

**Program Endorsement Brief: 0506.40/Small Business and Entrepreneurship  
Entrepreneurship Skills Certificate of Achievement**

Los Angeles/Orange County Center of Excellence, April 2021

**Summary Analysis**

|                                                        |                                                                           |                                                                 |                                                  |
|--------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------|
| <b>Program Endorsement:</b>                            | <b>Endorsed:<br/>All Criteria Met</b> <input checked="" type="checkbox"/> | <b>Endorsed:<br/>Some Criteria Met</b> <input type="checkbox"/> | <b>Not<br/>Endorsed</b> <input type="checkbox"/> |
| <b>Program Endorsement Criteria</b>                    |                                                                           |                                                                 |                                                  |
| <b>Supply Gap:</b>                                     | Yes <input checked="" type="checkbox"/>                                   | No <input type="checkbox"/>                                     |                                                  |
| <b>Living Wage:<br/>(Entry-Level, 25<sup>th</sup>)</b> | Yes <input checked="" type="checkbox"/>                                   | No <input type="checkbox"/>                                     |                                                  |
| <b>Education:</b>                                      | Yes <input checked="" type="checkbox"/>                                   | No <input type="checkbox"/>                                     |                                                  |
| <b>Emerging Occupation(s)</b>                          |                                                                           |                                                                 |                                                  |
| 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 associated with entrepreneurship: *general and operations managers* (11-1021), *administrative services and facilities managers* (11-3011), *project management specialists and business operations specialist, all other* (13-1198), *first-line supervisors of retail sales workers* (41-1011), and *first-line supervisors of non-retail sales workers* (41-1012). Middle-skill occupations typically require some postsecondary education, but less than a bachelor’s degree.<sup>1</sup> Although the occupation, *general and operations managers* typically requires a bachelor’s degree, it is considered middle-skill because approximately one-third of workers in the field have completed some college or an associate degree. Since there is not a specific occupation in the Standard Occupational Classification System (SOC) for entrepreneurs, this report analyzes labor market supply and demand data for these five occupations because the associated skills are commonly utilized by entrepreneurs. 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.

Self-employed data is used in this report as a proxy for demand for individuals who may utilize entrepreneurial skills. Job posting information is not available for self-employed workers, as employer information does not provide insight into the requirements of self-employed individuals. The occupations included in this report were selected due to their relationship to entrepreneurial business skills, as well as their historical alignment with the small business and entrepreneurship programs at community colleges.

<sup>1</sup> 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.

To better understand how entrepreneurial business skills can be applied to different areas, demand and wage data for the ten occupations with the highest number of self-employed workers in the region are also included in this report. While entrepreneurial business skills are complimentary for workers in these occupations, those skills alone do not adequately train workers to enter these high self-employment occupations, which include Childcare Workers; Real Estate Sales Agents; Hairdressers, Hairstylists, and Cosmetologists; and Photographers.

Based on the available data, there appears to be a supply gap for occupations related to entrepreneurship in the region. Furthermore, the majority of annual openings for the occupations in this report exceed the living wage in both Los Angeles and Orange counties. While the Bureau of Labor Statistics (BLS) lists a bachelor's degree as the typical entry-level education for the majority of annual openings within the LA/OC region for these occupations, many workers in the field have completed an associate degree or some college. **Therefore, due to all the criteria being met, the COE endorses this proposed program.** Detailed reasons include:

#### **Demand:**

- **Supply Gap Criteria** – Over the next five years, there are projected to be **26,505 jobs available annually** in the region due to new job growth and replacements, **which is more than the 12,743 awards conferred annually** by educational institutions in the region.
  - However, **only 2,847 of these job openings represent self-employed workers**, which accounts for **11% of the annual job openings in LA/OC.**
- **Living Wage Criteria** – Within Orange County, **the majority (78%) of annual job openings** for these entrepreneurship occupations have **entry-level wages above the county's living wage** (\$17.36/hour).<sup>2</sup>
- **Educational Criteria** – Within the LA/OC region, **71% of the annual job openings** for occupations related entrepreneurship **typically require a bachelor's degree.**
  - However, the national-level educational attainment data indicates **between 30.2% and 38.8% of workers in the field have completed some college or an associate degree.**

#### **Supply:**

- There are **27 community colleges** in the LA/OC region that issue awards related to business management or small business and entrepreneurship, conferring an average of **1,179 awards annually** between 2016 and 2019.
- Between 2014 and 2017, there was an average of **11,564 awards conferred annually** in related training programs by non-community college institutions throughout the region.

