

## Summary

|                         |   |   |   |
|-------------------------|---|---|---|
| Program LMI Endorsement | Endorsed: All LMI Criteria Met <input type="checkbox"/> | Endorsed: Some LMI Criteria Met <input checked="" type="checkbox"/> | Not LMI Endorsed <input type="checkbox"/> |
|-------------------------|---|---|---|

### Program LMI Endorsement Criteria

|   | Yes <input type="checkbox"/>  | No <input checked="" type="checkbox"/> |
|---|---|--|
| Supply Gap:                                   | <i>Comments:</i> there is projected to be <b>3,279 annual job openings</b> throughout Los Angeles and Orange counties for these police occupations, which is <b>less than the 4,434 awards conferred by educational institutions</b> . However, the oversupply is within the COE's acceptable margin (25% over or under the number of annual job openings) and is therefore considered "supply met" rather than a "supply gap". |  |
| Living Wage: (Entry-Level, 25 <sup>th</sup> ) | Yes <input checked="" type="checkbox"/>   | No <input type="checkbox"/>            |
|   | <i>Comments:</i> <b>All annual job openings</b> for these public safety occupations <b>have entry-level hourly wages above the OC living wage of \$20.63</b> .  |  |
| Education:                                    | Yes <input checked="" type="checkbox"/>   | No <input type="checkbox"/>            |
|   | <i>Comments:</i> The typical entry-level education for these public safety occupations ranges from a high school diploma to a bachelor's degree and <b>more than one-third of workers in the field have completed some college or an associate degree as their highest level of education</b> .   |  |

### Emerging Occupation(s)

|  | Yes <input checked="" type="checkbox"/>  | No <input type="checkbox"/> |
|--|--|-----------------------------|
|  | <i>Comments:</i> Though the occupations analyzed throughout this report are well established, the use of drones for public safety is an emerging area. |                             |

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report to determine whether there is a supply gap in the Los Angeles/Orange County regional labor market related to five middle-skill occupations:

- Forensic Science Technicians (19-4092)
- First-Line Supervisors of Police and Detectives (33-1012)
- Firefighters (33-2011)
- Fire Inspectors and Investigators (33-2021)
- Police and Sheriff's Patrol Officers (33-3051)

Based on the available data there does not appear to be a supply gap for these public safety occupations. However, the oversupply is within the COE's acceptable margin and is considered "supply met" rather than a "supply gap". All annual job openings have entry-level wages above the living wage and typical education requirements for these occupations align with a community college education.

Therefore, due to some of the regional labor market criteria being met, the COE endorses this proposed program.

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for the occupations included in this report.

### Exhibit 1: Labor Market Endorsement Summary

| Occupation (SOC)  | Demand (Annual Openings) | Supply (CC and Non-CC) | Entry-Level Hourly Earnings (25 <sup>th</sup> Percentile) | Typical Entry-Level Education     | Community College Educational Attainment |
|---|--------------------------|------------------------|---|-----------------------------------|--|
| Forensic Science Technicians (19-4092)                    | 159                      | 56                     | OC: \$33.84   | Bachelor's Degree                 | 37%                                      |
| First-Line Supervisors of Police and Detectives (33-1012) | 261                      | 49                     | OC: \$58.49   | High school diploma or equivalent | 41%                                      |
| Firefighters (33-2011)                                    | 577                      | 1,110                  | OC: \$34.30   | Postsecondary nondegree award     | 60%                                      |
| Fire Inspectors and Investigators (33-2021)               | 26                       | 15                     | OC: \$21.20   | Postsecondary nondegree award     | 47%                                      |
| Police and Sheriff's Patrol Officers (33-3051)            | 2,257                    | 3,204                  | OC: \$43.97   | High school diploma or equivalent | 47%                                      |
| <b>Total</b>  | <b>3,279</b>             | <b>4,434</b>           | <b>N/A</b>  | <b>N/A</b>                        | <b>N/A</b>                               |

#### Demand:

- The number of jobs related to these public safety occupations are projected to increase 4% through 2026, equating to 3,279 annual job openings for these public safety occupations.
- Hourly entry-level wages for these public safety occupations range from \$21.20 to \$58.49 in Orange County; all annual job openings have entry-level wages below the living wage.
- There were 2,324 online job postings for these public safety occupations over the past 12 months. Though none of these postings specifically mentioned drones, public safety departments throughout the region use drones for various operations.
- The typical entry-level education for these real estate occupations ranges from a high school diploma or equivalent to a bachelor's degree.
- Between 37% and 60% of workers in the field have completed some college or an associate degree as their highest level of educational attainment.

#### Supply:

- There was an average of 4,391 awards conferred by 26 community colleges in Los Angeles and Orange Counties from 2018 to 2021.
- Non-community college institutions conferred an average of 43 awards from 2017 to 2020.
- Orange County community college students that exited administration of justice programs in the 2018-2019 academic year had a median annual wage of \$92,892 after exiting the program and 75% attained the regional living wage.
- Throughout Orange County, 49% of administration of justice students that exited their program in 2017-18 reported that they are working in a job closely related to their field of study.

## Demand

### Occupational Projections:

Exhibit 2 shows the annual percent change in jobs for these public safety occupations from 2016 through 2026. Employment in these occupations declined 5% from 2019 to 2020 due to the COVID-19 pandemic, which is less than the 7% decline across all occupations during that period. Employment in these public safety occupations continued to decline through 2021 but are projected to grow at a slightly higher rate than all occupations through 2026.

