

CWI 2009

**COLLEGE OF WESTERN IDAHO
EDUCATIONAL PROGRAM GAP ANALYSIS**

OCTOBER, 2009

region: SOUTHWESTERN IDAHO

time frame: 2009–2019



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About EMSI

EMSI provides economic data, analysis, and consulting services to workforce, education, and economic development professionals throughout the nation. Since 1995, EMSI has delivered high-quality, cost-effective services that promote economic growth, institutional change, and intelligent use of human, physical, and financial resources.

WWW.ECONOMICMODELING.COM

866.999.3674

PHONE: 208.883.3500

FAX: 208.882.3317

1187 ALTURAS DR.
MOSCOW, ID 83843
UNITED STATES



About The Report

Methodology

EMSI gathers and harmonizes data from nearly 90 state and federal sources, creating a comprehensive and current database that is unsurpassed for its breadth and detail. Industry, workforce, and demographic data are available from state and county and ZIP code levels. By combining dozens of data sources, EMSI can fill gaps in individual sources, such as suppressions and missing proprietors, yielding a composite database that makes full use of the strengths of each source. The EMSI database is updated quarterly with the latest information from the Current Employment Statistics database. The employment data contained in this report was released in June 2009.

EMSI also updates demographic and educational attainment data by combining multiple data sources. Demographic projections are constructed by trending historical Census Bureau Annual Estimates, birth rates, death rates, and migration patterns. Educational attainment data from the decennial census and the annual Current Population Statistics—both from the U.S. Census Bureau—are combined with EMSI demographics data to create past, current, and projected educational attainment data for all residents age 25 and up. Projections are smoothed and regressed to mean values according to standard statistical methods.

EMSI uses many components in the creation of its data. At the end of this document there is an appendix titled “Appendix F: About the Data” that contains a more detailed account of the EMSI data production process and a comprehensive list of EMSI’s resources.

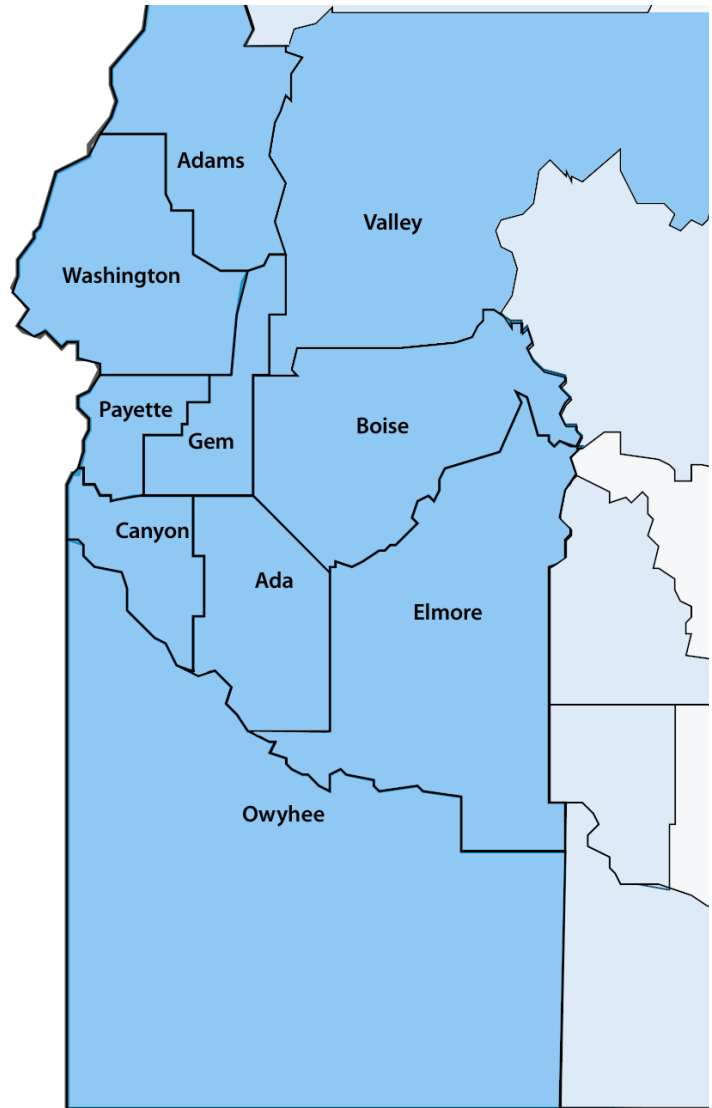
Location Quotient

Throughout this report EMSI utilized a measurement often used in regional economics called location quotient. Location quotient is a way of comparing a region to a larger reference region according to some characteristic or asset. Suppose X is the amount of some asset in Southwestern Idaho (e.g., people under the age of 15) and Y is the total amount of assets of comparable types in the region (e.g., individuals of all ages). X/Y is then the regional concentration of that asset in Southwestern Idaho. If X' and Y' are similar data points for a larger reference region, in this case the United States as a whole, then the LQ, or relative concentration of that asset in the region compared to the nation, is $(X/Y) / (X'/Y')$. These data are fairly simple to translate into everyday language. If the LQ score for any asset is above 1.00, then the region has a greater concentration of that asset than the nation. Conversely, if the LQ score for any asset is below 1.00, then the region has a lower concentration of that asset than the nation. For

instance, if the regional LQ for people under 15 is 1.11, this means that the region is 11 percent more concentrated with those individuals than the nation as a whole. If the LQ for people above the age of 65 is 0.80, then the region is 80 percent as concentrated with those individuals as the nation; or, in other words 20 percent less concentrated than the nation.

Region

MAP OF CWI TEN-COUNTY SERVICE AREA



The data used in this report are inclusive of the College of Western Idaho’s 83 ZIP-code service area that stretches across the counties of Ada, Adams, Boise, Canyon, Elmore, Gem, Owyhee, Payette, Valley, and Washington. There are several communities within these counties that are in the College of Southern Idaho service area and therefore have been excluded from this study. These areas are ZIP codes 83623 (Glenns Ferry), 83633 (King Hill) in Elmore County, and 83604 (BrunEAU) in Owyhee County. In some cases, when data were not available at the ZIP code level, county level data were used. These instances are noted below the table or graph where they appear.

Executive Summary

It is difficult to say exactly what the future economy of Southwestern Idaho will look like. Over the past 20 years, the area has experienced unparalleled growth and increasing prosperity, but some recent economic changes have put the area in a precarious position. The current circumstances do not spell disaster because the region has many assets, including several strongly developed industry clusters, plenty of natural amenities, and a thriving business culture. A few more assets that can be added to this list include a large amount of workers with high-tech experience who are looking for work, and the development of the region's first full-service publicly operated two-year college. Due to the lack of viable competitors and the obvious need for two-year education in the area, the College of Western Idaho has the opportunity to become a major player in the economic future of the region.

EMSI's demographic analysis has revealed that a substantial portion of the regional population is of an age and educational level that are strongly in need of community college education. One of most notable subsets of this population is the 199,000 individuals in Ada and Canyon Counties whose highest level of educational attainment is a high school degree or some college. Hispanics could also benefit greatly from the advent of CWI. In the CWI service area, 84% of Hispanic adults do not have a college degree, which is equal to 33,000 individuals in the ten-county region. Maximizing the enrollment potential of these population groups will be key to CWI's future success.

The program gap analysis will be a critical factor in the academic planning process for CWI. EMSI has identified 26 programs—including those currently offered and not offered—that could serve a gap of 50 or more untrained workers per year. On the second tier, there are another 34 programs that could serve a gap of 10 or more untrained workers per year. Among the high-demand programs that CWI does not currently offer are Office Management (19.0708), Medical Technologists (51.1005), and Library Technicians (25.0301), all of which seem to be a natural fit for the economy. Whether or not to introduce some other programs, such as Construction Trades (46.9999), will require more careful judgment. It bears emphasizing that in addition to the data found in this report, there are other important factors specific to the region that should be considered when creating an academic plan. Therefore, this analysis should by no means be used as the final step for program evaluation. However, if used properly, it will provide critical insight into the needs of the labor market.

Introduction

This report is designed to provide the College of Western Idaho with some of the most critical data components that are required for a thorough academic plan. The data that EMSI highlights in this report are all relevant for determining the educational needs of the local community. There are four chapters in this report.

Chapter 1 is an economic overview, which contains high level information regarding industry and occupation groups and how they are performing in terms of job growth, job openings, and earnings.

Chapter 2 contains information related to the educational characteristics of the regional population. The educational attainment levels of the adult population are analyzed for the CWI area according to county, gender, and race. This information is useful for determining the particular needs of different geographical and ethnic segments of the population.

Chapter 3 contains the program gap analysis that examines the economic viability of each of the College of Western Idaho's current and potential future program offerings. Additionally, in the last stage of the gap analysis, EMSI's consulting team has provided further recommendations for programs that would fill significant workforce gaps in the local economy that are not offered or slated to be offered by the college in the near future. It should be emphasized that in addition to the data found in this report, there are other important factors that should be considered when creating a program plan, including grant possibilities, the cost and value of competing regional programs, regional business networks, the availability of teaching personnel, and the intrinsic values of the college and local culture. This analysis should by no means be used as the final step for program evaluation.

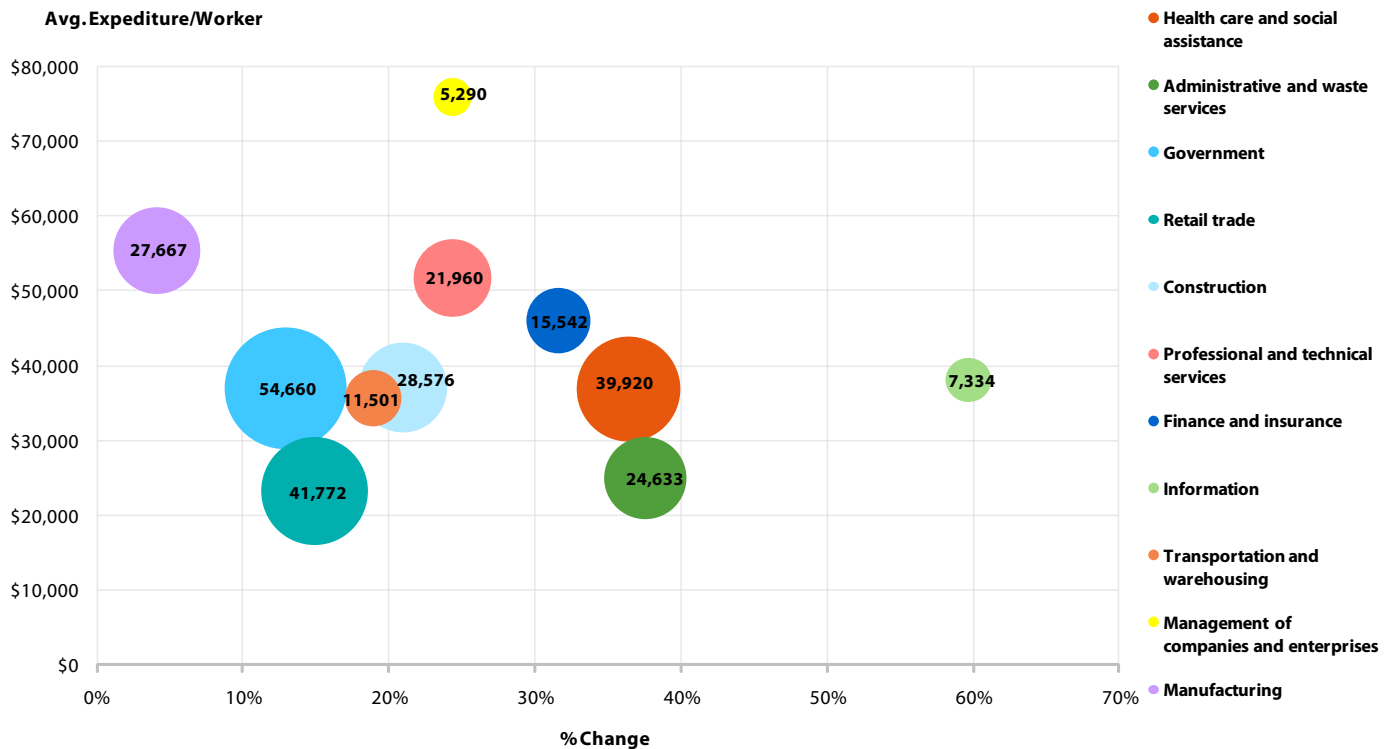
Chapter 4 contains a list of green occupations that hold excellent potential for the future. The authors also tie this material back into the detailed gap analysis results by marking any occupation with green potential with asterisks (*).

After the main report there are a number of appendices that provide supplemental information useful to interpreting the gap analysis. The contents of these appendices are referenced throughout the main report. Briefly, the titles of these appendices are

- Appendix A: CWI Program Title to CIP Crosswalk
- Appendix B: Cross-references of CIP Program Graduates
- Appendix C: Regional Post-secondary Institutions Included in the Gap Analysis
- Appendix D: Occupations with Higher Average Educational Levels
- Appendix E: Unaffiliated Occupations with Green Potential
- Appendix F: About the Data

Chapter 1: Economic Overview

Figure 1.1: Projected Industry Growth by Selected Industries, 2009-2019



*The size of the bubbles and the number corresponding to each bubble represent 2009 jobs.

Table 1.1: Projected Industry Growth, 2009-2019

NAICS Code	Description	2009 Jobs	2019 Jobs	'09-'19 Change	'09-'19% Change	2009 National LQ	Average Expenditures Per Worker
62	Health care and social assistance	39,920	54,449	14,529	36%	0.96	\$36,851
53	Real estate and rental and leasing	21,217	31,898	10,681	50%	1.26	\$15,659
56	Administrative and waste services	24,633	33,884	9,251	38%	1.13	\$24,959
90	Government	54,660	61,713	7,053	13%	1.04	\$36,913
44-45	Retail trade	41,772	48,009	6,237	15%	1.05	\$23,266
23	Construction	28,576	34,572	5,996	21%	1.31	\$37,078
54	Professional and technical services	21,961	27,316	5,355	24%	0.83	\$51,752
52	Finance and insurance	15,542	20,454	4,912	32%	0.87	\$45,954
72	Accommodation and food services	22,871	27,576	4,705	21%	0.87	\$13,386
51	Information	7,334	11,710	4,376	60%	0.99	\$38,076
81	Other services, except public administration	18,384	21,998	3,614	20%	0.92	\$17,633
48-49	Transportation and warehousing	11,500	13,672	2,172	19%	0.83	\$35,736

Table 1.1: Projected Industry Growth, 2009-2019

NAICS Code	Description	2009 Jobs	2019 Jobs	'09-'19 Change	'09-'19% Change	2009 National LQ	Average Expenditures Per Worker
61	Educational services	4,867	6,330	1,463	30%	0.54	\$20,734
55	Management of companies and enterprises	5,290	6,580	1,290	24%	1.22	\$75,972
31-33	Manufacturing	27,667	28,816	1,149	4%	0.99	\$55,321
11	Agriculture, forestry, fishing and hunting	14,408	15,430	1,022	7%	1.75	\$22,326
71	Arts, entertainment, and recreation	6,250	7,212	962	15%	0.79	\$15,392
22	Utilities	935	1,214	279	30%	0.71	\$67,486
42	Wholesale trade	13,429	13,646	217	2%	0.96	\$51,284
21	Mining	470	633	163	35%	0.21	\$58,753
		381,685	467,110	85,426	22%		\$33,717

Source: EMSI Complete Employment – 3rd Quarter 2009

Southwestern Idaho offers a great diversity of economic opportunities. The area is not easy to characterize according to one predominant industry because sectors such as manufacturing, agriculture, professional services, and health care all form a critical portion of the regional economy. Currently, the largest industry sectors in the region by employment are government, retail trade, health care, and construction. Government and health care are also highly ranked in terms of location quotient and new job growth. Other industry sectors that are anticipated to grow the most over the next ten years include administrative and waste services, construction, and professional and technical services. Apart from these sectors, information and manufacturing are also notable for their own reasons. Information is projected to grow by an astonishing 60% of the next ten years, which is equivalent to more than 4,300 new jobs. Manufacturing posts one of the smallest projected growth rates, at 4% over the next ten years, but there are certain industries within this field that offer competitive wages and promising growth potential, including food manufacturing and machinery manufacturing.

