

**Program Endorsement Brief: 0957.00/ Civil and Construction Management Technology
Construction Management; Construction Inspection; Construction Quality Control**
Los Angeles/Orange County Center of Excellence, April 2021

Summary Analysis

| | | | |
|--------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------|
| Program Endorsement: | Endorsed: All Criteria Met <input checked="" type="checkbox"/> | Endorsed: Some Criteria Met <input type="checkbox"/> | Not Endorsed <input type="checkbox"/> |
| Program Endorsement Criteria | | | |
| Supply Gap: | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Living Wage: (Entry-Level, 25th) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Education: | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Emerging Occupation(s) | | | |
| Yes <input type="checkbox"/> | | No <input checked="" type="checkbox"/> | |

The Los Angeles/Orange County Center of Excellence for Labor Market Research (COE) prepared this report to provide Los Angeles/Orange County regional labor market supply and demand data related to five middle-skill occupations: *construction managers* (11-9021); *cost estimators* (13-1051); *occupational health and safety technicians* (19-5012); *first-line supervisors of construction trades and extraction workers* (47-1011); and *construction and building inspectors* (47-4011). Middle-skill occupations typically require some postsecondary education, but less than a bachelor’s degree.¹ Although the occupations in this report typically require a high school diploma or a bachelor’s degree, they are considered middle-skill because approximately one-third of workers in the field have completed some college or an associate degree. This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with the relevant occupations.

Based on the available data, there appears to be a supply gap for these occupations in the region. In addition to the majority (54%) of annual openings for the occupations in this report typically requiring a high school diploma or equivalent, entry-level wages exceed the living wage in both Los Angeles and Orange counties. **Therefore, due to all of the criteria being met, the COE endorses this proposed program.** Detailed reasons include:

Demand:

- **Supply Gap Criteria** – Over the next five years, there is projected to be **4,818 jobs available annually** in the region due to new job growth and replacements, which is **more than the 284 awards conferred annually** by educational institutions in the region.

¹ The COE classifies middle-skill jobs as the following:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor’s degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

- **Living Wage Criteria** – In Los Angeles County, all five occupations have entry-level wages above the county’s living wage (\$15.04/hour).²
- **Educational Criteria** – Within the LA/OC region, 54% of the annual job openings for middle-skill occupations related to construction typically require a high school diploma or equivalent.
 - National-level educational attainment data indicates **between 29% and 41% of workers in the field have completed some college or an associate degree.**

Supply:

- There are **14 community colleges** in the LA/OC region that issue awards related to the five construction occupations, conferring an average of **284 awards annually** between 2017 and 2020.
- Between 2014 and 2017, there were no non-community college institutions that issued any awards related to the occupations of interest.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for the five occupations of interest. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 3% through 2024. There will be more than 4,800 job openings per year through 2024 due to job growth and replacements.

This report includes employment projection data by Emsi, which uses EDD information. Emsi’s projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy, during the projection period, will be at approximately full employment. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, it may impact the projections. At this time, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Therefore, the projections included in this report do not take the impacts of COVID-19 into account.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties³

| Geography | 2019 Jobs | 2024 Jobs | 2019-2024 Change | 2019-2024 % Change | Annual Openings |
|--------------|---------------|---------------|------------------|--------------------|-----------------|
| Los Angeles | 36,685 | 37,652 | 967 | 3% | 3,243 |
| Orange | 17,864 | 18,287 | 423 | 2% | 1,575 |
| Total | 54,549 | 55,939 | 1,390 | 3% | 4,818 |

² Living wage data was pulled from California Family Needs Calculator on 4/6/2021. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

³ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Wages

The labor market endorsement in this report considers the entry-level hourly wages for these construction-related occupations in Los Angeles County, as they relate to the county's living wage. Orange County wages are included below in order to provide a complete analysis of the LA/OC region. Detailed wage information, by county, is included in Appendix A.

Los Angeles County: All five occupations in this report have entry-level wages above the living wage for one adult (\$15.04 in Los Angeles County). Typical entry-level hourly wages are in a range between \$21.40 and \$32.11. Experienced workers can expect to earn wages between \$36.23 and \$62.35, which are higher than the living wage estimate.