**Exhibit 2: Annual Percent Change in Jobs for Public Safety Occupations, 2016-2026**

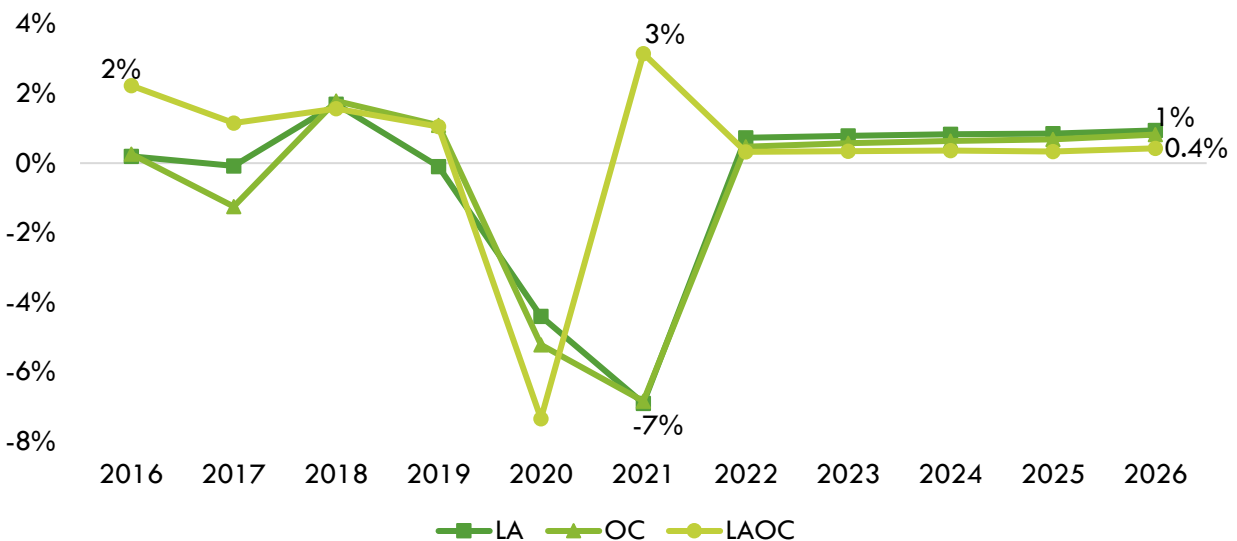


Exhibit 3 shows the five-year occupational demand projections for these public safety occupations. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 4% through 2026. There is projected to be 3,279 jobs available annually.

**Exhibit 3: Occupational Demand in Los Angeles and Orange Counties<sup>1</sup>**

| Geography    | 2021 Jobs     | 2026 Jobs     | 2021-2026 Change | 2021-2026 % Change | Annual Openings |
|--------------|---------------|---------------|------------------|--------------------|-----------------|
| Los Angeles  | 31,512        | 32,840        | 1,328            | 4%                 | 2,695           |
| Orange       | 7,001         | 7,228         | 227              | 3%                 | 584             |
| <b>Total</b> | <b>38,513</b> | <b>40,068</b> | <b>1,555</b>     | <b>4%</b>          | <b>3,279</b>    |

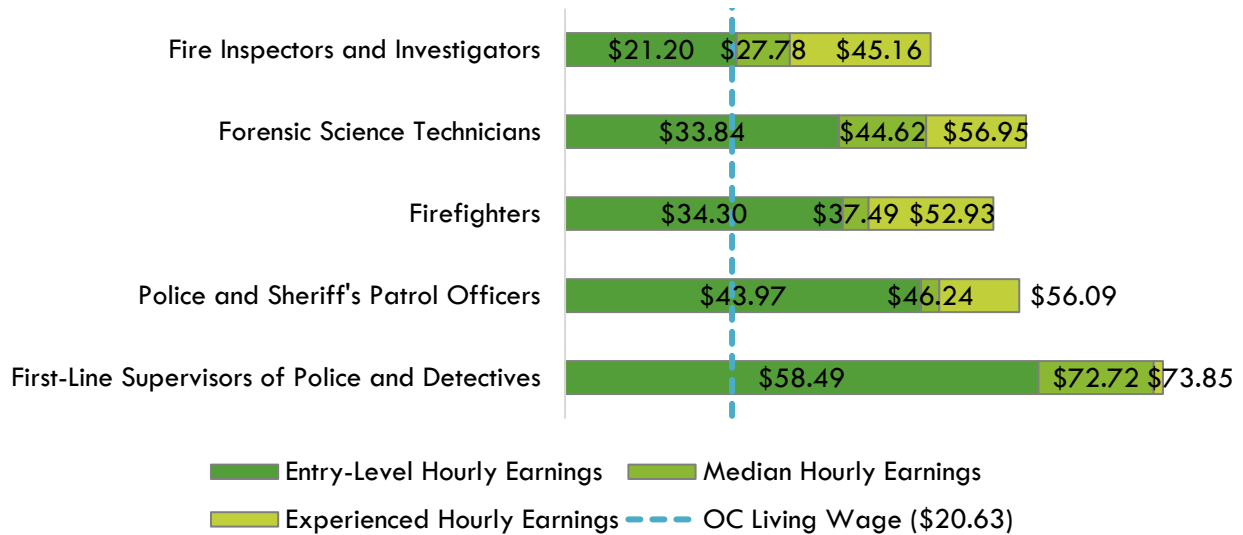
### Wages:

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

<sup>1</sup> Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

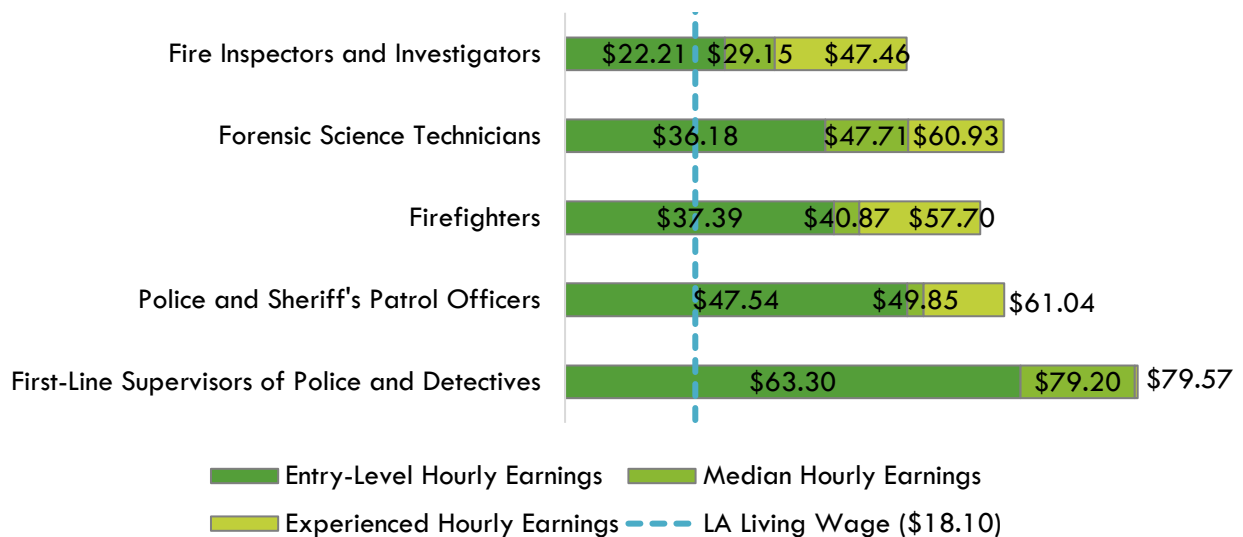
All annual openings for these public safety occupations have entry-level wages above the living wage for one adult (\$20.63 in Orange County). Typical entry-level hourly wages range between \$21.20 and \$58.49. Orange County's average wages are below the average statewide wage of \$48.29 for these occupations. Exhibit 4 shows the wage range for each of these public safety occupations in Orange County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