Examining employment change by industry is an excellent way to measure the overall growth or decline of particular industry sectors. In order to get a more accurate picture of the number of available job openings, it is important to examine occupational data. EMSI's occupational data includes not only new job growth, but also openings due to replacement jobs, which are defined as openings that have occurred or will occur due to worker turnover. On the following page, in Figure 1.2 and Table 1-2, occupational data is analyzed using both new and replacement jobs. When new and replacement jobs are combined, we call them "openings." When the number of openings is averaged across the time period of the analysis (in this case, 2009 through 2019), we call this "annual openings."

Figure 1.2: Highest Projected Annual Openings by Occupational Sector, 2009-2019

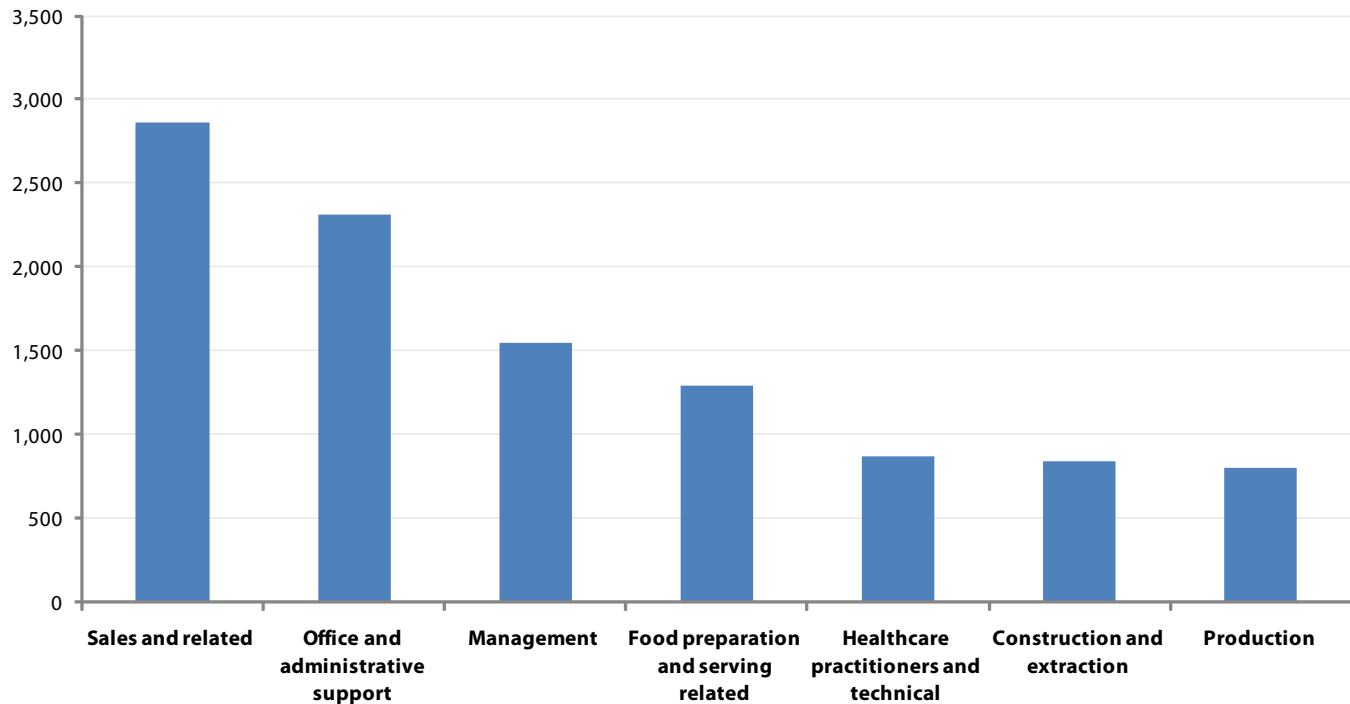


Table 1-2: Projected Occupation Growth & Openings, 2009-2019

SOC Series	Description	2009 Jobs	2019 Jobs	Change	% Change	Annual Openings	% New & Replacement Job Change	Current Median Hourly Earnings
41	Sales and related	53,594	68,661	15,067	28%	2,866	53%	\$11.23
43	Office and administrative support	50,981	62,084	11,103	22%	2,311	45%	\$13.71
11	Management	38,274	46,104	7,830	20%	1,547	40%	\$22.40
35	Food preparation and serving related	23,119	28,006	4,887	21%	1,297	56%	\$8.49
29	Healthcare practitioners and technical	16,353	21,962	5,609	34%	873	53%	\$29.43
47	Construction and extraction	22,219	26,961	4,742	21%	845	38%	\$15.29
51	Production	19,809	22,644	2,835	14%	805	41%	\$13.65
53	Transportation and material moving	21,081	23,860	2,779	13%	766	36%	\$12.79
13	Business and financial operations	16,848	21,675	4,827	29%	762	45%	\$20.95
25	Education, training, and library	15,940	19,229	3,289	21%	670	42%	\$27.19
49	Installation, maintenance, and repair	14,360	17,564	3,204	22%	566	39%	\$15.46
37	Building and grounds cleaning and maintenance	12,172	15,739	3,567	29%	564	46%	\$9.84
27	Arts, design, entertainment, sports, and media	10,079	12,346	2,267	22%	474	47%	\$15.21
39	Personal care and service	11,662	13,192	1,530	13%	440	38%	\$8.37
31	Healthcare support	7,986	11,246	3,260	41%	414	52%	\$11.77
15	Computer and mathematical science	7,627	9,509	1,882	25%	370	49%	\$26.02
21	Community and social services	6,715	8,759	2,044	30%	316	47%	\$14.74
33	Protective service	5,967	7,118	1,151	19%	301	50%	\$17.35
17	Architecture and engineering	7,927	9,094	1,167	15%	295	37%	\$30.31
19	Life, physical, and social science	4,692	5,782	1,090	23%	229	49%	\$21.86

Table 1-2: Projected Occupation Growth & Openings, 2009-2019

SOC Series	Description	2009 Jobs	2019 Jobs	Change	% Change	Annual Openings	% New & Replacement Job Change	Current Median Hourly Earnings
45	Farming, fishing, and forestry	5,523	6,344	821	15%	227	41%	\$10.16
55	Military	6,033	5,883	(150)	(2%)	126	21%	\$14.70
23	Legal	2,724	3,348	624	23%	111	41%	\$33.33
		381,684	467,110	85,426	22%	17,174	45%	\$16.16

Source: EMSI Complete Employment – 3rd Quarter 2009

In Figure 1-2 and Table 1-2 the region's labor market information is illustrated according to occupation groups instead of industries. There are several benefits to studying information at this level. First, at the occupational level EMSI is able to calculate median hourly earnings and annual openings. There are also more categories in the occupational taxonomy, which breaks the data into a greater level of detail.

According to these data, the occupation groups with the greatest projected number of annual openings are sales and related occupations, office and administrative support occupations, management occupations, and food preparation and serving-related occupations. These occupation groups have the highest number of openings in large part because they each contain a large number of low-paying, entry-level positions with a high level of turnover. Nevertheless, there are specific occupations within these groups that offer exciting work opportunities and attractive compensation, including Sales representatives, technical and scientific products (41-4011) and Social and community service managers (4-9151). Both of these occupations pay above \$17 per hour on average.

After the top four occupational categories, there is a sharp drop in the number of annual openings because there are fewer entry-level occupations in each of the remaining groups. The next highest ranked occupation group is health care practitioners and technical occupations, which tally over 870 annual openings and over \$29 per hour on average. Construction and production occupations also have greater than 800 annual openings within the region.

Chapter 2: Educational Characteristics

Figure 2-1: Overall Adult Educational Attainment by County ¹

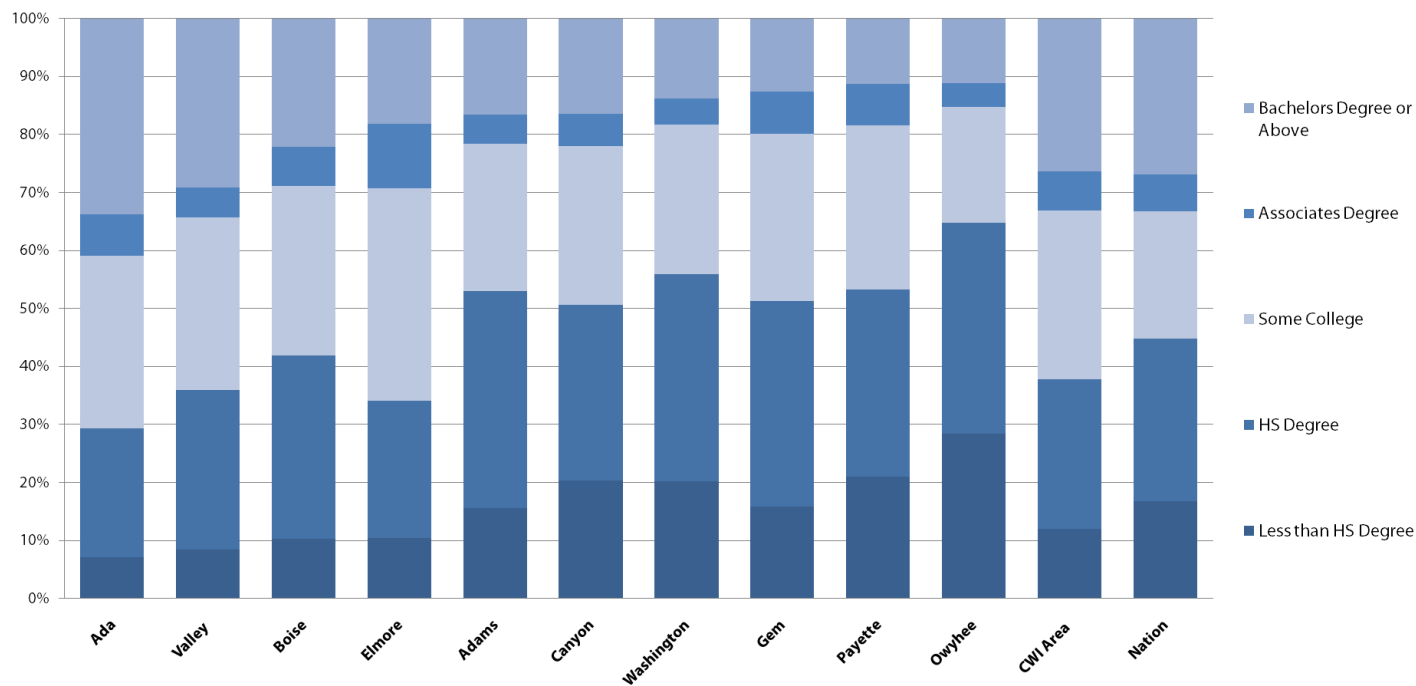


Table 2-1: Overall Adult Educational Attainment by County

County	Less than HS Degree		HS Degree		Some College ²		Associate's Degree		Bachelor's Degree or Above	
Ada	18,132	7%	56,827	22%	75,847	30%	18,341	7%	86,399	34%
Valley	540	8%	1,771	27%	1,921	30%	332	5%	1,879	29%
Boise	569	10%	1,736	32%	1,606	29%	372	7%	1,221	22%
Elmore	1,817	10%	4,122	24%	6,402	37%	1,944	11%	3,174	18%
Adams	396	16%	954	37%	647	25%	127	5%	424	17%
Canyon	23,473	20%	35,105	30%	31,655	27%	6,455	6%	18,974	16%
Washington	1,424	20%	2,516	36%	1,816	26%	315	4%	977	14%
Gem	1,812	16%	4,070	36%	3,291	29%	837	7%	1,447	13%
Payette	3,159	21%	4,827	32%	4,258	28%	1,079	7%	1,689	11%
Owyhee	1,987	28%	2,537	36%	1,402	20%	280	4%	783	11%
CWI Area	53,307	12%	114,464	26%	128,846	29%	30,083	7%	116,967	26%
Nation	33,553,853	17%	56,383,341	28%	44,110,649	22%	12,873,704	6%	53,905,216	27%

Source: EMSI Demographics - 2nd Quarter 2009 v. 2

1 All educational attainment data in this report represent the ten-county region of Southwestern Idaho, including those areas in the College of Southern Idaho's service region that are excluded elsewhere. See page 3 for more.

2. The "Some College" category includes individuals who attended college but did not successfully obtain a degree and individuals who have received a post-secondary vocational award or professional certification but did not receive an associate's or bachelor's degree.

The proportion of adults with college degrees in the CWI service area is roughly equivalent to the national average. In both the nation and the CWI area, 33% of the population has an associate’s degree or above. This competitive score is due mostly to the much higher than average educational attainment of individuals in Ada County. In Ada County, 41% of the adult population has an associate’s degree or above (34% with a bachelor’s or above and 7% with an associate’s). With the exception of Valley County, the remaining counties contain 30% or less of adults with an associate’s degree or above. Canyon County, the second largest county in terms of population, is solidly in the middle of this range at 22% (16% with a bachelor’s or above and 6% with an associate’s). Since there is a strong correlation between educational attainment and economic progress, the low attainment rates of the rural areas in the CWI area could be a hindrance to greater development in these areas.

Among all people above the age of 25, individuals in the “HS Degree” or “Some College” range are the most likely to utilize community colleges to increase their skills and education. There are more than 243,000 adults in this position within the region. Almost 200,000 of these individuals live in either Ada or Canyon County, and the remaining individuals live in one of the other eight rural counties. It is noteworthy that a higher proportion of the population is in the HS Degree to Some College range in the CWI area than at the national level, 55% to 50%, respectively. Though we cannot say exactly how many, it is safe to assume that a good deal of the individuals in this range would attend a community college if one were available in the area. With the advent of the College of Western Idaho, EMSI anticipates that the college will draw a portion of the individuals from this range and that in time the proportion of individuals with an associate’s degree will increase while the proportion in the HS Degree and Some College range will decrease.

Figure 2-2: Adult Educational Attainment by Gender

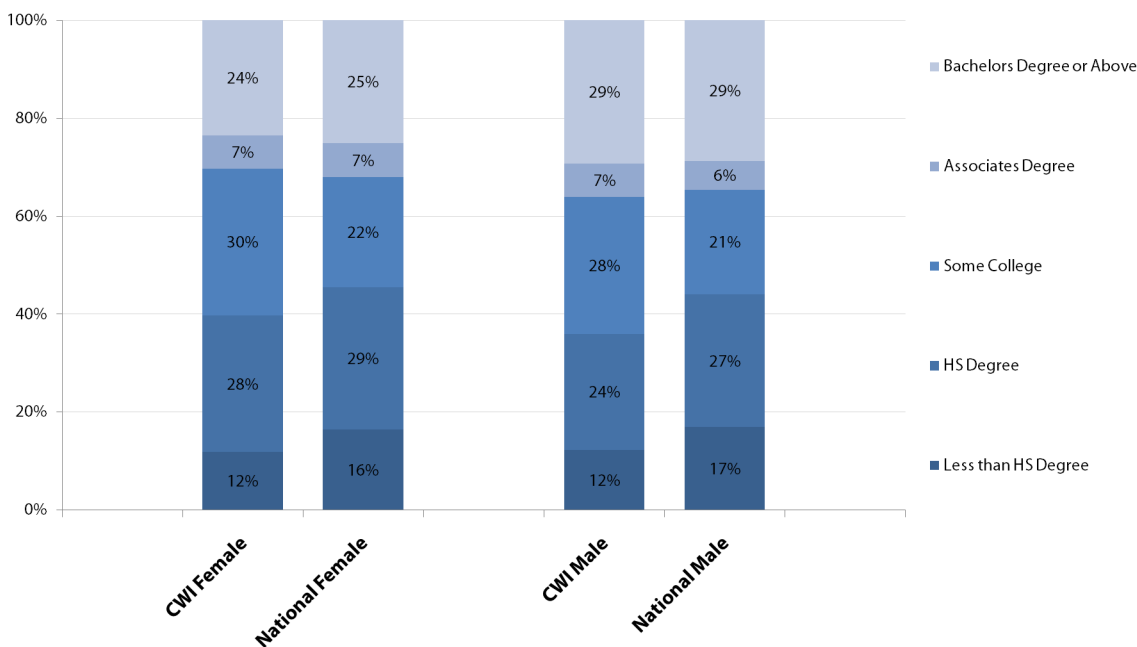


Table 2-2: Adult Educational Attainment by Gender

Area	Gender	Less than HS Degree		HS Degree		Some College		Associate’s Degree		Bachelor’s Degree or Above	
		Count	%	Count	%	Count	%	Count	%	Count	%
CWI Area	Male	27,101	12%	52,387	24%	62,022	28%	15,069	7%	64,670	29%
	Female	26,206	12%	62,078	28%	66,824	30%	15,015	7%	52,296	24%
Nation	Male	16,493,059	17%	26,227,336	27%	20,816,727	21%	5,724,466	6%	27,841,070	29%
	Female	17,060,794	16%	30,156,005	29%	23,293,922	22%	7,149,239	7%	26,064,145	25%

Source: EMSI Demographics - 2nd Quarter 2009 v. 2

It is apparent, after looking at Figure 2-2 and Table 2-2, that there is an achievement gap at the highest levels of education between males and females at the national level, which is replicated in the CWI area. Nationally, 25% of the adult female

population has a bachelor's degree or above, compared to 29% for males. A similar disparity exists in the CWI area as 24% of adult females have a bachelor's or above compared to 29% of males. This disparity has long existed in the United States, but recent graduation rates at the post-secondary level indicate that this gap may begin closing over time as females are now much more likely to both enroll and graduate from college than males.³ This increasing success among females at the post-secondary level will affect the CWI area but it is uncertain to what degree. Some studies have shown that the increasing success of females varies widely by state and region.⁴

Similar to the overall educational attainment data recorded in Table 2-1, there is a unusually high proportion of individuals in the HS Degree and Some College range. The proportion is higher for both males and females in the CWI area compared to the national level. For females, the difference is 6 percentage points (58% in the CWI region; 52% at the national level) and 4 percentage points for males (52% in the CWI region; 48% at the national level). This could be an indication that an even higher proportion of females than males will be interested in education at CWI than the national average, but there is not enough information to draw this conclusion. Other factors peculiar to the CWI area could have an impact on whether or not adult females pursue higher education to the same degree in the CWI area as the nation, including personal choices and beliefs, availability of child care, and opportunities for economic advancement.

