

# Program Endorsement Brief:

Cosumnes College: Construction Management and Estimating

**North/Far North Center of Excellence, February 2019**

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## INTRODUCTION

Cosumnes College is developing several Construction Management certificates including entry-level management positions, estimating, owner's representatives, trade administration and independent business management. This report provides an overview of the labor market demand and supply for related 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.
- Self-employed construction managers fared worse than the overall employment level, with employment level falling by 44% from 2008 to 2018.
- The annual average openings and annual replacement jobs represent 10% and 8% 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 North region, with 2-4% average annual employment gains that closely mirror the state at large.
- Wages for construction management occupations are generally higher than the Sacramento region living wage, paying more than \$30 per hour.
- 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

Three Standard Occupational Classification (SOC) codes were analyzed in relation to the proposed program. Exhibit 1 summarizes job trends per the SOC codes in the 7-county North region, including all employed workers and self-employed workers, and California.

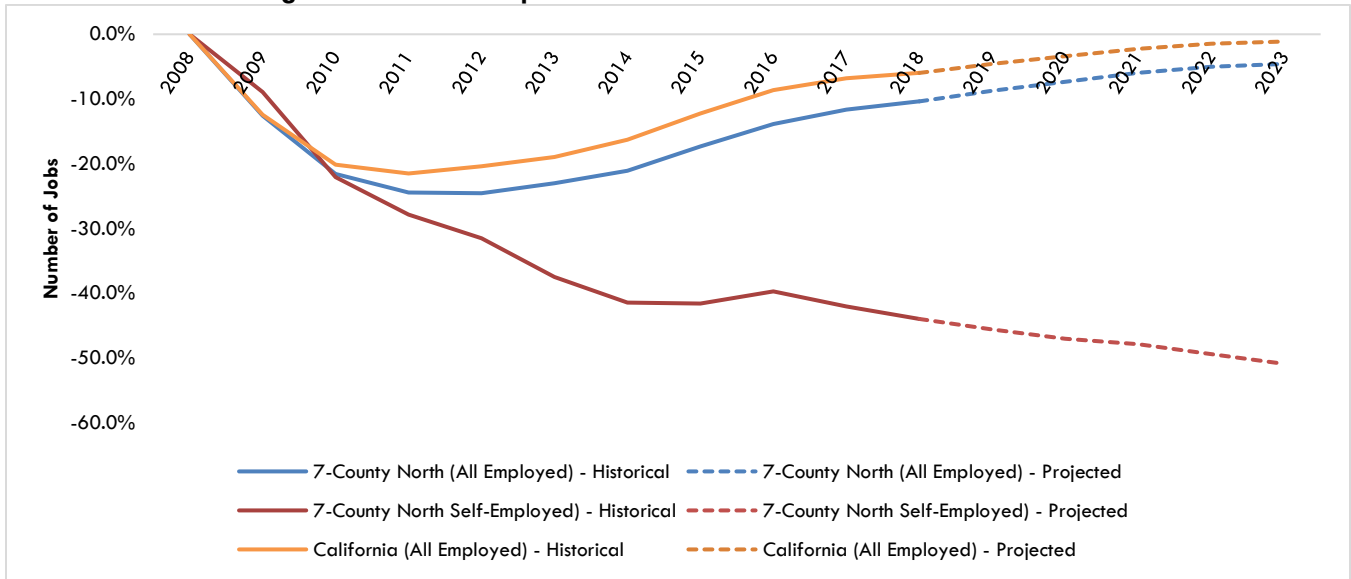
**Exhibit 1: Employment, projected occupational demand<sup>1</sup>**