### Exhibit 4: Wages by Occupation in Orange County



All annual openings for these public safety occupations have entry-level wages above the living wage for one adult (\$18.10 in Los Angeles County). Typical entry-level hourly wages are in a range between \$22.21 and \$63.30. Los Angeles County's average wages are above the average statewide wage of \$48.29 for these occupations. Exhibit 5 shows the wage range for each of these public safety occupations in Los Angeles County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

### Exhibit 5: Wages by Occupation in Los Angeles County



## Job Postings:

There were 2,324 online job postings related to these public safety occupations listed in the past 12 months. Exhibit 6 shows the number of job postings by occupation. The vast majority (82.1%) of postings were *police and sheriff's patrol officers*.

**Exhibit 6: Number of Job Postings by Occupation (n=2,324)**

| Occupation                                      | Job Postings | Percentage of Job Postings |
|---|--------------|----------------------------|
| Police and Sheriff's Patrol Officers            | 1,907        | 82.1%                      |
| Fire Inspectors and Investigators               | 132          | 5.7%                       |
| Firefighters                                    | 130          | 5.6%                       |
| First-Line Supervisors of Police and Detectives | 117          | 5.0%                       |
| Forensic Science Technicians                    | 38           | 1.6%                       |
| <b>Total Postings</b>                           | <b>2,324</b> | <b>100%</b>                |

Of the 2,324 postings listed in the past 12 months, none of them included keywords related to drones, unmanned aerial vehicles (UAV), or unmanned aerial systems (UAS). However, as of 2020, at least 1,578 state and local public safety agencies have acquired drones and California had the highest number of agencies with drones.<sup>2</sup>

Several public safety departments throughout both Los Angeles and Orange counties have adopted drone technology for various uses. In 2018, the Laguna Beach Police Department launched its drone program. That same year, it deployed drones to look for fires in Laguna Canyon, search for lost hikers, documentation of a traffic collision, and surveillance authorized by a search warrant.<sup>3</sup> The Irvine Police Department has used drones to make missing person announcements and has also partnered with the Orange County Fire Authority to locate arson suspects.<sup>4</sup> The Los Angeles Fire Department uses drones to examine land for brush and vegetation density as well as mapping burn acreage and identifying hot spots during wildfires.<sup>5</sup>

The Orange County Sheriff's Department (OCSD) has created policies to ensure the safe and lawful operation of its drones. Notably, the OCSD states that "The selection process for UAV pilots and visual observers will be initiated through a Department interest memorandum, and directed towards the Commander requesting the need for the UAV pilot or visual observer."<sup>6</sup> This policy suggests that drone pilots are developed internally rather than hired externally. While the OC COE is unable to determine if all public safety departments follow the same process for hiring, this process helps explain the lack of drone-related online job postings for these public safety occupations.

<sup>2</sup> <https://dronecenter.bard.edu/files/2020/03/CSD-Public-Safety-Drones-3rd-Edition-Web.pdf>

<sup>3</sup> <https://www.ocregister.com/2018/09/28/laguna-beach-builds-its-drone-police-force-with-an-eye-on-the-future-of-law-enforcement/>

<sup>4</sup> <https://abc7.com/irvine-police-drones-community-technology/12184178/>

<sup>5</sup> <https://spectrumnews1.com/ca/la-east/wildfires/2020/07/10/lafd-leverages-drone-technology-during-pandemic>

<sup>6</sup> <https://ocsheriff.gov/sites/ocsd/files/2021-03/Policy%20308%20Unmanned%20Aerial%20Vehicle%20%28UAV%29.pdf>

## Educational Attainment:

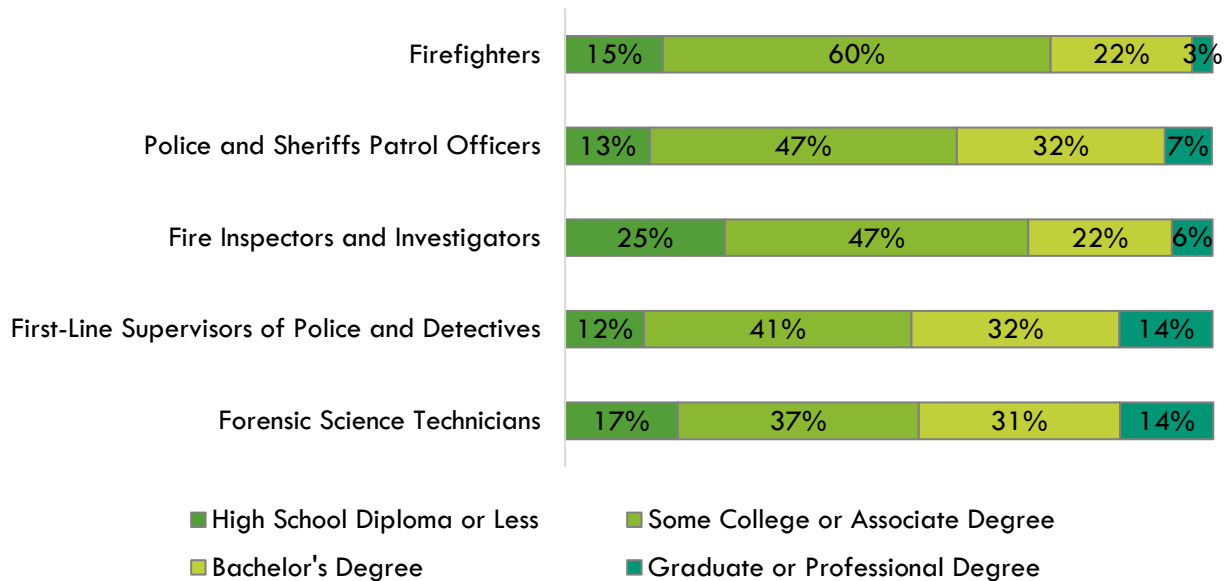
The Bureau of Labor Statistics (BLS) lists following as the typical entry-level education for these public safety occupations:

- High School Diploma or Equivalent
  - Police and Sheriffs Patrol Officers
  - First-Line Supervisors of Police and Detectives
- Postsecondary Nondegree Award
  - Firefighters
  - Fire Inspectors and Investigators
- Bachelor's Degree
  - Forensic Science Technicians

The national-level educational attainment data indicates between 37% and 60% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 9 shows the educational attainment for each occupation, sorted by highest community college educational attainment to lowest.

