

# Construction Inspection

*Inland Empire/Desert Region (Riverside and San Bernardino counties combined)*

## Summary

- Employment for *construction and building inspectors* is expected to **increase by 8% between 2018 and 2023** in the Inland Empire/Desert Region. A total of **137 annual job openings** will be available each year over the five-year timeframe.
- The 25<sup>th</sup> percentile, entry-level wage for *construction and building inspectors* is **\$31.42 per hour, above the MIT Living Wage estimate** for a three resident household with two-adults (one working) with one child.
- There was an average of 17 credentials issued annually from regional community college training programs over the last three academic years.
- The COE recommends expanding or creating new construction inspection programs to meet the regional demand for more workers. Please see the recommendation section of this report for further details.

## Introduction

This report provides data on the occupation related to the California Community College construction inspection (TOP 0957.20) program. This program prepares students for employment by providing instruction on the inspection of new or remodeled structures to determine their soundness and compliance to specifications, building codes and other regulations (Taxonomy of Programs, 2012). The occupational description and a sample of job titles for construction and building inspectors are listed below.

### **Construction and Building Inspectors (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.

**Sample job titles:** Building Code Administrator, Building Inspection Engineer, Building Inspector, Building Official, Combination Building Inspector, Construction Inspector, Construction Materials Testing Technician, Elevator Inspector, Inspector, Plumbing Inspector

*Entry-Level Educational Requirement: High school diploma or equivalent*

*Training Requirement: Between one and twelve months of on-the-job training*

*Work Experience Required: Five years or more*

*Incumbent workers with a Community College Award or Some Postsecondary Coursework: 45%*

## Job Opportunities

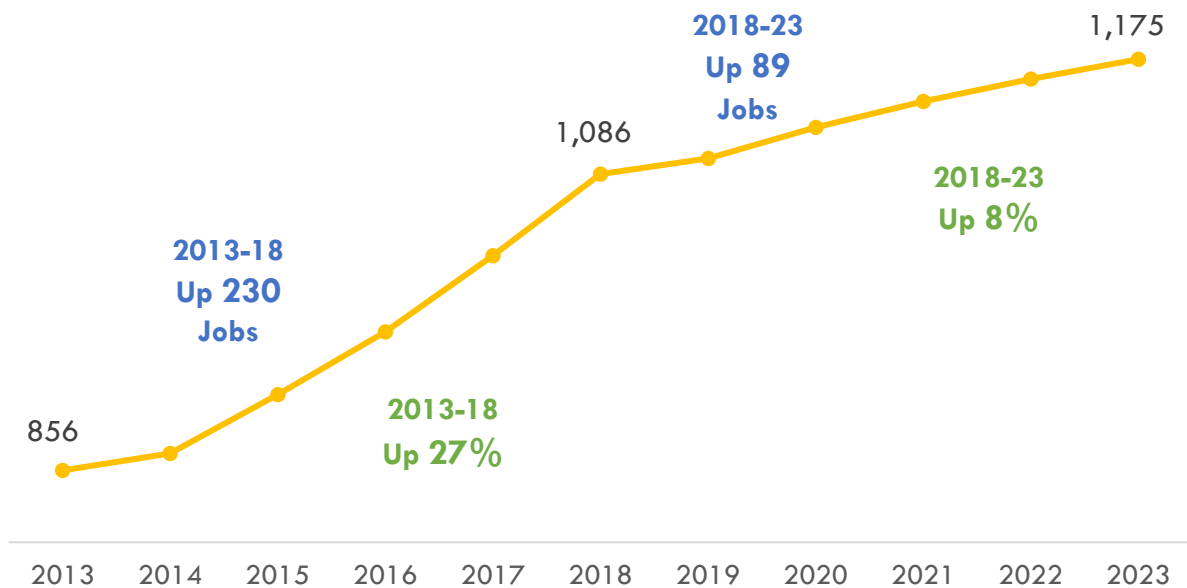
In 2018, there were 1,086 *construction and building inspectors* jobs in the Inland Empire/Desert Region (IEDR). This occupation is projected to increase employment by 8% through 2023. Over the next five years, employers will need to hire 685 workers over the next five years to fill new jobs and backfill jobs that workers are permanently vacating (includes occupational transfers and retirements). Exhibit 1 displays five-year projected job growth, and Exhibit 2 displays historic (2013-18) and projected job growth (2018-23) for *construction and building inspectors*.