#### **Occupational Demand**

Exhibit 1 shows the five-year occupational demand projections for these occupations related to entrepreneurship. In Los Angeles/Orange County, the number of jobs related to these occupations

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<sup>2</sup> Living wage data was pulled from California Family Needs Calculator on 4/19/2021. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

is projected to increase by 2% through 2024. There will be more than 26,500 job openings per year through 2024 due to job growth and replacements. While these entrepreneurship occupations in total are projected to increase, the number of self-employed entrepreneurship workers within these occupations is projected to decrease by 3% through 2024. Despite this, there will be approximately 2,847 total job openings per year through 2024 due to replacements and workers leaving the field. Approximately 11% of the 26,505 total job openings for this occupational group are for self-employed individuals.

*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 Counties<sup>3</sup>**

| Employment Type | Geography    | 2019 Jobs | 2024 Jobs | 2019-2024 Change | 2019-2024 % Change | Annual Openings |
|-----------------|--------------|-----------|-----------|------------------|--------------------|-----------------|
| Self-Employed   | Los Angeles  | 20,730    | 19,982    | (748)            | (4%)               | 2,158           |
| All Workers     | Los Angeles  | 191,247   | 194,863   | 3,616            | 2%                 | 19,229          |
| Self-Employed   | Orange       | 6,577     | 6,451     | (126)            | (2%)               | 689             |
| All Workers     | Orange       | 72,252    | 73,958    | 1,706            | 2%                 | 7,276           |
| Self-Employed   | LA/OC Region | 27,307    | 26,433    | (874)            | (3%)               | 2,847           |
| All Workers     | LA/OC Region | 263,499   | 268,821   | 5,322            | 2%                 | 26,505          |

Exhibit 2 displays the 2019 job counts for self-employed and all workers in the entrepreneurship occupations within this report, as well as the percentage of self-employed workers. The rate of self-employment for *first-line supervisors of non-retail sales workers* and *first-line supervisors of retail sales workers* is higher than the middle-skill average self-employment rate of 10% in Los

<sup>3</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.

Angeles/Orange County across all occupations. Overall, 10% of jobs in the region for these five occupations are held by self-employed workers.

**Exhibit 2: Entrepreneurship self-employment rates in Los Angeles/Orange County**

| Occupation                                                                    | Self-Employed 2019 Jobs | Employed and Self-Employed 2019 Jobs | % Self-Employed 2019 |
|-------------------------------------------------------------------------------|-------------------------|--------------------------------------|----------------------|
| General and Operations Managers                                               | 1,229                   | 96,992                               | 1%                   |
| Administrative Services and Facilities Managers                               | 111                     | 16,801                               | 1%                   |
| Project Management Specialists and Business Operations Specialists, All Other | 977                     | 76,644                               | 1%                   |
| First-Line Supervisors of Retail Sales Workers                                | 17,290                  | 56,071                               | 31%                  |
| First-Line Supervisors of Non-Retail Sales Workers                            | 7,700                   | 16,991                               | 45%                  |
| <b>Total</b>                                                                  | <b>27,307</b>           | <b>263,499</b>                       | <b>10%</b>           |

Exhibit 3, on the following page, displays middle-skill occupations with the highest number of self-employment workers in Los Angeles/Orange County. These occupations cover a wide variety of occupational areas, demonstrating how entrepreneurship is not solely related to traditional business occupations. It is also important to note that workers in occupations with a high number of self-employed workers may need training in a traditional field, such as childcare, cosmetology, or real estate. Additionally, six of the ten occupations in Exhibit 3 require or may require a license or certification: Childcare Workers; Hairdressers, Hairstylists, and Cosmetologists, Real Estate Sales Agents, Carpenters, Home Health and Personal Care Aides, and Heavy and Tractor-Trailer Truck Drivers.<sup>4</sup> Though entrepreneurial skills are complimentary to these occupations, training in entrepreneurial skills alone will not adequately prepare students to enter these fields.