Of the 65% of the cumulative job postings for these public safety occupations that listed a minimum education requirement in Los Angeles/Orange County, 72% (1,089) requested a high school diploma or an associate degree and 28% (415) requested a bachelor's degree.

**Exhibit 9: National-level Educational Attainment for Occupations**



# Educational Supply

## Community College Supply:

Exhibit 10 shows the three-year average number of awards conferred by community colleges in the related TOP codes: Administration of Justice (2105.00), Corrections (2105.10), Forensics, Evidence, and Investigation (2105.40), Police Academy (2105.40), Fire Technology (2133.00), Wildland Fire Technology (2133.10), and Fire Academy (2133.50). The colleges with the most completions in the region are: East LA, Santa Ana, and Rio Hondo. Over the past 12 months, there were two other related program recommendation requests from regional community colleges.

**Exhibit 10: Regional Community College Awards (Certificates and Degrees), 2018-2021**

| TOP Code                       | Program                   | College            | 2018-2019 Awards | 2019-2020 Awards | 2020-2021 Awards | 3-Year Award Average |              |              |
|--------------------------------|---------------------------|--------------------|------------------|------------------|------------------|----------------------|--------------|--------------|
| 2105.00                        | Administration of Justice | Cerritos           | 115              | 111              | 121              | 116                  |              |              |
|                                |                           | Citrus             | 199              | 224              | 253              | 226                  |              |              |
|                                |                           | Compton            | 22               | 16               | 22               | 19                   |              |              |
|                                |                           | East LA            | 964              | 786              | 491              | 747                  |              |              |
|                                |                           | El Camino          | 116              | 117              | 112              | 114                  |              |              |
|                                |                           | Glendale           | 38               | 33               | 47               | 39                   |              |              |
|                                |                           | LA City            | 38               | 39               | 52               | 43                   |              |              |
|                                |                           | LA Harbor          | 60               | 39               | 56               | 51                   |              |              |
|                                |                           | LA Mission         | 44               | 51               | 54               | 49                   |              |              |
|                                |                           | LA Pierce          | 117              | 117              | 86               | 107                  |              |              |
|                                |                           | LA Southwest       | 36               | 39               | 36               | 37                   |              |              |
|                                |                           | LA Trade           | 13               | 21               | 19               | 18                   |              |              |
|                                |                           | LA Valley          | 37               | 54               | 51               | 47                   |              |              |
|                                |                           | Long Beach         | 129              | 152              | 150              | 144                  |              |              |
|                                |                           | Mt San Antonio     | 96               | 87               | 112              | 99                   |              |              |
|                                |                           | Pasadena           | 120              | 145              | 127              | 131                  |              |              |
|                                |                           | Rio Hondo          | 126              | 159              | 186              | 157                  |              |              |
|                                |                           | Santa Monica       | 14               | 22               | 46               | 27                   |              |              |
|                                |                           | West LA            | 68               | 108              | 141              | 105                  |              |              |
|                                |                           | <b>LA Subtotal</b> |                  |                  | <b>2,352</b>     | <b>2,320</b>         | <b>2,162</b> | <b>2,276</b> |
|                                |                           | Coastline          |                  |                  | 32               | 23                   | 25           | 27           |
|                                |                           | Cypress            |                  |                  | 14               | 40                   | 47           | 33           |
|                                |                           | Fullerton          |                  |                  | 123              | 111                  | 152          | 129          |
|                                |                           | Golden West        |                  |                  | 139              | 182                  | 159          | 159          |
|                                |                           | Irvine             |                  |                  | 58               | 59                   | 74           | 64           |
|                                |                           | Santa Ana          |                  |                  | 104              | 97                   | 80           | 94           |
|                                |                           | <b>OC Subtotal</b> |                  |                  | <b>470</b>       | <b>512</b>           | <b>537</b>   | <b>506</b>   |
| <b>Supply Subtotal/Average</b> |                           |                    | <b>2,822</b>     | <b>2,832</b>     | <b>2,699</b>     | <b>2,782</b>         |              |              |

