

Program Endorsement Brief:

Butte College: Construction Crafts

North/Far North Center of Excellence, October 2018

INTRODUCTION

Butte College is revising an existing Construction Crafts program to update the curriculum. This report provides an overview of the labor market demand and supply for related construction occupations. It provides an overview of the employment opportunities and existing community college programs that prepare students for the profession.

Key findings include:

- Employment in construction trades has yet to return above pre-recession levels, particularly in the Far North region.
- The annual average openings and annual replacement jobs represent 11% and 9% of the total labor market in each study area, respectively, suggesting that there are many positions that go unfilled and high turnover during the year.
- Job growth has been small, but positive, since 2011 for the broader North/Far North region, with 4-5% average annual employment gains that closely mirror the state at large.
- Wages for construction craft occupations vary widely by activity and location, however wages for all occupations in the Far North region were consistently lower than other areas.
- Job postings suggest a strong demand for skilled workers, particularly those with leadership ability and management skills such as project management, scheduling and budgeting.
- There appears to be a mismatch between the type of worker in demand by the broader construction industry and the supply of available labor.

Findings in this report were determined using labor market data from the Bureau of Labor Statistics (BLS), U.S. Census Bureau data from Emsi and job posting data from Burning Glass.

The report contains the following sections:

- Occupational demand,
- Wages and job postings,
- Educational attainment and supply, and
- Findings and recommendations.

OCCUPATIONAL DEMAND

Five Standard Occupational Classification (SOC) codes were analyzed in relation to the proposed program. Exhibit 1 summarizes job trends per the SOC codes in the 15-county Far North region, the 22-county North/Far North region and California.

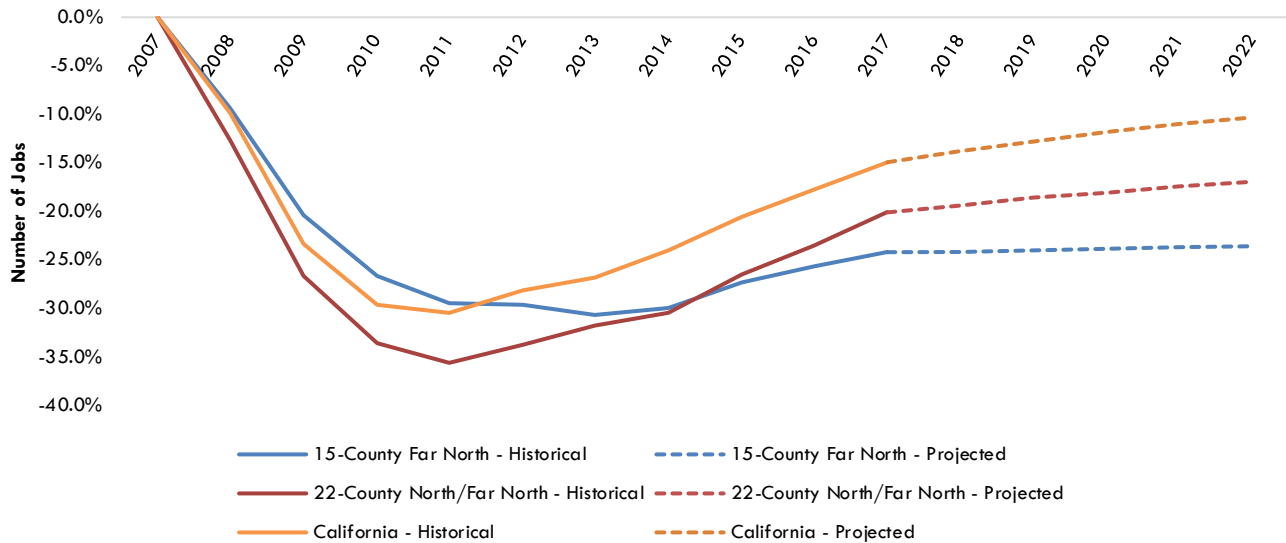
Exhibit 1: Employment, projected occupational demand¹