Occupation	SOC	2008 Jobs	2018 Jobs	2023 Jobs	2018-23 Jobs % Change	Annual Openings
Construction Managers	11-9021	4,045	3,554	3,665	3.1%	308
Cost Estimators	13-1051	1,669	1,829	2,036	11.3%	211
First-Line Supervisors of Construction Trades and Extraction Workers	47-1011	5,533	4,697	5,032	7.1%	534
<b>7-County North – All Employed</b>	<b>TOTAL</b>	<b>11,247</b>	<b>10,081</b>	<b>10,732</b>	<b>6.5%</b>	<b>1,053</b>
Construction Managers	11-9021	2,121	1,190	1,051	-11.7%	96
Cost Estimators	13-1051	54	61	63	2.7%	7
First-Line Supervisors of Construction Trades and Extraction Workers	47-1011	1,627	879	752	-14.4%	102
<b>7-County North – Self Employed</b>	<b>TOTAL</b>	<b>3,802</b>	<b>2,130</b>	<b>1,866</b>	<b>-12.4%</b>	<b>205</b>
Construction Managers	11-9021	54,340	50,640	52,044	2.8%	4,385
Cost Estimators	13-1051	27,443	29,600	31,738	7.2%	3,347
First-Line Supervisors of Construction Trades and Extraction Workers	47-1011	75,052	67,227	71,296	6.1%	7,596
<b>California</b>	<b>TOTAL</b>	<b>156,835</b>	<b>147,467</b>	<b>155,078</b>	<b>5.2%</b>	<b>15,328</b>

Exhibit 2 shows the percentage change in number of jobs between 2008 through 2018 and occupational projections from 2018 through 2023. The rate of change is indexed to the total number of jobs in 2008 as the base year and compares 7-county North region and California.

<sup>1</sup> Emsi 2018.4; QCEW Employees, Non-QCEW Employees and Self-Employed. The 7-county North region includes El Dorado, Placer, Nevada, Sacramento, Sutter, Yolo and Yuba.

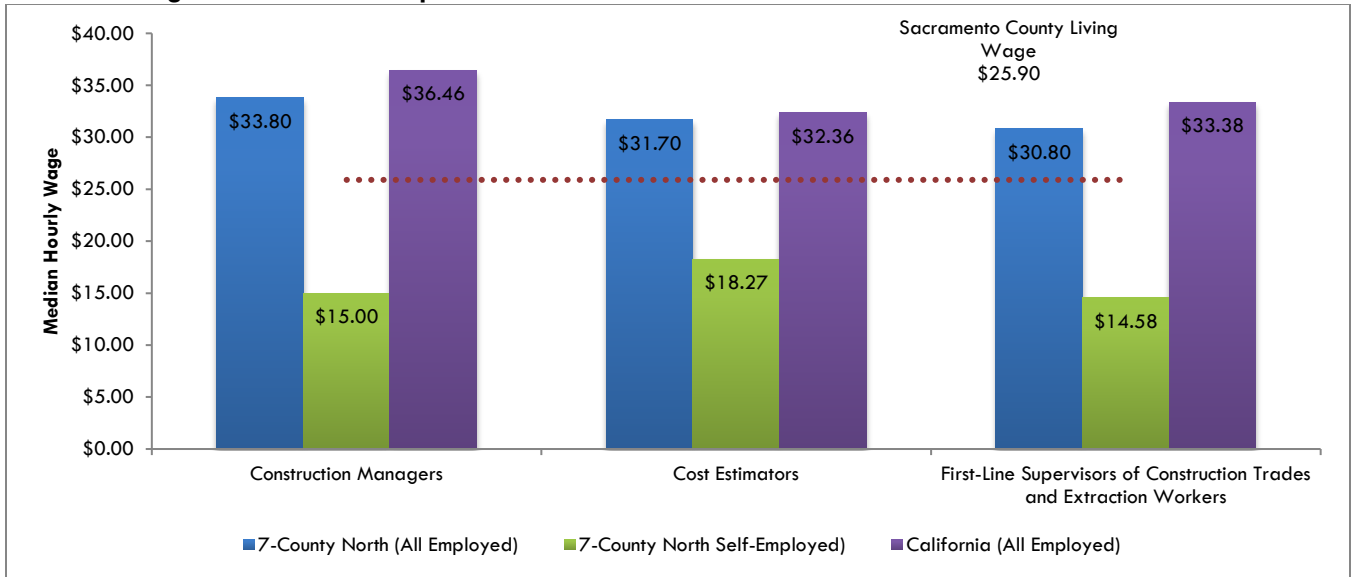
**Exhibit 2: Rate of change for selected occupations<sup>2</sup>**



## 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.<sup>3</sup> The chart highlights the difference between the median wages of the representative occupations.