Table 2-3: Adult Educational Attainment by Race and Selected Counties

County	Race	Less than HS Degree		HS Degree		Some College		Associate's Degree		Bachelor's Degree or Above	
		Count	%	Count	%	Count	%	Count	%	Count	%
Ada	White	14,464	6%	50,279	22%	68,875	30%	16,454	7%	78,650	34%
	Hispanic	2,408	17%	4,012	29%	3,669	26%	1,086	8%	2,828	20%
	Black	237	12%	276	14%	647	33%	149	8%	655	33%
	Am. Indian	215	11%	531	27%	665	34%	151	8%	412	21%
	Asian and Hawaiian	634	11%	1,036	17%	1,007	17%	317	5%	2,998	50%
	Two or More Races	174	6%	693	24%	983	34%	185	6%	855	30%
Canyon	White	13,275	14%	29,864	32%	26,911	29%	5,958	6%	16,346	18%
	Hispanic	9,903	51%	4,233	22%	3,303	17%	286	1%	1,642	8%
	Black	26	5%	32	6%	297	53%	32	6%	173	31%
	Am. Indian	94	11%	271	32%	354	42%	23	3%	95	11%
	Asian and Hawaiian	74	6%	331	27%	321	26%	78	6%	426	35%
	Two or More Races	101	8%	373	28%	468	36%	78	6%	293	22%
CWI Area	White	35,564	9%	100,270	26%	115,145	30%	26,961	7%	105,772	28%
	Hispanic	15,819	39%	9,869	24%	8,032	20%	1,755	4%	4,819	12%
	Black	284	9%	372	12%	1,152	38%	311	10%	887	30%
	Am. Indian	388	11%	1,075	31%	1,219	35%	241	7%	578	17%
	Asian and Hawaiian	827	10%	1,596	20%	1,525	19%	463	6%	3,673	45%
	Two or More Races	424	8%	1,282	25%	1,772	35%	353	7%	1,237	24%

Source: EMSI Demographics - 2nd Quarter 2009 v. 2

³ U.S. Census Bureau. 2006. School Enrollment in the United States: 2006. <http://www.census.gov/prod/2008pubs/p20-559.pdf> (accessed September 29, 2009).

⁴ Mather, Mark and Dia Adams, 2007. The Crossover in Female-Male College Enrollment Rates. Population Reference Bureau. <http://www.prb.org/Articles/2007/CrossoverinFemaleMaleCollegeEnrollmentRates.aspx> (accessed September 30, 2009).

Table 2-3: Adult Educational Attainment by Race and Selected Counties

County	Race	Less than HS Degree		HS Degree		Some College		Associate's Degree		Bachelor's Degree or Above	
Nation	White	16,599,070	12%	41,046,905	30%	31,581,857	23%	9,307,532	7%	40,441,793	29%
	Hispanic	10,400,788	40%	6,155,960	24%	4,678,588	18%	1,241,002	5%	3,678,868	14%
	Black	4,766,793	21%	6,761,822	30%	5,539,566	25%	1,411,140	6%	3,991,807	18%
	Am. Indian	301,755	22%	419,367	30%	368,946	26%	102,601	7%	201,375	14%
	Asian and Hawaiian	1,134,549	12%	1,432,354	15%	1,386,675	14%	646,787	7%	5,045,194	52%
	Two or More Races	350,898	16%	566,933	26%	555,018	25%	164,642	8%	546,179	25%

Source: EMSI Demographics - 2nd Quarter 2009 v. 2

The educational attainment by race data in Table 2-3 reveals a number of interesting things about how race and geography impact educational attainment in the region. In general, the Asian/Hawaiian and white race groups have the highest educational attainment rates, which holds true in the CWI area and the nation. One interesting aberration is the unusually high educational attainment of blacks in the CWI area compared to the national average. At the national level, 24% of blacks have an associate's degree or higher, but in the CWI area a full 40% have achieved the same level of education, which is higher than all race groups except for Asian/Hawaiian.

By far the most notable information that can be drawn from this table is the high proportion of Hispanics in Ada and Canyon Counties who have less than a college degree. Nationally about 81% of adult Hispanics do not have a college degree; in the CWI area this figure is a slightly higher (84%) and in Canyon County it is even higher (90%). All told, there are more than 33,000 adult Hispanics in the CWI area who do not have a college degree, which means that Hispanics make up 11% of this critical group of non-degree holding individuals. There are also a high proportion of Hispanics in the Less than HS Degree range. In the CWI area, 39% of the Hispanic adult population, or 15,800 individuals, have less than a high school degree. This could lead to some unique needs for developmental and remedial education for this group at the post-secondary level.

Chapter 3: Program Gap Analysis

Introduction:

In this analysis the authors have not sought to thoroughly analyze all of the programs contained in these lists. The approach we have taken is to provide readers with a solid foundation for interpreting the data, and we have undertaken analysis of a number of programs within this chapter to serve as examples. Ultimately, EMSI cannot be in charge of creating the academic plan because our knowledge and perspective of the circumstances regarding each program is limited. The educational gap analysis is intended to provide the CWI staff with the tools needed to conduct an academic plan using both solidly grounded program demand data and their own knowledge and experience.

The group displayed in Table 3-2 is called the current CWI program gap analysis because the programs on this list all align directly with programs that the college is offering as of fall 2009. Most of the programs have titles similar to those used in common parlance to describe collegiate programs, but a few of them do not fit standard definitions. The reason for this is that the programs contained in Table 3-2 are titled by a standard CIP (Classification of Instructional Programs) code and some of the more innovative programs offered by CWI do not fall into a standard CIP classification. Where this occurred, EMSI found the best-matching CIP program and modified the occupation-to-program mapping in order to best fit the CWI program description and curriculum. For the convenience of those who are familiar with CWI's current programs, we have included a program crosswalk in Appendix A that translates the programs from the language used in the CWI online catalogue to the CIP codes used in this report. The second group displayed in Table 3-3 is called the future CWI program gap analysis. The programs measured on this list include those which the College of Western Idaho has expressed interest in offering sometime within the next five years.⁵ The third and final lists of programs displayed in Table 3-4 are those that are not on the short list of programs that CWI is intending to offer in the near future. EMSI has determined that there is significant regional demand to justify adding these programs based on regional job openings and an adequate level of earnings.

The section after the gap analysis highlights—called the “Gap Analysis Detailed Tables by Program and Related Occupations”—contains the same information included in the highlight tables (Tables 3-1 through 3-4), as well as a breakout of the occupations that each of the programs are linked to according to the custom CIP-to-SOC crosswalk. This information will be useful for those looking for more detailed information about the programs contained in the highlight tables. As with the highlight tables, there are three separate tables, one for each of the program profiles.

Chapter 4 begins after the gap analysis detailed tables. This is where the authors give a brief overview of some emerging green occupations in the CWI area and discuss how CWI could train for these occupations with green certification or green retraining programs.

Methodology:

There are a number of important figures contained in Tables 3-1 through 3-4, including the number of 2008 graduates by CIP code, the SOC codes that align with each of the CIP codes and the employment growth, and earnings figures for each of these occupations. Of these figures, 2008 graduates and annual openings are relied on most heavily to conduct the gap analysis. These figures are used as measurements of supply and demand. The difference between the two makes up the contents of the “Gap/Surplus” cells. Gap/surplus is the difference between the estimated total annual openings (a measurement for demand based on new and replacement openings) and 2008 related program graduates. A gap of trained workers shows up as a negative, indicating that there is an outstanding demand or deficit of that number of trained workers. For instance, if there is a projected annual demand for 50 truck drivers and last year only 30 people completed truck driving programs, there would be a projected gap, or lack, of 20 qualified truck drivers in the region in the upcoming year. A surplus of trained workers is shown as a positive number, indicating that the amount of graduates each year is beyond the needs of the regional economy.

⁵ The source for developing our list of future CWI programs includes two documents: the recommendations given by the CWI Advisory Council in September, 2008, and the CWI 8-Year Academic Plan that was completed in April, 2009.

Developing an adequate CIP-to-SOC crosswalk is one of the most complex steps in the gap analysis process. In the development of this crosswalk, EMSI relied heavily on the CIP-to-SOC crosswalk created by the National Center for Educational Statistics (NCES). However, the authors made extensive modifications using our own knowledge of labor market supply patterns both nationally and locally. After creating the customized CIP-to-SOC crosswalk, the authors also considered related CIP codes that supply graduates into roughly equivalent fields but may have a slightly different CIP definition or award level. More details on this process, along with the customized program cross-references, are available in Appendix B.

The occupational projections used in this report are based on EMSI’s best-in-class projection methodology, which use EMSI’s own labor market data combined with Idaho’s industry projections. The collegiate completer data in this report are from the Integrated Postsecondary Education Data System (IPEDS), maintained by the National Center for Education Statistics (NCES). The most recent IPEDS data release was used in this report, which contains results from the 2008 academic year. IPEDS accurately accounts for all colleges and universities that participate or are applicants for any federal financial assistance program authorized by the Higher Education Act (HEA). The HEA includes most well-known federal loans, including Pell Grants, Stafford Loans, etc. All public colleges and universities and a number of private post-secondary schools accept federal assistance loans and therefore are included in this analysis.⁶

On a final note, all of the data necessary to repeat the gap analysis study in future years are available either in this report or by contacting EMSI. Educational supply data and, to a lesser extent, occupational demand data are subject to change on a year-to-year basis, so it is important to maintain gap analysis information that is informative and up-to-date.

Gap Analysis Highlights

The list in Table 3-1 displays the top high demand programs and the top low demand programs within the region. High demand programs include those for which there is an over 50-person shortfall of trained workers on an annual basis. There are 25 programs in this category. Low demand programs include those for which there is a 25-person surplus of trained workers on an annual basis. There are six programs in this category. The programs are color-coded to indicate whether CWI is currently offering or intending to offer the program in the near future. Programs that are currently offered are shaded blue. Programs that CWI has expressed interest in offering at some point within the next six years are shaded green. Programs that CWI currently has no plans of offering are shaded red. In order to see the detailed occupational information associated with these programs see Tables 3-5 through 3-7. Programs that are shaded blue (currently offered) are contained in Table 3-5. Programs that are shaded green (future programs) are contained in Table 3-6. Program that are shaded red (EMSI recommended) are displayed in Table 3-7.

Table 3-1: Program Gap Analysis Highlights

High Demand Programs								
CIP	Title	2008 Grads	2009 Jobs	09-'19 Change	% Change	Annual Openings	Median Hourly Earnings in \$	Gap/ Surplus
52.0408	General Office Occupations and Clerical Services	3	15,999	2,790	17%	677	13.58	(674)
46.9999	Construction Trades, Other	33	14,939	3,475	23%	667	14.95	(634)
custom3 ⁷	Marketing Management	14	12,185	1,971	16%	468	18.64	(454)
49.0205	Truck and Bus Driver/Commercial Vehicle Operation	17	9,872	1,628	16%	329	13.59	(312)
52.0401	Administrative Assistant and Secretarial Science, General	0	5,887	1,197	20%	213	14.81	(213)
19.0708	Child Care and Support Services Management	14	4,642	814	18%	215	7.28	(201)
52.1701	Insurance	0	3,365	1,020	30%	169	19.88	(169)

⁶ Additionally, some schools that do not allow for the use of federal financial aid such as trade schools, for-profit schools, and religious schools sometimes report to IPEDS for advertising purposes. A full list of the programs in CWI that were considered in this analysis is included in Appendix C.

⁷ This program and a few others (custom2 & custom1) did not have any approximate match among all CIP codes so EMSI created a custom program name and CIP code.

Table 3-1: Program Gap Analysis Highlights

High Demand Programs								
CIP	Title	2008 Grads	2009 Jobs	09-'19 Change	% Change	Annual Openings	Median Hourly Earnings in \$	Gap/ Surplus
52.0204	Office Management and Supervision	19	3,769	797	21%	157	18.47	(138)
01.0601	Applied Horticulture/Horticulture Operations, General	27	7,555	389	5%	149	9.42	(122)
15.1202	Computer Technology/Computer Systems Technology	7	2,585	518	20%	128	18.63	(121)
01.0605	Landscaping and Groundskeeping	0	2,573	856	33%	117	11.32	(117)
custom1	Team Assemblers	0	2,692	394	15%	101	14.99	(101)
52.0302	Accounting Technology/Technician and Bookkeeping	161	6,765	1,431	21%	253	13.70	(92)
19.0505	Foodservice Systems Administration/Management	0	2,298	520	23%	90	12.12	(90)
12.0503	Culinary Arts/Chef Training	5	2,075	426	21%	91	10.37	(86)
48.0703	Cabinetmaking and Millwork/Millwright	0	1,317	500	38%	86	11.55	(86)
47.0604	Automobile/Automotive Mechanics Technology/Technician	17	1,924	577	30%	98	11.96	(81)
46.0302	Electrician	0	1,688	376	22%	79	18.42	(79)
49.0299	Ground Transportation, Other	0	2,351	164	7%	76	12.64	(76)
49.0202	Construction/Heavy Equipment/Earthmoving Equipment Operation	0	1,740	390	22%	74	16.81	(74)
25.0301	Library Assistant/Technician	0	675	368	55%	69	11.57	(69)
47.0103	Communications Systems Installation and Repair Technology	0	1,348	409	30%	63	15.20	(63)
51.1601	Nursing/Registered Nurse (RN, ASN, BSN, MSN)	254	5,784	2,160	37%	311	26.84	(57)
46.0503	Plumbing Technology/Plumber	0	1,365	287	21%	57	15.61	(57)
47.0303	Industrial Mechanics and Maintenance Technology	2	1,465	260	18%	55	18.74	(53)
Low Demand Programs								
51.0907	Medical Radiologic Technology/Science - Radiation Therapist	52	454	122	27%	19	24.05	33
15.0303	Electrical, Electronic and Communications Engineering Technology/Technician	70	1,031	73	7%	27	25.94	43
51.0710	Medical Office Assistant/Specialist	155	637	236	37%	43	14.52	46
51.1613	Licensed Practical/Vocational Nurse Training (LPN, LVN, Cert, Dipl, AAS)	136	1,218	387	32%	72	19.38	64
51.3501	Massage Therapy/Therapeutic Massage	109	199	-11	-6%	1	10.44	108
51.0601	Dental Assisting/Assistant	203	881	439	50%	59	14.44	144

The results of EMSI's gap analysis indicate that there are many programs that require one to two years of college education in the CWI service area that are in need of more trained workers. There are also a small number of programs that are significantly oversupplying the labor market. Some of the most notable programs that feed into undersupplied occupations include Marketing Management (custom3), Truck and Bus Driver/Commercial Vehicle Operation (49.0205), and Insurance (52.1701). Graduates of these programs are capable of entering high-paying professions with significant projected growth over the next ten years.

