

# Construction Inspection Occupations

Labor Market Analysis: San Diego County

November 2020

## Summary



The brief provides labor market information about *Construction Inspection Occupations* to assist the San Diego and Imperial Counties Community Colleges with program development and strategic planning. According to available labor market information, *Construction Inspection Occupations* in San Diego County have a labor market demand of 1,031 annual job openings (while average demand for a single occupation in San Diego County is 277 annual job openings), and six educational institutions in San Diego County supply 99 awards for these occupations, suggesting that there is a supply gap in the labor market. *Construction Inspection Occupations* include “Construction Managers,” “Cost Estimators” and “Construction and Building Inspectors.” Entry-level and median wages for all occupations are above the living wage. This brief recommends proceeding with developing a **new** program because 1) a supply gap exists for these occupations; 2) their entry-level and median earnings are above the living wage; and 3) a high number of annual openings exist. The region’s community colleges should note, however, that employers typically require a minimum educational attainment of a bachelor’s degree for *Construction Inspection Occupations*, except “Construction and Building Inspectors.”

## Introduction

This report provides labor market information in San Diego County for the following occupational codes in the Standard Occupational Classification (SOC)<sup>1</sup> system:

- **Construction Managers** (SOC 11-9021): Plan, direct, or coordinate, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems. Participate in the conceptual development of a construction project and oversee its organization, scheduling, budgeting, and implementation. Includes managers in specialized construction fields, such as carpentry or plumbing.
- **Cost Estimators** (SOC 13-1051): Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured.
- **Construction and Building Inspectors** (SOC 47-4011): Inspect structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations. Inspections may be general in nature or may be limited to a specific area, such as electrical systems or plumbing.

For the purpose of this report, these occupations are referred to as *Construction Inspection Occupations*.

## Projected Occupational Demand

Between 2019 and 2024, *Construction Inspection Occupations* are projected to increase by 602 net jobs or six percent (Exhibit 1a). During this period, employers in San Diego County are projected to hire 1,031 workers annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example.

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<sup>1</sup> The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. [bls.gov/soc](https://www.bls.gov/soc).

**Exhibit 1a: Number of Jobs for Construction Inspection Occupations (2009-2024)<sup>2</sup>**

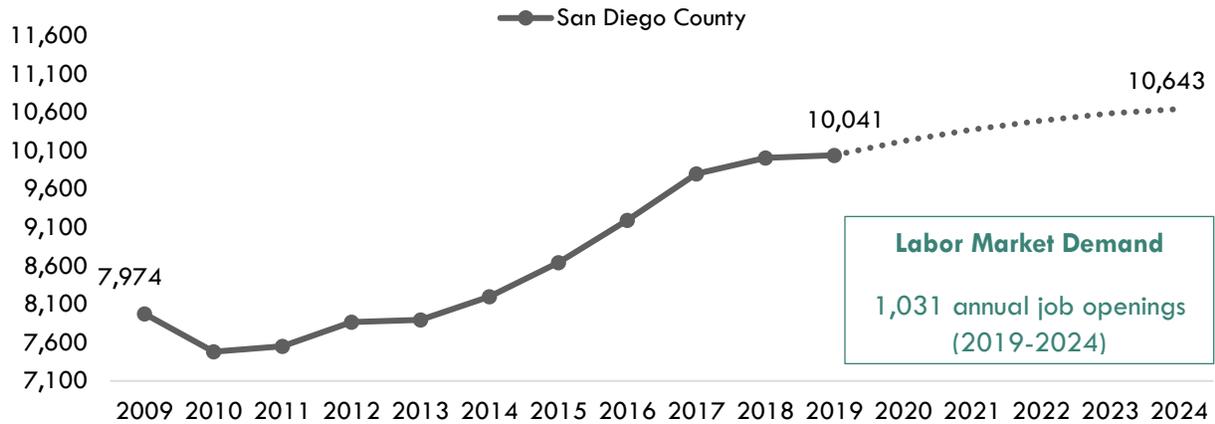


Exhibit 1b breaks down the projected number of jobs change by occupation more specifically. As Exhibit 1b shows, *Construction Managers* are projected to increase the most by 328 total jobs between 2019 and 2024.