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<sup>4</sup> Childcare workers providing care for their own children (or those of a relative), and only one other family do not need a child care license. If a childcare worker is providing care and supervision to non-relative children from more than one family in their home or non-residential facility for periods of less than 24 hours, then they will likely need a license. For more information, see: <https://www.cdss.ca.gov/inforesources/child-care-licensing/how-to-become-licensed/do-i-need-a-license>

**Exhibit 3: Occupations with the highest self-employment rates in Los Angeles/Orange County**

| Occupation                                                                                                                         | Self-Employed 2019 Jobs | Employed and Self-Employed 2019 Jobs | % Self-Employed 2019 |
|------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------|----------------------|
| Childcare Workers                                                                                                                  | 29,298                  | 55,655                               | 52.64%               |
| Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other <sup>5</sup> | 24,895                  | 50,505                               | 49.29%               |
| Hairdressers, Hairstylists, and Cosmetologists                                                                                     | 20,492                  | 34,058                               | 60.17%               |
| Real Estate Sales Agents                                                                                                           | 18,622                  | 24,207                               | 76.93%               |
| First-Line Supervisors of Retail Sales Workers                                                                                     | 17,290                  | 56,071                               | 30.84%               |
| Carpenters                                                                                                                         | 17,137                  | 44,160                               | 38.81%               |
| Home Health and Personal Care Aides                                                                                                | 11,724                  | 271,962                              | 4.31%                |
| Heavy and Tractor-Trailer Truck Drivers                                                                                            | 11,715                  | 57,457                               | 20.39%               |
| First-Line Supervisors of Non-Retail Sales Workers                                                                                 | 7,700                   | 16,991                               | 45.32%               |
| Photographers                                                                                                                      | 7,373                   | 10,612                               | 69.48%               |

**Wages**

The labor market endorsement in this report considers the entry-level hourly wages for these entrepreneurship 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. Detailed wage information, by county, is included in Appendix A.

Self-employed workers have different earnings dynamics than wage and salaried workers, making direct comparisons difficult. Examples include deciphering what is a return to labor versus a return to capital, as well as showing possible negative earnings if expenses or investments exceed gross receipts.<sup>6</sup> For these reasons, self-employed wage data appears low throughout the region.

**Entrepreneurship Occupations**

The following wage information is for entrepreneurship occupations as listed in Exhibit 2. For detailed wage information, see Appendix A (Exhibits 6, 7, and 8 for Orange County, Los Angeles, and Los Angeles/Orange County, respectively).

**Orange County**—The majority (78%) of annual openings for these entrepreneurship occupations 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 \$14.11 and \$35.63. The only occupation with

<sup>5</sup> The Bureau of Labor Statistic (BLS) groups some occupation codes into a “hybrid” SOC code as they transition from SOC 2010 to SOC 2018. Therefore, this row of data is for three occupations that have been combined. For more information, see: [https://www.bls.gov/oes/soc\\_2018.htm](https://www.bls.gov/oes/soc_2018.htm).

<sup>6</sup> [https://www.brookings.edu/wp-content/uploads/2019/11/201911\\_Brookings-Metro\\_low-wage-workforce\\_Ross-Bateman.pdf](https://www.brookings.edu/wp-content/uploads/2019/11/201911_Brookings-Metro_low-wage-workforce_Ross-Bateman.pdf)

entry-level wages below the living wage is *first-line supervisors of retail sales workers* (\$14.11). Experienced workers can expect to earn wages between \$24.51 and \$87.27, which are higher than the living wage estimate. Orange County's average wages are slightly above the average statewide wage of \$46.32 for these occupations.