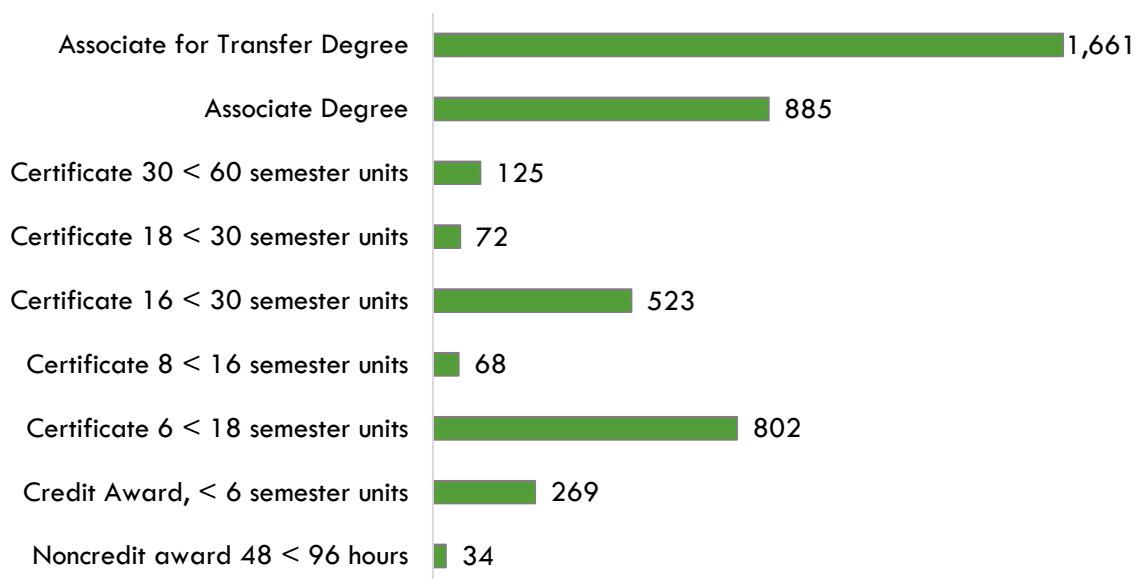
| TOP Code                       | Program                                | College            | 2018-2019 Awards | 2019-2020 Awards | 2020-2021 Awards | 3-Year Award Average |
|--------------------------------|--|--------------------|------------------|------------------|------------------|----------------------|
| 2105.10                        | Corrections                            | Citrus             | 5                | 18               | 14               | 13                   |
|                                |  | East LA            | 35               | 31               | 6                | 23                   |
|                                |  | LA Trade           | 0                | 6                | 1                | 2                    |
|                                |  | Rio Hondo          | 0                | 6                | 4                | 3                    |
|                                |  | <b>LA Subtotal</b> | <b>40</b>        | <b>61</b>        | <b>25</b>        | <b>41</b>            |
|                                |  | Golden West        | 2                | 0                | 0                | 1                    |
|                                |  | Saddleback         | 1                | 1                | 6                | 3                    |
|                                |  | Santa Ana          | 5                | 0                | 7                | 4                    |
|                                |  | <b>OC Subtotal</b> | <b>8</b>         | <b>1</b>         | <b>13</b>        | <b>8</b>             |
| <b>Supply Subtotal/Average</b> |  |                    | <b>48</b>        | <b>62</b>        | <b>38</b>        | <b>49</b>            |
| 2105.40                        | Forensics, Evidence, and Investigation | East LA            | 35               | 31               | 28               | 31                   |
|                                |  | El Camino          | 6                | 4                | 6                | 5                    |
|                                |  | Long Beach         | 15               | 23               | 22               | 20                   |
|                                |  | <b>LA Subtotal</b> | <b>56</b>        | <b>58</b>        | <b>56</b>        | <b>56</b>            |
|                                |  | -                  | -                | -                | -                | -                    |
|                                |  | <b>OC Subtotal</b> | <b>-</b>         | <b>-</b>         | <b>-</b>         | <b>-</b>             |
| <b>Supply Subtotal/Average</b> |  |                    | <b>56</b>        | <b>58</b>        | <b>56</b>        | <b>56</b>            |
| 2105.50                        | Police Academy                         | East LA            | 370              | 354              | 234              | 319                  |
|                                |  | LA Mission         | 0                | 3                | 0                | 1                    |
|                                |  | Rio Hondo          | 0                | 66               | 96               | 54                   |
|                                |  | <b>LA Subtotal</b> | <b>370</b>       | <b>423</b>       | <b>330</b>       | <b>374</b>           |
|                                |  | Golden West        | 4                | 23               | 11               | 13                   |
|                                |  | <b>OC Subtotal</b> | <b>4</b>         | <b>23</b>        | <b>11</b>        | <b>13</b>            |
| <b>Supply Subtotal/Average</b> |  |                    | <b>374</b>       | <b>446</b>       | <b>341</b>       | <b>387</b>           |
| 2133.00                        | Fire Technology                        | East LA            | 162              | 53               | 24               | 79                   |
|                                |  | El Camino          | 39               | 40               | 33               | 38                   |
|                                |  | Glendale           | 34               | 43               | 40               | 40                   |
|                                |  | LA Harbor          | 2                | 0                | 0                | 1                    |
|                                |  | LA Valley          | 21               | 10               | 11               | 13                   |
|                                |  | Long Beach         | 58               | 44               | 36               | 46                   |
|                                |  | Mt San Antonio     | 118              | 82               | 84               | 95                   |
|                                |  | Pasadena           | 8                | 2                | 2                | 4                    |
|                                |  | Rio Hondo          | 168              | 192              | 211              | 191                  |
|                                |  | West LA            | 2                | 8                | 7                | 6                    |
|                                |  | <b>LA Subtotal</b> | <b>612</b>       | <b>474</b>       | <b>448</b>       | <b>513</b>           |



| TOP Code                       | Program                  | College            | 2018-2019 Awards | 2019-2020 Awards | 2020-2021 Awards | 3-Year Award Average |
|--------------------------------|--------------------------|--------------------|------------------|------------------|------------------|----------------------|
|                                |                          | Santa Ana          | 524              | 509              | 421              | 485                  |
|                                |                          | <b>OC Subtotal</b> | <b>524</b>       | <b>509</b>       | <b>421</b>       | <b>485</b>           |
| <b>Supply Subtotal/Average</b> |                          |                    | <b>1,136</b>     | <b>983</b>       | <b>869</b>       | <b>998</b>           |
| 2133.10                        | Wildland Fire Technology | Rio Hondo          | 22               | 13               | 9                | 15                   |
|                                |                          | <b>LA Subtotal</b> | <b>22</b>        | <b>13</b>        | <b>9</b>         | <b>15</b>            |
|                                |                          | -                  | -                | -                | -                | -                    |
|                                |                          | <b>OC Subtotal</b> | <b>-</b>         | <b>-</b>         | <b>-</b>         | <b>-</b>             |
| <b>Supply Subtotal/Average</b> |                          |                    | <b>22</b>        | <b>13</b>        | <b>9</b>         | <b>15</b>            |
| 2133.50                        | Fire Academy             | Compton            | 1                | 0                | 0                | 0                    |
|                                |                          | East LA            | 7                | 14               | 23               | 14                   |
|                                |                          | El Camino          | 35               | 27               | 37               | 33                   |
|                                |                          | Rio Hondo          | 0                | 76               | 94               | 57                   |
|                                |                          | Compton            | 1                | 0                | 0                | 0                    |
|                                |                          | <b>LA Subtotal</b> | <b>43</b>        | <b>117</b>       | <b>154</b>       | <b>104</b>           |
|                                |                          | -                  | -                | -                | -                | -                    |
|                                |                          | <b>OC Subtotal</b> | <b>-</b>         | <b>-</b>         | <b>-</b>         | <b>-</b>             |
| <b>Supply Subtotal/Average</b> |                          |                    | <b>43</b>        | <b>117</b>       | <b>154</b>       | <b>104</b>           |
| <b>Supply Total/Average</b>    |                          |                    | <b>4,501</b>     | <b>4,511</b>     | <b>4,166</b>     | <b>4,391</b>         |

Exhibit 11 shows the annual average community college awards by type from 2018-19 through 2020-21. The plurality of the awards are for associate for transfer degrees, followed by associate degrees, and certificates of 6 to fewer than 18 semester units.