**Exhibit 3: Wages for selected occupations<sup>4</sup>**



Burning Glass data for job postings identified a pool of 2,401 listings in the North region on the representative SOC codes. Data was pulled for the last year from February 1, 2018 through January 31, 2019.

<sup>2</sup> Ibid.

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

<sup>4</sup> 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 occupations<sup>5</sup>**

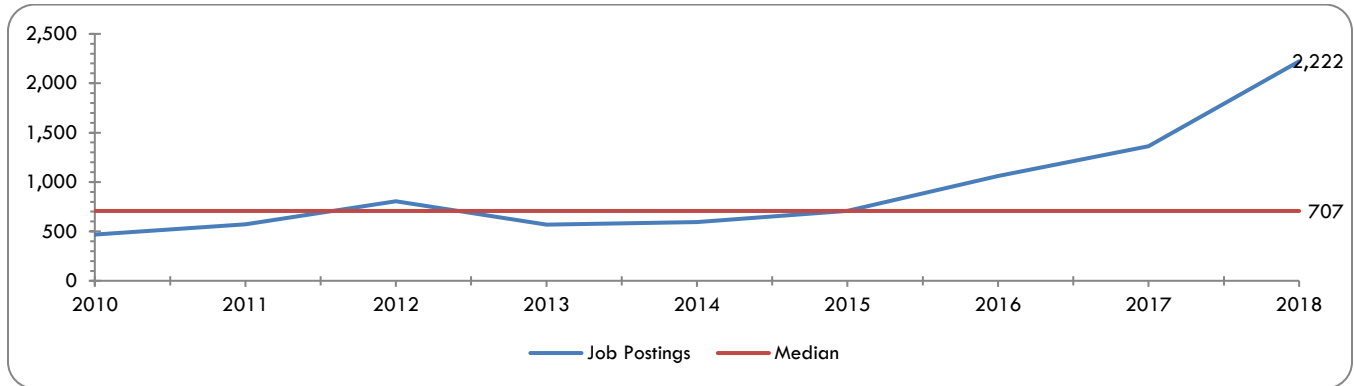


Exhibit 5 shows the top titles for positions within the selected occupations that were present in the job postings.

**Exhibit 5: Top titles for selected occupations<sup>6</sup>**

Top Titles	North	
	Number	Percent (n=2,401)
Construction Manager	519	21.6%
Estimator	412	17.2%
Construction Superintendent	317	13.2%
Project Manager	79	3.3%
Service Advisor	67	2.8%
Commercial Construction Superintendent	46	1.9%
Construction Supervisor	35	1.5%
Electrical Foreman	34	1.4%

Exhibit 6 shows the top employers for selected occupation jobs postings in the study regions. There were only 1,695 postings with employer information, therefore the results below may not be indicative of the entire sample.

<sup>5</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool," 2019.

<sup>6</sup> Ibid.

**Exhibit 6: Top Employers among selected occupations<sup>7</sup>**

Top Employers	North	
	Number	Percent (n=1,695)
State of California	68	4.0%
Tjg Civil Engineers And Land Planners	43	2.5%
Vanir Construction Management	21	1.2%
Katerra	20	1.2%
Swinerton Builders	20	1.2%
Davisreed Construction Incorporated	19	1.1%
Kdc Construction	19	1.1%
Mark III Construction	18	1.1%
State of California	68	4.0%

Exhibit 7 shows the top skills desired within selected occupation positions in the study regions. There were only 2,168 postings with skill information, therefore the results below may not be indicative of the entire sample.