EMSI anticipates that graduates of the Marketing Management program will be qualified for 450 openings each year with average earnings of more than \$18 per hour. There will also be more than 300 annual openings for graduates of the Truck and Bus Driver program with average earnings of roughly \$13.50 per hour. Meanwhile, an Insurance program, if put in place by CWI, would offer a high number of openings and solid earning potential for graduates. A program that could train workers for occupations such as Claims adjusters and Insurance underwriters would offer workers almost 170 annual openings and average earnings above \$19 per hour.

Although most programs requiring one to two years of education have strong growth and earnings potential, some programs are either training for occupations that are oversupplied with workers or for occupations that are not offering enough annual openings to demand additional graduates. Some programs that train for workers in this range include Dental Assisting (51.0601) and Electrical, Electronic and Communications Engineering Technology (15.0303). In 2008, 203 individuals graduated from programs with a Dental Assisting degree or certificate and the annual demand for such workers in the CWI area is less than 60. This means that each graduate who remains in the area could be competing with two or more recently trained workers for each opening, not to mention workers who were trained in previous years. Graduates of the Electrical and Electronic Technician program are not just facing competition from individuals who graduate with two-year degrees, but also from individuals who graduate with four-year engineering degrees. Because of this, there are roughly 2.5 recently trained graduates for each annual opening as an electronic engineering technician.

As a side note, it should be mentioned that there could be programs analyzed throughout this analysis where the apparent demand is higher than the demand indicated by EMSI's labor market data. For instance, occupations where projections have been skewed by declining employment can be caused not by a lack of employer demand but rather by waning interest within the workforce. Common examples of such occupations include Welders, Electricians, and other high-skilled, blue-collar jobs. Workers with such skills are in very high demand among employers, but fewer and fewer young people are entering such professions. This can cause the projected demand for these workers to appear lower than it actually is. Unfortunately, there is no easy way to compensate for issues such as this, but it should be kept in mind when looking at programs that fit the prescribed conditions of being high-skill, middle-wage, and blue collar. A disconnect between apparent and projected demand can also occur in circumstances where a program teaches certain skills that are in high demand but the precise occupation that is being trained for is not in demand. Such an event could occur with a program like Machine Tool Technology, which trains workers to be skilled within an array of categories such as machinery, production, and general maintenance that could transfer to many different occupations and industries. As with the previous example, there is no simple way to mitigate the anomalies in these data, but this fact should be kept in mind as a possibility for programs with lower-than-expected annual openings.

Table 3-2: Current CWI Program Gap Analysis Detailed Findings

CIP	Title	2008 Grads	2009 Jobs	09-'19 Change	% Change	Annual Openings	Median Hourly Earnings in \$	Gap/Surplus
52.0408	General Office Occupations and Clerical Services	3	15,999	2,790	17%	677	13.58	(674)
custom3	Marketing Management	14	12,185	1,971	16%	468	18.64	(454)
49.0205	Truck and Bus Driver/Commercial Vehicle Operation	17	9,872	1,628	16%	329	13.59	(312)
52.0401	Administrative Assistant and Secretarial Science, General	0	5,887	1,197	20%	213	14.81	(213)
15.1202	Computer Technology/Computer Systems Technology	7	2,585	518	20%	128	18.63	(121)
01.0601	Applied Horticulture/Horticulture Operations, General	27	7,555	389	5%	149	9.42	(122)
52.0302	Accounting Technology/Technician and Bookkeeping	161	6,765	1,431	21%	253	13.70	(92)
12.0503	Culinary Arts/Chef Training	5	2,075	426	21%	91	10.37	(86)
47.0604	Automobile/Automotive Mechanics Technology/Technician	17	1,924	577	30%	98	11.96	(81)
46.0302	Electrician	0	1,688	376	22%	79	18.42	(79)
49.0202	Construction/Heavy Equipment/Earthmoving Equipment Operation	0	1,740	390	22%	74	16.81	(74)
47.0103	Communications Systems Installation and Repair Technology	0	1,348	409	30%	63	15.20	(63)
51.1601	Nursing/Registered Nurse (RN, ASN, BSN, MSN)	254	5,784	2,160	37%	311	26.84	(57)
46.0503	Plumbing Technology/Plumber	0	1,365	287	21%	57	15.61	(57)
47.0303	Industrial Mechanics and Maintenance Technology	2	1,465	260	18%	55	18.74	(53)
48.0508	Welding Technology/Welder	13	1,378	246	18%	54	13.26	(41)
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician (HAC, HACR, HVAC, HVACR)	0	881	164	19%	32	15.12	(32)
11.0801	Web Page, Digital/Multimedia and Information Resources Design	46	1,870	245	13%	72	23.51	(26)
43.0201	Fire Protection and Safety Technology/Technician	11	625	117	19%	33	25.87	(22)
47.0603	Autobody/Collision and Repair Technology/Technician	7	718	193	27%	36	11.24	(29)
15.0612	Industrial Technology/Technician	0	229	31	14%	8	29.99	(8)
48.0501	Machine Tool Technology/Machinist	3	927	41	4%	30	14.26	(27)
47.0605	Diesel Mechanics Technology/Technician	5	740	139	19%	30	16.28	(25)
15.0404	Instrumentation Technology/Technician	2	826	-33	(4%)	27	15.59	(25)
11.0901	Computer Systems Networking and Telecommunications	117	1,943	814	42%	127	25.62	(10)
22.0301	Legal Administrative Assistant/Secretary	12	784	183	23%	31	15.25	(19)
51.0909	Surgical Technology/Technologist	15	282	97	34%	18	17.63	(3)

Table 3-2: Current CWI Program Gap Analysis Detailed Findings

CIP	Title	2008 Grads	2009 Jobs	09-'19 Change	% Change	Annual Openings	Median Hourly Earnings in \$	Gap/ Surplus
13.1210	Early Childhood Education and Teaching	8	624	67	11%	17	8.86	(9)
47.0606	Small Engine Mechanics and Repair Technology/Technician	3	154	54	35%	8	9.00	(5)
15.1301	Drafting and Design Technology/Technician, General	34	693	102	15%	30	20.94	4
51.1613	Licensed Practical/Vocational Nurse Training (LPN, LVN, Cert, Dipl, AAS)	136	1,218	387	32%	72	19.38	64
51.0601	Dental Assisting/Assistant	203	881	439	50%	59	14.44	144

Once the CWI catalogue is translated into the CIP code system, there are 32 distinct programs being offered as of fall 2009. These programs as a group are training for 149 separate occupations with an annual demand of roughly 3,730 workers and earnings of over \$15 per hour. Some of the top programs in this group include Marketing Management (custom3), Administrative Assistant and Secretarial Science, General (52.0401), Computer Technology/Computer Systems Technology (15.1202), and Electricians (46.0302). As explained in the economic scan earlier in this document, the CWI area is experiencing widespread growth across a multitude of sectors. CWI is likewise training workers for a broad array of different fields, including business services, health care, personal services, construction and manufacturing. Among these 32 programs only three are pushing workers into fields where there are more workers than there are jobs. These three programs are Drafting and Design Technology/Technician, General (15.1301), Licensed Practical/ Vocational Nurse Training (51.1613), and Dental Assisting (51.0601).

It is somewhat surprising that these programs are producing more graduates than there are jobs because each of the occupations associated with the programs are projected to grow substantially in the near future. The problem stems from an overproduction of trained workers. For instance, there were 136 LPN graduates in 2008 alone. This includes a considerable number of graduates from Boise State University, Treasure Valley Community College, and other regional private institutions such as Apollo College. This highlights an important lesson in academic planning: It is possible to oversupply workers into even the highest-demand fields. This is not necessarily an indication that any of these three programs should be dropped from the academic catalogue because they are all still valuable, both to the graduates and the businesses who hire the graduates. Additional factors should also be considered in this decision, such as the quality and value of education offered at CWI compared to other institutions in the region. Even in a field with a high level of competition it is possible that some students would prefer to receive an education from CWI, and that employers would prefer students from CWI. It should not be ruled out, however, that these figures represent an imbalance in the number of graduates to openings, and that the college would be better servicing students by discouraging over-enrollment in these programs. If this were the case, this could represent an opportunity for college faculty and staff to counsel some individuals who are open to a career change into a field with a larger demand for trained workers.

Programs that perhaps are in need of even closer analysis are those that are serving occupations with low growth or decreasing employment. Some of the programs in this range include Small Engine Mechanics, Repair Technology/Technician (47.0606), and Industrial Technology/Technician. Each of the occupations that these programs train for are relatively small and are not anticipated to add a high number of new jobs. If the college is open to such changes, it is possible that these programs could be downsized or the resources committed to them could be transitioned into another high demand program area.

Table 3-3: Future CWI Program Gap Analysis Detailed Findings

CIP	Title	2008 Grads	2009 Jobs	09-'19 Change	% Change	Annual Openings	Median Hourly Earnings in \$	Gap/ Surplus
19.0708	Child Care and Support Services Management	14	4,642	814	18%	215	7.28	(201)
52.0204	Office Management and Supervision	19	3,769	797	21%	157	18.47	(138)
01.0605	Landscaping and Groundskeeping	0	2,573	856	33%	117	11.32	(117)
custom1	Advanced Manufacturing Technicians	0	2,692	394	15%	101	14.99	(101)
13.1501	Teacher Assistant/Aide	20	1,889	318	17%	63	11.87	(43)
46.0303	Lineworker	2	467	114	24%	26	31.30	(24)
51.0905	Nuclear Medical Technology/Technologist	0	40	8	20%	1	31.11	(1)
51.0910	Diagnostic Medical Sonography/Sonographer and Ultrasound Technician	0	84	24	28%	3	28.98	(3)
51.1005	Clinical Laboratory Science/Medical Technology/Technologist	0	347	103	30%	22	18.24	(22)
43.0103	Criminal Justice/Law Enforcement Administration	134	2,598	606	23%	150	21.83	(16)
custom2	Telecommunications Line Installers and Repairers	0	313	133	43%	21	15.80	(21)
10.0202	Radio and Television Broadcasting Technology/Technician	2	252	125	50%	19	15.20	(17)
51.0806	Physical Therapist Assistant	0	287	131	46%	17	14.27	(17)
51.0808	Veterinary/Animal Health Technology/Technician and Veterinary Assistant	0	163	87	53%	14	13.80	(14)
11.0301	Data Processing and Data Processing Technology/Technician	0	312	-16	(5%)	8	16.13	(8)
12.0501	Baking and Pastry Arts/Baker/Pastry Chef	0	301	51	17%	11	11.85	(11)
51.0805	Pharmacy Technician/Assistant	39	709	253	36%	46	14.00	(7)
51.0603	Dental Laboratory Technology/Technician	0	102	32	31%	5	8.72	(5)
01.0504	Dog/Pet/Animal Grooming	0	1,107	-153	(14%)	2	8.35	(2)
51.0707	Health Information/Medical Records Technology/Technician	57	937	261	28%	46	15.00	11
51.0908	Respiratory Care Therapy/Therapist	42	513	119	23%	23	19.36	19
51.0602	Dental Hygiene/Hygienist	57	508	257	51%	35	34.68	22
51.0907	Medical Radiologic Technology/Science - Radiation Therapist	52	454	122	27%	19	24.05	33
15.0303	Electrical, Electronic and Communications Engineering Technology/Technician	70	1,031	73	7%	27	25.94	43
51.0710	Medical Office Assistant/Specialist	155	637	236	37%	43	14.52	46
51.3501	Massage Therapy/Therapeutic Massage	109	199	-11	-6%	1	10.44	108

All told, the list of CWI future programs will be training for 50 separate occupations with an annual demand for roughly 1,260 workers and earnings of around \$15 per hour. Considering both job growth and earnings potential, some of the top programs in this group include Child Care and Support Services Management (19.0708), Office Management and Supervision (52.0204), and Advanced Manufacturing Technicians (custom1). The demand for child care workers is nearly overwhelming, and with

the population growth occurring in the CWI area, this demand will only increase in coming years. Programs such as Office Management and Supervision train individuals to obtain a strong base of office skills that can be used in a variety of settings. Although there is only one occupation that this program trains for directly, First-line supervisors/managers of office and administrative support workers (43-1011), it offers high wages and is in high demand.

There are also a few programs on this list that CWI should carefully consider before adding. These programs include Massage Therapy (51.3501) and Radiological Therapy Technicians (51.0907), among others. Massage therapy is an occupation that has been en vogue over the past ten years with the growing demand for preventative health care. However, data show that this field has been declining recently, and the average earnings of \$10.44 per hour does not provide a lot of incentive for new entrants to pursue a career in the field. Radiological technicians, on the other hand, represents an occupation with projected growth of 23% over the next ten years and earnings of around \$24/hour, but there are already several colleges in the area involved in training individuals for this profession. In 2008, there were 52 graduates from Boise State with skills to enter into this profession, and in the entire CWI area there is an annual demand for only 19 such workers. This should not be taken as a direct recommendation that CWI should not offer the program, but if the college cannot prove that it would be capable of delivering a superior education for an equal or better price, there is little reason to enter into competition with BSU on this front.

Just as with the current CWI program offerings, there are some programs on this list that are in an even more precarious situation of posting little future growth and low earnings. The programs in this range include Nuclear Medical Technology/Technologist (51.0905), Diagnostic Medical Sonography and Ultrasound Technicians (51.0910), and Dog/Pet and Animal Grooming. Currently, there is little reason to justify the expansion of academic offerings for any of these programs. If further expansion occurs in the health care field, Nuclear medical technicians and Sonographers could see a growth in demand, but currently these occupations fulfill a niche within the health care industry that does not seem to be in high demand in Southwestern Idaho. Dog/Pet and Animal Grooming at one point recently could have been a strong program offering, but the recent decline among Non-farm animal caretakers (39-2021) indicates that these workers are no longer as critical to the regional economy as they once were. There is some growth among Veterinary assistants and laboratory animal caretakers (31-9096), but the oversupply of former non-farm animal caretakers could easily fill the demand for these positions with a bit of retraining, if they so desired.

