

# **MOTHER LODGE CONSORTIUM LABOR FORCE ANALYSIS**

NOVEMBER 1, 2013

Prepared for:

**MOTHER LODGE CONSORTIUM  
WORKFORCE INVESTMENT BOARD**

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# INTRODUCTION AND SUMMARY

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This report presents information on growing industry clusters in Mother Lode Consortium Workforce Investment Board (WIB) 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 US Census' Public Use Microdata Series (PUMS) 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 Mother Lode Consortium WIB, but provides greater detail on the employment status and skills levels of selected demographic groups.

## SUMMARY

**Economic Conditions.** The unemployment rate improved to 5.3% in Amador, 5.6% in Mariposa, 5.8% in Tuolumne, and 5.9% in Calaveras prior to the recession in 2006. However, as the recession continued, the unemployment rate reached a high of 13.3% in Amador, 11.9% in Mariposa, 13.8% in Tuolumne, and 15.3% Calaveras by 2010. It has since declined to a 2012 annual average level of 11.8% in Amador, 11.0% in Mariposa, 11.6% in Tuolumne, and 13.0% in Calaveras.

**Industry Clusters.** Health and Wellness was the largest industry cluster in Mother Lode Consortium WIB, with more than 4,460 jobs, however its concentration was below the statewide average. Agricultural jobs have declined over the past decade but are projected to slightly increase over the

next five years. Energy was the third largest cluster with 850 jobs, but EMSI projects lower jobs by 2017. The Manufacturing and Logistics clusters with 791 jobs and 349 jobs were the fourth and fifth clusters in the Mother Lode Consortium WIB. 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 (42.7 percent) than do Whites (52.7 percent). While in many counties in the nearby Central Valley region there are stark differences within economic sectors in unemployment rates between persons with a college degree (i.e. lower unemployment rates) and those without (i.e. higher unemployment rates), this is not necessarily the case in the Mother Lode region: in many instances within the same sector unemployment rates are higher for those with a college degree than for those without a degree.

**Veterans.** Based on the most recent ACS data, there are about 8,753 veterans in the labor force in the Mother Lode region, representing about 12.4 percent of the labor force. It is estimated that 9.5 percent of veterans were unemployed in 2011, compared to 15.8 percent for the non-veterans labor force, with an overall unemployment rate at 14.3 percent for all persons in the labor force regardless of veteran status. Among the unemployed veterans, the largest group is in the 35-54 age group, which contains 323 out of a total of 828 unemployed veterans of all ages.

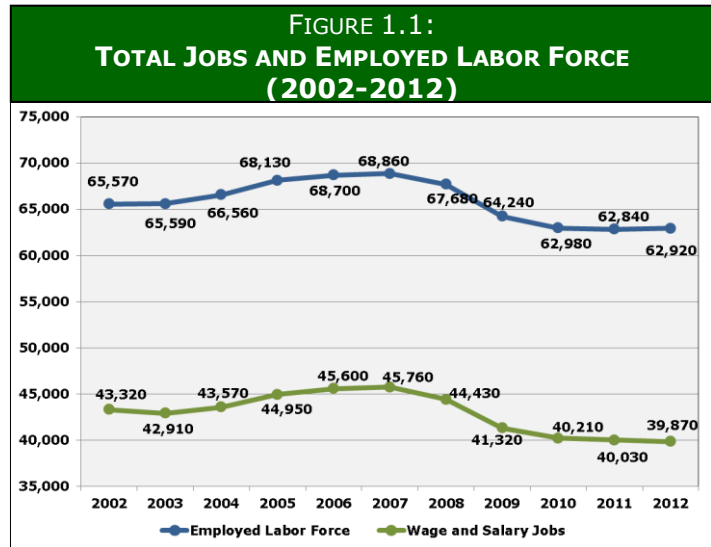
**Disabled Workers.** There are an estimated 6,400 disabled workers in the labor force, comprising 9.0 percent of the region's labor force. The unemployment rate for disabled workers in 2011 is estimated at 15.5 percent, compared to 11.7 percent for the non-disabled labor force. Among the disabled, the largest group is in the 35-54 age group, which contains 827 out of a total of 1,301 disabled persons of all ages.

**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 the region and where there are gaps. Of the region's clusters, Health and Welfare is projected to grow the most new jobs between 2012 and 2017, at 1,012 over a five year period, or 201 per year on average. The new jobs are fairly well-represented in all educational requirement categories. The lowest educational rung expects to increase by almost 500 new jobs, with 382 requiring short-term OJT and another 106 requiring moderate-term OJT. New jobs are also in the lower-middle and middle education and training categories, which comprises of relevant work experience (296) and an Associate's degree (149) respectively. There are approximately 53 occupations that are expected to increase in numbers within the Health and Welfare cluster. For all of these occupations, there are no job training programs, according to the California EDD ETPL database. While the ETPL database identifies a number of job training providers in the region, these providers are not providing training programs in growing occupations in the region's key clusters of Health and Welfare, Energy, and Agriculture.

# 1. LOCAL ECONOMIC CONDITIONS

## EMPLOYMENT TRENDS

Employment growth in Mother Lode Consortium WIB was on upward trend until 2007, after which it started to decline. Between 2002 and 2007, the Counties added 2,440 jobs in total, reaching a peak of 45,760 wage and salary jobs (Figure 1.1). Job losses from the recession began to occur in 2008, accelerated in 2009, and continued until 2012 when employment declined to less than 39,870 jobs. After the 2008 recession, employers struggled to add new jobs, by 2012, but ended with 5,890 jobs lower than the peak in 2007. The employed labor force, which includes self-employed and out-commuters, followed a very similar pattern.



Source: ADE, Inc., California Economic Development Department

The counties had a total of 68,860 employed residents in 2007 but due to the recession, employment dropped and 6,020 residents lost their jobs by 2011. Employment recovered only slightly between 2011 and 2012 by adding 80 jobs and ending with a total of 62,920 residents employed in 2012 (Figure 1.1). In 2010, the unemployment rate peaked at 15.3 percent in Calaveras County, 13.8 percent in Tuolumne County, 13.3 percent in Amador County, and 11.9 percent in Mariposa County. It then began to drop as employment recovered (Figure 1.2). By 2012, 62,920 residents were employed (Table 1.1).

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

	2002	2012	2000-2012
Population	152,025	154,100	<b>1.36%</b>
Labor Force	70,040	71,470	<b>2.04%</b>
Employed Labor Force	65,570	62,920	<b>(4.04%)</b>
Wage and Salary Jobs	43,320	40,245	<b>(7.10%)</b>

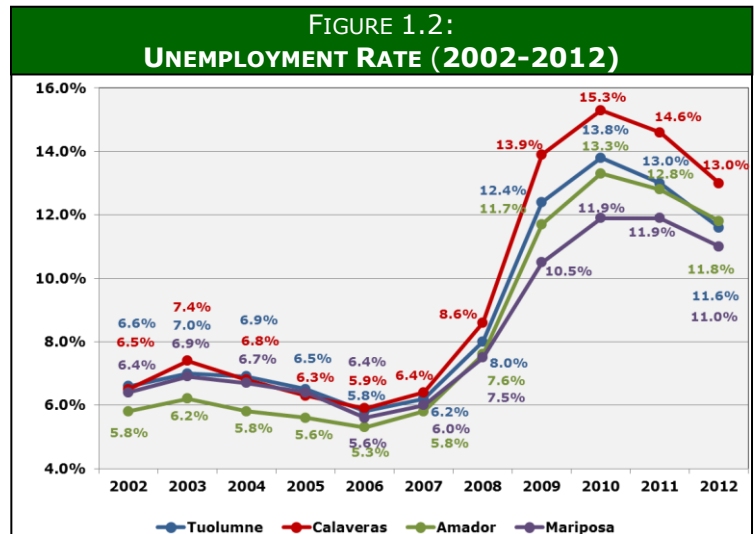
Source: ADE, Inc., Department of Finance, California Economic Development Department

Population and the region's labor force, over 16 years of age, had a slight and steady change from 2000 to 2012. Population grew by less than 1.5 percent between 2002 and 2012; labor force had a similar growth rate of only 2 percent (Table 1.1). However the percentage of residents who found employment between 2000 and 2012 decreased by 4 percent. Additionally, compared to labor force, jobs declined by 7 percent from 2002 while labor force grew by 2 percent (Table 1.1).