Occupation	SOC	2007 Jobs	2017 Jobs	2022 Jobs	2017-22 Jobs % Change	Annual Openings
Construction Managers	11-9021	1,759	1,063	1,012	-4.8%	93
Carpenters	47-2031	5,037	3,244	3,125	-3.6%	350
Cement Masons and Concrete Finishers	47-2051	496	362	386	6.6%	49
Construction Laborers	47-2061	4,170	4,035	4,238	5.0%	479
Paving, Surfacing, and Tamping Equipment Operators	47-2071	190	128	142	11.0%	18
15-County Far North Region	TOTAL	11,652	8,832	8,903	0.8%	989
Construction Managers	11-9021	6,311	4,597	4,594	-0.1%	397
Carpenters	47-2031	23,145	16,522	16,910	2.4%	1,789
Cement Masons and Concrete Finishers	47-2051	3,319	2,611	2,756	5.6%	337
Construction Laborers	47-2061	16,072	15,396	16,404	6.5%	1,807
Paving, Surfacing, and Tamping Equipment Operators	47-2071	570	359	379	5.7%	54
22-County North/Far North Region	TOTAL	49,418	39,485	41,043	3.9%	4,383
Construction Managers	11-9021	59,635	50,543	51,892	2.7%	4,392
Carpenters	47-2031	196,754	147,192	152,473	3.6%	15,603
Cement Masons and Concrete Finishers	47-2051	27,316	22,388	24,130	7.8%	2,882
Construction Laborers	47-2061	154,406	153,261	165,046	7.7%	18,078
Paving, Surfacing, and Tamping Equipment Operators	47-2071	5,207	3,725	4,028	8.1%	481
California	TOTAL	443,317	377,109	397,568	5.4%	41,435

Exhibit 2 shows the percentage change in number of jobs between 2007 through 2017 and occupational projections from 2017 through 2022. The rate of change is indexed to the total number of jobs in 2007 as the base year and compares 15-county Far North region, 22-county North/Far North region and California.

¹ Emsi 2018.2; QCEW Employees, Non-QCEW Employees and Self-Employed. The 15-county Far North region includes Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama and Trinity. The 22-county North/Far North region includes the aforementioned counties as well as El Dorado, Placer, Nevada, Sacramento, Sutter, Yolo and Yuba.

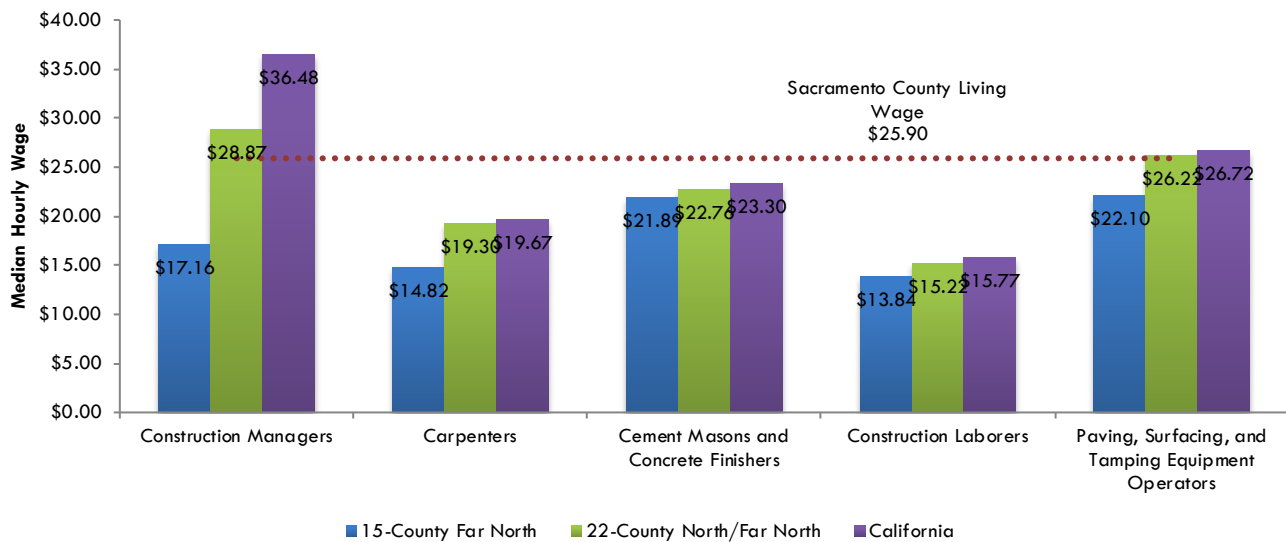
Exhibit 2: Rate of change for selected occupations²



WAGES AND JOB POSTINGS

Exhibit 3 displays hourly wages for selected occupations in the study regions compared to the Sacramento County living wage for a one-adult, one-child household.³ The chart highlights the difference between the median wages of the representative occupations.