### Exhibit 11: Annual Average Community College Awards by Type, 2018-2021



## Community College Student Outcomes:

Exhibit 12 shows the Strong Workforce Program (SWP) metrics for administration of justice programs in Coast Community College District (Coast CCD), the Orange County Region, and California. Of the 10,157 administration of justice students in the 2019-20 academic year, 15% (1,559) attended a Coast CCD college.

Though Coast CCD students that exited administration of justice programs in the 2018-19 academic year had lower median annual earnings (\$62,372) compared to all administration of justice students in Orange County (\$92,892), these earnings are higher than all administration of justice students throughout the state (\$49,944). A similar percentage of Coast CCD administration of justice students attained the living wage (73%) when compared to all administration of justice students in Orange County (75%); both figures are higher than the statewide percentage (64%).

### Exhibit 12: Administration of Justice (2105.00) Strong Workforce Program Metrics, 2019-20<sup>7</sup>

| SWP Metric  | Coast CCD             | OC Region             | California            |
|---|-----------------------|-----------------------|-----------------------|
| SWP Students  | 1,559                 | 10,157                | 95,026                |
| SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year | 9%                    | 7%                    | 18%                   |
| SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course                | Insufficient Data     | Insufficient Data     | 52%                   |
| SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status | 118                   | 392                   | 6,660                 |
| SWP Students Who Transferred to a Four-Year Postsecondary Institution (2018-19)           | 95                    | 448                   | 5,270                 |
| SWP Students with a Job Closely Related to Their Field of Study (2017-18)                 | 75%                   | 49%                   | 59%                   |
| Median Annual Earnings for SWP Exiting Students (2018-19)                                 | \$62,372<br>(\$29.99) | \$92,892<br>(\$44.66) | \$49,944<br>(\$24.01) |
| Median Change in Earnings for SWP Exiting Students (2018-19)                              | 12%                   | 10%                   | 19%                   |
| SWP Exiting Students Who Attained the Living Wage (2018-19)                               | 73%                   | 75%                   | 64%                   |

<sup>7</sup> All SWP metrics are for 2019-20 unless otherwise noted.

## Non-Community College Supply:

For a comprehensive regional supply analysis, it is also important to consider the supply from other institutions in the region that provide training programs for these police occupations. Exhibit 13 shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Codes: Corrections (43.0102), Criminal Justice/Law Enforcement Administration (43.0103), Criminal Justice/Safety Studies (43.0104), and Criminal Justice/Police Science (43.0107), and Fire Science/Fire-fighting. Due to different data collection periods, the most recent three-year period of available data is from 2017 to 2020. Between 2017 and 2020, non-community colleges in the region conferred an average of 43 awards annually in related training programs.

**Exhibit 13: Regional Non-Community College Awards, 2017-2020**

| CIP Code                       | Program   | College   | 2017-2018 Awards | 2018-2019 Awards | 2019-2020 Awards | 3-Year Award Average |
|--------------------------------|---|---|------------------|------------------|------------------|----------------------|
| 43.0102                        | Corrections                                     | San Joaquin Valley College-Lancaster                  | 0                | 0                | 14               | 4                    |
| <b>Supply Subtotal/Average</b> |   |   | <b>0</b>         | <b>0</b>         | <b>14</b>        | <b>4</b>             |
| 43.0103                        | Criminal Justice/Law Enforcement Administration | Abraham Lincoln University                            | 1                | 2                | 1                | 1                    |
|                                |   | University of Antelope Valley                         | 9                | 2                | 0                | 4                    |
| <b>Supply Subtotal/Average</b> |   |   | <b>10</b>        | <b>4</b>         | <b>1</b>         | <b>5</b>             |
| 43.0104                        | Criminal Justice/Safety Studies                 | Platt College-Anaheim                                 | 7                | 7                | 16               | 10                   |
|                                |   | Platt College-Los Angeles                             | 14               | 8                | 19               | 13                   |
| <b>Supply Subtotal/Average</b> |   |   | <b>21</b>        | <b>15</b>        | <b>35</b>        | <b>23</b>            |
| 43.0107                        | Criminal Justice/Police Science                 | East San Gabriel Valley Regional Occupational Program | 9                | 0                | 0                | 3                    |
| <b>Supply Subtotal/Average</b> |   |   | <b>9</b>         | <b>0</b>         | <b>0</b>         | <b>3</b>             |
| 43.0203                        | Fire Science/Fire-fighting                      | University of Antelope Valley                         | 14               | 5                | 5                | 8                    |
| <b>Supply Subtotal/Average</b> |   |   | <b>14</b>        | <b>5</b>         | <b>5</b>         | <b>8</b>             |
| <b>Supply Total/Average</b>    |   |   | <b>54</b>        | <b>24</b>        | <b>55</b>        | <b>43</b>            |