Orange County: All five occupations in this report have entry-level wages above the living wage for one adult (\$17.36 in Orange County). Typical entry-level hourly wages are in a range between \$22.63 and \$31.24. Experienced workers can expect to earn wages between \$35.57 and \$72.43, which are higher than the living wage estimate.

Job Postings

There were 7,429 online job postings related to these occupations listed in the past 12 months. The highest number of job postings were for construction project manager, estimator, and safety coordinator. The top skills were project management, scheduling, and budgeting. The top employers, by number of job postings, in the region were Northrop Grumman, Hill International Incorporated, and AECOM Technology Corporation.

It is important to note that the job postings data included in this section reflects online job postings listed in the past 12 months and does not yet demonstrate the impact of COVID-19. While employers have generally posted fewer online job postings since the beginning of the pandemic, the long-term effects are currently unknown.

Educational Attainment

The Bureau of Labor Statistics (BLS) lists a high school diploma or equivalent as the typical entry-level education for *occupational health and safety technicians (19-5012)*; *first-line supervisors of construction trades and extraction workers (47-1011)*; and *construction and building inspectors (47-4011)*; and a bachelor's degree for *construction managers (11-9021)* and *cost estimators (13-1051)*.

Within the LA/OC region, 54% of the annual job openings for middle-skill occupations related to construction typically require a high school diploma or equivalent. However, national-level educational attainment data indicates between 29% and 41% of workers in the field have completed some college or an associate degree. Of the 58% of job postings listing a minimum education requirement in Los Angeles/Orange County, 29% (1,258) requested a high school diploma, 4% (191) requested an associate degree, and 66% (2,890) requested a bachelor's degree.

Educational Supply

Community College Supply—Exhibit 2 shows the annual and three-year average number of awards conferred by community colleges in the related TOP codes: Construction Crafts Technology (0952.00); Civil and Construction Management Technology (0957.00); and Construction Inspection (0957.20). The colleges with the most completions in the region are Orange Coast, Santa Ana, and LA Southwest. Over the past 12 months, there were two other related program recommendation requests from regional community colleges.

Exhibit 2: Regional community college awards (certificates and degrees), 2017-2020

| TOP Code | Program | College | 2017-2018 Awards | 2018-2019 Awards | 2019-2020 Awards | 3-Year Award Average |
|--------------------------------|----------------------------------------------|--------------------|------------------|------------------|------------------|----------------------|
| 0952.00 | Construction Crafts Technology | Compton | 2 | 1 | - | 1 |
| | | El Camino | 7 | 11 | 17 | 12 |
| | | LA Southwest | - | - | 152 | 51 |
| | | Long Beach | - | - | 60 | 20 |
| | | Pasadena | 1 | 1 | 1 | 1 |
| | | LA Subtotal | 10 | 13 | 230 | 84 |
| | | Fullerton | 11 | 14 | 8 | 11 |
| | | Orange Coast | 56 | 91 | 37 | 61 |
| | | Santa Ana | 12 | 72 | 85 | 56 |
| | | OC Subtotal | 79 | 177 | 130 | 129 |
| Supply Subtotal/Average | | | 89 | 190 | 360 | 213 |
| 0957.00 | Civil and Construction Management Technology | East LA | - | - | 1 | - |
| | | LA Valley | 5 | 6 | 13 | 8 |
| | | Mt San Antonio | 3 | - | 11 | 5 |
| | | LA Subtotal | 8 | 6 | 25 | 13 |
| | | Fullerton | 11 | 12 | 11 | 11 |
| | | OC Subtotal | 11 | 12 | 11 | 11 |
| Supply Subtotal/Average | | | 19 | 18 | 36 | 24 |
| 0957.20 | Construction Inspection | Pasadena | 9 | 7 | 21 | 12 |
| | | LA Subtotal | 9 | 7 | 21 | 12 |
| | | Coastline | 12 | 15 | 11 | 13 |
| | | Fullerton | 8 | 11 | 4 | 8 |
| | | Saddleback | 3 | 10 | 15 | 9 |
| | | Santiago Canyon | - | - | 15 | 5 |
| OC Subtotal | 23 | 36 | 45 | 35 | | |
| Supply Subtotal/Average | | | 32 | 43 | 66 | 47 |
| Supply Total/Average | | | 140 | 251 | 462 | 284 |

Non-Community College Supply – Between 2014 and 2017, there were no non-community college institutions that issued any awards related to the occupations of interest.