Exhibit 3: Wages for selected occupations⁴



Burning Glass data for job postings identified a pool of 1,474 listings in the North/Far North region on the representative SOC codes. There were only 88 listings in the Far North region for the same occupations. As such, only the larger North/Far North pool was analyzed. Data was pulled for the last year from September 1, 2017 through August 31, 2018.

² Ibid.

³ Living Wage Calculator: Counties and Metropolitan Statistical Areas in California, <http://livingwage.mit.edu/states/06/locations>.

⁴ Emsi 2018.2; QCEW Employees, Non-QCEW Employees and Self-Employed.

Exhibit 4 presents the job postings trend for the SOC codes over the past 10 years compared to the median during the same period for the study regions.

Exhibit 4: Job posting trend for selected occupations⁵

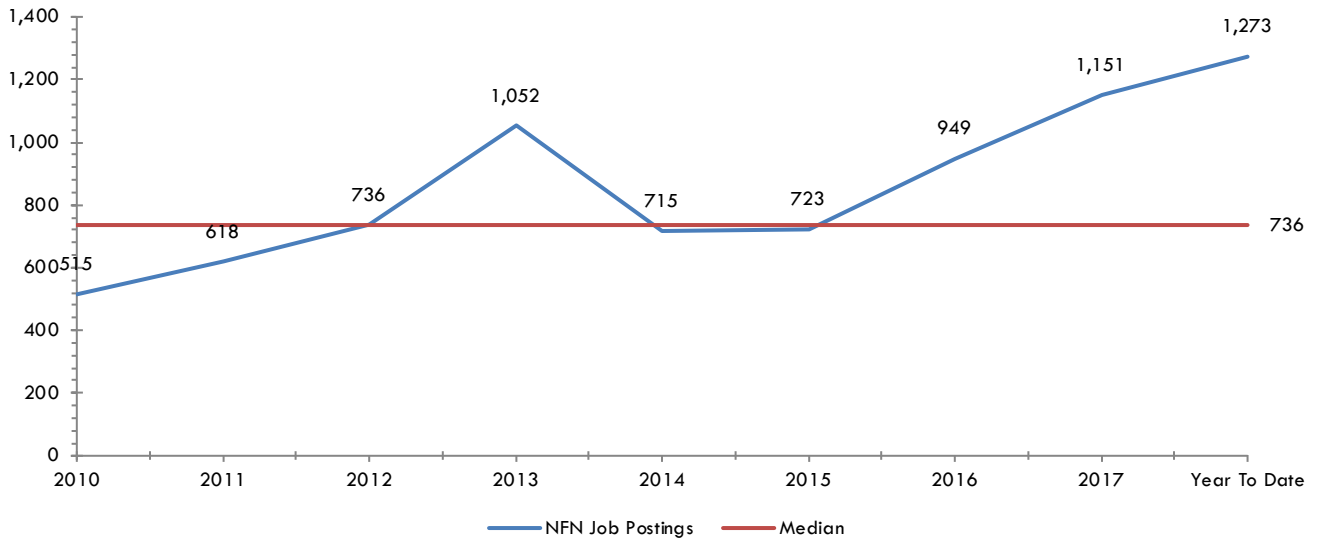


Exhibit 5 shows the top titles for positions within the selected occupations that were present in the job postings.

Exhibit 5: Top titles for selected occupations⁶

Top Titles	North/Far North	
	Number	Percent (n=1,474)
Construction Manager	354	21.4%
Superintendent	159	28.2%
Construction Laborer	69	11.2%
Project Manager	60	2.6%
Laborer	27	6.3%
Director of Construction	25	0.0%
General Laborer	24	1.2%
Concrete Finisher	21	1.2%

Exhibit 6 shows the top employers for selected occupation jobs postings in the study regions. There were only 1,039 postings with employer information, therefore the results below may not be indicative of the entire sample.