Table 3-4: EMSI Recommended Programs Gap Analysis Detailed Findings

CIP	Title	2008 Grads	2009 Jobs	09-'19 Change	% Change	Annual Openings	Median Hourly Earnings in \$	Gap/ Surplus
46.9999	Construction Trades, Other	33	14,939	3,475	23%	667	14.95	(634)
52.1701	Insurance	0	3,365	1,020	30%	169	19.88	(169)
48.0703	Cabinetmaking and Millwork/Millwright	0	1,317	500	38%	86	11.55	(86)
49.0299	Ground Transportation, Other	0	2,351	164	7%	76	12.64	(76)
25.0301	Library Assistant/Technician	0	675	368	55%	69	11.57	(69)
03.0511	Forest Technology/Technician	0	820	140	17%	47	15.64	(47)
44.0201	Community Organization and Advocacy	0	1,126	310	28%	48	9.01	(48)
46.0101	Mason/Masonry	0	799	297	37%	46	13.19	(46)
22.0302	Legal Assistant/Paralegal	0	837	229	27%	36	19.24	(36)
19.0505	Foodservice Systems Administration/ Management	0	1,252	247	20%	34	13.05	(34)
51.1599	Mental and Social Health Services and Allied Professions, Other	59	1,724	664	38%	86	10.38	(27)
15.1102	Surveying Technology/Surveying	0	384	110	29%	18	21.81	(18)
48.0506	Sheet Metal Technology/Sheetworking	0	576	75	13%	22	17.01	(22)
50.0408	Interior Design	0	176	45	25%	18	18.19	(18)
51.0901	Cardiovascular Technology/Technologist	0	55	19	35%	3	25.04	(3)
52.1601	Taxation	0	408	49	12%	15	19.29	(15)
51.0904	Emergency Medical Technology/Technician (EMT Paramedic)	0	291	51	18%	13	17.43	(13)
15.0506	Water Quality and Wastewater Treatment Management and Recycling Technology/ Technician	0	252	83	33%	13	17.36	(13)
51.3103	Dietetic Technician (DTR)	0	213	55	26%	11	17.98	(11)
01.0204	Agricultural Power Machinery Operation	0	457	54	12%	18	10.89	(18)
47.0106	Appliance Installation and Repair Technology/ Technician	0	265	93	35%	15	9.92	(15)
51.1801	Opticianry/Ophthalmic Dispensing Optician	0	169	45	27%	10	9.81	(10)

All told, the EMSI recommended programs could be training for 65 separate occupations with an annual demand for roughly 1,490 workers and earnings of around \$14 per hour. Some of the most attractive program offerings in this group include Insurance (52.1701), Library Assistants (25.0301), Forestry Technicians (03.0511), and Legal Assistant/Paralegal (22.0302). These programs are all noteworthy for their own reasons. Insurance is a program that is rarely offered at the two-year college level; according to EMSI's research, there were only a couple hundred such graduates at the national level in the latest academic year. However, from an economic perspective, it could be a great benefit to students interested in the insurance field who do not want to get a four-year accounting or finance degree. Library Assistants are often in high demand in places like Southwestern Idaho that are experiencing population growth, and offers an appealing opportunity for individuals who enjoy both teaching and learning but are not interested in entering the teaching profession. The Forest Technology/Technician program, which could also be called Field Biology or Wildlife Technicians, presents a unique opportunity for CWI. In most locations across the nation, a bachelor's degree or greater is required to work in Biology, Ecology, and Natural Resource Management. But due to the high number of state and federal agencies in Southwestern Idaho and the amount of research that is conducted by them,

there are an abundance of openings for Forest and conservation technicians (19-4093)—and this need is not being addressed by any other regional education institutions. Programs training individuals to become Paralegals are fairly common at two-year colleges, but the program is yet to be adopted by any public colleges in Southwestern Idaho.⁷ Individuals trained as legal assistants have the potential of making earnings much higher than the average two-year college graduate—at above \$19/hour in the region—and there are roughly 36 openings per year.

There are some other programs that ranked high on this list that should be considered more carefully due to additional factors unrelated to growth or earnings. For instance, the Construction Trades program (46.9999) should be considered as a program with some potential but also with a high amount of risk because the construction industry is in the midst of a major lull. Further, many, if not most, individuals in the construction field are trained on the job and not through a formal educational program. Cabinet Making Millworker/Millwright (48.0703) should be considered in a similar position. Between 2002 and 2006 the wood products manufacturing industry was growing rapidly in Southwestern Idaho, but from 2007-2009 the industry has declined precipitously in most respects. As a result of the growth several years ago, there is a strong presence of such industries in the area. The health of this industry is tied to two very uncertain factors: (1) the U.S. housing industry and (2) the policies of federal and state government regarding lumber extraction on public lands.

Just as the Southwestern Idaho economy offers an exciting array of economic opportunities, CWI has the option of facilitating the training of workers in many different aspects of the economy. It should be emphasized that these data provide a critical step in understanding the potential of new programs—but there are other important factors that cannot as easily be obtained from central data sources that should be considered before any new program decisions are made.

⁷ The recently established Brown Mackie College does offer this program but they have yet to produce any graduates, so it is hard to say how this program will affect the regional education supply.

Gap Analysis Detailed Tables by Program and Related Occupations

The U.S. Employment and Training Administration assigns average educational levels to each occupation by SOC code. The determination of average educational levels is based on a sample survey of individuals employed in each occupation. Most of the occupations analyzed in this study fall somewhere between levels of “moderate-term on-the-job training” to an associate’s degree. But there are a few occupations that are typically in the bachelor’s or above range that are mapped to programs at the two-year level. A full list of these occupations is contained in Appendix D.

Please note that any occupation marked with an asterisk is one that EMSI has identified as having green certification or retraining potential. More information about green occupations is contained in Chapter 4.

Table 3-5: Current CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
52.0408	General Office Occupations and Clerical Services					
43-3061	Procurement clerks	351	24	7%	17.11	10
43-4021	Correspondence clerks	34	9	27%	12.45	2
43-4031	Court, municipal, and license clerks	306	43	14%	15.34	11
43-4071	File clerks	1,035	(335)	(32%)	14.19	37
43-4151	Order clerks	571	(112)	(20%)	20.44	15
43-4161	Human resources assistants, except payroll and timekeeping	425	105	25%	16.12	14
43-4171	Receptionists and information clerks	2,443	709	29%	11.03	131
43-4199	Information and record clerks, all other	454	(8)	(2%)	15.94	12
43-5011	Cargo and freight agents	113	23	20%	21.80	5
43-5051	Postal service clerks	105	29	28%	26.36	5
43-5052	Postal service mail carriers	639	177	28%	23.12	36
43-5053	Postal service mail sorters, processors, and processing machine operators	256	41	16%	23.79	9
43-5111	Weighers, measurers, checkers, and samplers, recordkeeping	90	(16)	(18%)	16.86	2
43-9022	Word processors and typists	222	62	28%	11.36	13
43-9041	Insurance claims and policy processing clerks	509	109	21%	15.37	18

Table 3-5: Current CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings	
43-9051	Mail clerks and mail machine operators, except postal service	96	5	5%	13.73	4	
43-9061	Office clerks, general	7,838	1,873	24%	11.76	331	
43-9071	Office machine operators, except computer	57	13	23%	15.50	3	
43-9199	Office and administrative support workers, all other	455	38	8%	14.02	18	
Total		15,999	2,790	17%	13.58	677	
						Graduates:	3
						Gap/Surplus:	(674)
custom3	Marketing Management						
41-1011	First-line supervisors/managers of retail sales workers	5,302	802	15%	12.71	191	
41-4011	Sales representatives, wholesale and manufacturing, technical and scientific products	1,183	80	7%	31.49	42	
41-4012	Sales representatives, wholesale and manufacturing, except technical and scientific products	2,874	264	9%	19.41	116	
13-1023	Purchasing agents, except wholesale, retail, and farm products*	536	59	11%	22.00	17	
13-1199	Business operation specialists, all other	2,289	766	33%	24.01	101	
Total		12,185	1,971	16%	18.64	468	
						Graduates:	14
						Gap/Surplus:	(454)
49.0205	Truck and Bus Driver/Commercial Vehicle Operation						
53-3021	Bus drivers, transit and intercity*	210	20	9%	9.60	5	
53-3022	Bus drivers, school*	2,109	312	15%	13.69	59	
53-3032	Truck drivers, heavy and tractor-trailer*	5,051	912	18%	14.20	181	
53-3033	Truck drivers, light or delivery services*	1,924	310	16%	12.53	65	
53-3041	Taxi drivers and chauffeurs*	392	119	30%	8.57	17	
53-4019	Locomotive engineers and operators*	55	(13)	(24%)	21.66	1	
53-4021	Railroad brake, signal, and switch operators*	44	(17)	(38%)	20.80	0	
53-4031	Railroad conductors and yardmasters*	79	(17)	(22%)	22.72	1	
53-4041	Subway and streetcar operators	8	1	19%	20.10	0	
53-4099	Rail transportation workers, all other	1	(0)	(50%)	18.23	0	
Total		9,872	1,628	16%	13.59	329	
						Graduates:	17
						Gap/Surplus:	(312)
52.0401	Administrative Assistant and Secretarial Science, General						
43-6011	Executive secretaries and administrative assistants	3,669	927	25%	16.00	151	

Table 3-5: Current CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
43-6014	Secretaries, except legal, medical, and executive	2,217	270	12%	12.83	62
	Total	5,887	1,197	20%	14.81	213
					Graduates:	0
					Gap/Surplus:	(213)
01.0601	Applied Horticulture/Horticulture Operations, General					
11-9011	Farm, ranch, and other agricultural managers*	2,019	297	15%	16.40	44
11-9012	Farmers and ranchers*	5,254	(8)	(0%)	6.60	91
19-4011	Agricultural and food science technicians*	103	11	11%	18.38	3
37-3019	Grounds maintenance workers, all other	178	88	49%	8.46	11
	Total	7,555	389	5%	9.42	149
					Graduates:	27
					Gap/Surplus:	(122)
15.1202	Computer Technology/Computer Systems Technology					
15-1041	Computer support specialists	1,862	375	20%	16.22	95
15-1099	Computer specialists, all other	723	144	20%	24.82	34
	Total	2,585	518	20%	18.63	128
					Graduates:	7
					Gap/Surplus:	(121)
52.0302	Accounting Technology/Technician and Bookkeeping					
43-3021	Billing and posting clerks and machine operators	1,136	186	16%	13.56	33
43-3031	Bookkeeping, accounting, and auditing clerks	5,058	1,162	23%	13.62	195
43-3041	Gaming cage workers	20	4	20%	11.14	1
43-3051	Payroll and timekeeping clerks	428	56	13%	14.43	16
43-4011	Brokerage clerks	66	13	20%	16.66	3
43-9111	Statistical assistants	57	10	18%	15.08	3
	Total	2,585	518	20%	13.70	253
					Graduates:	161
					Gap/Surplus:	(92)
12.0503	Culinary Arts/Chef Training					
35-1011	Chefs and head cooks	519	87	17%	10.41	15
35-2013	Cooks, private household	38	10	26%	7.59	2
35-2014	Cooks, restaurant	1,464	316	22%	10.46	71
35-2019	Cooks, all other	53	13	25%	9.48	3
	Total	2,585	518	20%	10.37	91

Table 3-5: Current CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
					Graduates:	5
					Gap/Surplus:	(86)
47.0604	Automobile/Automotive Mechanics Technology/Technician					
49-2096	Electronic equipment installers and repairers, motor vehicles	136	10	7%	11.62	5
49-3023	Automotive service technicians and mechanics*	1,787	567	32%	11.99	93
	Total	1,924	577	30%	11.96	98
					Graduates:	17
					Gap/Surplus:	(81)
46.0302	Electrician					
47-2111	Electricians*	1,489	327	22%	19.44	71
47-3013	Helpers, electricians*	48	8	17%	9.99	2
49-2098	Security and fire alarm systems installers	66	13	20%	14.02	2
49-9097	Signal and track switch repairers	85	28	33%	8.76	4
	Total	1,688	376	22%	18.42	79
					Graduates:	0
					Gap/Surplus:	(79)
49.0202	Construction/Heavy Equipment/Earthmoving Equipment Operation					
47-2071	Paving, surfacing, and tamping equipment operators	78	16	21%	16.19	3
47-2072	Pile-driver operators	79	24	30%	11.96	4
47-2073	Operating engineers and other construction equipment operators*	834	178	21%	17.17	34
47-4051	Highway maintenance workers	300	49	16%	17.19	10
47-4061	Rail-track laying and maintenance equipment operators*	24	(4)	(19%)	16.82	0
47-5021	Earth drillers, except oil and gas	73	22	29%	15.69	5
47-5041	Continuous mining machine operators*	34	16	47%	19.91	3
47-5042	Mine cutting and channeling machine operators	22	9	41%	20.59	2
47-5049	Mining machine operators, all other	20	9	43%	21.49	2
47-5099	Extraction workers, all other	34	11	32%	16.16	2
49-9096	Riggers	13	1	7%	17.29	0
53-7021	Crane and tower operators*	41	9	21%	18.45	2
53-7031	Dredge operators	24	7	30%	11.68	1
53-7032	Excavating and loading machine and dragline operators	164	45	27%	16.13	7
53-7041	Hoist and winch operators	1	0	10%	15.88	0
	Total	1,740	390	22%	16.81	74

Table 3-5: Current CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
					Graduates:	0
					Gap/Surplus:	(74)
47.0103	Communications Systems Installation and Repair Technology					
27-4013	Radio operators	9	2	23%	8.17	1
43-2099	Communications equipment operators, all other	8	2	33%	12.55	0
49-2021	Radio mechanics	18	5	25%	8.95	1
49-2022	Telecommunications equipment installers and repairers, except line installers	438	238	54%	19.33	35
49-2097	Electronic home entertainment equipment installers and repairers	162	25	16%	12.21	4
49-9061	Camera and photographic equipment repairers	42	16	39%	7.84	3
49-9098	Helpers--Installation, maintenance, and repair workers*	199	31	16%	9.16	8
49-9099	Installation, maintenance, and repair workers, all other*	471	89	19%	16.03	12
	Total	1,348	409	30%	15.20	63
					Graduates:	0
					Gap/Surplus:	(63)
51.1601	Nursing/Registered Nurse (RN, ASN, BSN, MSN)					
29-1111	Registered nurses	5,784	2,160	37%	26.84	311
	Total	5,784	2,160	37%	26.84	311
					Graduates:	254
					Gap/Surplus:	(57)
46.0503	Plumbing Technology/Plumber					
47-2151	Pipelayers	365	98	27%	13.47	17
47-2152	Plumbers, pipefitters, and steamfitters	843	164	19%	17.13	34
47-3015	Helpers, pipelayers, plumbers, pipefitters, and steamfitters	91	16	18%	10.86	4
47-4071	Septic tank servicers and sewer pipe cleaners	65	9	14%	14.63	2
	Total	1,365	287	21%	15.61	57
					Graduates:	0
					Gap/Surplus:	(57)
47.0303	Industrial Mechanics and Maintenance Technology					
47-4021	Elevator installers and repairers*	46	2	3%	24.24	1
49-9011	Mechanical door repairers	24	1	2%	14.24	0
49-9012	Control and valve installers and repairers, except mechanical door	86	19	22%	17.26	3
49-9041	Industrial machinery mechanics	863	181	21%	21.27	32

Table 3-5: Current CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings	
49-9043	Maintenance workers, machinery	173	13	8%	15.08	4	
49-9044	Millwrights*	76	29	38%	20.29	4	
49-9045	Refractory materials repairers, except brickmasons	24	10	41%	7.10	2	
51-2031	Engine and other machine assemblers*	113	(5)	(4%)	10.81	3	
51-6062	Textile cutting machine setters, operators, and tenders	35	8	24%	10.07	3	
51-6063	Textile knitting and weaving machine setters, operators, and tenders	9	1	6%	10.46	1	
51-6064	Textile winding, twisting, and drawing out machine setters, operators, and tenders	17	2	11%	10.26	1	
Total		1,465	260	18%	18.74	55	
						Graduates:	2
						Gap/Surplus:	(53)
48.0508	Welding Technology/Welder						
51-4121	Welders, cutters, solderers, and brazers*	1,246	206	17%	13.63	47	
51-4122	Welding, soldering, and brazing machine setters, operators, and tenders	132	40	30%	9.75	7	
Total		1,378	246	18%	13.26	54	
						Graduates:	13
						Gap/Surplus:	(41)
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician (HAC, HACR, HVAC, HVACR)						
49-9021	Heating, air conditioning, and refrigeration mechanics and installers*	881	164	19%	15.12	32	
Total		881	164	19%	15.12	32	
						Graduates:	0
						Gap/Surplus:	(32)
47.0603	Autobody/Collision and Repair Technology/Technician						
49-3021	Automotive body and related repairers	499	148	30%	9.36	27	
49-3022	Automotive glass installers and repairers	62	19	30%	10.86	4	
51-9122	Painters, transportation equipment	158	27	17%	17.33	6	
Total		718	193	27%	11.24	36	
						Graduates:	7
						Gap/Surplus:	(29)
48.0501	Machine Tool Technology/Machinist						
51-4021	Extruding and drawing machine setters, operators, and tenders, metal and plastic	11	1	11%	12.95	0	
51-4022	Forging machine setters, operators, and tenders, metal and plastic	17	(3)	(16%)	13.51	1	