**Exhibit 1b: Number of Jobs for Construction Inspection Occupations in San Diego County (2019-2024)**

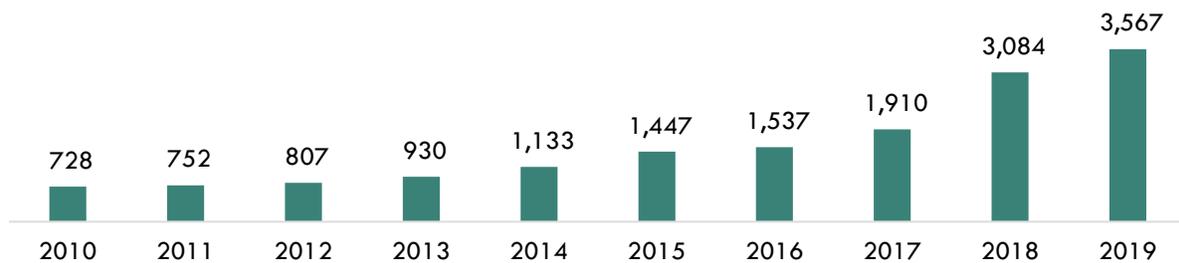
Occupational Title	2019 Jobs	2024 Jobs	2019 - 2024 Net Jobs Change	2019-2024 % Net Jobs Change	Annual Job Openings (Demand)
Construction Managers	5,344	5,672	328	6%	462
Cost Estimators	3,298	3,495	197	6%	376
Construction and Building Inspectors	1,399	1,476	77	6%	193
<b>Total</b>	<b>10,041</b>	<b>10,643</b>	<b>602</b>	<b>6%</b>	<b>1,031</b>

<sup>2</sup> EMSI 2020.02; QCEW, Non-QCEW, Self-Employed.

## Online Job Postings

This report analyzes not only historical and projected data (traditional labor market information or LMI), but also recent data from online job postings (real-time LMI). Online job postings may provide additional insight about recent changes in the labor market that are not captured by historical data. Between 2010 and 2019, there was an average of 1,591 online job postings per year in San Diego County for *Construction Inspection Occupations* (Exhibit 2). Please note that online job postings do not equal labor market demand; demand is represented by annual job openings (Exhibit 1b). Employers may post a position multiple times for various reasons, such as increasing the pool of applicants, for example.

**Exhibit 2: Number of Online Job Postings for *Construction Inspection Occupations* in San Diego County (2010-2019)<sup>3</sup>**



## Earnings

The entry-level hourly earnings for *Construction Inspection Occupations* range from \$23.57 to \$30.52 (Exhibit 3a).

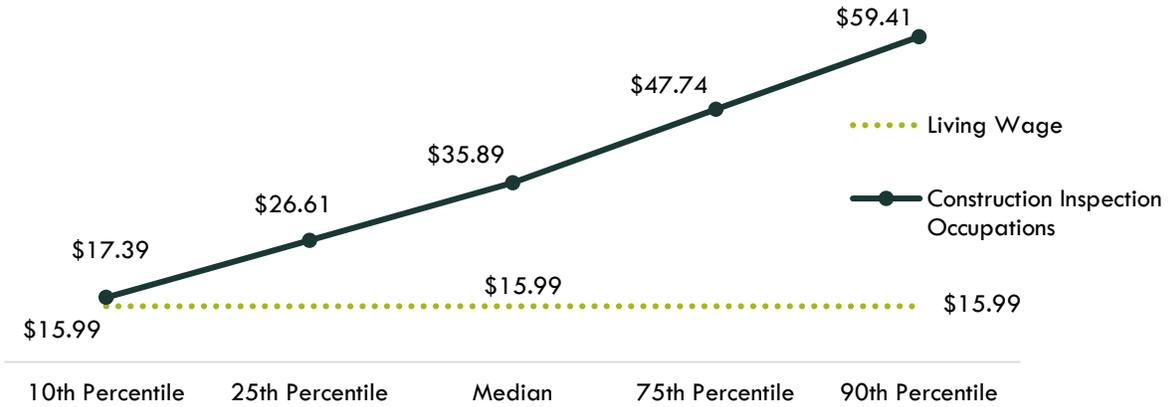
**Exhibit 3a: Hourly Earnings for *Construction Inspection Occupations* in San Diego County**

Occupational Title	Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 <sup>th</sup> Percentile)
Construction Managers	\$30.52	\$42.25	\$57.09
Cost Estimators	\$25.74	\$31.64	\$43.15
Construction and Building Inspectors	\$23.57	\$33.79	\$42.98

<sup>3</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2010-2019.

On average, the entry-level hourly earnings for *Construction Inspection Occupations* is **\$26.61**; this is more than the living wage for a single adult in San Diego County, which is **\$15.99** per hour (Exhibit 3b).<sup>4</sup>

**Exhibit 3b: Average Hourly Earnings<sup>5</sup> for *Construction Inspection Occupations* in San Diego County<sup>6</sup>**



<sup>4</sup> "California Family Needs Calculator (formerly the Self-Sufficiency Standard)," Insight: Center for Community Economic Development, last updated 2018. [insightccd.org/2018-self-sufficiency-standard](https://insightccd.org/2018-self-sufficiency-standard).