Exhibit 1: Five-year projections for construction and building inspectors

2018 Jobs	2023 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
1,086	1,175	8%	685	137	43%

Source: EMSI 2019.4

Exhibit 2: Historical and projected jobs for construction and building inspectors in the IEDR, 2013 – 2023



Source: EMSI 2019.4

## Job Postings

Over the last 12 months:

**155**

Job postings for construction and building inspectors in the IEDR

On average, employers in the IEDR spend **49 Days** filling positions for construction and building inspectors, two days less than California

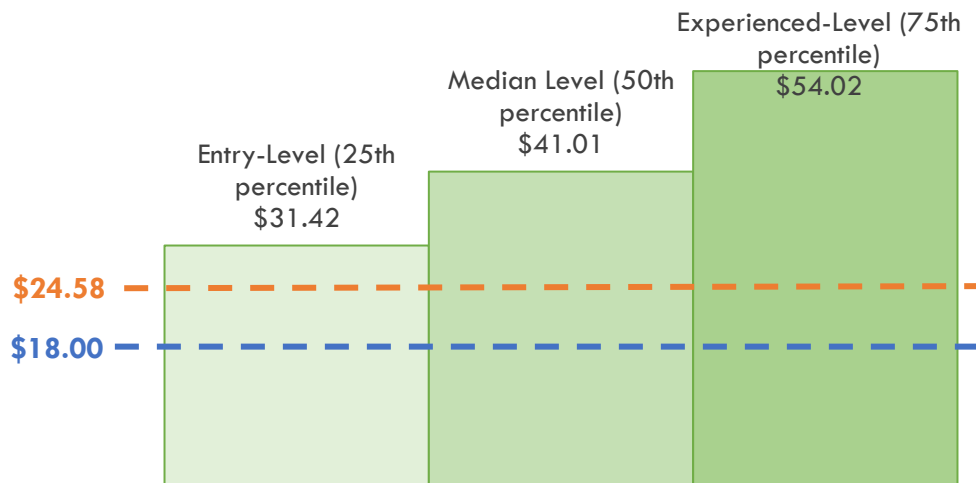
**\$67,000**

Median advertised salary in the IEDR

## Earnings

The entry-level wage (25<sup>th</sup> percentile) for the *construction and building inspectors* occupation is above the \$18.00 per hour (\$37,440 per year) “good job” wage established by the Brookings Institute in their *Advancing Opportunity in California’s Inland Empire* report (Shearer, Shah & Gootman, p. 25). The MIT Living Wage Calculator measures the wage an individual must earn to support his or herself and their family (Glasmeier, 2019). The average household in the region had 3.3 residents in 2017 (American Factfinder, 2018). This entry-level wage for this occupation exceeds the MIT Living Wage estimate of \$24.58 for a two-adult household (one working) with one child. *Construction and building inspectors* often receive medical insurance in addition to other benefits according to occupational guides developed by the California Labor Market Information Division (Detailed Occupational Guides, 2019). Exhibit 3 displays the hourly earnings for *construction and building inspectors* in the IEDR.

Exhibit 3: Hourly earnings for the *construction and building inspectors*



Source: EMSI 2019.4, MIT Living Wage Calculator, Brookings Institute

## Employers, Skills, Education, Work Experience, and Certifications

Exhibit 4 displays the employers that posted five or more job ads for *construction and building inspectors* over the last 12 months in the IEDR. The majority of employers only posted one advertisement during the search period.