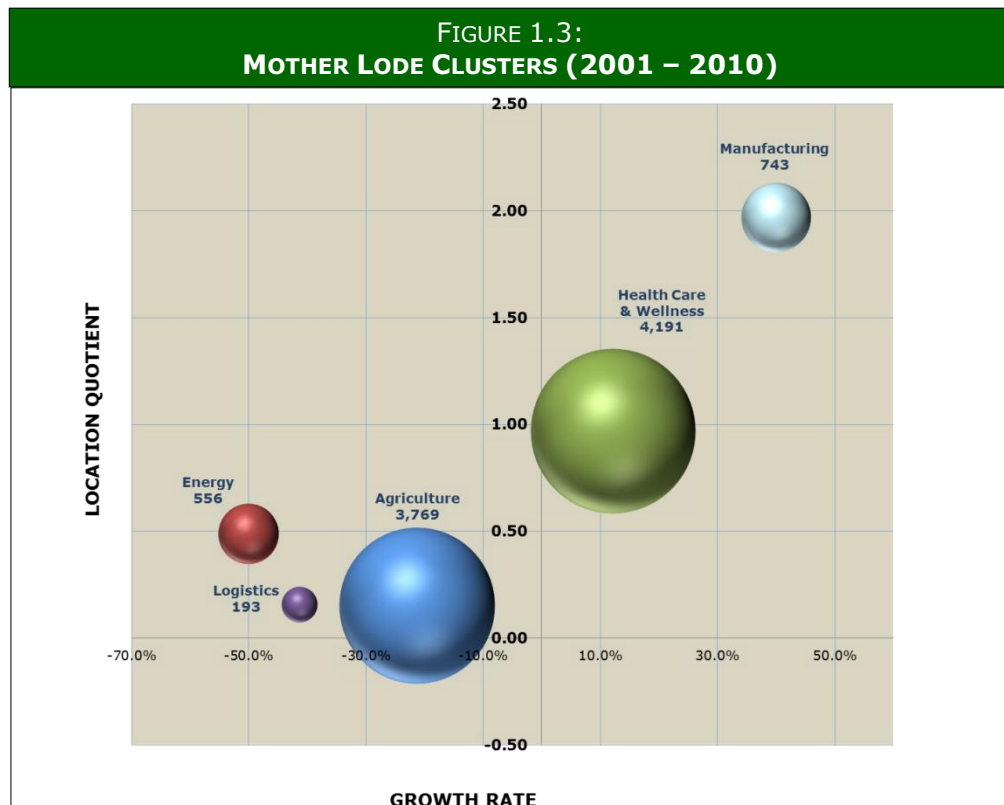
The number of wage and salary jobs is almost 44 percent lower than the size of the labor force in the Mother Lode Consortium WIB. Some of this difference would be due to self-employment, but it is also clear there is a large out-commute for workers from the County to employment centers in the Central Valley and the Sacramento Region.

Health Care was the largest cluster with 4,191 employees in 2010 (Figure 1.3). The Agriculture cluster with 3,769 employees was the second largest cluster in the Mother Lode Consortium WIB. Logistics was the smallest industry with 193 employees. Energy and Manufacturing clusters have 556 and 743 employees, respectively. The Manufacturing cluster has shown the highest growth rate over the past ten years. The Agriculture, Logistics, and Energy clusters, on the other hand, have declined within the last decade.

Manufacturing is not the largest cluster but has the highest concentrated job sector at 2.0 times the state average. The Health Care concentration matches the state average but the other clusters are below average (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 70,196 persons in the region’s labor force, with 30,367 in the 35 to 54 prime working-age category (Table 2.1)<sup>1</sup>. Of the 30,367 prime working-age labor force, 25,123 (or 82.7 percent) are White, 3,014 (9.9 percent) are Latino, and the 2,230 (7.3 percent) are some other race (e.g., Black, Asian-Pacific Islander, Other, and/or Two or More). Of the 25,123 persons who are White, 4,956 (19.7 percent) earned at least a Bachelor’s degree. In comparison, 12.4 percent of all prime working-age Latino adults in the labor force earned at least a Bachelor’s, or 375 out of 3,014. For persons in the Other category, an estimated 428 (19.2 percent) prime working-age adults out of a labor force of 2,230 earned at least a Bachelor’s degree.

**TABLE 2.1:  
LABOR FORCE BY RACE/ETHNICITY, AGE AND EDUCATIONAL ATTAINMENT:  
MOTHER LODE (AMADOR, CALAVERAS, MARIPOSA AND TUOLUMNE)  
ALL PERSONS 16 IN MOTHER LODE REGION -- IN LABOR FORCE**

	16 - 19	20 - 29	30 - 34	35 - 54	55 - 64	65 & over	Mother Lode
	<b>3,658</b>	<b>11,715</b>	<b>5,283</b>	<b>30,367</b>	<b>14,803</b>	<b>4,370</b>	<b>70,196</b>
<b>01 White</b>	<b>2,791</b>	<b>8,918</b>	<b>3,447</b>	<b>25,123</b>	<b>13,411</b>	<b>3,911</b>	<b>57,602</b>
Did not earn HS dipl/GED or degree: not in school	68	631	122	1,156	557	98	2,633
High school graduate (includes equivalency)	1,031	3,269	1,444	7,949	2,791	857	17,342
Some college - no degree & not attending	8	2,493	803	8,182	4,500	1,475	17,461
Associates degree/still attending college	709	1,263	469	2,880	1,509	318	7,146
Bachelor's degree or higher	0	1,262	610	4,956	4,053	1,163	12,045
NA	975	0	0	0	0	0	975

<sup>1</sup>As noted in Table 1.1, EDD estimates a labor force figure of 71,470 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	Mother Lode
<b>02 Latino</b>	<b>634</b>	<b>1,712</b>	<b>1,066</b>	<b>3,014</b>	<b>802</b>	<b>314</b>	<b>7,543</b>
Did not earn HS dipl/GED or degree: not in school	207	715	442	757	210	12	2,343
High school graduate (includes equivalency)	117	426	329	997	243	46	2,159
Some college - no degree & not attending	0	382	214	750	242	241	1,828
Associates degree/still attending college	208	163	42	135	31	0	579
Bachelor's degree or higher	0	26	39	375	77	16	533
NA	101	0	0	0	0	0	101
<b>03 Other</b>	<b>233</b>	<b>1,085</b>	<b>769</b>	<b>2,230</b>	<b>591</b>	<b>145</b>	<b>5,052</b>
Did not earn HS dipl/GED or degree: not in school	0	7	5	210	15	0	237
High school graduate (includes equivalency)	122	391	282	599	131	29	1,555
Some college - no degree & not attending	2	342	397	930	234	93	1,999
Associates degree/still attending college	0	131	4	63	51	0	249
Bachelor's degree or higher	0	215	80	428	159	22	904
NA	108	0	0	0	0	0	108

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.}

While there is an educational gap between Latinos and either the White or Other labor force, this gap is also observed along the lines of age. Starting with the 20s age cohort, we see that an estimated 26 out of 1,712 Latinos earned at least a Bachelor's degree, or 1.5 percent, which is significantly less than rates estimated for Whites (14.2 percent, or 1,262 out of 8,918) and Others (19.8 percent, or 215 out of 1,085). Across all age categories, approximately 18-to-21 percent of Other and/or White persons in the labor force earned at least a Bachelor's degree, versus 7.0 percent (533 out of 7,543) for Latinos.