Table 3-5: Current CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings	
51-4023	Rolling machine setters, operators, and tenders, metal and plastic	51	5	9%	9.02	2	
51-4031	Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	123	8	7%	11.93	6	
51-4032	Drilling and boring machine tool setters, operators, and tenders, metal and plastic	8	(1)	(8%)	13.58	0	
51-4033	Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic	43	5	11%	13.19	2	
51-4034	Lathe and turning machine tool setters, operators, and tenders, metal and plastic	33	(3)	(9%)	13.69	1	
51-4035	Milling and planing machine setters, operators, and tenders, metal and plastic*	45	(4)	(9%)	12.70	1	
51-4041	Machinists*	438	33	7%	15.35	11	
51-4081	Multiple machine tool setters, operators, and tenders, metal and plastic	21	4	20%	16.54	1	
51-4191	Heat treating equipment setters, operators, and tenders, metal and plastic	9	1	15%	13.83	0	
51-4192	Lay-out workers, metal and plastic	21	(3)	(12%)	15.40	1	
51-4193	Plating and coating machine setters, operators, and tenders, metal and plastic	28	6	23%	18.97	2	
51-4199	Metal workers and plastic workers, all other	78	(10)	(12%)	14.81	2	
Total		927	41	4%	14.26	30	
						Graduates:	3
						Gap/Surplus:	(27)
11.0801	Web Page, Digital/Multimedia and Information Resources Design						
15-1021	Computer programmers	1,102	21	2%	27.58	30	
27-1014	Multi-media artists and animators	245	83	34%	11.32	14	
27-1024	Graphic designers	523	141	27%	20.63	28	
Total		1,870	245	13%	23.51	72	
						Graduates:	46
						Gap/Surplus:	(26)
15.0404	Instrumentation Technology/Technician						
49-2093	Electrical and electronics installers and repairers, transportation equipment*	32	(0)	(1%)	27.18	1	
49-2094	Electrical and electronics repairers, commercial and industrial equipment*	137	24	18%	23.67	7	
49-2095	Electrical and electronics repairers, powerhouse, substation, and relay	27	3	12%	27.37	1	
49-9069	Precision instrument and equipment repairers, all other	58	19	33%	12.07	4	
51-2021	Coil winders, tapers, and finishers	11	(0)	(5%)	13.19	0	
51-2022	Electrical and electronic equipment assemblers*	401	(90)	(22%)	11.80	9	

Table 3-5: Current CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
51-2023	Electromechanical equipment assemblers*	99	3	3%	15.13	3
51-9141	Semiconductor processors	61	9	14%	15.45	3
	Total	826	-33	(4%)	15.59	27
					Graduates:	2
					Gap/Surplus:	(25)
47.0605	Diesel Mechanics Technology/Technician					
49-3031	Bus and truck mechanics and diesel engine specialists*	740	139	19%	16.28	30
	Total	740	139	19%	16.28	30
					Graduates:	5
					Gap/Surplus:	(25)
43.0201	Fire Protection and Safety Technology/Technician					
33-1021	First-line supervisors/managers of fire fighting and prevention workers	172	33	19%	29.18	9
33-2011	Fire fighters	430	80	19%	24.82	24
33-2021	Fire inspectors and investigators	17	3	19%	23.58	1
33-2022	Forest fire inspectors and prevention specialists	7	1	11%	13.42	0
	Total	625	117	19%	25.87	33
					Graduates:	11
					Gap/Surplus:	(22)
22.0301	Legal Administrative Assistant/Secretary					
43-6012	Legal secretaries	784	183	23%	15.25	31
	Total	784	183	23%	15.25	31
					Graduates:	12
					Gap/Surplus:	(19)
11.0901	Computer Systems Networking and Telecommunications					
15-1051	Computer systems analysts	636	201	32%	31.24	37
15-1071	Network and computer systems administrators	727	285	39%	21.36	45
15-1081	Network systems and data communications analysts	580	328	57%	24.81	45
	Total	1,943	814	42%	25.62	127
					Graduates:	117
					Gap/Surplus:	(10)
13.1210	Early Childhood Education and Teaching					
25-2011	Preschool teachers, except special education	504	52	10%	7.50	13
25-2012	Kindergarten teachers, except special education	120	15	13%	14.60	3

Table 3-5: Current CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
	Total	624	67	11%	8.86	17
					Graduates:	8
					Gap/Surplus:	(9)
15.0612	Industrial Technology/Technician					
17-3026	Industrial engineering technicians	229	31	14%	29.99	8
	Total	229	31	14%	29.99	8
					Graduates:	0
					Gap/Surplus:	(8)
47.0606	Small Engine Mechanics and Repair Technology/Technician					
49-3051	Motorboat mechanics	73	32	43%	9.04	5
49-3053	Outdoor power equipment and other small engine mechanics	81	22	27%	8.96	4
	Total	154	54	35%	9.00	8
					Graduates:	3
					Gap/Surplus:	(5)
51.0909	Surgical Technology/Technologist					
29-2055	Surgical technologists	282	97	34%	17.63	18
	Total	282	97	34%	17.63	18
					Graduates:	15
					Gap/Surplus:	(3)
15.1301	Drafting and Design Technology/Technician, General					
17-3011	Architectural and civil drafters	355	44	12%	19.82	15
17-3012	Electrical and electronics drafters	88	10	12%	18.01	4
17-3013	Mechanical drafters	156	25	16%	24.65	7
17-3019	Drafters, all other	94	22	24%	21.72	5
	Total	693	102	15%	20.94	30
					Graduates:	34
					Gap/Surplus:	4
51.1613	Licensed Practical/Vocational Nurse Training (LPN, LVN, Cert, Dipl, AAS)					
29-2061	Licensed practical and licensed vocational nurses	1,218	387	32%	19.38	72
	Total	1,218	387	32%	19.38	72
					Graduates:	136
					Gap/Surplus:	64

Table 3-5: Current CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
51.0601	Dental Assisting/Assistant					
31-9091	Dental assistants	881	439	50%	14.44	59
	Total	881	439	50%	14.44	59
					Graduates:	203
					Gap/Surplus:	144

Table 3-6: Future CWI Gap Analysis with Related Occupations

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
19.0708 Child Care and Support Services Management						
39-9011	Child care workers	4,642	814	18%	7.28	215
	Total	4,642	814	18%	7.28	215
					Graduates:	14
					Gap/Surplus:	(201)
52.0204 Office Management and Supervision						
43-1011	First-line supervisors/managers of office and administrative support workers	3,769	797	21%	18.47	157
	Total	3,769	797	21%	18.47	157
					Graduates:	19
					Gap/Surplus:	(138)
01.0605 Landscaping and Groundskeeping						
37-1012	First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers	370	122	33%	14.48	15
37-3011	Landscaping and groundskeeping workers	1,917	610	32%	10.81	86
37-3012	Pesticide handlers, sprayers, and applicators, vegetation	285	124	43%	10.68	16
	Total	2,573	856	33%	11.32	117
					Graduates:	0
					Gap/Surplus:	(117)
custom1 Advanced Manufacturing Technicians						
51-2011	Aircraft structure, surfaces, rigging, and systems assemblers	108	8	8%	18.18	3
51-2092	Team assemblers*	1,457	267	18%	13.09	57
51-2099	Assemblers and fabricators, all other	582	76	13%	20.41	25
51-9061	Inspectors, testers, sorters, samplers, and weighers	545	42	8%	13.65	16
	Total	2,692	394	15%	14.99	101
					Graduates:	0
					Gap/Surplus:	(101)
13.1501 Teacher Assistant/Aide						
25-9041	Teacher assistants	1,889	318	17%	11.87	63
	Total	1,889	318	17%	11.87	63
					Graduates:	20
					Gap/Surplus:	(43)
46.0303 Lineworker						
49-9051	Electrical power-line installers and repairers*	467	114	24%	31.30	26

Table 3-6: Future CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
	Total	467	114	24%	26	31.30
					Graduates:	2
					Gap/Surplus:	(24)
51.1005	Clinical Laboratory Science/Medical Technology/Technologist					
29-2011	Medical and clinical laboratory technologists	137	39	29%	23.78	6
29-2012	Medical and clinical laboratory technicians	210	64	30%	14.63	16
	Total	347	103	30%	18.24	22
					Graduates:	0
					Gap/Surplus:	(22)
custom2	Telecommunications Line Installers and Repairers					
49-9052	Telecommunications line installers and repairers	313	133	43%	15.80	21
	Total	313	133	43%	15.80	21
					Graduates:	0
					Gap/Surplus:	(17)
51.0806	Physical Therapist Assistant					
31-2022	Physical therapist aides	214	92	43%	11.73	12
31-2021	Physical therapist assistants	73	39	53%	21.71	5
	Total	287	131	46%	14.27	17
					Graduates:	0
					Gap/Surplus:	(17)
10.0202	Radio and Television Broadcasting Technology/Technician					
27-4012	Broadcast technicians	154	73	47%	15.35	12
27-4031	Camera operators, television, video, and motion picture	53	28	52%	13.63	4
27-4032	Film and video editors	44	24	56%	16.60	3
	Total	252	125	50%	15.20	19
					Graduates:	2
					Gap/Surplus:	(17)
43.0103	Criminal Justice/Law Enforcement Administration					
33-1012	First-line supervisors/managers of police and detectives	174	31	18%	37.57	9
33-3021	Detectives and criminal investigators	158	51	32%	26.17	9
33-3051	Police and sheriff's patrol officers	1,282	243	19%	24.59	59
33-3011	Bailiffs	22	4	20%	13.67	1
33-3012	Correctional officers and jailers	845	244	29%	15.17	68

Table 3-6: Future CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
33-9021	Private detectives and investigators	68	16	24%	12.69	3
33-9031	Gaming surveillance officers and gaming investigators	48	16	33%	10.61	3
	Total	2,598	606	23%	21.83	150
					Graduates:	134
					Gap/Surplus:	(16)
51.0808	Veterinary/Animal Health Technology/Technician and Veterinary Assistant					
29-2056	Veterinary technologists and technicians	163	87	53%	13.80	14
	Total	163	87	53%	13.80	14
					Graduates:	0
					Gap/Surplus:	(14)
12.0501	Baking and Pastry Arts/Baker/Pastry Chef					
51-3011	Bakers	301	51	17%	11.85	11
	Total	301	51	17%	11.85	11
					Graduates:	0
					Gap/Surplus:	(11)
11.0301	Data Processing and Data Processing Technology/Technician					
43-9011	Computer operators	207	(26)	(12%)	16.40	6
51-4011	Computer-controlled machine tool operators, metal and plastic	91	9	10%	15.52	2
51-4012	Numerical tool and process control programmers	14	(0)	(2%)	16.13	0
	Total	312	(16)	(5%)	16.13	8
					Graduates:	0
					Gap/Surplus:	(8)
51.0805	Pharmacy Technician/Assistant					
31-9095	Pharmacy aides	72	17	24%	9.41	3
29-2052	Pharmacy technicians	637	236	37%	14.52	43
	Total	709	253	36%	14.00	46
					Graduates:	39
					Gap/Surplus:	(7)

Table 3-6: Future CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
51.0603	Dental Laboratory Technology/Technician					
51-9081	Dental laboratory technicians	102	32	31%	8.72	5
	Total	102	32	31%	8.72	5
					Graduates:	0
					Gap/Surplus:	(5)
51.0910	Diagnostic Medical Sonography/Sonographer and Ultrasound Technician					
29-2032	Diagnostic medical sonographers	84	24	28%	28.98	3
	Total	84	24	28%	28.98	3
					Graduates:	0
					Gap/Surplus:	(3)
01.0504	Dog/Pet/Animal Grooming					
31-9096	Veterinary assistants and laboratory animal caretakers	174	51	29%	10.39	7
33-9011	Animal control workers	54	11	19%	15.01	2
39-2021	Nonfarm animal caretakers	879	(215)	(24%)	7.54	(7)
	Total	1,107	(153)	(14%)	8.35	2
					Graduates:	0
					Gap/Surplus:	(2)
51.0905	Nuclear Medical Technology/Technologist					
29-2033	Nuclear medicine technologists	40	8	20%	31.11	1
	Total	40	8	20%	31.11	1
					Graduates:	0
					Gap/Surplus:	(1)
51.0707	Health Information/Medical Records Technology/Technician					
29-2071	Medical records and health information technicians	560	176	31%	15.59	33
31-9094	Medical transcriptionists	377	85	22%	14.12	13
	Total	937	261	28%	15.00	46
					Graduates:	57
					Gap/Surplus:	11
51.0908	Respiratory Care Therapy/Therapist					
29-1126	Respiratory therapists	302	103	34%	20.64	15
29-2054	Respiratory therapy technicians	211	16	8%	17.53	8
	Total	513	119	23%	19.36	23
					Graduates:	42

Table 3-6: Future CWI Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings	
						Gap/Surplus:	19
51.0602	Dental Hygiene/Hygienist						
29-2021	Dental hygienists	508	257	51%	34.68	35	
		Total	508	257	151%	34.68	35
						Graduates:	57
						Gap/Surplus:	22
51.0907	Medical Radiologic Technology/Science - Radiation Therapist						
29-1124	Radiation therapists	100	34	34%	25.38	5	
29-2034	Radiologic technologists and technicians	354	89	25%	23.68	14	
		Total	454	122	27%	24.05	19
						Graduates:	52
						Gap/Surplus:	33
15.0303	Electrical, Electronic and Communications Engineering Technology/Technician						
17-3023	Electrical and electronic engineering technicians*	1,031	73	7%	25.94	27	
		Total	1,031	73	7%	25.94	27
						Graduates:	70
						Gap/Surplus:	43
51.0710	Medical Office Assistant/Specialist						
31-9092	Medical assistants	1,080	519	48%	13.64	65	
43-6013	Medical secretaries	937	286	31%	13.32	44	
		Total	2,017	805	40%	13.49	109
						Graduates:	155
						Gap/Surplus:	(10)
51.3501	Massage Therapy/Therapeutic Massage						
31-9011	Massage therapists	199	(11)	(6%)	10.44	1	
		Total	199	(11)	(6%)	10.44	1
						Graduates:	109
						Gap/Surplus:	108

Table 3-7: EMSI Recommended Program Gap Analysis with Related Occupations

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
46.9999	Construction Trades, Other					
47-1011	First-line supervisors/managers of construction trades and extraction workers	2,874	693	24%	18.64	109
11-9021	Construction managers*	2,070	566	27%	15.66	87
47-2031	Carpenters*	5,546	1,226	22%	13.88	320
47-2041	Carpet installers*	115	24	21%	13.39	4
47-2042	Floor layers, except carpet, wood, and hard tiles	125	19	15%	13.69	5
47-2043	Floor sanders and finishers	87	26	30%	12.60	4
47-2061	Construction laborers*	3,149	757	24%	13.15	99
47-2082	Tapers*	213	38	18%	16.33	7
47-2131	Insulation workers, floor, ceiling, and wall*	145	13	9%	11.86	5
47-2132	Insulation workers, mechanical*	47	5	10%	15.11	2
47-2161	Plasterers and stucco masons*	89	17	19%	13.64	4
47-2171	Reinforcing iron and rebar workers	52	6	11%	20.05	2
47-2221	Structural iron and steel workers*	142	22	15%	17.11	7
47-4031	Fence erectors	123	39	32%	11.34	6
47-4041	Hazardous materials removal workers*	102	11	11%	17.99	3
47-4099	Construction and related workers, all other	59	13	22%	13.28	3
	Total	14,939	3,475	23%	14.95	667
					Graduates:	33
					Gap/Surplus:	(634)
52.1701	Insurance					
13-1031	Claims adjusters, examiners, and investigators	532	165	31%	24.98	30
13-1032	Insurance appraisers, auto damage	85	24	28%	15.73	5
13-2053	Insurance underwriters	299	92	31%	22.19	17
13-2072	Loan officers	876	271	31%	26.59	37
41-3021	Insurance sales agents	1,573	469	30%	14.20	81
	Total	3,365	1,020	30%	19.88	169
					Graduates:	0
					Gap/Surplus:	(169)
48.0703	Cabinetmaking and Millwork/Millwright					
51-4062	Patternmakers, metal and plastic	8	4	42%	16.71	1
51-7011	Cabinetmakers and bench carpenters	529	146	28%	10.82	30
51-7031	Model makers, wood	17	(1)	(5%)	33.31	1