Appendix A: Occupational demand and wage data by county

Exhibit 4. Los Angeles County

| Occupation (SOC) | 2019 Jobs | 2024 Jobs | 5-Yr Change | 5-Yr % Change | Annual Openings | Entry-Level Hourly Earnings (25th Percentile) | Median Hourly Earnings | Experienced Hourly Earnings (75th Percentile) |
|--------------------------------------------------------------------------------|------------------|------------------|--------------------|----------------------|------------------------|-----------------------------------------------------------------|-------------------------------|-----------------------------------------------------------------|
| Construction Managers (11-9021) | 13,397 | 14,411 | 1,014 | 8% | 1,056 | \$21.40 | \$37.61 | \$62.35 |
| Cost Estimators (13-1051) | 5,507 | 5,307 | (200) | (4%) | 455 | \$23.09 | \$31.20 | \$43.78 |
| Occupational Health and Safety Technicians (19-5012) | 387 | 399 | 13 | 3% | 23 | \$23.01 | \$28.62 | \$36.23 |
| First-Line Supervisors of Construction Trades and Extraction Workers (47-1011) | 14,578 | 14,620 | 42 | 0% | 1,383 | \$26.95 | \$35.22 | \$45.31 |
| Construction and Building Inspectors (47-4011) | 2,816 | 2,915 | 99 | 4% | 325 | \$32.11 | \$43.91 | \$53.87 |
| Total | 36,685 | 37,652 | 967 | 3% | 3,243 | | | |

Exhibit 5. Orange County

| Occupation (SOC) | 2019 Jobs | 2024 Jobs | 5-Yr Change | 5-Yr % Change | Annual Openings | Entry-Level Hourly Earnings (25th Percentile) | Median Hourly Earnings | Experienced Hourly Earnings (75th Percentile) |
|--------------------------------------------------------------------------------|---------------|---------------|-------------|---------------|-----------------|-----------------------------------------------|------------------------|-----------------------------------------------|
| Construction Managers (11-9021) | 5,971 | 6,320 | 349 | 6% | 453 | \$30.15 | \$49.05 | \$72.43 |
| Cost Estimators (13-1051) | 3,103 | 3,045 | (57) | (2%) | 261 | \$25.02 | \$33.66 | \$47.09 |
| Occupational Health and Safety Technicians (19-5012) | 160 | 165 | 5 | 3% | 10 | \$22.63 | \$28.10 | \$35.57 |
| First-Line Supervisors of Construction Trades and Extraction Workers (47-1011) | 7,521 | 7,612 | 90 | 1% | 724 | \$30.25 | \$38.91 | \$49.26 |
| Construction and Building Inspectors (47-4011) | 1,108 | 1,144 | 36 | 3% | 128 | \$31.24 | \$42.98 | \$52.86 |
| Total | 17,864 | 18,287 | 423 | 2% | 1,575 | | | |

Exhibit 6. Los Angeles and Orange Counties

| Occupation (SOC) | 2019 Jobs | 2024 Jobs | 5-Yr Change | 5-Yr % Change | Annual Openings | Typical Entry-Level Education |
|--------------------------------------------------------------------------------|---------------|---------------|--------------|---------------|-----------------|-------------------------------|
| Construction Managers (11-9021) | 19,369 | 20,731 | 1,363 | 7% | 1,510 | Bachelor's degree |
| Cost Estimators (13-1051) | 8,610 | 8,352 | (258) | (3%) | 716 | Bachelor's degree |
| Occupational Health and Safety Technicians (19-5012) | 547 | 565 | 18 | 3% | 32 | High school diploma |
| First-Line Supervisors of Construction Trades and Extraction Workers (47-1011) | 22,099 | 22,232 | 133 | 1% | 2,107 | High school diploma |
| Construction and Building Inspectors (47-4011) | 3,924 | 4,059 | 134 | 3% | 453 | High school diploma |
| Total | 54,549 | 55,939 | 1,390 | 3% | 4,818 | |

Appendix B: Sources

- O*NET Online
- Labor Insight/Jobs (Burning Glass)
- Economic Modeling Specialists, International (Emsi)
- Bureau of Labor Statistics (BLS)
- Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- California Family Needs Calculator, Insight Center for Community Economic Development
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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