⁵ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool," 2018.

⁶ Ibid.

Exhibit 6: Top Employers among selected occupations⁷

Top Employers	North/Far North	
	Number	Percent (n=1,039)
State of California	33	3.2%
Hal Hays Construction Incorporated	20	1.9%
Kdc Construction	19	1.8%
Vanir Construction Management	19	1.8%
Tjg Civil Engineers And Land Planners	15	1.4%
Tetra Tech	12	1.2%
Sierra Pacific Industries	11	1.1%
Davisreed Construction Incorporated	10	1.0%
Kitchell Corporation	10	1.0%

Exhibit 7 shows the top skills desired within selected occupation positions in the study regions. There were only 1,253 postings with skill information, therefore the results below may not be indicative of the entire sample.

Exhibit 7: Top skills among selected occupations⁸

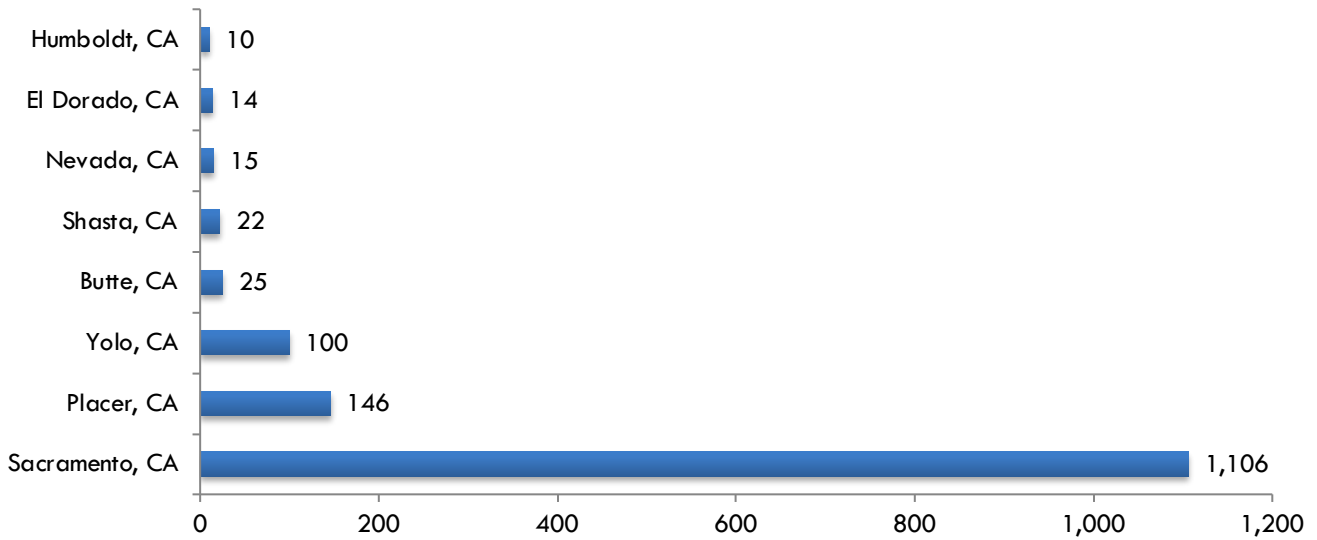
Top Skills	North/Far North	
	Number	Percent (n=1,253)
Project Management	657	52.4%
Scheduling	608	48.5%
Budgeting	541	43.2%
Construction Management	416	33.2%
Quality Assurance and Control	208	16.6%
Estimating	184	14.7%
Repair	172	13.7%
Project Planning and Development Skills	159	12.7%
Project Management	657	52.4%
Scheduling	608	48.5%

Exhibit 8 shows the counties where selected occupations postings were located.

⁷ Ibid.

⁸ Ibid.