*Exhibit 4: Employers posting the most job ads for construction and building inspectors, Dec 2018 – Nov 2019*

Employers	Job Ads
VCA Code	7
San Bernardino County	7
Edison International	6
Wilson Company	5
<i>Total for all other employers</i>	130
<b>Total</b>	<b>155</b>

Source: Burning Glass – Labor Insights

Exhibit 6 displays a sample of specialized and employability skills that employers are seeking when looking for workers to fill *construction and building inspector* positions. Specialized skills are occupation-specific skills that employers are requesting for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is commonly referred to as “soft skills.” The skills requested in job postings may be utilized as a helpful guide for curriculum development.

*Exhibit 6: Sample of in-demand skills from employer job ads for construction and building inspectors, Dec 2018 – Nov 2019*

Occupation	Specialized Skills	Employability Skills
Construction and Building Inspectors (n=134)	<ul style="list-style-type: none"> <li>• Plumbing</li> <li>• Building Codes</li> <li>• Scheduling</li> <li>• Project Management</li> <li>• Record Keeping</li> </ul>	<ul style="list-style-type: none"> <li>• Computer Literacy</li> <li>• Physical Abilities</li> <li>• Writing</li> <li>• Communication Skills</li> <li>• Building Effective Relationships</li> </ul>

Source: Burning Glass – Labor Insights

Exhibit 7 displays the entry-level education typically required to enter this occupation according to the Bureau of Labor Statistics (BLS), educational attainment for incumbent workers with “some college, no degree” and an “associate degree” according to the U.S. Census (2016-17), and the minimum advertised education requirement from employer job ads for *construction and building inspectors*. Most employers were seeking a candidate with a level of education that may be obtained at a community college.

*Exhibit 7: Typical entry-level education, educational attainment, and minimum advertised education requirements for the construction and building inspectors, Dec 2018 – Nov 2019*

Occupation	Typical Entry-Level Education Requirement	Educational Attainment (Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework)	Minimum Advertised Education Requirement from Job Ads			
			Number of job postings	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Construction and Building Inspectors	High school diploma or equivalent	45%	78	76%	9%	15%

Source: EMSI 2019.4, Burning Glass – Labor Insights

Exhibit 8 displays the typical work experience required and real-time work experience requirements from employer job ads for *construction and building inspectors* over the last twelve months. A national survey reveals that most employers are seeking a candidate with five or more years of work experience. Job ads revealed that 89% of employers were seeking a candidate with five or fewer years of work experience in the IEDR.

*Exhibit 8: Typical work experience required and real-time work experience requirements, last 12 months*

Occupation	Work Experience Typically Required	Real-Time Work Experience Required from Job Ads			
		Number of job postings	0 – 2 years	3 – 5 years	6+ years
Construction and Building Inspectors	5 years or more	96	46%	43%	11%

Source: EMSI 2019.4, Burning Glass – Labor Insights

Exhibit 9 displays the certifications required by employers posting job ads for *construction and building inspectors* in the IEDR. California does not require specific certifications to become a construction and building inspector, but employer job ads frequently mention their desire for candidates with certifications from the International Code Council (ICC). The ICC is an association that provides building safety solutions and offers both a variety of national and state certifications, including Commercial Building Inspector and Residential Building Inspector certifications. Other certifications are offered by specific trades such as electrical inspector, plumbing inspector, or mechanical inspector. Please visit the ICC website for more information about the certifications and training offerings (International Code Council, 2019).

Exhibit 9: Frequent certifications required by employer job ads for construction and building inspectors, Dec 2018 – Nov 2019

Occupation	Certifications
Construction and Building Inspectors (n=89)	<ul style="list-style-type: none"> <li>• Driver’s License</li> <li>• Certified Building Inspector</li> </ul>

Source: Burning Glass – Labor Insights

## Student Completions and Program Outcomes

Exhibit 10 displays completion data for the California Community College construction inspection (0957.20) program between 2015 and 2018, as well as enrollments in the 2016/17 academic year. The student completion and outcome methodology are available on page nine.