## Regional Demographics

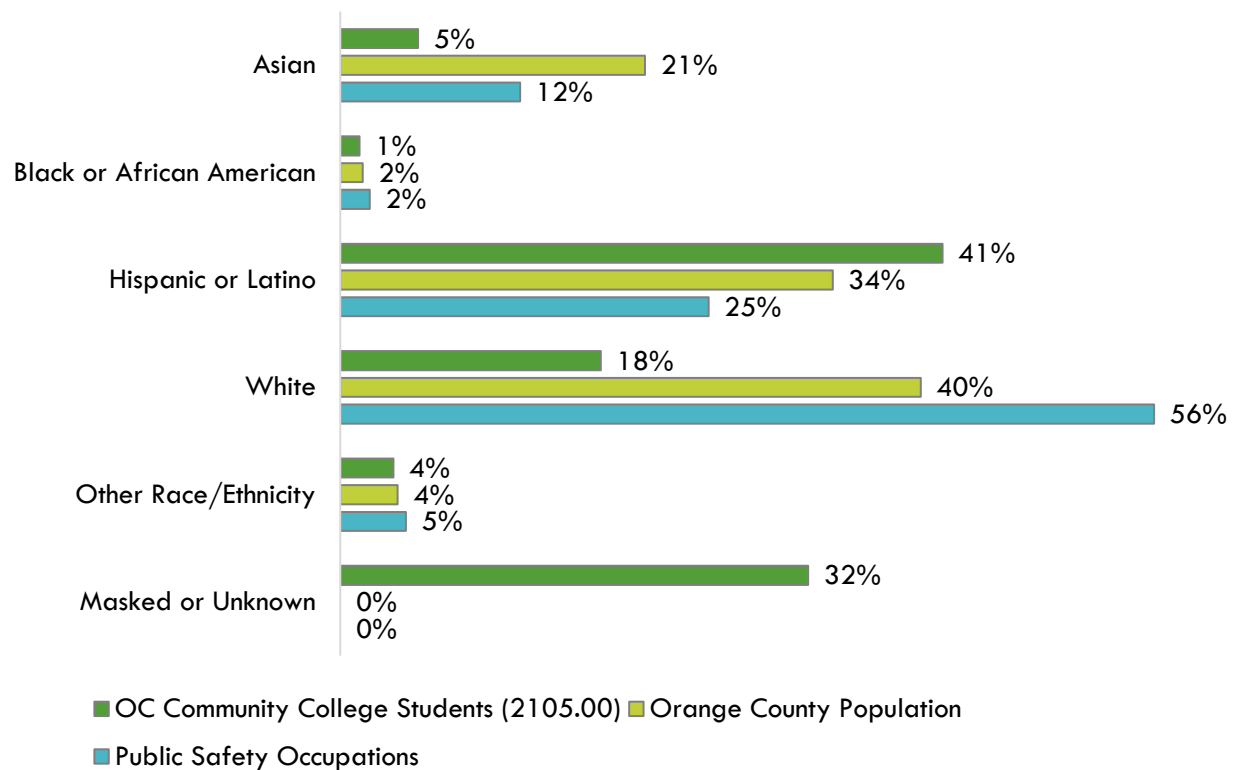
This section analyzes demographic data for Orange County community college students enrolled in administration of justice programs compared to the OC population, as well occupational data, for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

### Ethnicity:

Exhibit 14 shows the ethnicity of Orange County community college students enrolled in administration of justice programs compared to the overall Orange County population, as well as the five public safety occupations included in this report. Notably, 56% of workers employed in these public safety occupations are White, which is much higher than the population (40%) and community college administration of justice students (18%). Conversely, 41% of community college administration of justice students are Hispanic or Latino, which is higher than both the population (34%), and these public safety occupations (25%). Notably, the ethnicity of 32% of community college administration of justice students is masked or unknown.

Examining disaggregated data for each occupation (not shown), the occupation with the highest percentage of Hispanic or Latino workers is *fire inspectors and investigators* (37%), which has the lowest entry-level wages of all five public safety occupations. Additionally, Asian workers are underrepresented in all occupations except *forensic science technicians*, where they account for 38% of the workforce.

Exhibit 14: Program and County Demographics by Ethnicity

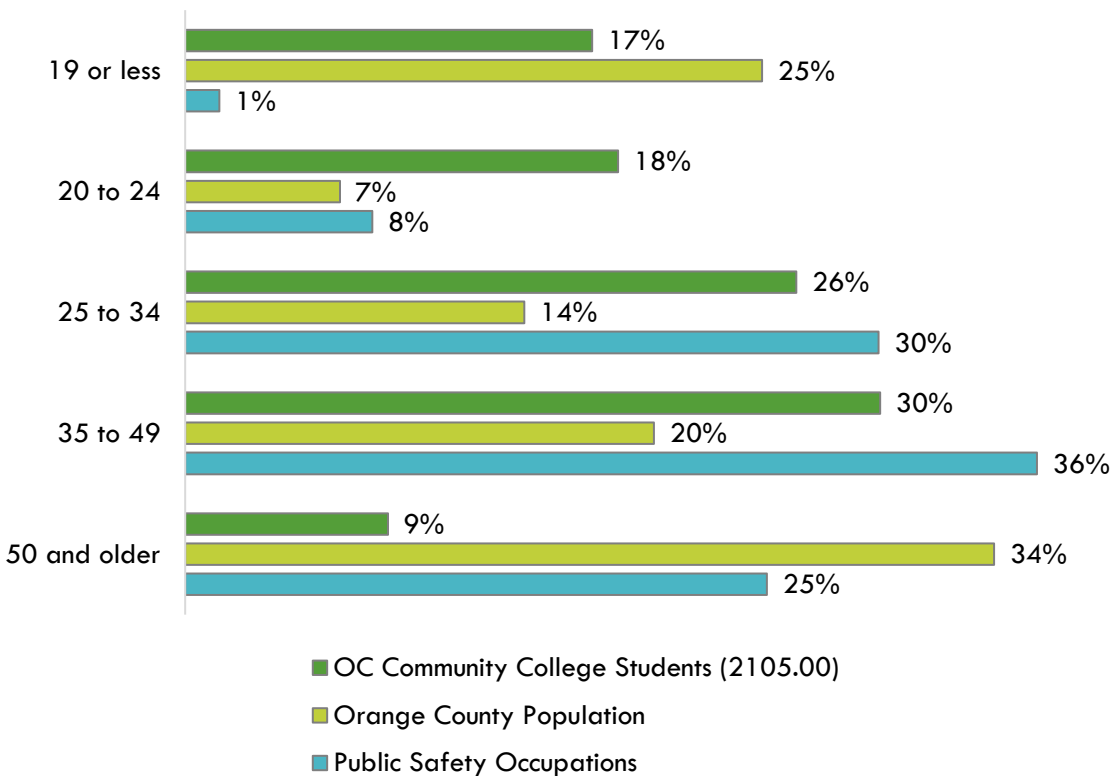


## Age:

Exhibit 14 shows the age of Orange County community college students enrolled in administration of justice programs compared to the overall Orange County population, as well as the five public safety included in this report. The majority of workers (61%) in these public safety occupations are 35 and older, which is significantly higher than the population (54%) and community college administration justice students (38%). Only 9% of workers in these occupations are 24 or less.

Examining disaggregated data for each occupation (not shown), nearly all *first-line supervisors of police and detectives* are 35 and older (97%); the majority of workers in this occupations are 50 and older (52%). Conversely, 36% of *police and sheriff's patrol officers* are 34 or less. Additionally, *fire inspectors and investigators* has a significantly higher percentage of older workers compared to *firefighters*. Only 10% of workers in the inspector occupation are 34 or less, which is significantly lower than *firefighters* (40%), Orange County community college students (61%) and the Orange County population (46%).