<sup>5</sup> 10th and 25th percentiles could be considered entry-level wages, and 75th and 90th percentiles could be considered experienced wages for individuals who may have been in the occupation longer, received more training than others, etc.

<sup>6</sup> EMSI 2020.02; QCEW, Non-QCEW, Self-Employed.

## Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of awards in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes.<sup>7</sup> There are six TOP codes and 11 CIP codes related to *Construction Inspection Occupations* (Exhibit 4). Because these TOP and CIP codes train for a variety of management occupations such as “Marketing Managers,” “Industrial Production Managers,” “General and Operations Managers,” for example, there is no one-to-one match between TOP/CIP code and SOC code. As a result, this brief uses a conservative estimate of program supply and only calculates awards from TOP and CIP codes with an asterisk (\*) in Exhibit 4.

### Exhibit 4: Related TOP and CIP Codes for *Construction Inspection Occupations*

<i>Construction Inspection Occupations</i>
TOP 050100: Business and Commerce, General
TOP 050500: Business Administration
TOP 050600: Business Management
TOP 095200: Construction Crafts Technology*
TOP 095700: Civil and Construction Management Technology*
TOP 095720: Construction Inspection*
CIP 46.0000: Construction Trades, General*
CIP 46.0403: Building/Home/Construction Inspection/Inspector*
CIP 46.0412: Building/Construction Site Management/Manager*
CIP 46.0415: Building Construction Technology*
CIP 46.0499: Building/Construction Finishing, Management, and Inspection, Other*
CIP 46.9999: Construction Trades, Other*
CIP 52.0101: Business/Commerce, General
CIP 52.0201: Business Administration and Management, General
CIP 52.0211: Project Management
CIP 52.1001: Human Resources Management/Personnel Administration, General
CIP 52.2001: Construction Management*

<sup>7</sup> TOP data comes from the California Community Colleges Chancellor's Office MIS Data Mart ([datamart.cccco.edu](http://datamart.cccco.edu)) and CIP data comes from the Integrated Postsecondary Education Data System ([nces.ed.gov/ipeds/use-the-data](http://nces.ed.gov/ipeds/use-the-data)).

According to TOP data, three community colleges supply the region with awards for these occupations: Palomar College, San Diego Mesa College, and Southwestern College. According to CIP data, three non-community colleges supply the region with awards: CET-San Diego, National University and NewSchool of Architecture and Design (Exhibit 5).

**Exhibit 5: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions (Program Year 2014-15 through PY2018-19 Average)**

TOP6 or CIP	TOP6 or CIP Title	3-Yr Annual Average CC Awards (PY16-17 to PY18-19)	Other Educational Institutions 3-Yr Annual Average Awards (PY14-15 to PY16-17)	3-Yr Total Average Supply (PY14-15 to PY18-19)
095700	Civil and Construction Management Technology	<b>10</b>	<b>0</b>	<b>10</b>
	• San Diego Mesa	8	0	
	• Southwestern	2	0	
095720	Construction Inspection	<b>33</b>	<b>0</b>	<b>33</b>
	• Palomar	7	0	
	• San Diego Mesa	17	0	
	• Southwestern	9	0	
46.0415	Building Construction Technology	<b>0</b>	<b>45</b>	<b>45</b>
	• CET-San Diego	0	45	
52.2001	Construction Management	<b>0</b>	<b>11</b>	<b>11</b>
	• National University	0	4	
	• NewSchool of Architecture and Design	0	7	
			<b>Total</b>	<b>99</b>

## Demand vs. Supply

Comparing labor demand (annual openings) with labor supply<sup>8</sup> suggests that there is a **supply gap** for these occupations in San Diego County, with **1,031** annual openings and **99** awards. Comparatively, there are **10,075** annual openings in California and **833** awards, demonstrating that there is a supply gap across the state<sup>9</sup> (Exhibit 6).

**Exhibit 6: Labor Demand (Annual Openings) Compared with Labor Supply (Average Annual Awards)**

Community Colleges and Other Postsecondary Educational Institutions	Demand (Annual Openings)	Supply (Total Annual Average Supply)	Supply Gap or <b>Oversupply</b>
San Diego	1,031	99	<b>932</b>
California	10,075	833	<b>9,242</b>

**Please note:** This is a basic analysis of supply and demand of labor. The data does not include workers currently in the labor force who could fill these positions or workers who are not captured by publicly available data. This data should be used to discuss the potential gaps or oversupply of workers; however, it should not be the only basis for determining whether or not a program should be developed.