Exhibit 10: Annual average community college credentials and enrollments for the construction inspection program in the IEDR

0957.20 – Construction Inspection	Certificate		Associate of Science (A.S.)	CCC Annual Average Credentials, Academic Years 2015-18	CCC Enrollments, Academic Year 2016-17
	18 to <30 Semester Units	30 to <60 Semester Units			
<b>Desert</b>	2	-	-	2	128
<b>Norco</b>	-	8	4	12	257
<b>Riverside</b>	-	-	1*	0	-
<b>San Bernardino</b>	-	2	1*	3	85
<b>Total</b>	<b>2</b>	<b>10</b>	<b>5</b>	<b>17</b>	<b>470</b>

Source: LaunchBoard, MIS Data Mart

\*Riverside and San Bernardino both issued one associate degree each in 2015/16.

Community college student outcome information based on the selected TOP code and region is provided in Exhibit 11.

Exhibit 11: 0957.20 – Construction inspection strong workforce program outcomes

Strong Workforce Program Metrics: 0957.20 – Construction Inspection Academic Year 2016 -17, unless noted otherwise	Inland Empire/Desert region	California
Course enrollments	470	2,473
Completed 9+ career education units in one year (2017-18)	148 (495)	521 (40%)
Economically disadvantaged students	72%	68%
Students that earned a degree, certificate, or attained apprenticeship (2017-18)	13	78
Transferred to a four-year institution (transfers)	-	18

<b>Strong Workforce Program Metrics: 0957.20 – Construction Inspection Academic Year 2016 -17, unless noted otherwise</b>	<b>Inland Empire/Desert region</b>	<b>California</b>
Job closely related to the field of study (2015-16)	100%	74%
Median annual earnings (all exiters)	\$39,162	\$51,858
Median change in earnings (all exiters)	49%	28%
Attained a living wage (completers and skills-builders)	74%	72%

Sources: LaunchBoard Community College Pipeline and Strong Workforce Program Metrics

## Recommendation

Community College construction inspection programs provide training on the inspection of new or remodeled structures to determine their soundness and compliance to specifications, building codes and other regulations. Training provided by this program leads to the *construction and building inspectors* occupation. This occupation is expected to have 137 annual job openings over the next five years, increasing overall employment by 8%. This occupation earns a 25<sup>th</sup> percentile, hourly rate that exceeds the living wage standard for a three-person household with two adults (one working) and one child. Most employers were seeking a candidate holding a level of education that could be obtained at the community colleges.

IEDR community colleges awarded 17 annual average credential awards to students in construction inspection programs over the last three academic years. Assuming that one credential is awarded to one student, the number of awards conferred is well below the expected number of annual regional job openings (137 annual job openings). There appears to be an opportunity to create new or expand existing construction inspection programs.

Colleges considering construction inspection programs should meet with relevant employers to understand their demand for more workers and the specific skills, licensing, and credentials needed for gainful employment in this field. Colleges should also consult with the International Code Council (ICC) to ensure their programs align with their licensing standards.

## Contact

Michael Goss, Director  
Center of Excellence, Inland Empire/Desert Region  
[michael.goss@chaffey.edu](mailto:michael.goss@chaffey.edu)  
December 2019

