17</b>	01 Advanced degree	0	0	<b>0</b>
02 Bachelor's	67	135	<b>202</b>	02 Bachelor's	0	0	<b>0</b>
03 Associate's	0	18	<b>18</b>	03 Associate's	0	0	<b>0</b>
04 Some college	87	78	<b>164</b>	04 Work experience in related occupation	43	0	<b>43</b>
05 HS diploma/GED	0	219	<b>219</b>	05 Long-term OJT	0	-4	<b>-4</b>
06 No HS diploma/GED	38	617	<b>655</b>	06 Moderate-term OJT	0	168	<b>168</b>
99 NA	0	233	<b>233</b>	07 Short-term OJT	0	767	<b>767</b>
	<b>191</b>	<b>1,317</b>	<b>1,508</b>		<b>43</b>	<b>932</b>	<b>975</b>

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 974 new jobs, the bulk of which are in the middle (i.e., jobs requiring an AA) and lower-middle (i.e. jobs requiring relevant work experience or long-term OJT) rungs with respect to education and training requirements. Of the 974 new jobs, at 460, almost half will require an AA degree, with another 186 requiring relevant work experience (Table 4.2). Almost 250 of the 974 new positions will require lowest levels of education and training, i.e. moderate-term OJT (154) and/or short-term OJT (93). Regarding the underutilized labor force with experience in the Health and Wellness cluster, most are also in the lower-middle to middle educational attainment rungs, with 185 having either attended college - no degree (142) or earned their high school diploma (43), and another 46 having earned an AA. 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: MADERA COUNTY  
(HEALTHCARE - 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	57	0	57
02 Bachelor's	0	0	0	02 Bachelor's	24	0	24
03 Associate's	0	46	46	03 Associate's	0	460	460
04 Some college	20	122	142	04 Work experience in related occupation	95	91	186
05 HS diploma/GED	0	43	43	05 Long-term OJT	0	0	0
06 No HS diploma/GED	18	0	18	06 Moderate-term OJT	0	154	154
99 NA	0	0	0	07 Short-term OJT	0	93	93
	<b>38</b>	<b>211</b>	<b>249</b>		<b>175</b>	<b>799</b>	<b>974</b>

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

# 5. TRAINING RESOURCES

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This section identifies whether training programs exist for the occupations in the growing industry clusters, which are Agriculture and Health-and-Welfare. 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 is one job training program specific to this occupation.

There will be an increase in the number of a variety of ag-based occupations but, according to the California EDD ETPL database, there are no job training programs operating in Madera County that specifically apply to any of the growing occupations in the Agriculture cluster (Table 5.1). There is also a lack of job training programs aimed at growing occupations in the Health and Welfare cluster, as this cluster has 18 growing occupations, 12 of which have no job training programs.

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

<b>OCCSOC</b>	<b>DESCRIPTION</b>	<b>Agriculture (23/23)</b>	<b>Health and Welfare (18/12)</b>	<b>Required Education/Training</b>
11-9013	Farmers, Ranchers, and Other Agricultural Managers	0	---	Work experience in related occupation
11-9111	Medical and Health Services Managers	---	0	Bachelor's
17-2141	Mechanical Engineers	---	---	Bachelor's
19-1042	Medical Scientists, Except Epidemiologists	---	0	Advanced degree
29-1069	Physicians and Surgeons, All Other	---	0	Advanced degree
29-1111	Registered Nurses	---	1	Associate's
29-2037	Radiologic Technologists and Technicians	---	0	Associate's
29-2041	Emergency Medical Technicians and Paramedics	---	0	Work experience in related occupation
29-2052	Pharmacy Technicians	---	1	Moderate-term OJT
29-2061	Licensed Practical and Licensed Vocational Nurses	---	0	Work experience in related occupation
29-2071	Medical Records and Health Information Technicians	---	0	Work experience in related occupation
31-1012	Nursing Aides, Orderlies, and Attendants	---	3	Work experience in related occupation
31-9091	Dental Assistants	---	0	Work experience in related occupation
31-9092	Medical Assistants	---	2	Moderate-term OJT
31-9799	Healthcare Support Workers, All Other	---	0	Short-term OJT
37-2012	Maids and Housekeeping Cleaners	---	0	Short-term OJT
37-2021	Pest Control Workers	0	---	Moderate-term OJT
37-3011	Landscaping and Groundskeeping Workers	0	---	Short-term OJT
41-2011	Cashiers	0	---	Short-term OJT
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	0	---	Moderate-term OJT
43-3021	Billing and Posting Clerks	---	0	Short-term OJT
43-4171	Receptionists and Information Clerks	---	1	Short-term OJT
43-5081	Stock Clerks and Order Fillers	0	---	Short-term OJT
43-6013	Medical Secretaries	---	1	Moderate-term OJT
43-9061	Office Clerks, General	0	0	Short-term OJT
43-9799	Office and Administrative Support Workers, All Other	0	---	Short-term OJT