While in the nearby Central Valley region persons with college degrees exhibit lower rates of unemployment relative to those without a degree, the situation in the Mother Lode region is mixed. This may be due to possible sampling errors by the US Census ACS in collecting information from persons residing in a highly mountainous and rural region. While the overall annual unemployment rate for the historic downturn three-year period of 2009-2011 averaged 14.3 percent, for persons who are White with at least a Bachelor's degree, the jobless rate was significantly lower, at 7.7 percent (Table 2.2). However, Latinos with a Bachelor's degree exhibit jobless rate of 12.2 percent (65 unemployed out of 533 in the labor force), and Others with a college degree have a 31.2 percent unemployment rate (282 unemployed out of 904 in the labor force).



**TABLE 2.2:  
UNEMPLOYMENT RATE BY RACE/ETHNICITY, AGE AND EDUCATIONAL ATTAINMENT:  
MOTHER LODE (AMADOR, CALAVERAS, MARIPOSA & TUOLUMNE) (2009-2011)  
ALL PERSONS 16 IN MOTHER LODE REGION-- IN LABOR FORCE**

	16 - 19	20 - 29	30 - 34	35 - 54	55 - 64	65 & over	Mother Lode
	<b>33.7%</b>	<b>20.7%</b>	<b>10.6%</b>	<b>12.1%</b>	<b>11.5%</b>	<b>9.9%</b>	<b>14.3%</b>
<b>01 White</b>	<b>35.4%</b>	<b>22.7%</b>	<b>12.4%</b>	<b>11.0%</b>	<b>10.5%</b>	<b>7.4%</b>	<b>13.7%</b>
Did not earn HS dipl/GED or degree: not in school	0.0%	30.7%	32.7%	24.7%	9.5%	0.0%	21.8%
High school graduate (includes equivalency)	30.2%	23.7%	15.5%	16.0%	10.2%	11.9%	17.1%
Some college - no degree & not attending	0.0%	25.0%	6.7%	8.7%	9.0%	5.2%	10.7%
Associates degree/still attending college	42.7%	26.3%	18.9%	7.7%	17.4%	0.0%	16.9%
Bachelor's degree or higher	0.0%	8.2%	3.2%	5.6%	10.0%	9.6%	7.7%
NA	38.5%	0.0%	0.0%	0.0%	0.0%	0.0%	38.5%
<b>02 Latino</b>	<b>38.3%</b>	<b>11.9%</b>	<b>12.4%</b>	<b>7.1%</b>	<b>15.6%</b>	<b>45.6%</b>	<b>14.1%</b>
Did not earn HS dipl/GED or degree: not in school	63.0%	0.0%	0.0%	14.3%	0.0%	0.0%	10.2%
High school graduate (includes equivalency)	12.1%	0.0%	26.5%	1.6%	43.4%	0.0%	10.3%
Some college - no degree & not attending	0.0%	53.1%	5.0%	3.4%	8.1%	59.6%	22.0%
Associates degree/still attending college	41.3%	0.0%	81.8%	0.0%	0.0%	0.0%	20.7%
Bachelor's degree or higher	0.0%	0.0%	0.0%	17.3%	0.0%	0.0%	12.2%
NA	12.1%	0.0%	0.0%	0.0%	0.0%	0.0%	12.1%
<b>03 Other</b>	<b>0.0%</b>	<b>17.6%</b>	<b>0.3%</b>	<b>31.3%</b>	<b>27.0%</b>	<b>0.0%</b>	<b>20.8%</b>
Did not earn HS dipl/GED or degree: not in school	0.0%	0.0%	50.0%	55.7%	0.0%	0.0%	50.4%
High school graduate (includes equivalency)	0.0%	32.7%	0.0%	24.9%	14.3%	0.0%	19.0%
Some college - no degree & not attending	0.0%	8.4%	0.0%	24.4%	25.9%	0.0%	15.8%
Associates degree/still attending college	0.0%	11.3%	0.0%	34.5%	2.6%	0.0%	15.1%
Bachelor's degree or higher	0.0%	9.1%	0.0%	42.9%	49.6%	0.0%	31.2%
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, Mother Lode Region's labor force, including those who are employed, is not being fully utilized. This discussion underscores the importance of a college degree even in Mother Lode Region. Of the 70,196 persons in the regional labor force in any given year during the 2009-2011 period, 35,337 were employed full-time and all-year (i.e. 50.3 percent). The labor force utilization for persons who are White across all age categories is 52.7 percent (30,331 out of 57,602), and this rate rises by slightly over five percentage points to 57.9

percent (6,982 out of 12,045) when isolating on persons who are White *and* with at least a Bachelor's degree. For Latinos, the college degree premium results in a nine percentage point increase, from the labor force utilization for all Latino across all ages (42.7 percent, or 3,225 out of 7,543) to Latinos of all ages with at least a Bachelor's (52.1 percent, or 277 out of 533).

**TABLE 2.3:  
FULLY UTILIZED LABOR FORCE: FULL-TIME AND ALL-YEAR WORKERS BY RACE/ETHNICITY, AGE AND  
EDUCATIONAL ATTAINMENT: MOTHER LODE (AMADOR, CALAVERAS, MARIPOSA & TUOLUMNE) (2009-2011)  
ALL PERSONS 16 IN MOTHER LODE REGION-- IN LABOR FORCE**

	16 - 19	20 - 29	30 - 34	35 - 54	55 - 64	65 & over	Mother Lode
	<b>410</b>	<b>4,186</b>	<b>2,248</b>	<b>18,317</b>	<b>8,860</b>	<b>1,316</b>	<b>35,337</b>
<b>01 White</b>	<b>358</b>	<b>3,196</b>	<b>1,688</b>	<b>15,716</b>	<b>8,143</b>	<b>1,229</b>	<b>30,331</b>
Did not earn HS dipl/GED or degree: not in school	0	263	0	431	418	86	1,198
High school graduate (includes equivalency)	304	1,113	784	4,775	1,764	170	8,910
Some college - no degree & not attending	0	958	436	5,331	2,606	609	9,939
Associates degree/still attending college	54	349	117	1,922	784	75	3,301
Bachelor's degree or higher	0	514	352	3,256	2,572	289	6,982
NA	0	0	0	0	0	0	0
<b>02 Latino</b>	<b>32</b>	<b>717</b>	<b>366</b>	<b>1,599</b>	<b>487</b>	<b>24</b>	<b>3,225</b>
Did not earn HS dipl/GED or degree: not in school	0	300	195	362	166	0	1,023
High school graduate (includes equivalency)	32	201	139	712	120	24	1,228
Some college - no degree & not attending	0	90	5	221	144	0	460
Associates degree/still attending college	0	108	8	100	21	0	236
Bachelor's degree or higher	0	18	19	204	36	0	277
NA	0	0	0	0	0	0	0
<b>03 Other</b>	<b>21</b>	<b>272</b>	<b>194</b>	<b>1,002</b>	<b>230</b>	<b>62</b>	<b>1,782</b>
Did not earn HS dipl/GED or degree: not in school	0	7	3	66	0	0	75
High school graduate (includes equivalency)	21	169	35	295	71	0	590
Some college - no degree & not attending	0	17	135	401	152	41	746
Associates degree/still attending college	0	0	4	27	3	0	35
Bachelor's degree or higher	0	80	17	213	5	22	336
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.}*

As discussed above, while there is a gap in terms of unemployment rates for those with and without a college degree, another picture emerges when unemployment trends are analyzed by sector. In many counties in the nearby Central Valley region there are stark differences within economic sectors in unemployment rates between persons with a college degree (i.e., lower unemployment rates) and those without (i.e., higher unemployment rates), this is not necessarily the case in the Mother Lode region: in many instances within the same sector unemployment rates are higher for those with a college degree than for those without a degree (Table 2.4).