Table 3-7: EMSI Recommended Program Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings	
51-6093	Upholsterers	328	143	44%	8.52	22	
51-7042	Woodworking machine setters, operators, and tenders, except sawing	294	169	58%	12.68	24	
51-7032	Patternmakers, wood	16	(1)	(6%)	34.71	1	
51-7041	Sawing machine setters, operators, and tenders, wood	123	39	32%	13.54	6	
Total		1,317	500	38%	11.55	86	
						Graduates:	0
						Gap/Surplus:	(86)
49.0299	Ground Transportation, Other						
53-7011	Conveyor operators and tenders	59	3	6%	12.79	2	
53-7033	Loading machine operators, underground mining	24	7	30%	12.42	1	
53-7051	Industrial truck and tractor operators*	1,060	12	1%	12.77	30	
43-5071	Shipping, receiving, and traffic clerks*	1,169	134	11%	12.14	41	
53-6051	Transportation inspectors*	38	9	23%	24.27	2	
Total		2,351	164	7%	12.64	76	
						Graduates:	0
						Gap/Surplus:	(76)
25.0301	Library Assistant/Technician						
25-4031	Library technicians	633	370	58%	10.72	68	
25-9011	Audio-visual collections specialists	42	(1)	(3%)	24.26	1	
Total		675	368	55%	11.57	69	
						Graduates:	0
						Gap/Surplus:	(69)
44.0201	Community Organization and Advocacy						
11-9151	Social and community service managers	324	100	31%	17.82	16	
21-1099	Community and social service specialists, all other	520	168	32%	20.13	23	
43-4061	Eligibility interviewers, government programs	282	42	15%	15.50	9	
Total		1,126	310	28%	9.01	48	
						Graduates:	0
						Gap/Surplus:	(48)
03.0511	Forest Technology/Technician						
19-4093	Forest and conservation technicians*	820	140	17%	15.64	47	
Total		820	140	17%	15.64	47	
						Graduates:	0

Table 3-7: EMSI Recommended Program Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
						Gap/Surplus: (47)
46.0101	Mason/Masonry					
47-2021	Brickmasons and blockmasons*	293	112	38%	17.46	17
47-3011	Helpers, brickmasons, blockmasons, stonemasons, and tile and marble setters	126	56	45%	11.77	9
47-2022	Stonemasons	239	90	38%	14.49	14
47-2044	Tile and marble setters	141	39	28%	13.86	6
Total		799	297	37%	13.19	46
						Graduates: 0
						Gap/Surplus: (46)
22.0302	Legal Assistant/Paralegal					
23-2011	Paralegals and legal assistants	441	137	31%	19.42	19
23-2093	Title examiners, abstractors, and searchers	311	63	20%	19.99	12
23-2099	Legal support workers, all other	84	28	34%	15.51	4
Total		837	229	27%	19.24	36
						Graduates: 0
						Gap/Surplus: (36)
19.0505	Foodservice Systems Administration/Management					
35-1012	First-line supervisors/managers of food preparation and serving workers	1,252	247	20%	13.05	34
Total		1,252	247	20%	13.05	34
						Graduates: 2
						Gap/Surplus: (34)
51.1599	Mental and Social Health Services and Allied Professions, Other					
21-1093	Social and human service assistants	1,724	664	38%	10.38	86
Total		2,598	606	23%	21.83	59
						Graduates: 59
						Gap/Surplus: (27)
48.0506	Sheet Metal Technology/Sheetworking					
47-2211	Sheet metal workers*	565	73	13%	17.10	21
51-4061	Model makers, metal and plastic	11	2	16%	12.36	1
Total		576	75	13%	17.01	22
						Graduates: 0
						Gap/Surplus: (22)
15.1102	Surveying Technology/Surveying					

Table 3-7: EMSI Recommended Program Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
17-3031	Surveying and mapping technicians	384	110	29%	21.81	18
	Total	384	110	29%	21.81	18
					Graduates:	0
					Gap/Surplus:	(18)
50.0408	Interior Design					
27-1025	Interior designers	176	45	25%	18.19	18
	Total	176	45	25%	18.19	18
					Graduates:	0
					Gap/Surplus:	(18)
01.0204	Agricultural Power Machinery Operation					
45-2091	Agricultural equipment operators	318	58	18%	8.97	15
49-3041	Farm equipment mechanics	139	(3)	(2%)	15.28	2
	Total	457	54	12%	10.89	18
					Graduates:	39
					Gap/Surplus:	(18)
52.1601	Taxation					
13-2081	Tax examiners, collectors, and revenue agents	217	35	16%	25.00	9
13-2082	Tax preparers	190	14	8%	12.77	6
	Total	408	49	12%	19.29	15
					Graduates:	0
					Gap/Surplus:	(15)
47.0106	Appliance Installation and Repair Technology/Technician					
49-9031	Home appliance repairers	265	93	35%	9.92	15
	Total	265	93	35%	9.92	15
					Graduates:	0
					Gap/Surplus:	(15)
51.0904	Emergency Medical Technology/Technician (EMT Paramedic)					
29-2041	Emergency medical technicians and paramedics	230	36	16%	18.38	10
29-2099	Healthcare technologists and technicians, all other	49	12	24%	14.53	3
53-3011	Ambulance drivers and attendants, except emergency medical technicians	12	3	25%	11.11	1
	Total	291	51	18%	17.43	13
					Graduates:	0
					Gap/Surplus:	(13)

Table 3-7: EMSI Recommended Program Gap Analysis with Related Occupations (continued)

CIP/SOC	Title	2009 Jobs	09-'19 Change	09-'19 % Change	Median Hourly Earnings in \$	Annual Openings
15.0506	Water Quality and Wastewater Treatment Management and Recycling Technology/Technician					
51-8031	Water and liquid waste treatment plant and system operators	252	83	33%	17.36	13
	Total	40	8	20%	31.11	1
					Graduates:	0
					Gap/Surplus:	(13)
51.3103	Dietetic Technician (DTR)					
29-2051	Dietetic technicians	104	30	29%	12.15	6
29-1031	Dietitians and nutritionists	109	25	23%	23.57	5
	Total	213	55	26%	17.98	11
					Graduates:	0
					Gap/Surplus:	(11)
51.1801	Opticianry/Ophthalmic Dispensing Optician					
29-2081	Opticians, dispensing	169	45	27%	9.81	10
	Total	169	45	27%	9.81	10
					Graduates:	0
					Gap/Surplus:	(10)
51.0901	Cardiovascular Technology/Technologist					
29-2031	Cardiovascular technologists and technicians	55	19	35%	25.04	3
	Total	55	19	35%	25.04	3
					Graduates:	0
					Gap/Surplus:	(3)

Chapter 4: Green Occupations

In America, how humans impact the natural environment is a growing concern. This has caused a reconsideration of the practices of individuals and businesses in every sector of the economy. As Americans are looking for more and more ways to “go green” and the federal government has passed legislation that will impact the green movement, there are more opportunities for workers to enter into a new career path, or modify their current career path in order to be greener.

There are now many occupations that can either be augmented with a “green certification,” or will be positively impacted by the green movement. In Table 4-1 EMSI has highlighted the occupations that exist in one of the three program profiles that we have previously analyzed that have some potential for green training or certification. The occupations have been selected based on two lists of green occupations, one called “Green Recovery,” published by the Center for American Progress and the Political Economy Research Institute (PERI). The other comes from the US Department of Labor, Employment and Training Administration called “Greening of the World of Work: Implications for O*NET-SOC and New and Emerging Occupations.” For the sake of simplicity, EMSI has divided these occupations into seven different groups that indicate the industry that they are most commonly related to. The industry groups that will be most affected by the greening of the workforce are: Building Retrofitting and Construction, Mass Transit, Smart Grid, Wind Power, Solar Power, Advanced Biofuels, Agriculture and Other. Based on this analysis there are 33 occupations that CWI is currently training for that will be positively impacted due to the greening of the workforce. There are three more occupations from the list of CWI future programs and 16 from the list of EMSI recommended occupations. The CIP code that these occupations are associated with is listed in this table, and the occupations can be cross-referenced in Tables 3-5 through 3-7. They are marked with an asterisk (*) at the end of the occupational title.

Lastly, Appendix E also has a list of unaffiliated green occupations that have strong potential, but which are not currently mapped to any programs analyzed in the three groups in this report.

Table 4-1: Occupations with Green Potential

SOC	Title	2009 Jobs	Change	% Change	Annual Openings	Median Hourly Earnings in \$	Program CIP	Green Family
Current CWI Occupations								
53-3032	Truck drivers, heavy and tractor-trailer	5,051	912	18%	181	14.20	49.0205	Other
49-3023	Automotive service technicians and mechanics	1,787	567	32%	93	11.99	47.0604	Other
47-2111	Electricians	1,489	327	22%	71	19.44	46.0302	Building, Transit, Solar
53-3022	Bus drivers, school	2,109	312	15%	59	13.69	49.0205	Transit
53-3033	Truck drivers, light or delivery services	1,924	310	16%	65	12.53	49.0205	Other
11-9011	Farm, ranch, and other agricultural managers	2,019	297	15%	44	16.40	01.0601	Ag, Biofuel
51-4121	Welders, cutters, solderers, and brazers	1,246	206	17%	47	13.63	48.0508	Transit, Solar
47-2073	Operating engineers and other construction equipment operators	834	178	21%	34	17.17	49.0202	Building, Transit, Grid, Wind, Solar
49-9021	Heating, air conditioning, and refrigeration mechanics and installers	881	164	19%	32	15.12	47.0201	Building
49-3031	Bus and truck mechanics and diesel engine specialists	740	139	19%	30	16.28	47.0605	Other

Table 4-1: Occupations with Green Potential

SOC	Title	2009 Jobs	Change	% Change	Annual Openings	Median Hourly Earnings in \$	Program CIP	Green Family
Current CWI Occupations								
53-3041	Taxi drivers and chauffeurs	392	119	30%	17	8.57	49.0205	Transit
49-9099	Installation, maintenance, and repair workers, all other	471	89	19%	12	16.03	47.0103	Solar
13-1023	Purchasing agents, except wholesale, retail, and farm products	536	59	11%	17	22.00	custom3	Biofuel
51-4041	Machinists	438	33	7%	11	15.35	48.0501	Grid, Wind
49-9098	Helpers--Installation, maintenance, and repair workers	199	31	16%	8	9.16	47.0103	Solar
49-9044	Millwrights	76	29	38%	4	20.29	47.0303	Wind
49-2094	Electrical and electronics repairers, commercial and industrial equipment	137	24	18%	7	23.67	15.0404	Wind, Solar
53-3021	Bus drivers, transit and intercity	210	20	9%	5	9.60	49.0205	Transit
47-5041	Continuous mining machine operators	34	16	47%	3	19.91	49.0202	Other
19-4011	Agricultural and food science technicians	103	11	11%	3	18.38	01.0601	Ag, Biofuel
53-7021	Crane and tower operators	41	9	21%	2	18.45	49.0202	Building, Transit, Wind
47-3013	Helpers, electricians	48	8	17%	2	9.99	46.0302	Building
51-2023	Electromechanical equipment assemblers	99	3	3%	3	15.13	15.0404	Solar
47-4021	Elevator installers and repairers	46	2	3%	1	24.24	47.0303	Building
49-2093	Electrical and electronics installers and repairers, transportation equipment	32	(0)	(1%)	1	27.18	15.0404	Transit
51-4035	Milling and planing machine setters, operators, and tenders, metal and plastic	45	(4)	(9%)	1	12.70	48.0501	Wind
47-4061	Rail-track laying and maintenance equipment operators	24	(4)	(19%)	0	16.82	49.0202	Transit
51-2031	Engine and other machine assemblers	113	(5)	(4%)	3	10.81	47.0303	Transit
11-9012	Farmers and ranchers	5,254	(8)	(0%)	91	6.60	01.0601	Ag, Biofuel
53-4019	Locomotive engineers and operators	55	(13)	(24%)	1	21.66	49.0205	Transit
53-4021	Railroad brake, signal, and switch operators	44	(17)	(38%)	0	20.80	49.0205	Transit
53-4031	Railroad conductors and yardmasters	79	(17)	(22%)	1	22.72	49.0205	Transit
51-2022	Electrical and electronic equipment assemblers	401	(90)	(22%)	9	11.80	15.0404	Grid, Wind, Solar
Future CWI Occupations								
51-2092	Team assemblers	1,457	267	18%	57	13.09	custom1	Grid
49-9051	Electrical power-line installers and repairers	467	114	24%	26	31.30	46.0303	Grid
17-3023	Electrical and electronic engineering technicians	1,031	73	7%	27	25.94	15.0303	Grid, Solar
EMSI Recommended Occupations								
47-2031	Carpenters	5,546	1,226	22%	320	13.88	46.9999	Building, Transit

Table 4-1: Occupations with Green Potential

SOC	Title	2009 Jobs	Change	% Change	Annual Ope- nings	Median Hourly Earnings in \$	Program CIP	Green Family
Current CWI Occupations								
47-2061	Construction laborers	3,149	757	24%	99	13.15	46.9999	Building, Transit, Grid, Solar
11-9021	Construction managers	2,070	566	27%	87	15.66	46.9999	Building, Transit, Grid, Wind, Solar
19-4093	Forest and conservation technicians	820	140	17%	47	15.64	03.0511	Ag
43-5071	Shipping, receiving, and traffic clerks	1,169	134	11%	41	12.14	49.0299	Other
47-2021	Brickmasons and blockmasons	293	112	38%	17	17.46	46.0101	Building
47-2211	Sheet metal workers	565	73	13%	21	17.10	48.0506	Wind
47-2082	Tapers	213	38	18%	7	16.33	46.9999	Building
47-2041	Carpet installers	115	24	21%	4	13.39	46.9999	Building
47-2221	Structural iron and steel workers	142	22	15%	7	17.11	46.9999	Building, Transit, Wind
47-2161	Plasterers and stucco masons	89	17	19%	4	13.64	46.9999	Building
47-2131	Insulation workers, floor, ceiling, and wall	145	13	9%	5	11.86	46.9999	Building
53-7051	Industrial truck and tractor operators	1,060	12	1%	30	12.77	49.0299	Transit, Wind, Biofuel
47-4041	Hazardous materials removal workers	102	11	11%	3	17.99	46.9999	Other
53-6051	Transportation inspectors	38	9	23%	2	24.27	49.0299	Other
47-2132	Insulation workers, mechanical	47	5	10%	2	15.11	46.9999	Building

Conclusion

Both common sense and data from the regional labor market point to the need for a strong provider of two-year educational opportunities in Southwestern Idaho. Because of this need, the College of Western Idaho has the opportunity to become a major contributor and voice in the economic future of the region.

It is critical that CWI recognize and reach out to the traditional target markets of community college education within the area, including students just out of high school and adults within the existing workforce who want to further their education. Both of these population segments are substantial and show signs of future growth. Additionally, both Canyon and Ada Counties have a high population of Hispanics with a low participation rate in existing educational opportunities. Each of these three markets is underserved in the area and this gives CWI the opportunity to serve a large group of individuals with immediate needs.

In terms of program offerings, there are certain occupations within the labor market that display a vast gap of untrained workers and others with less immediate but still sizeable demand. CWI has already begun to fill some of the most critical needs, but there are still some fields that are not being served. There are likewise some programs that have been transferred from Seland College that have traditionally served an ample need in the community but should be revisited considering occupational demand projections. The first step in making decisions about future programs is contained in this document. The next step requires detailed analysis of factors not analyzed in the gap analysis, including unanalyzed competition, program costs, and feasibility estimates.