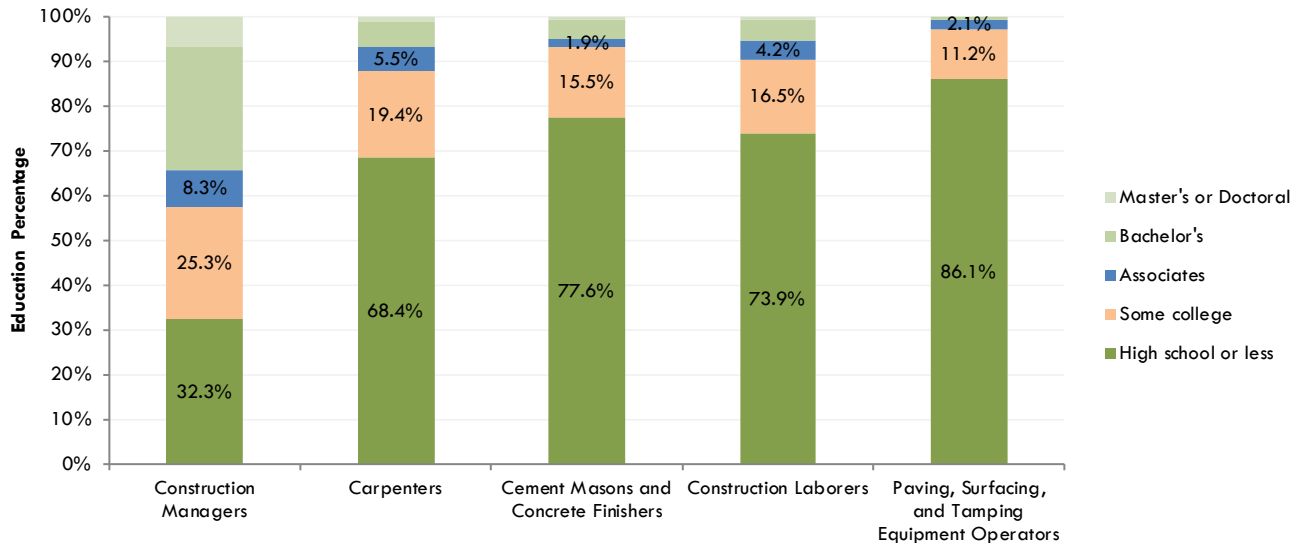
Exhibit 8: Top locations listed for selected occupations⁹



EDUCATIONAL ATTAINMENT AND SUPPLY

At the national level, the typical education required for the selected occupations is a high school diploma. A minority have had some college or hold an associate degree or above. The one exception here is for Construction Managers. This occupation typically employs workers who have had at least some college up through a large percentage with a bachelor's degree. Exhibit 9 breaks down the educational attainment percentages by occupation type.

Exhibit 9: Typical educational attainment for selected occupations nationally¹⁰



There was one Taxonomy of Programs (TOP) code identified that relates to Construction Crafts: Construction Crafts Technology (0952.00).

⁹ Ibid.

¹⁰ Current Population Survey, Educational Attainment for Workers 25 Years and Older by Detailed Occupation, 2014-2015, https://www.bls.gov/emp/ep_table_111.htm.

There are six schools in the North/Far North region that offer related training, three of which appear to be most active. Nearly all awards are certificates. American River College confers the majority of award.

Exhibit 10 shows the total number of awards by colleges during the past three academic years.

Exhibit 10: Total awards conferred by North/Far North community colleges, 2014-2017¹¹