**TABLE 2.4:  
LABOR FORCE AND UNEMPLOYMENT TRENDS BY ECONOMIC SECTOR AND BY COLLEGE DEGREE STATUS:  
MOTHER LODE (AMADOR, CALAVERAS, MARIPOSA AND TUOLUMNE) (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.	427	147	25.6%	644	241	27.3%	1,071	388	26.6%
21 Mining, oil, gas	0	0	0.0%	245	47	16.0%	245	47	16.0%
22 Utilities	210	0	0.0%	1,245	51	3.9%	1,455	51	3.4%
23 Construction	675	120	15.1%	4,426	1,364	23.6%	5,100	1,484	22.5%
31 Manufacturing	285	0	0.0%	656	62	8.7%	941	62	6.2%
32 Manufacturing	75	67	46.9%	485	64	11.7%	561	131	18.9%
33 Manufacturing	372	199	34.8%	1,150	388	25.2%	1,522	587	27.8%
42 Wholesale	180	53	22.7%	877	64	6.8%	1,057	117	10.0%
44 Retail	577	272	32.0%	4,036	661	14.1%	4,614	934	16.8%
45 Retail	338	212	38.6%	1,451	116	7.4%	1,788	328	15.5%
48 Transportation/Warehousing	279	0	0.0%	1,396	112	7.4%	1,675	112	6.3%
49 Transportation/Warehousing	100	0	0.0%	372	20	5.1%	472	20	4.1%
51 Information	536	37	6.5%	436	205	32.0%	972	242	19.9%
52 Finance and Insurance	472	108	18.6%	779	145	15.7%	1,252	254	16.8%
53 Real Estate and Leasing	713	67	8.6%	768	53	6.4%	1,480	120	7.5%
54 Professional, Scientific and Technical	1,331	410	23.5%	915	272	22.9%	2,246	682	23.3%
55 Mgt. of Companies and Enterprises	0	0	0.0%	0	0	0.0%	0	0	0.0%
56 Administrative and Support	355	16	4.3%	1,858	205	9.9%	2,213	221	9.1%
56 Waste Management	35	0	0.0%	188	0	0.0%	223	0	0.0%
61 Education	3,689	188	4.8%	1,769	216	10.9%	5,458	404	6.9%
62 Health Care	2,540	205	7.5%	3,384	283	7.7%	5,924	488	7.6%
62 Social Assistance	778	95	10.9%	1,157	62	5.1%	1,935	157	7.5%
71 Arts, Entertainment and Rec.	1,009	245	19.6%	2,558	596	18.9%	3,567	841	19.1%
72 Accommodations	258	0	0.0%	1,676	246	12.8%	1,934	246	11.3%
72 Food Services	682	119	14.8%	3,218	379	10.5%	3,900	498	11.3%
81 Other Services	537	26	4.6%	2,306	442	16.1%	2,844	468	14.1%
92 Public Administration	2,115	11	0.5%	2,901	145	4.8%	5,016	156	3.0%
99 Unclassified	0	38	100.0%	0	938	100%	0	976	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 8,753 veterans in the labor force in Mother Lode Region, representing about 12.4 percent of the labor force. It is estimated that 9.5 percent of veterans were unemployed in 2011, compared to 15.8 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 323 unemployed veterans out of a total of 828 unemployed veterans. The unemployment rate for this age cohort is estimated at 4.4 percent, although this may understate the true rate for this age cohort due to possible sampling error on the part of the Census when surveying mountainous and rural areas.<sup>2</sup>

**TABLE 2.5:  
UNEMPLOYED PERSONS AND UNEMPLOYMENT RATES OF ALL PERSONS 16 AND OVER BY VETERAN STATUS AND EDUCATIONAL ATTAINMENT IN MOTHER LODGE 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	Mother Lode
<b>Total Number of Unemployed Persons</b>	<b>1,231</b>	<b>2,422</b>	<b>561</b>	<b>3,681</b>	<b>1,698</b>	<b>435</b>	<b>10,027</b>
<b>Unemployment Rates</b>	<b>33.7%</b>	<b>20.7%</b>	<b>10.6%</b>	<b>12.1%</b>	<b>11.5%</b>	<b>9.9%</b>	<b>14.3%</b>
<b>Number of Unemployed Persons Who Are Not Veterans</b>	1,003	2,422	540	3,358	1,455	357	9,127
<b>Unemployment Rates for Persons Who Are Not Veterans</b>	41.6%	22.6%	15.0%	12.9%	10.5%	22.3%	15.8%
Did not earn at least HS dipl/GED or degree: not in school	0.0%	18.4%	8.3%	28.8%	22.1%	0.0%	17.9%
High school graduate (includes equivalency)	63.5%	14.6%	16.3%	17.7%	11.7%	25.7%	17.7%
Some college -- no degree and not attending	0.0%	36.3%	11.2%	6.7%	1.5%	28.2%	13.2%
Associates degree/still attending college	33.2%	21.6%	55.0%	10.7%	28.0%	0.0%	21.7%
Bachelor's degree or higher	0.0%	11.6%	6.9%	12.3%	13.1%	8.9%	12.0%
NA	42.9%	0.0%	0.0%	0.0%	0.0%	0.0%	42.9%
<b>02 Veterans</b>							
<b>Number of Unemployed Persons Who Are Veterans</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>323</b>	<b>243</b>	<b>77</b>	<b>828</b>
<b>Unemployment Rates for Persons Who Are Veterans</b>	<b>0.0%</b>	<b>0.0%</b>	<b>15.0%</b>	<b>4.4%</b>	<b>17.8%</b>	<b>0.0%</b>	<b>9.5%</b>
Did not earn HS dipl/GED or degree: not in school	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
High school graduate (includes equivalency)	0.0%	0.0%	0.0%	5.6%	16.3%	0.0%	8.1%
Some college -- no degree and not attending	0.0%	0.0%	0.0%	0.0%	14.3%	0.0%	4.2%
Associates degree/still attending college	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	11.1%
Bachelor's degree or higher	0.0%	0.0%	0.0%	45.1%	28.6%	0.0%	23.2%
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.}

<sup>2</sup> The socioeconomic findings presented in this section of the report are based on annual surveys of approximately 2,500 Mother Lode region residents conducted by the US Census as part of its American Community Survey ("ACS") demographic data-gathering program. In contrast, in the larger, more dense areas of Fresno County or Alameda County, the US Census survey on average 20,000 persons (Alameda County) and 11,800 persons (Fresno County), resulting in survey findings with lower margins of error given the larger sample of persons included in the survey.

## DISABLED WORKERS

There are an estimated 6,400 disabled persons in the labor force, comprising nine percent of the region's labor force. The unemployment rate for disabled workers in 2011 is estimated at 15.5 percent, compared to 11.7 percent for the non-disabled labor force (Table 2.6). Among the unemployed disabled, most are in the 35-54 age group, who comprise of 827 unemployed disabled persons out of a total of 1,301 unemployed disabled persons. The unemployment rate for disabled persons in their prime working-age is estimated at almost 34 percent.