**Exhibit 7: Top skills among selected occupations<sup>8</sup>**

Top Skills	North	
	Number	Percent (n=2,168)
Scheduling	1,171	54.0%
Project Management	1,145	52.8%
Budgeting	1,073	49.5%
Construction Management	969	44.7%
Estimating	670	30.9%
Commercial Construction	394	18.2%
Quality Assurance and Control	392	18.1%
Microsoft Project	376	17.3%
Scheduling	1,171	54.0%
Project Management	1,145	52.8%

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

<sup>7</sup> Ibid.

<sup>8</sup> Ibid.

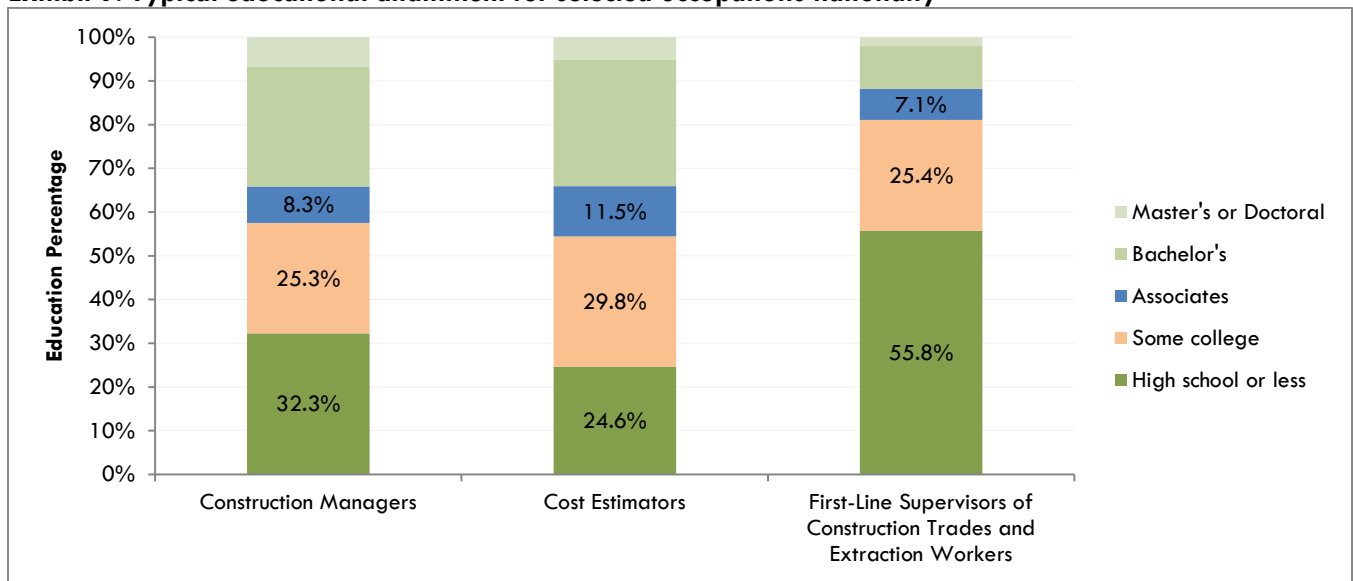
**Exhibit 8: Top locations listed for selected occupations<sup>9</sup>**



## EDUCATIONAL ATTAINMENT AND SUPPLY

At the national level, the typical education required for the selected occupations is a high school diploma or some college. Exhibit 9 breaks down the educational attainment percentages by occupation type.

**Exhibit 9: Typical educational attainment for selected occupations nationally<sup>10</sup>**



There was one Taxonomy of Programs (TOP) code identified that relates to Construction Management: Civil and Construction Management Technology (0957.00).

There are three schools in the North region that offer related training. Awards were split between certificates and associate degrees. Cosumnes College confers the majority of awards. Exhibit 10 shows the total number of awards by colleges during the past three academic years.

<sup>9</sup> Ibid.