Appendix A: CWI Program Title to CIP Crosswalk

Table A: CWI Program Title to CIP Crosswalk

CWI Program Titles	CIP Code	CIP Title
Administrative Support	52.0401	Administrative Assistant and Secretarial Science, General
Applied Accounting	52.0302	Accounting Technology/Technician and Bookkeeping
Auto Body	47.0603	Autobody/Collision and Repair Technology/Technician
Automotive Technology	47.0604	Automobile/Automotive Mechanics Technology/Technician
Maintenance & Light Repair	47.0604	Automobile/Automotive Mechanics Technology/Technician
Culinary Arts	12.0503	Culinary Arts/Chef Training
Dental Assisting	51.0601	Dental Assisting/Assistant
Drafting Technology	15.1301	Drafting and Design Technology/Technician, General
Early Childhood Education	13.1210	Early Childhood Education and Teaching
Electronics Technology	15.0404	Instrumentation Technology/Technician
Farm Business Management	01.0601	Applied Horticulture/Horticulture Operations, General
Fire Service Technology	43.0201	Fire Protection and Safety Technology/Technician
Heavy Duty Truck Technician	47.0605	Diesel Mechanics Technology/Technician
Heavy Equipment Technology	49.0202	Construction/Heavy Equipment/Earthmoving Equipment Operation
Heavy Equipment Welding and Fabrication	15.0612	Industrial Technology/Technician
Horticulture Technology	01.0601	Applied Horticulture/Horticulture Operations, General
Legal Administrative Support	22.0301	Legal Administrative Assistant/Secretary
Machine Tool Technology	48.0501	Machine Tool Technology/Machinist
Marketing Management	custom3	Marketing Management
Nursing-Practical Nurse	51.1613	Licensed Practical/Vocational Nurse Training (LPN, LVN, Cert, Dipl, AAS)
Nursing-Registered Nurse	51.1601	Nursing/Registered Nurse (RN, ASN, BSN, MSN)
Powersports & Small Engine Repair	47.0606	Small Engine Mechanics and Repair Technology/Technician
Professional Truck Driving	49.0205	Truck and Bus Driver/Commercial Vehicle Operation
Surgical Technology	51.0909	Surgical Technology/Technologist
Welding & Metals Fabrication	48.0508	Welding Technology/Welder
Wildland Fire Management	43.0201	Fire Protection and Safety Technology/Technician
Apprenticeship		

Table A: CWI Program Title to CIP Crosswalk

CWI Program Titles	CIP Code	CIP Title
Electrical Apprenticeship	46.0302	Electrician
HVAC (Heating, Ventilating & Air Conditioning) Apprenticeship	47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician (HAC, HACR, HVAC, HVACR)
Plumbing Apprenticeship	46.0503	Plumbing Technology/Plumber
Maintenance Technician Apprenticeship	47.0303	Industrial Mechanics and Maintenance Technology
Information Technologies		
Digital Home Technology Technician	47.0103	Communications Systems Installation and Repair Technology
Information Security and Forensics	15.1202	Computer Technology/Computer Systems Technology
Information Technology Technician	15.1202	Computer Technology/Computer Systems Technology
Internetworking Associate	15.1202	Computer Technology/Computer Systems Technology
Network Administration	11.0901	Computer Systems Networking and Telecommunications
PC and Document Imaging Technician	52.0408	General Office Occupations and Clerical Services
Web Development	11.0801	Web Page, Digital/Multimedia and Information Resources Design

Appendix B: Cross-references of CIP Program Graduates

When calculating the graduates by program it was not enough to simply consider the graduates from programs with the same title and award level because each college has their own preferred CIP titles and program curricula that in many cases are very similar to other CIP titles. For instance, in some cases a Criminal Justice Program is titled “Criminal Justice/Safety Studies” and another college will title the program “Criminal Justice/Police Science.” The two programs have different CIP codes but for all practical purposes they are training individuals for the same types of occupations. Therefore, EMSI accounted for completers in programs with the same CIP title and those with similar and related CIP titles. Another adjustment that EMSI made in this process included accounting for graduates of programs that are longer or shorter than two years but are effectively training individuals for the same type of work. To a degree, these adjustments are subject to economic conditions which can cause higher level graduates to compete with lower level graduates. For instance, in the category of “Electrical, Electronic and Communications Engineering Technicians,” the authors also tabulated graduates of Boise State University’s four-year electrical engineering program. Given the current economic conditions of the Boise area, it is safe to assume that individuals with electrical engineering degrees are in competition with those with two-year electrical engineering degrees. However, if the industries which previously employed the bulk of electrical engineers ramp up to their pre-2008 condition we could assume that four-year graduates will no longer be in competition with two-year graduates for the same jobs. Table B below has a full catalogue of such program cross-references.

Key to College Name Abbreviations for Table B

Full College Name	Abbreviation
Apollo College	Apollo
Boise State University	BSU
ITT Technical Institute	ITT
Milan Institute	Milan
Northwest Nazarene University	NNU
The College of Idaho	CI
Treasure Valley Community College	TVCC
University of Phoenix- Idaho Campus	Phoenix

Table B: Cross-references of CIP Program Graduates

Current CWI Programs				
CIP	Title	Award Level	College	2008 Grads
52.0302	Accounting Technology/Technician and Bookkeeping	--	--	--
52.0301	Accounting	Bachelor's	BSU	117
52.0304	Accounting and Finance	Bachelor's	BSU	13
52.0301	Accounting	Bachelor's	NNU	6
52.0301	Accounting	Bachelor's	CI	2

Table B: Cross-references of CIP Program Graduates

Current CWI Programs				
CIP	Title	Award Level	College	2008 Grads
52.0801	Finance, General	Bachelor's	Phoenix	1
11.0901	Computer Systems Networking and Telecommunications	--	--	--
11.0401	Information Science/Studies	Bachelor's	BSU	27
11.0701	Computer Science	Bachelor's	BSU	13
11.1003	Computer and Information Systems Security	Bachelor's	ITT	13
11.0103	Information Technology	Bachelor's	BSU	2
11.0701	Computer Science	Bachelor's	NNU	2
11.0701	Computer Science	Associate's	TVCC	1
11.0901	Computer Systems Networking and Telecommunications	Bachelor's	Phoenix	1
51.0707	Health Information/Medical Records Technology/Technician	--	--	--
51.0706	Health Information/Medical Records Administration/Administrator	Bachelor's	BSU	21
51.0706	Health Information/Medical Records Administration/Administrator	One-Year Certificate	Apollo	19
51.1199	Health/Medical Preparatory Programs, Other	Bachelor's	CI	1
11.0801	Web Page, Digital/Multimedia and Information Resources Design	--	--	--
11.1004	Web/Multimedia Management and Webmaster	Bachelor's	Phoenix	11
50.0409	Graphic Design	Bachelor's	NNU	7
10.0304	Animation, Interactive Tech, Video Graphics and Special Effects	Bachelor's	ITT	6
15.0303	Electrical, Electronic and Communications Engineering Technology/Technician			
14.1001	Electrical, Electronics and Communications Engineering	Bachelor's	BSU	22
15.1301	Drafting and Design Technology/Technician, General			
15.1302	CAD/CADD Drafting and/or Design Technology/Technician	Associate's	ITT	14
15.1301	Drafting and Design Technology/Technician, General	Three-Year Certificate	TVCC	1
51.1601	Nursing/Registered Nurse (RN, ASN, BSN, MSN)			
51.1601	Nursing/Registered Nurse (RN, ASN, BSN, MSN)	Three-Year Certificate	TVCC	18
01.0601	Applied Horticulture/Horticulture Operations, General			
01.0104	Farm/Farm and Ranch Management	Three-Year Certificate	TVCC	11
01.0101	Agricultural Business and Management, General	Associate's	TVCC	2
43.0103	Criminal Justice/Law Enforcement Administration			
43.0104	Criminal Justice/Safety Studies	Associate's	TVCC	5
43.0107	Criminal Justice/Police Science	Three-Year Certificate	TVCC	2
11.0901	Computer Systems Networking and Telecommunications			
11.0401	Information Science/Studies	Bachelor's	BSU	27
11.0701	Computer Science	Bachelor's	BSU	13

Table B: Cross-references of CIP Program Graduates

Current CWI Programs				
CIP	Title	Award Level	College	2008 Grads
11.0103	Information Technology	Bachelor's	BSU	2
15.0404	Instrumentation Technology/Technician			
15.0613	Manufacturing Technology/Technician	Three-Year Certificate	BSU	1
Future CWI Programs				
43.0107	Criminal Justice/Police Science			
43.0103	Criminal Justice/Law Enforcement Administration	Bachelor's	BSU	98
43.0199	Corrections and Criminal Justice, Other	Bachelor's	Phoenix	4
51.0710	Medical Office Assistant/Specialist			
51.0801	Medical/Clinical Assistant	Less than One-Year Certificate	Milan	87
51.0801	Medical/Clinical Assistant	One-Year Certificate	Apollo	62
51.0801	Medical/Clinical Assistant	Associate's	Apollo	6
52.0204	Office Management and Supervision			
52.0205	Operations Management and Supervision	Bachelor's	BSU	9
52.1001	Human Resources Management/Personnel Administration, General	Less than One-Year Certificate	Phoenix	6
13.1501	Teacher Assistant/Aide			
13.1501	Teacher Assistant/Aide	Three-Year Certificate	TVCC	10
EMSI Recommended Programs				
31.0501	Health and Physical Education, General			
13.1314	Physical Education Teaching and Coaching	Bachelor's	BSU	24
31.0504	Sport and Fitness Administration/Management	Bachelor's	NNU	14
51.0913	Athletic Training/Trainer	Bachelor's	BSU	8
13.1314	Physical Education Teaching and Coaching	Bachelor's	CI	6
13.1314	Physical Education Teaching and Coaching	Bachelor's	NNU	3
51.1599	Mental and Social Health Services and Allied Professions, Other			
44.0701	Social Work	Bachelor's	BSU	47
46.9999	Construction Trades, Other			
52.2001	Construction Management	Bachelor's	BSU	30
51.0708	Medical Transcription/Transcriptionist			
51.0706	Health Information/Medical Records Administration/Administrator	One-Year Certificate	Apollo	18
51.1599	Mental and Social Health Services and Allied Professions, Other			
44.0701	Social Work	Associate's	TVCC	4
31.0501	Health and Physical Education, General			
13.1314	Physical Education Teaching and Coaching	Associate's	TVCC	2

Appendix C: Regional Post-secondary Institutions Included in the Gap Analysis

Table C: Regional Post-secondary Institutions Included in the Gap Analysis

Apollo College
Boise Bible College
Boise State University
ITT Technical Institute-Boise
Milan Institute
Northwest Nazarene University
Razzle Dazzle College Inc
Scot Lewis Schools-Paul Mitchell Partner School
The College of Idaho
Treasure Valley Community College
University of Phoenix-Idaho Campus

There are a number of public and private colleges in the Boise area that are not included in this analysis because EMSI does not have an estimate of the number of program graduates in the latest academic year. Colleges that were not included but which could have some effect on the number of regional graduates include Brown Mackie College, Stevens-Henager College, George Fox University-Boise Center, Guardian College, Idaho State University, (Meridian Health Science Center) and Leslie College Graduate School.

Most of these colleges offer all or most of their programs at the bachelor's and master's level and therefore will have little effect on the supply of graduates in CWI programs. Among these colleges, a few do offer a substantial number of opportunities at the two-year level, including Stevens-Henager College, Brown Mackie College, and Guardian College. In future gap analysis studies it would be worthwhile to seek out methods for estimating the number of graduates from these programs.

Appendix D: Occupations with Higher or Lower Average Educational Levels

As mentioned in the preface to Tables 3-5 through 3-7, there are a few occupations that are typically in the bachelor's or above range that are mapped to programs at the two-year level. Most of these occupations were chosen because there is an unusually high level of individuals who work in these occupations that have less than a bachelor's degree. This list is sorted in descending order according to the "% Associate's or Below" column, so these occupations are on the upper portion of the list.

A few occupations are in fact heavily dominated by individuals with bachelor's degrees or higher. These occupations have been included in the analysis due to recent observed changes in the industry. For instance, among all Computer programmers (15-1021) in the US, 73% have a bachelor's degree or greater so this field is obviously dominated by graduates of four-year schools. But we have observed that businesses are shifting more toward hiring Computer programmers with two-year degrees or certifications, as evidenced by the fact that in 2008 there were nearly as many Computer Programming graduates with associate's degrees as those who received bachelor's degrees.

Table D: Occupations that Require a Bachelor's Degree or Above

SOC	Title	Average Educational Level	% Associate's or Below	% Bachelor's or Above
11-9011	Farm, ranch, and other agricultural managers	Degree + work experience	74	26
11-9021	Construction managers	Bachelor's	71	29
25-2012	Kindergarten teachers, except special education	Bachelor's	58	43
13-2081	Tax examiners, collectors, and revenue agents	Bachelor's	57	43
41-3021	Insurance sales agents	Bachelor's	55	45
13-1199	Business operation specialists, all other	Bachelor's	51	49
13-2072	Loan officers	Bachelor's	51	49
15-1071	Network and computer systems administrators	Bachelor's	50	50
29-2011	Medical and clinical laboratory technologists	Bachelor's	50	51
13-2053	Insurance underwriters	Bachelor's	47	53
27-1024	Graphic designers	Bachelor's	45	55
15-1081	Network systems and data communications analysts	Bachelor's	43	57
27-1014	Multi-media artists and animators	Bachelor's	42	58
21-1099	Community and social service specialists, all other	Bachelor's	42	58
27-4032	Film and video editors	Bachelor's	42	58

15-1051	Computer systems analysts	Bachelor's	32	68
11-9151	Social and community service managers	Bachelor's	29	72
29-1031	Dieticians and nutritionists	Bachelor's	28	72
15-1021	Computer programmers	Bachelor's	27	73

Appendix E: Unaffiliated Occupations with Green Potential

Table E: Unaffiliated Occupations with Green Potential

Unaffiliated Green Occupations						
SOC	Title	2009 Jobs	Change	% Change	Annual Openings	MHE in \$
Professional & Technical						
17-3022	Civil engineering technicians	451	80	18%	17	22.98
19-4091	Environmental science and protection technicians, including health	103	40	39%	8	9.82
17-3026	Industrial engineering technicians	225	35	16%	8	30.00
19-4031	Chemical technicians	37	15	41%	3	15.70
17-3025	Environmental engineering technicians	34	13	38%	2	22.91
17-3025	Environmental engineering technicians	34	13	38%	2	22.91
19-4051	Nuclear technicians	31	8	26%	2	26.02
19-4041	Geological and petroleum technicians	15	6	40%	1	19.64
29-9012	Occupational health and safety technicians	19	6	32%	1	17.60
51-8011	Nuclear power reactor operators	12	5	42%	1	30.10
Agriculture						
45-1099	Supervisors, farming, fishing, and forestry workers	260	21	8%	7	14.11
45-2011	Agricultural inspectors	82	8	10%	3	17.57
33-3031	Fish and game wardens	44	4	9%	2	24.41
Transportation						
11-3071	Transportation, storage, and distribution managers	285	47	16%	13	29.29
43-5032	Dispatchers, except police, fire, and ambulance	296	31	10%	11	18.05
Construction						
47-2181	Roofers	355	97	27%	18	13.59
47-4011	Construction and building inspectors	302	89	29%	14	21.34
47-2011	Boilermakers	102	17	17%	5	19.71
Manufacturing						

Table E: Unaffiliated Occupations with Green Potential

Unaffiliated Green Occupations						
SOC	Title	2009 Jobs	Change	% Change	Annual Openings	MHE in \$
51-1011	First-line supervisors/managers of production and operating workers	1,226	127	10%	39	22.09
11-3051	Industrial production managers	233	17	7%	11	37.50
51-2011	Aircraft structure, surfaces, rigging, and systems assemblers	106	40	38%	6	18.18
51-2041	Structural metal fabricators and fitters	243	13	5%	6	14.87
51-9011	Chemical equipment operators and tenders	156	13	8%	5	21.31
51-4031	Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	119	8	7%	5	11.93
51-9023	Mixing and blending machine setters, operators, and tenders	139	14	10%	4	14.58
51-4011	Computer-controlled machine tool operators, metal and plastic	88	8	9%	2	15.54
51-4035	Milling and planing machine setters, operators, and tenders, metal and plastic	43	(4)	(9%)	1	12.73
17-3024	Electro-mechanical technicians	34	1	3%	1	20.47
51-4032	Drilling and boring machine tool setters, operators, and tenders, metal and plastic	<10	--	--	--	--

Appendix F: About the Data

EMSI uses many components in the creation of its labor market data, but some sources are relied on more heavily than others. Beneath, under the heading “Data Sources,” is a comprehensive account of EMSI’s sources. The following is a list of our most foundational data sources. From federal data sources we utilize the Quarterly Census of Employment and Wages (QCEW), Non-Employer Statistics (NES), County Business Patterns (CBP), Regional Economic Information System (REIS), the Bureau of Labor Statistics’ Occupational Employment Statistics (OES), and Current Employment Statistics (CES). In addition, we utilize industry projections from each state’s statistical agencies. The only state source used in this report is the Idaho Department of Labor.

Using a proprietary algorithm, EMSI provides solidly-grounded estimates for government-suppressed employment numbers, which are data points not disclosed by the government to maintain employer privacy. EMSI also adds in non-payroll employment, which is not captured by QCEW, using REIS and NES, and then benchmarks its final industry data against REIS, our most accurate but low-detail data source. EMSI uses CES to move QCEW employment data forward into the most recent quarter, thus capturing recent economic changes. EMSI then harmonizes its industry and occupation data and creates regionalized staffing patterns for every industry using the OES program.

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