**TABLE 2.6:  
NUMBER OF UNEMPLOYED PERSONS AND UNEMPLOYMENT RATES OF ALL PERSONS 16 AND OVER BY DISABILITY STATUS AND EDUCATIONAL ATTAINMENT IN MOTHER LODE  
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	Mother Lode
<b>Total Number of Unemployed Persons</b>	<b>1,231</b>	<b>2,422</b>	<b>561</b>	<b>3,681</b>	<b>1,698</b>	<b>435</b>	<b>10,027</b>
<b>Unemployment Rates</b>	<b>33.7%</b>	<b>20.7%</b>	<b>10.6%</b>	<b>12.1%</b>	<b>11.5%</b>	<b>9.9%</b>	<b>14.3%</b>
<b>01 No Known Disability</b>							
<b>Number of Unemployed Persons w/No Known Disability</b>	<b>1,231</b>	<b>2,422</b>	<b>489</b>	<b>2,854</b>	<b>1,389</b>	<b>342</b>	<b>8,727</b>
<b>Unemployment Rates for Persons w/No Known Disability</b>	<b>37.7%</b>	<b>20.4%</b>	<b>6.9%</b>	<b>8.6%</b>	<b>8.8%</b>	<b>10.0%</b>	<b>11.7%</b>
Did not earn HS dipl/GED or degree: not in school	0.0%	22.6%	8.3%	21.0%	0.0%	0.0%	14.6%
High school graduate (includes equivalency)	63.5%	16.5%	20.7%	14.7%	7.9%	0.0%	16.0%
Some college -- no degree and not attending	0.0%	38.3%	0.0%	4.4%	4.2%	28.2%	12.2%
Associates degree/still attending college	33.2%	21.6%	56.5%	10.7%	24.6%	0.0%	21.7%
Bachelor's degree or higher	0.0%	11.6%	6.8%	9.9%	16.0%	9.1%	12.0%
NA	23.1%	0.0%	0.0%	0.0%	0.0%	0.0%	23.1%
<b>02 At Least One Disability</b>							
<b>Number of Unemployed Persons w/at Least One Disability</b>	<b>0</b>	<b>0</b>	<b>72</b>	<b>827</b>	<b>309</b>	<b>93</b>	<b>1,301</b>
<b>Unemployment Rates for Persons w/at Least One Disability</b>	<b>0.0%</b>	<b>0.0%</b>	<b>4.6%</b>	<b>33.8%</b>	<b>12.9%</b>	<b>8.4%</b>	<b>15.5%</b>
Did not earn HS dipl/GED or degree: not in school	0.0%	0.0%	0.0%	71.1%	32.8%	0.0%	33.5%
High school graduate (includes equivalency)	0.0%	0.0%	0.0%	35.7%	37.1%	100.0%	24.7%
Some college -- no degree and not attending	0.0%	0.0%	22.1%	22.2%	0.0%	0.0%	11.3%
Associates degree/still attending college	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	8.4%
Bachelor's degree or higher	0.0%	0.0%	0.0%	100.0%	8.6%	0.0%	26.0%
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.}

# 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 A).<sup>3</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

EMSI reports that, the Mother Lode Consortium WIB had a job total of 40,245 in 2012. EMSI projects an additional 4,283 new jobs by 2017, with the total employment count reaching 44,490 during the 2012 to 2017 projection period (Table 3.1). The WIB had a population change of 2,562 between 2012 and 2017, reporting a total population of 158,301 in 2017. 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 of this chapter.

- Health and Wellness is the only cluster in the WIB with a considerable projected employment growth between 2012 and 2017. Health and Wellness had 4,417 employees in 2012 and EMSI foresees an additional 1,012 workers by the end of the projection period in 2017 (Table 3.7). This cluster does not include the Social Assistance jobs (Table 3.1). As part of this cluster, EMSI expects 1,020 new jobs for the Health Care delivery sub-cluster.
- The Energy cluster with 490 new jobs is the second growing cluster (Table 3.6).
- In the Agriculture cluster, EMSI estimates the Distribution sub-cluster to add 238 new jobs. Support is also estimated to grow by 88 jobs. Agriculture Production and Food Processing would have only a one percent change (Table 3.2).
- The Logistics and Manufacturing are the smallest clusters and would have 42 and 71 new jobs, respectively, between 2012 and 2017.

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<sup>3</sup> Applied Development Economics. *San Joaquin Valley Regional Industry Cluster Analysis and Action Plan*. CSU Fresno Office of Community and Economic Development. September 2012.

- Non-cluster related employment with projected gains include retail, government, professional technical services and tourism (accommodations, food services, and arts and entertainment) (Table 3.1).

**TABLE 3.1:  
EMPLOYMENT PROJECTIONS BY MAJOR INDUSTRIES, MOTHER LODGE**

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
62	Health Care and Social Assistance	4,869	6,021	1,152	23.7%
72	Accommodation and Food Services	5,323	6,006	683	12.8%
44	Retail Trade	4,778	5,458	680	14.2%
54	Professional, Scientific, and Technical Services	1,581	2,190	609	38.5%
90	Government	13,439	13,972	533	4.0%
81	Other Services (except Public Administration)	1,480	1,732	252	17.0%
71	Arts, Entertainment, and Recreation	842	1,019	177	21.0%
56	Administrative and Support and Waste Management and Remediation Services	721	819	98	13.6%
48	Transportation and Warehousing	390	477	87	22.3%
42	Wholesale Trade	340	416	76	22.4%
61	Educational Services (Private)	177	220	43	24.3%
51	Information	490	516	26	5.3%
53	Real Estate and Rental and Leasing	462	482	20	4.3%
55	Management of Companies and Enterprises	79	74	11	13.9%
31	Manufacturing	2,004	2,011	7	0.3%
99	Unclassified Industry	111	117	6	5.4%
22	Utilities	291	277	(4)	(1.4%)
52	Finance and Insurance	646	629	(17)	(2.6%)
11	Agriculture, Forestry, Fishing and Hunting	567	519	(48)	(8.5%)
21	Mining, Quarrying, and Oil and Gas Extraction	206	144	(51)	(24.8%)
23	Construction	1,449	1,392	(57)	(3.9%)
<b>TOTAL</b>		<b>40,245</b>	<b>44,491</b>	<b>4,283</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 sub-cluster, will add net 239 new positions by 2017 with a 16 percent growth rate. In this group, EMSI reports that supermarkets and grocery stores, meat markets, convenience stores, and beer, wine and liquor stores will add 231 jobs. These retail establishments will grow faster than wholesale distribution for agricultural products (Table 3.2).

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

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
445110	Supermarkets and Other Grocery (except Convenience) Stores	1,259	1,385	126	10%
445210	Meat Markets	96	158	62	65%
445120	Convenience Stores	47	65	18	38%
445310	Beer, Wine, and Liquor Stores	42	67	25	60%
424450	Confectionery Merchant Wholesalers	16	20	4	25%
424490	Other Grocery & Related Products Wholesalers	17	21	4	24%
<b>TOTAL</b>		<b>1,477</b>	<b>1,716</b>	<b>239</b>	<b>16%</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. Overall, EMSI estimates this component of the Agricultural cluster will lose 2 jobs by 2017 (Table 3.3).

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

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
311615	Poultry Processing	191	216	25	13%
312112	Bottled Water Manufacturing	33	40	7	21%
311421	Fruit and Vegetable Canning	22	25	3	14%
321113	Sawmills	200	175	(25)	(13%)
312130	Wineries	321	309	(12)	(3.0%)
<b>TOTAL</b>		<b>767</b>	<b>765</b>	<b>(2)</b>	<b>(0%)</b>

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

The Production group includes animal and crop production. Similar to the Processing group, the Production group is also expected a change of close to 1%. The crop and animal production industries will decline by 41 jobs in total (Table 3.4).

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

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
115112	Soil Preparation, Planting, and Cultivating	98	139	41	42%
115114	Postharvest Crop Activities (except Cotton Ginning)	16	20	4	25%
115115	Farm Labor Contractors and Crew Leaders	95	85	(10)	(0)
112	Animal Production	60	71	(11)	(18%)
111	Crop Production	95	62	(30)	(48%)
<b>TOTAL</b>		<b>364</b>	<b>377</b>	<b>(13)</b>	<b>36%</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 included under the supporting services group. EMSI projects a modest 88 job increase between 2012 and 2017 (Table 3.5).



TABLE 3.5: JOB PROJECTIONS BY AGRICULTURE CLUSTER – SUPPORT					
NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
541940	Veterinary Services	211	256	45	21%
541380	Testing Laboratories	42	60	18	43%
444220	Nursery, Garden Center, and Farm Supply Stores	45	67	20	44%
333294	Food Product Machinery Manufacturing	89	102	13	15%
561710	Exterminating and Pest Control Services	91	103	12	13%
541613	Marketing Consulting Services	12	21	9	75%
562219	Other Nonhazardous Waste Treatment and Disposal	30	36	6	20%
522292	Real Estate Credit	13	16	3	23%
561730	Landscaping Services	113	110	(3)	(3%)
561110	Office Administrative Services	22	18	(4)	(18%)
237110	Water and Sewer Line and Related Structures Construction	38	26	(12)	(32%)
561320	Temporary Help Services	36	17	(19)	(53%)
<b>TOTAL</b>		<b>742</b>	<b>832</b>	<b>88</b>	<b>12%</b>

Source: EMSI 2013.2 Class of Worker Dataset QCEW Employees

## ENERGY CLUSTER

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. All sub-clusters have less than 15 job changes by 2017 (Table 3.6).