<sup>10</sup> 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](https://www.bls.gov/emp/ep_table_111.htm).

**Exhibit 10: Total awards conferred by North/Far North community colleges, 2015-2018<sup>11</sup>**

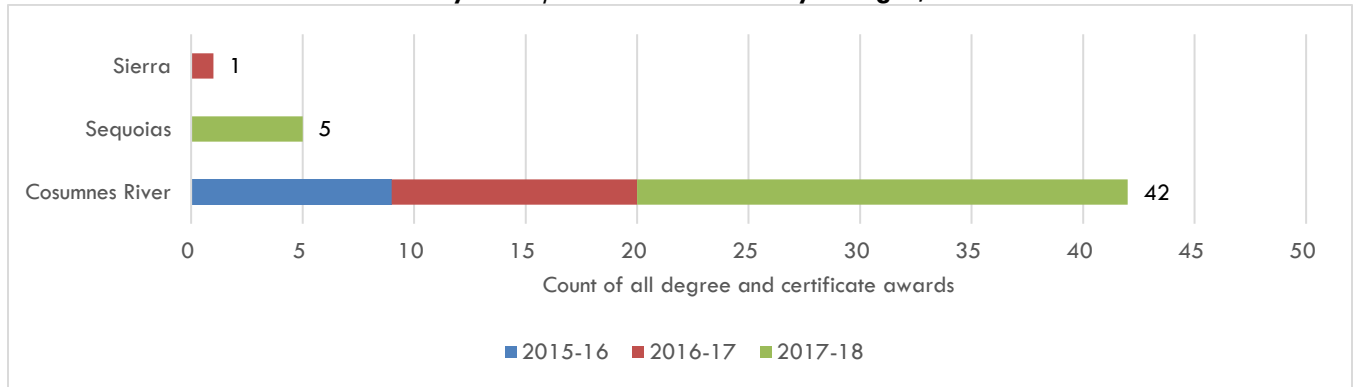


Exhibit 11 shows the break down between certificates and associate degrees.

**Exhibit 11: Certificates and associate degrees conferred by North/Far North community colleges, 2015-2018<sup>12</sup>**

	Certificate				Associate			
	2015-16	2016-17	2017-18	3-Yr Avg	2015-16	2016-17	2017-18	3-Yr Avg
Cosumnes River	5	8	12	5	4	3	10	4
Sequoias	0	0	2	0	0	0	3	0
Sierra	0	0	0	0	0	1	0	0
<b>Total</b>	<b>5</b>	<b>8</b>	<b>14</b>	<b>9</b>	<b>4</b>	<b>4</b>	<b>13</b>	<b>7</b>

## FINDINGS

- The construction industry and the workforce pipeline that supplied it were eviscerated during the recession. Employment in construction management has yet to return above pre-recession levels. Between 2008 and 2018, employment in the studied occupations fell 10.4% in the North region and 6% in California.
- Self-employed construction managers fared worse than the overall employment level, with employment level falling by 44% from 2008 to 2018. Self-employed professionals as a percentage of all construction managers in the North region fell from a high of 35% in 2009 to 21% by 2018.
- The annual average openings and annual replacement jobs represent 10% and 8% 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.
- Job growth has been small, but positive, since 2011 for the North region, with 2 percent to 4 percent average annual employment gains that closely mirror the state. Though these gains are promising, the job posting data suggest that there is greater demand than available workers to fill management rolls.
- Wages for construction management occupations are generally higher than the Sacramento region living wage, paying more than \$30 per hour. Wages for self-employed construction managers however was only half that, at between \$15-\$18 per hour.

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

<sup>12</sup> Ibid.

- Job postings suggest a strong demand for skilled workers, particularly those with management skills such as project management, scheduling and budgeting.

## RECOMMENDATIONS

- The COE recommends that Cosumnes 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.

COE Recommendation	
<input checked="" type="checkbox"/>	Move forward with program
<input type="checkbox"/>	Program is not recommended
<input type="checkbox"/>	Additional information needed



# 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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