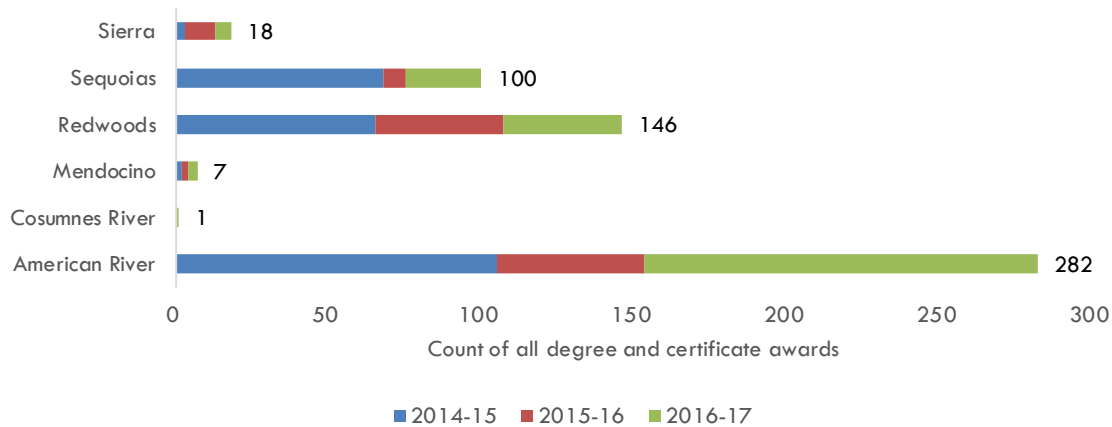


Exhibit 11 shows the break down between certificates and associate degrees.

Exhibit 10: Certificates and associate degrees conferred by North/Far North community colleges, 2014-2017¹²

	Certificate				Associate			
	2014-15	2015-16	2016-17	3-Yr Avg	2014-15	2015-16	2016-17	3-Yr Avg
American River	104	47	128	104	1	1	1	1
Cosumnes River	0	0	1	0	0	0	0	0
Mendocino	2	2	3	2	0	0	0	0
Redwoods	62	40	28	62	3	2	11	3
Sequoias	67	7	24	67	1	0	1	1
Sierra	0	7	4	0	3	3	1	3
Total	235	103	188	175	8	6	14	9

FINDINGS

- The construction industry and the workforce pipeline that supplied it were eviscerated during the recession. Employment in construction trades has yet to return above pre-recession levels, particularly in the Far North region. Between 2007 and 2017, employment in the studied occupations fell 24% in the Far North, 20% in the North/Far North and 15% in California.
- The annual average openings and annual replacement jobs represent 11% and 9% of the total labor market in each study area, respectively, suggesting that there are many positions that go unfilled and high turnover during the year.
- Job losses are attributable to a combination of factors including a decline in overall building activity, mainly during the early years of the recession, technology advances in the industry that are driving individual worker productivity and a dearth of skilled workers capable of filling open positions.

¹¹ COE Supply Tables, California Community Colleges Chancellor's Office DataMart, Integrated Postsecondary Education Data System (IPEDS).

¹² Ibid.

- Job growth has been small, but positive, since 2011 for the broader North/Far North region, with 4 percent to 5 percent average annual employment gains that closely mirror the state. The Far North region has experienced middling improvement during this same period, with increases over the last three years but flat expectations for the coming five years.
- Wages for construction craft occupations vary widely by activity and location, however wages for all occupations in the Far North region were consistently lower than other areas. Construction Managers and Paving, Surfacing and Tamping Equipment Operators were the highest paid occupations and were near the Sacramento County median wage rate. The other occupations were all below the living wage.
- Job postings suggest a strong demand for skilled workers, particularly those with leadership ability and management skills such as project management, scheduling and budgeting.
- There appears to be a mismatch between the type of worker in demand by the broader construction industry and the supply of available labor. Only six schools in the North/Far North region offered training in construction crafts related fields and conferred 183 awards on average over the last three years. The majority of these awards were certificates.

RECOMMENDATIONS

- The COE recommends that Butte College move forward with the program to meet the demand identified in the research. Community college program investments, especially related to residential construction, are critical for the industry to meet workforce needs and address the housing crisis in the state.

APPENDIX A: DATA SOURCES

Sources used for data analysis purposes in this report include:

- U.S. Department of Labor/Employment and Training Administration (DOLETA) O*NET Online
- Burning Glass, Labor Insight/Jobs
- Economic Modeling Specialists, International (EMSI)
- California Employment Development Department, Labor Market Information Division (EDD, LMID)
- Bureau of Labor Statistics, Occupational Employment Statistics (OES)
- California Community Colleges Chancellor's Office, Cal-PASS Plus LaunchBoard
- Living Insight Center for Community Economic Development, Self-Sufficiency Standard Tool for California
- California Community Colleges Chancellor's Office Management Information Systems (MIS Data Mart)
- U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS)

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