TABLE 3.6: JOB PROJECTIONS BY CLUSTER – ENERGY						
NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change	Sub-Cluster
23821	Electrical Contractors and Other Wiring Installation Contractors	110	123	13	12%	3
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	28	36	8	29%	2
23822	Plumbing, Heating, and Air-Conditioning Contractors	164	165	1	1%	3
221210	Natural Gas Distribution	134	132	(2)	(1%)	6
238160	Roofing Contractors	46	43	(3)	(7%)	1
23831	Drywall and Insulation Contractors	75	68	(7)	(9%)	3
237110	Water and Sewer Line and Related Structures Construction	21	11	(10)	(48%)	1
<b>TOTAL</b>		<b>578</b>	<b>577</b>	<b>(1)</b>	<b>0</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 1,012 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 the Mother Lode Consortium WIB, Private Medical and Surgical Hospitals (NAICS 622110) provide 334 employment opportunities. The Health Care Delivery Sub-cluster provides 1,024 jobs by 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
622110	General Medical and Surgical Hospitals (Private)	1,570	1,904	334	21%	1
623110	Nursing Care Facilities	565	749	184	33%	1
621610	Home Health Care Services	262	387	125	48%	1
621111	Offices of Physicians (except Mental Health Specialists)	527	632	105	20%	1
621991	Blood and Organ Banks	116	182	66	57%	1
623312	Homes for the Elderly	175	228	53	30%	1
621910	Ambulance Services	86	115	29	34%	1
621210	Offices of Dentists	381	409	28	7%	1
621340	Offices of Physical, Occupational and Speech Therapists, and Audiologists	61	84	23	38%	1
623210	Residential Mental Retardation Facilities	56	78	22	39%	1
621491	HMO Medical Centers	24	44	20	83%	1
623220	Residential Mental Health and Substance Abuse Facilities	85	104	19	22%	1
621498	All Other Outpatient Care Centers	27	40	13	48%	1
446191	Food (Health) Supplement Stores	17	26	9	53%	5
621493	Freestanding Ambulatory Surgical and Emergency Centers	14	23	9	64%	1
624310	Vocational Rehabilitation Services	73	78	5	7%	1
621320	Offices of Optometrists	54	58	4	7%	1
621492	Kidney Dialysis Centers	59	44	(15)	(25%)	1
446110	Pharmacies and Drug Stores	265	267	(21)	(8%)	5
<b>TOTAL</b>		<b>4,417</b>	<b>5,452</b>	<b>1,012</b>	<b>23%</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

As part of the logistics cluster, the Transit sub-cluster is estimated to add 10 jobs in total. The Freight and Warehousing sub-cluster will add 9 jobs in total. The only industry related to the Air, Rail, and water transportation sub-cluster is the Nonscheduled Chartered Passenger Air Transportation (NAICS 481211) with 12 new jobs by 2017. Other Services related to Logistics will add 11 net jobs as well (Table 3.8).

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

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change	Sub-Cluster
485999	All Other Transit and Ground Passenger Transp.	26	57	31	119%	4
481211	Nonscheduled Chartered Passenger Air Transp.	29	41	12	41%	1
492110	Couriers and Express Delivery Services	46	49	7	18%	3
484220	Specialized Freight (except Used Goods) Trucking, Local	25	29	4	16%	2
488410	Motor Vehicle Towing	37	46	4	11%	3
484110	General Freight Trucking, Local	11	14	3	27%	2
488190	Other Support Activities for Air Transportation	12	14	2	17%	2
492210	Local Messengers and Local Delivery	13	14	(8)	(38%)	4
485991	Special Needs Transportation	28	26	(13)	(33%)	4
<b>TOTAL</b>		<b>227</b>	<b>290</b>	<b>42</b>	<b>19%</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

## MANUFACTURING CLUSTER

The Manufacturing cluster is projected to add 71 jobs by 2017. Industries that would grow or decline by less than 10 employees are also listed in this table (Table 3.9). Most of the Manufacturing job losses belong to the county of Amador (Table 3.9).

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

NAICS Code	Description	2012 Jobs	2017 Jobs	Change	% Change
325920	Explosives Manufacturing	270	302	32	11.9%
332710	Machine Shops	88	116	28	31.8%
337215	Showcase, Partition, Shelving, and Locker Mfg	28	47	19	67.9%
333294	Food Product Machinery Manufacturing	89	102	13	14.6%
334418	Printed Circuit Assembly (Electronic Assembly) Mfg	36	48	12	33.3%
334419	Other Electronic Component Manufacturing	41	52	11	26.8%
323110	Commercial Lithographic Printing	12	19	7	58.3%
327215	Glass Product Mfg Made of Purchased Glass	17	24	7	41.2%
339999	All Other Miscellaneous Manufacturing	20	26	6	30.0%
334513	Instruments & Related Products Mfg for Measuring, Displaying, & Controlling Ind. Process Variables	37	42	5	13.5%
326199	All Other Plastics Product Manufacturing	18	21	3	16.7%
332710	Machine Shops	52	55	3	5.8%
333512	Machine Tool (Metal Cutting Types) Manufacturing	13	16	3	23.1%
336413	Other Aircraft Parts and Auxiliary Equipment Mfg	11	14	3	27.3%
332710	Machine Shops	16	12	(4)	(25.0%)
321912	Cut Stock, Resawing Lumber, and Planning	86	60	(26)	(30.2%)
321219	Reconstituted Wood Product Manufacturing	68	17	(51)	(75.0%)
<b>TOTAL</b>		<b>902</b>	<b>973</b>	<b>71</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. Please note that at this stage of the report we are gathering a list of growing occupations at the cluster level and not at the sub-groups level under each cluster.

### AGRICULTURE CLUSTER

Farmworkers and laborers, crop harvesters, and nursery and greenhouse workers (SOC 45-2092) is projected to grow by 20 persons. This table shows that occupational estimates are corresponding with the employment projection tables presented in the previous section (Table 3.10).

TABLE 3.10: AGRICULTURE CLUSTER							
SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDU- CATION LEVEL*
41-2012	Cashiers	339	398	59	17%	\$10.01	1
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	163	183	20	12%	\$8.7	1
29-2056	Veterinary Technologists& Techs	49	65	16	33%	\$13.9	6
43-5081	Stock Clerks and Order Fillers	145	159	14	10%	\$11.1	1
37-3011	Landscaping and Groundskeeping Workers	131	148	17	13%	\$16.7	1
37-2021	Pest Control Workers	61	69	8	13%	\$16.7	2
41-2031	Retail Salespersons	18	26	8	44%	\$11.5	1
35-3022	Combined Food Prep and Serving Workers, Fast Food	43	51	8	19%	\$9.21	1
41-1011	First-Line Supervisors of Retail Sales Workers	59	68	9	15%	\$16.9	4
51-3021	Butchers and Meat Cutters	39	45	6	16%	\$11.4	3
35-3021	Combined Food Preparation and Serving Workers, Incl. Fast Food	19	24	5	26%	\$9.20	1
51-2092	Team Assemblers	23	28	5	22%	\$12.9	2
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	40	45	5	13%	\$9.43	1
29-1131	Veterinarians	13	17	4	31%	\$45.9	9
51-3023	Slaughterers and Meat Packers	21	23	2	10%	\$11.95	2
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	12	14	2	17%	\$14.7	1
53-7064	Packers and Packagers, Hand	11	13	2	18%	\$8.90	1
53-3031	Driver/Sales Workers	13	14	1	8%	\$14.5	1
51-2092	Team Assemblers	14	15	1	7%	\$14.5	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 <b>9</b> - First professional degree <b>10</b> - Masters			

Source: EMSI 2013.2 Class of Worker Dataset-QCEW Employees

## ENERGY CLUSTER

The Energy cluster shows an increase of 38 persons by 2017. Under this cluster, most growing occupations are related to the research and services sub-cluster (Table 3.11). Only Calaveras County and Tuolumne County showed occupational demand for the Energy cluster.