<b>OCCSOC</b>	<b>DESCRIPTION</b>	<b>Agriculture (23/23)</b>	<b>Health and Welfare (18/12)</b>	<b>Required Education/Training</b>
45-2041	Graders and Sorters, Agricultural Products	0	---	Short-term OJT
45-2091	Agricultural Equipment Operators	0	---	Short-term OJT
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	0	---	Short-term OJT
47-2121	Glaziers	0	---	Long-term OJT
49-9041	Industrial Machinery Mechanics	0	---	Long-term OJT
49-9071	Maintenance and Repair Workers, General	0	---	Moderate-term OJT
51-2092	Team Assemblers	0	---	Moderate-term OJT
51-3022	Meat, Poultry, and Fish Cutters and Trimmers	0	---	Short-term OJT
51-9041	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	0	---	Moderate-term OJT
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	0	---	Moderate-term OJT
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	0	---	Long-term OJT
51-9196	Paper Goods Machine Setters, Operators, and Tenders	0	---	Moderate-term OJT
53-3021	Bus Drivers, Transit and Intercity	---	---	Moderate-term OJT
53-3031	Driver/Sales Workers	0	---	Short-term OJT
53-3032	Heavy and Tractor-Trailer Truck Drivers	---	---	Short-term OJT
53-3033	Light Truck or Delivery Services Drivers	0	---	Short-term OJT
53-7064	Packers and Packagers, Hand	0	---	Short-term OJT

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



Below we identify the one WIA-approved job training provider providing training programs for select growing occupations in the Health and Welfare cluster. This provider is Boston Reed, which has a program based in the City of Madera (Table 5.2).

TABLE 5.2: SPECIFIC JOB TRAINING PROVIDERS OFFERING TRAINING FOR OCCUPATIONS IDENTIFIED IN TOP GROWING CLUSTERS	
Health and Welfare (1)	Agriculture (0)
BOSTON REED MADERA CA 9637	

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

# APPENDIX A: CLUSTER DEFINITIONS

## AGRICULTURE CLUSTER

CLUSTER COMPONENTS BY NAICS CODE	
<b>Agriculture Cluster - Production</b>	
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
<b>Agriculture Cluster - Processing</b>	
311	Food Manufacturing
312	Beverage and Tobacco Product Manufacturing
321920	Wood Container and Pallet Mfg
322211	Corrugated and Solid Fiber Box Mfg
<b>Agriculture Cluster - Distribution</b>	
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	
<b>Agriculture Cluster - Support</b>	
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			
<b>ALTERNATIVE ENERGY GENERATION/PRODUCTION</b>			
23711	Water and Sewer Line and Related Structures Construction	311223	Other Oilseed Processing
23816	Roofing Contractors	325193	Ethyl Alcohol Manufacturing
<b>ALTERNATIVE ENERGY DISTRIBUTION</b>			
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		
<b>ENERGY EFFICIENCY</b>			
23821	Electrical Contractors and Other Wiring Installation Contractors	23831	Drywall and Insulation Contractors
23822	Plumbing, Heating, and Air-Conditioning Contractors		
<b>EQUIPMENT MANUFACTURING</b>			
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		
<b>PETROLEUM PRODUCTION &amp; PETROLEUM DISTRIBUTION</b>			
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		
<b>POWER GENERATION AND TRANSMISSION</b>			
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		
<b>RESEARCH &amp; SERVICES</b>			
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			
<b>HEALTH CARE DELIVERY</b>			
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
<b>MEDICAL DEVICE MANUFACTURING</b>			
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		
<b>PHARMACEUTICALS</b>			
325411	Medicinal and Botanical Manufacturing	325413	In-Vitro Diagnostic Substance Manufacturing
325412	Pharmaceutical Preparation Manufacturing	325414	Biological Product (except Diagnostic) Manufacturing
<b>SUPPLIES AND SERVICES</b>			
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		
<b>WELLNESS AND FITNESS</b>			
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			
<b>AIR, RAIL, WATER TRANSPORTATION</b>			
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
<b>FREIGHT &amp; WAREHOUSING</b>			
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
<b>OTHER SERVICES</b>			
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		
<b>RELATED MANUFACTURING</b>			
336120	Heavy Duty Truck Manufacturing	336611	Ship Building and Repairing
336510	Railroad Rolling Stock Manufacturing	336612	Boat Building
<b>TRANSIT</b>			
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			
<b>HEALTH &amp; WELLNESS MANUFACTURING</b>			
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		
<b>FOOD PROCESSING</b>			
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			
<b>FOOD PROCESSING (CONTINUED)</b>			
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
<b>ENERGY RELATED MANUFACTURING</b>			
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
<b>LOGISTICS MANUFACTURING</b>			
336120	Heavy Duty Truck Manufacturing	336611	Ship Building and Repairing
336510	Railroad Rolling Stock Manufacturing		
<b>WATER TECHNOLOGY MANUFACTURING</b>			
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			
<b>HEALTH &amp; WELLNESS MANUFACTURING</b>			
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		
<b>OTHER</b>			
31-33	All Manufacturing Industries not listed above		

## WATER TECHNOLOGY CLUSTER

CLUSTER COMPONENTS BY NAICS CODE			
<b>2007 NAICS U.S. TITLE</b>			
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