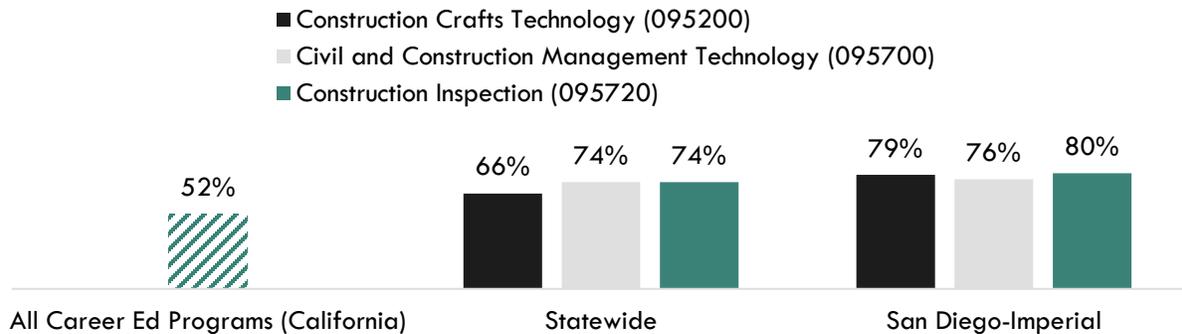
<sup>8</sup> Labor supply can be found from two different sources: EMSI or the California Community Colleges Chancellor's Office MIS Data Mart. EMSI uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

<sup>9</sup> "Supply and Demand," Centers of Excellence Student Outcomes, [coecc.net/Supply-and-Demand.aspx](http://coecc.net/Supply-and-Demand.aspx).

## Student Outcomes and Regional Comparisons

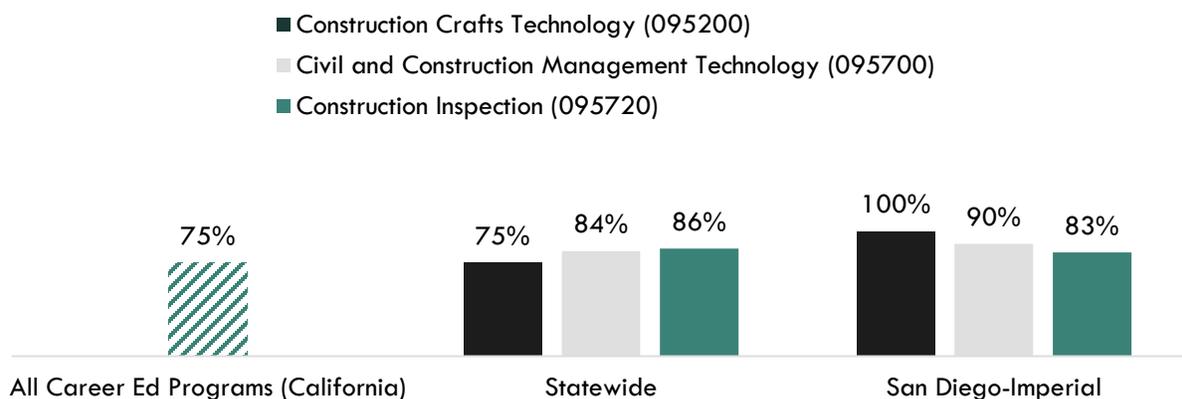
According to the California Community Colleges LaunchBoard, between 76 to 80 percent of students in the San Diego-Imperial region earned a living wage after completing a program related to *Construction Inspection Occupations*, compared to 66 to 74 percent statewide and 52 percent of students in Career Education programs in general across the state (Exhibit 7a).<sup>10</sup>

**Exhibit 7a: Proportion of Students Who Earned a Living Wage, PY2016-17<sup>11</sup>**



According to the California Community Colleges LaunchBoard, between 83 to 100 percent of students in the San Diego-Imperial region obtained a job closely related to their field of study after completing a related program, compared to 75 to 86 percent statewide and 75 percent of students in Career Education programs in general across the state (Exhibit 7b).<sup>12</sup>

**Exhibit 7b: Percentage of Students in a Job Closely Related to Field of Study, PY2015-16<sup>13</sup>**



<sup>10</sup> "California Community Colleges Strong Workforce Program," California Community Colleges, [calpassplus.org/LaunchBoard/SWP.aspx](http://calpassplus.org/LaunchBoard/SWP.aspx).

<sup>11</sup> Among completers and skills builders who exited, the proportion of students who attained a living wage.