**TABLE 3.11:  
ENERGY CLUSTER**

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
47-2111	Electricians	29	41	12	41.0%	\$28.6	3
29-2056	Veterinary Technologists and Technicians	29	38	9	31.0%	\$13.6	6
15-1132	Software Developers, Apps	18	26	8	44.0%	\$37.3	7
17-2051	Civil Engineers	11	18	7	64.0%	\$44.1	7
47-2181	Roofers	19	21	2	11.0%	\$22.6	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

## HEALTH AND WELLNESS CLUSTER

The occupations under Health and Wellness cluster show the highest change in workers being hired between 2012 and 2017. Registered nurses (SOC 29-1111) with 159 persons and nursing aides (SOC 31-1012) by 101 new persons are the top occupations on demand (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	484	643	159	33%	\$46.60	6
31-1013	Nursing Aide, Orderlies, Attend.	369	470	101	27%	\$14.23	5
43-6013	Medical Secretaries	233	285	52	22%	\$16.08	2
31-1012	Home Health Aides	169	239	70	41%	\$11.88	1
39-9022	Personal Care Aides	119	163	44	37%	\$11.30	1
29-2062	Practical * Vocational Nurses	98	128	30	31%	\$27.54	5
29-2041	Emergency Med. Techs /Param.	63	83	20	32%	\$24.59	5
29-2052	Pharmacy Technicians	28	33	5	18%	\$17.79	2
41-2031	Retail Salespersons	11	15	4	36%	\$10.45	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  
**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

The logistics Cluster occupational change pattern is not clear. EMSI estimates less than 10 persons for any occupations on demand. As a result we do not have exact numbers to extend our analysis.

## MANUFACTURING CLUSTER

As indicated previously, very few manufacturing industries are projected to grow. However, some occupations within manufacturing are expected to see growth. Most occupations are not anticipated to have demand for more than 10 persons (Table 3.13).

**TABLE 3.13:  
MANUFACTURING CLUSTER**

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP (2012)	EMPLOYED IN INDUSTRY GROUP (2017)	2012-2017 CHANGE	% CHANGE	MEDIAN HOURLY EARNINGS	EDUCATION LEVEL*
51-4041	Machinists	21	23	30	9	43%	14.6%
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	16	17	19	3	19%	3.5%
51-4121	Welders, Cutters, Solders, and Brazers	15	16	17	2	13%	9.9%
51-2092	Team Assemblers	25	25	27	2	8%	30.3%
51-4041	Machinists	21	22	23	2	10%	5.1%
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	23	24	24	1	4%	5.0%
51-1011	First-Line Supervisors of Production and Operating Workers	18	19	19	1	6%	4.0%
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	10	10	11	1	10%	2.2%
11-1021	General and Operations Managers	12	12	11	(1)	(8%)	2.5%
51-4121	Welders, Cutters, Solders, and Brazers	32	32	31	(1)	(3%)	7.3%
51-1011	First-Line Supervisors of Production and Operating Workers	16	16	15	(1)	(6%)	3.6%
11-1021	General and Operations Managers	11	11	10	(1)	(9%)	2.5%
51-2092	Team Assemblers	115	118	102	(13)	(11%)	25.0%
<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

## 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 region's underutilized labor force matches the educational and training requirements of future jobs.

Of the region's clusters, Health and Welfare is projected to grow the most new jobs between 2012 and 2017, at 1,012 over a five year period, or 201 per year on average (Table 4.1). The new jobs are fairly well-represented in all educational requirement categories. The lowest educational rung expects to increase by almost 500 new jobs, with 382 requiring short-term OJT and another 106 requiring moderate-term OJT. New jobs are also in the lower-middle and middle education and training categories, of relevant work experience (296) and an Associate's degree (149) respectively. On the labor force side, there are only 412 persons who are unemployed who previously worked in Health and Wellness industries. Similar to the new jobs, the unemployed labor force is represented in almost all educational attainment ladders. An estimated 270 are in the lower-middle rung of some college (148) and high school diploma (122). Another 57 have earned a Bachelor's degree. Eighty-six did not earn a high school diploma. While the discrete number of anticipated new jobs over a five year period is considerably higher than the number of unemployed persons with backgrounds in Health and Wellness, the unemployed labor force with previous experience in this cluster matches the educational and training requirements of anticipated jobs within the Health and Wellness cluster.

**TABLE 4.1:  
COMPARISON OF UNEMPLOYED LABOR FORCE BY CLUSTER BY EDUCATIONAL ATTAINMENT TO NEW JOBS  
BY SAME CLUSTER BY EDUCATION AND TRAINING: MOTHER LODE REGION  
(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	65	0	65
02 Bachelor's	0	57	57	02 Bachelor's	0	12	12
03 Associate's	0	0	0	03 Associate's	0	149	149
04 Some college	51	97	148	04 Work experience in related occupation	133	164	296
05 HS diploma/GED	30	92	122	05 Long-term OJT	0	0	0
06 No HS diploma/GED	86	0	86	06 Moderate-term OJT	0	106	106
99 NA	0	0	0	07 Short-term OJT	211	172	382
	<b>167</b>	<b>246</b>	<b>412</b>		<b>409</b>	<b>603</b>	<b>1,012</b>

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



The Agriculture cluster is expected to generate the most jobs after the Health and Wellness cluster, at 329 new jobs over five years (Table 4.2). The new jobs are primarily in the lowest educational and training categories, as 231 require short-term OJT and 29 require moderate-term OJT. A number of new jobs are also found in the lower-middle rung (i.e. work experience or long-term OJT) and middle educational requirement rung (i.e. Associates degree). Of the 9,638 unemployed persons with experience in agricultural industries, the bulk is in the lower and lower-middle educational attainment rung, as 4,675 out of the 9,638 did not earn a high school diploma or equivalent. While the way the unemployed labor force is distributed with respect to educational attainment is similar to the way new jobs are distributed with respect to educational/training requirements, the absolute number of unemployed persons with previous experience in the agricultural sector far surpasses the number of anticipated new jobs over the 2012 to 2017 period.

**TABLE 4.2:  
COMPARISON OF UNEMPLOYED LABOR FORCE BY CLUSTER BY EDUCATIONAL ATTAINMENT TO NEW JOBS  
BY SAME CLUSTER BY EDUCATION AND TRAINING: MOTHER LODE REGION  
(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	66	70	<b>136</b>	01 Advanced degree	0	0	<b>0</b>
02 Bachelor's	88	157	<b>245</b>	02 Bachelor's	0	0	<b>0</b>
03 Associate's	22	331	<b>354</b>	03 Associate's	0	34	<b>34</b>
04 Some college	192	947	<b>1,140</b>	04 Work experience in related occupation	20	0	<b>20</b>
05 HS diploma/GED	302	2,589	<b>2,891</b>	05 Long-term OJT	0	14	<b>14</b>
06 No HS diploma/GED	112	4,563	<b>4,675</b>	06 Moderate-term OJT	0	30	<b>29</b>
99 NA	86	112	<b>197</b>	07 Short-term OJT	0	231	<b>231</b>
	<b>869</b>	<b>8,769</b>	<b>9,638</b>		<b>20</b>	<b>309</b>	<b>329</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 Health and Welfare, and Agriculture. 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, but in the Mother Lode region there are no job training programs that are specific to this occupation, according to the California EDD ETPL database.

There are approximately 53 occupations that are expected to increase in numbers within the Health and Welfare cluster (Table 5.1). For all of these occupations, there are no job training programs, according to the California EDD ETPL database. There are 23 growing occupations in Agriculture and, for all of these occupations; there are no job training programs. While the California EDD ETPL database includes job training providers operating in the Mother Lode region, the providers in the database are not identified as offering training programs specific to occupations found in Health and Wellness, Energy, and Agriculture.