## References

- American FactFinder. U.S. Census Bureau, 2013-17 American Community Survey 5-Year Estimates. (2018). Retrieved October 1, 2019. Retrieved from [https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_17\\_5YR\\_CP04&prodType=table](https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_17_5YR_CP04&prodType=table)
- Burning Glass Technologies. (2019). *Labor Insights/Jobs*. Retrieved from <https://www.burning-glass.com/>
- California Community Colleges Chancellor's Office. LaunchBoard. (2019). *California Community Colleges LaunchBoard*. Retrieved from <https://www.calpassplus.org/Launchboard/Home.aspx>
- California Community Colleges Chancellor's Office. LaunchBoard. (2019a). *Strong Workforce Program Metrics Data Element Dictionary*. Pg. 3. Retrieved from <https://www.calpassplus.org/MediaLibrary/calpassplus/launchboard/Documents/SWP-DED.PDF>
- California Community Colleges Chancellor's Office. (2019). *Chancellor's Office Curriculum Inventory (COCI), version 3.0*. Retrieved from <https://coci2.ccctechcenter.org/programs>
- California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart. (2019). *Data Mart*. Retrieved from <https://datamart.cccco.edu/datamart.aspx>
- California Community Colleges Chancellor's Office, Curriculum and Instructional Unit, Academic Affairs Division. (2012). *Taxonomy of Programs, 6<sup>th</sup> Edition, Corrected Version*. Retrieved from <https://www.cccco.edu/-/media/CCCCO-Website/About-Us/Divisions/Digital-Innovation-and-Infrastructure/Research/Files/TOPmanual6200909corrected12513.ashx?la=en&hash=94C709CA83C0380828415579395A5F536736C7C1>
- Economic Modeling Specialists International (EMSI) (2019). *Datarun 2019.4*. Retrieved from <https://www.economicmodeling.com/>
- Glasmeyer, A. Massachusetts Institute of Technology (MIT). (2019). Retrieved from <https://livingwage.mit.edu/metros/40140>
- International Code Council (ICC). (2019). *Learning Center*. Retrieved from <https://learn.iccsafe.org/ihml/application/student/interface.icc/index.htm>
- Labor Market Information Division. Employment Development Department of California. (2019). *Detailed Occupational Guides*. Retrieved from <https://www.labormarketinfo.edd.ca.gov/OccGuides/Search.aspx>
- National Center for O\*NET Development. (2019). *O\*NET OnLine*. Retrieved from <https://www.onetonline.org/>
- Shearer, C., Shah, I., Gootman, M. (2019, February). Metropolitan Policy Program at Brookings. *Advancing Opportunity in California's Inland Empire. Defining Opportunity*. (pg. 25). Retrieved from [https://www.brookings.edu/wp-content/uploads/2019/02/Full-Report\\_Opportunity-Industries\\_Inland-California\\_Final\\_Shearer-Shah-Gootman.pdf](https://www.brookings.edu/wp-content/uploads/2019/02/Full-Report_Opportunity-Industries_Inland-California_Final_Shearer-Shah-Gootman.pdf)



## Appendix: Student Completions and Program Outcome Methodology

Exhibit 10 displays the average annual regional California Community College (CCC) credentials conferred during the three academic years between 2015 and 2018, from the California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart, along with the enrollments from the most recent year available on LaunchBoard. Credentials are the combined total of associate degrees and certificates issued during the timeframe, divided by three in this case to calculate an annual average. This is done to minimize the effect of atypical variation that might be present in a single year. Enrollments are the count of enrollments in courses assigned to the TOP code in the selected year.

Community college student outcome information is from LaunchBoard and based on the selected TOP code and region. These metrics are based on records submitted to the California Community Colleges Chancellor's Office Management Information Systems (MIS) by community colleges, which come from self-reported student information from CCC Apply and the National Student Clearinghouse. Employment and earnings metrics are sourced from records provided by California's Employment Development Department's Unemployment Insurance database. When available, outcomes for completers are reported to demonstrate the impact that earning a degree or certificate can have on employment and earnings. For more information on the types of students included for each metric, please see the web link for LaunchBoard's Strong Workforce Program Metrics Data Element Dictionary in the References section (LaunchBoard, 2019a). Finally, employment in a job closely related to the field of study comes from self-reported student responses on the CTE Employment Outcomes Survey (CTEOS), administered by Santa Rosa Junior College (LaunchBoard, 2017).