<sup>12</sup> "California Community Colleges Strong Workforce Program," California Community Colleges, [calpassplus.org/LaunchBoard/SWP.aspx](http://calpassplus.org/LaunchBoard/SWP.aspx).

<sup>13</sup> Most recent year with available data is Program Year 2014-15. Percentage of Students in a Job Closely Related to Field of Study: Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

## Top Employers

Between January 1, 2017 and December 31, 2019, the top five employers in San Diego County for these occupations were [General Atomics](#), [University of California San Diego](#), [Booz Allen Hamilton Inc.](#), [Penske Automotive Group](#), and [Balfour Beatty](#) (Exhibit 8).

**Exhibit 8: Top Employers in San Diego County for Construction Inspection Occupations<sup>14</sup>**

Top Employers	
<ul style="list-style-type: none"><li>• General Atomics</li><li>• University of California San Diego</li><li>• Booz Allen Hamilton Inc.</li><li>• Penske Automotive Group</li><li>• Balfour Beatty</li></ul>	<ul style="list-style-type: none"><li>• Sears</li><li>• Flatiron Construction</li><li>• American Institute Of Architects San Diego</li><li>• Northrop Grumman</li><li>• DPR Construction</li></ul>

## Skills, Education and Certifications

*Construction Inspection Occupations* have a national educational requirement ranging from a [high school diploma or equivalent](#) to a [bachelor's degree](#) (Exhibit 9a).

**Exhibit 9a: National Educational Attainment for Construction Inspection Occupations<sup>15</sup>**

Occupational Title	Typical Entry-Level Education
Construction Managers	Bachelor's degree
Cost Estimators	Bachelor's degree
Construction and Building Inspectors	High school diploma or equivalent

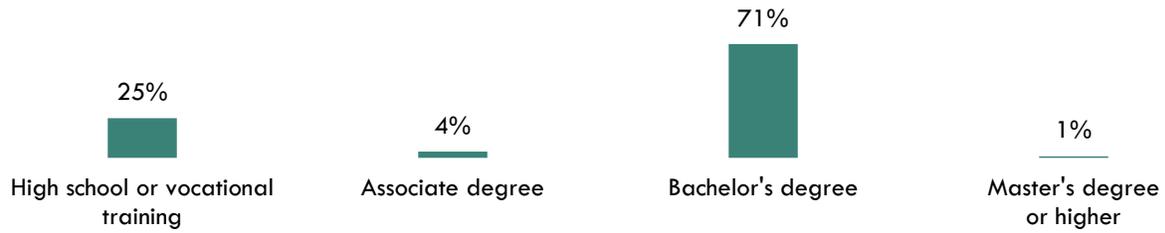
Based on online job postings between January 1, 2017 and December 31, 2019 in San Diego County, the top listed educational requirement for *Construction Inspection Occupations* is a [bachelor's degree](#) (Exhibit 9b).<sup>16</sup>

<sup>14</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2017-2019.

<sup>15</sup> EMSI 2020.02; QCEW, Non-QCEW, Self-Employed.

<sup>16</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2017-2019.

**Exhibit 9b: Educational Requirements for Construction Inspection Occupations in San Diego County<sup>17</sup>**



\*May not add to 100% due to rounding

Exhibit 10 lists the top specialized, soft and software skills that appeared in online job postings between January 1, 2017 and December 31, 2019.

**Exhibit 10: Top Skills for Construction Inspection Occupations in San Diego County<sup>18</sup>**

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> <li>• Project Management</li> <li>• Scheduling</li> <li>• Budgeting</li> <li>• Estimating</li> <li>• Construction Management</li> </ul>	<ul style="list-style-type: none"> <li>• Communication Skills</li> <li>• Planning</li> <li>• Organizational Skills</li> <li>• Computer Literacy</li> <li>• Teamwork / Collaboration</li> </ul>	<ul style="list-style-type: none"> <li>• Microsoft Excel</li> <li>• Microsoft Word</li> <li>• Microsoft Project</li> <li>• Microsoft PowerPoint</li> <li>• Primavera</li> </ul>

<sup>17</sup> "Educational Attainment for Workers 25 Years and Older by Detailed Occupation," Bureau of Labor Statistics, last modified September 4, 2019. [bls.gov/emp/tables/educational-attainment.htm](https://www.bls.gov/emp/tables/educational-attainment.htm).

<sup>18</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2017-2019.

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### **Important Disclaimers**

All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. This study examines the most recent data available at the time of the analysis; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and the report findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

This workforce demand report uses state and federal job projection data that was developed before the economic impact of COVID-19. The COE is monitoring the situation and will provide more information as it becomes available. Please consult with local employers to understand their current employment needs.