**TABLE 5.1:  
NUMBER OF JOB TRAINING PROGRAMS FOR OCCUPATIONS IN TOP GROWING CLUSTERS: MOTHER LODE REGION**

<b>OCCSOC</b>	<b>Description</b>	<b>Health and Welfare (53/53)</b>	<b>Agriculture (23/23)</b>	<b>Required Education/Training</b>
11-1021	General and Operations Managers	0	0	Bachelor's
11-9111	Medical and Health Services Managers	0	---	Bachelor's
13-1051	Cost Estimators	---	---	Bachelor's
19-1042	Medical Scientists, Except Epidemiologists	0	---	Advanced degree
21-1022	Healthcare Social Workers	0	---	Advanced degree
21-1091	Health Educators	0	---	Bachelor's
29-1021	Dentists, General	0	---	Advanced degree
29-1031	Dietitians and Nutritionists	0	---	Bachelor's
29-1051	Pharmacists	0	---	Advanced degree
29-1061	Anesthesiologists	0	---	Advanced degree
29-1062	Family and General Practitioners	0	---	Advanced degree
29-1071	Physician Assistants	0	---	Advanced degree
29-1111	Registered Nurses	0	---	Associate's
29-1122	Occupational Therapists	0	---	Advanced degree
29-1123	Physical Therapists	0	---	Advanced degree
29-1126	Respiratory Therapists	0	---	Associate's
29-1131	Veterinarians	---	0	Advanced degree
29-2011	Medical and Clinical Laboratory Technologists	0	---	Bachelor's
29-2012	Medical and Clinical Laboratory Technicians	0	---	Associate's
29-2021	Dental Hygienists	0	---	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	0	---	Moderate-term OJT
29-2055	Surgical Technologists	0	---	Work experience in related occupation
29-2056	Veterinary Technologists and Technicians	---	0	Associate's
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
29-2799	Health Technologists and Technicians, All Other	0	---	Work experience in related occupation
31-1011	Home Health Aides	0	---	Short-term OJT

OCCSOC	Description	Health and Welfare (53/53)	Agriculture (23/23)	Required Education/Training
31-1012	Nursing Aides, Orderlies, and Attendants	1	---	Work experience in related occupation
31-2021	Physical Therapist Assistants	0	---	Associate's
31-2022	Physical Therapist Aides	0	---	Moderate-term OJT
31-9091	Dental Assistants	0	---	Work experience in related occupation
31-9092	Medical Assistants	0	---	Moderate-term OJT
31-9093	Medical Equipment Preparers	0	---	Moderate-term OJT
31-9094	Medical Transcriptionists	0	---	Work experience in related occupation
31-9095	Pharmacy Aides	0	---	Short-term OJT
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	---	0	Short-term OJT
31-9799	Healthcare Support Workers, All Other	0	---	Short-term OJT
35-2012	Cooks, Institution and Cafeteria	0	---	Short-term OJT
35-2021	Food Preparation Workers	---	0	Short-term OJT
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	---	0	Short-term OJT
35-3041	Food Servers, Nonrestaurant	0	---	Short-term OJT
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	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	---	---	Short-term OJT
39-9021	Personal Care Aides	0	---	Short-term OJT
41-1011	First-Line Supervisors of Retail Sales Workers	0	0	Work experience in related occupation
41-2011	Cashiers	0	0	Short-term OJT
41-2031	Retail Salespersons	0	0	Short-term OJT
43-1011	First-Line Supervisors of Office and Administrative Support Workers	0	---	Work experience in related occupation
43-3021	Billing and Posting Clerks	0	---	Short-term OJT
43-3031	Bookkeeping, Accounting, and Auditing Clerks	2	2	Moderate-term OJT
43-4111	Interviewers, Except Eligibility and Loan	0	---	Short-term OJT
43-4171	Receptionists and Information Clerks	0	0	Short-term OJT
43-5081	Stock Clerks and Order Fillers	---	0	Short-term OJT
43-6011	Executive Secretaries and Executive Administrative Assistants	1	---	Work experience in related occupation
43-6013	Medical Secretaries	0	---	Moderate-term OJT
43-6014	Secretaries & Admin. Assistants, Except Legal, Medical, & Executive	1	1	Short-term OJT

OCCSOC	Description	Health and Welfare (53/53)	Agriculture (23/23)	Required Education/Training
43-9061	Office Clerks, General	0	0	Short-term OJT
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	---	0	Short-term OJT
47-2031	Carpenters	---	---	Long-term OJT
47-2081	Drywall and Ceiling Tile Installers	---	---	Moderate-term OJT
47-2111	Electricians	---	---	Long-term OJT
47-2152	Plumbers, Pipefitters, and Steamfitters	---	---	Long-term OJT
47-2161	Plasterers and Stucco Masons	---	---	Long-term OJT
47-2181	Roofers	---	---	Moderate-term OJT
47-2211	Sheet Metal Workers	---	---	Long-term OJT
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	---	---	Work experience in related occupation
49-9071	Maintenance and Repair Workers, General	0	---	Moderate-term OJT
51-1011	First-Line Supervisors of Production and Operating Workers	---	---	Work experience in related occupation
51-2092	Team Assemblers	---	0	Moderate-term OJT
51-3021	Butchers and Meat Cutters	---	0	Long-term OJT
51-3023	Slaughterers and Meat Packers	---	0	Moderate-term OJT
51-3092	Food Batchmakers	---	---	Short-term OJT
51-4121	Welders, Cutters, Solderers, and Brazers	---	0	Work experience in related occupation
51-7041	Sawing Machine Setters, Operators, and Tenders, Wood	---	---	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	---	---	Moderate-term OJT
51-9198	Helpers--Production Workers	---	---	Short-term OJT
53-3031	Driver/Sales Workers	---	0	Short-term OJT
53-3032	Heavy and Tractor-Trailer Truck Drivers	---	---	Short-term OJT
53-7051	Industrial Truck and Tractor Operators	---	---	Short-term OJT
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	---	---	Short-term OJT
53-7064	Packers and Packagers, Hand	---	0	Short-term OJT
37-3011	Landscaping and Groundskeeping Workers	---	---	Short-term OJT

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

Below we identify the WIA-approved job training providers that are operating in the Mother Lode region, according to the California EDD ETPL database. The table includes the job training programs offered by these providers (Table 5.2).

**TABLE 5.2:  
JOB TRAINING PROVIDERS OPERATING IN  
MOTHER LODE REGION IN CALIFORNIA EDD ETPL DATABASE**

<b>Provider</b>	<b>Program</b>	<b>Place</b>
COLUMBIA COLLEGE	AUTOMOTIVE TECHNOLOGY	SONORA CA 95370
COLUMBIA COLLEGE	BUSINESS ADMINSTRATION	SONORA CA 95370
COLUMBIA COLLEGE	EMERGENCY MEDICAL SERVICES	SONORA CA 95370
COLUMBIA COLLEGE	GEOGRAPHIC INFORMATION SYSTEMS	SONORA CA 95370
COLUMBIA COLLEGE	HOSPITALITY MANAGEMENT	SONORA CA 95370
COLUMBIA COLLEGE	NATURAL RESOURCES	SONORA CA 95370
COLUMBIA COLLEGE	OFFICE TECHNOLOGY	ComputerBased Instruction
COMPUTER CAREER TRAINING	COMPUTER AIDED DRAFTING	SONORA CA 95370
COMPUTER CAREER TRAINING	COMPUTERIZED BUSINESS APPLICATIONS	SONORA CA 95370
TUOLUMNE CO OFFC OF EDUCATION	CNA ROP	SONORA CA 95370
TUOLUMNE CO OFFC OF EDUCATION	COSMETOLOGY (ROP)	SONORA CA 95370
TUOLUMNE CO OFFC OF EDUCATION	INTERMEDIATE EXCEL	SONORA CA 95370
TUOLUMNE CO OFFC OF EDUCATION	INTERMEDIATE MS WORD	SONORA CA 95370
PACIFIC COAST HORESHOEING SCH	HORSESHOEING	PLYMOUTH CA 95669
CALAVERAS COLL THERA MASSAGE	THERAPEUTIC MASSAGE	SAN ANDREAS CA 95249

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	
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			
<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