Exhibit 14: Program and County Demographics by Age

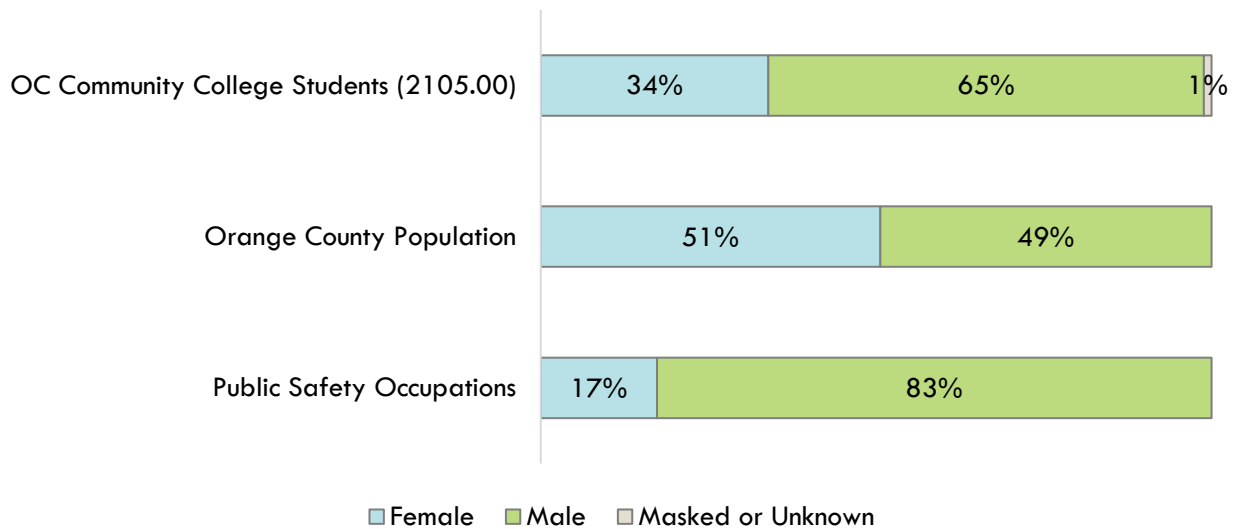


## Sex:

Exhibit 15 shows the sex of Orange County community college students enrolled in public safety programs compared to the overall Orange County population as well as these real estate occupations.

Though the population is split nearly evenly between men and women, the majority of workers in these public safety occupations (83%) as well administration of justice students (65%) are men. Examining disaggregated data for each occupation (not shown), *forensic science technicians* is the only occupation that is split nearly evenly between men (54%) and women (46%).

Exhibit 15: Program and County Demographics by Sex



## Appendix A: Methodology A

The OC COE prepared this report by analyzing data from occupations and education programs. Occupational data is derived from Lightcast, a labor market analytics firm that consolidates data from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS) and other government agencies. Program supply data is drawn from two systems: Taxonomy of Programs (TOP) and Classification of Instructional Programs (CIP).

Using a TOP-SOC crosswalk, the OC COE identified middle-skill jobs for which programs within these TOP codes train. Middle-skill jobs include:

- 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.

The OC COE determined labor market supply for an occupation or SOC code by analyzing the number of program completers or awards in a related TOP or CIP code. The COE developed a "supply table" with this information, which is the source of the program supply data for this report. TOP code data comes from the California Community Colleges Chancellor's Office MIS Data Mart ([datamart.cccco.edu](http://datamart.cccco.edu)) and CIP code data comes from the Integrated Postsecondary Education Data System ([nces.ed.gov/ipeds/use-the-data](http://nces.ed.gov/ipeds/use-the-data)), also known as IPEDS. TOP is a system of numerical codes used at the state level to collect and report information on California community college programs and courses throughout the state that have similar outcomes. CIP codes are a taxonomy of academic disciplines at institutions of higher education in the United States and Canada. Institutions outside of the California Community College system do not use TOP codes in their reporting systems.

Data included in this analysis represent the labor market demand for relevant positions most closely related to the proposed program as expressed by the requesting college in consultation with the OC COE. Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges. Real-time labor market information captures job post advertisements for occupations relevant to the field of study which can signal demand and show what employers are looking for in potential employees, but is not a perfect measure of the quantity of open positions.

All representations have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. The most recent data available at the time of the analysis was examined; 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 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.

## Appendix B: Data Sources

| Data Type   | Source  |
|---|---|
| Occupational Projections, Wages, and Job Postings   | <p>Traditional labor market information data is sourced from Lightcast, a labor market analytics firm. Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics and the American Community Survey. For more information, see <a href="https://lightcast.io/">https://lightcast.io/</a></p>   |
| Living Wage   | <p>The living wage is derived from the Insight Center’s California Family Needs Calculator, which measures the income necessary for an individual of family to afford basic expenses. The data assesses the cost of housing, food, child care, health care, transportation, and taxes. For more information, see: <a href="https://insightccd.org/family-needs-calculator/">https://insightccd.org/family-needs-calculator/</a></p> <p>The living wage for one adult in Orange County is \$20.63 per hour (\$42,910.40 annually). This figure is used by the CCCCCO to calculate the percentage of students that attained the regional living wage.</p> |
| Typical Education and Training Requirements, and Educational Attainment                       | <p>The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations. BLS uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data. For more information, see <a href="https://www.bls.gov/emp/documentation/education/tech.htm">https://www.bls.gov/emp/documentation/education/tech.htm</a></p>   |
| Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences | <p>The O*NET database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations. For more information, see <a href="https://www.onetonline.org/help/online/">https://www.onetonline.org/help/online/</a></p>  |
| Educational Supply  | <p>The CCCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: <a href="https://datamart.cccco.edu">https://datamart.cccco.edu</a></p> <p>The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions). For more information, see <a href="https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions">https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions</a></p>   |
| Student Metrics and Demographics  | <p>LaunchBoard, a statewide data system supported by the California Community Colleges Chancellor's Office and hosted by Cal-PASS Plus, provides data on progress, success, employment, and earnings outcomes for California community college students. For more information, see: <a href="https://www.calpassplus.org/LaunchBoard/Home.aspx">https://www.calpassplus.org/LaunchBoard/Home.aspx</a></p>   |



| Data Type                              | Source   |
|--|--|
| Population and Occupation Demographics | <p>The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information. For more information, see: <a href="https://www.census.gov/programs-surveys/acs">https://www.census.gov/programs-surveys/acs</a></p> <p>Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products. For more information, see: <a href="https://usa.ipums.org/usa/about.shtml">https://usa.ipums.org/usa/about.shtml</a></p> |

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