All of the annual openings for self-employed entrepreneurship occupations have entry-level wages below the living wage for one adult (\$17.36 in Orange County). Typical entry-level hourly wages are in a range between \$7.13 and \$14.63, which includes wages that are lower than the living wage as well as lower than California's current minimum wage (\$12.00/hour for employers with 25 employers or less; \$13.00/hour for employers with 26 or more employees).<sup>7</sup> Experienced workers can expect to earn wages between \$27.54 and \$84.66, which are higher than the living wage estimate. Orange County's average wages are below the average statewide wage of \$46.32 for these occupations.

**Los Angeles County**—The majority (76%) of annual openings for these entrepreneurship occupations have entry-level wages above the living wage for one adult (\$15.04 in Los Angeles County).<sup>8</sup> Typical entry-level hourly wages are in a range between \$14.56 and \$36.62. The only occupation with entry-level wages below the living wage is *first-line supervisors of retail sales workers* (\$14.56). Experienced workers can expect to earn wages between \$18.73 and \$53.62, which are higher than the living wage estimate. Los Angeles County's average wages are equal to the average statewide wage of \$46.32 for these occupations.

All of the annual openings for self-employed entrepreneurship occupations have entry-level wages below the living wage for one adult (\$15.04 in Los Angeles County). Typical entry-level hourly wages are in a range between \$7.07 and \$14.67, which includes wages that are lower than the living wage as well as lower than California's current minimum wage (\$12.00/hour for employers with 25 employers or less; \$13.00/hour for employers with 26 or more employees). Experienced workers can expect to earn wages between \$27.32 and \$84.87, which are higher than the living wage estimate. Los Angeles County's average wages are below the average statewide wage of \$46.32 for these occupations.

### ***Other Occupations with Highest Rates of Self-Employment***

The following wage information is for middle-skill occupations with the highest number of self-employed workers as listed in Exhibit 3. For detailed wage information, see Appendix A (Exhibit 9).

**Orange County**— All of the annual openings for the self-employed workers within the occupations with the highest regional rates of self-employment have entry-level wages below the living wage for one adult (\$17.36 in Orange County). Typical entry-level hourly wages are in a range between \$5.19 and \$14.62, which includes wages that are lower than the living wage as well as lower than California's current minimum wage (\$12.00/hour for employers with 25

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<sup>7</sup>Wage data is based on data collected over the previous three years. This historical data is a "point-in-time" estimate and does not reflect recent changes in minimum wage laws. [https://www.dir.ca.gov/dlse/FAQ\\_MinimumWage.htm](https://www.dir.ca.gov/dlse/FAQ_MinimumWage.htm)

<sup>8</sup> Living wage data was pulled from California Family Needs Calculator on 12/9/2020. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

employers or less; \$13.00/hour for employers with 26 or more employees).<sup>9</sup> Experienced workers can expect to earn wages between \$17.18 and \$54.84, which either nearly meet or are higher than the living wage estimate.

**Los Angeles County**— All of the annual openings for the self-employed workers within the occupations with the highest regional rates of self-employment have entry-level wages below the living wage for one adult (\$15.04 in Los Angeles County). Typical entry-level hourly wages are in a range between \$5.18 and \$14.63, which includes wages that are lower than the living wage as well as lower than California’s current minimum wage (\$12.00/hour for employers with 25 employers or less; \$13.00/hour for employers with 26 or more employees). Experienced workers can expect to earn wages between \$17.14 and \$54.88, which are higher than the living wage estimate.

### **Job Postings**

Job posting information does not decipher between self-employed or employee positions; therefore, data in this section will focus on the entrepreneur occupations in this report, as these occupations may employ entrepreneurial business skills.

There were 44,808 online job postings for occupations related to entrepreneurship listed in the past 12 months. The highest number of job postings were for assistant store managers, store managers, operations managers, general managers, and key holders. The top skills were: retail industry knowledge, scheduling, customer service, budgeting and sales. The top three employers, by number of job postings, in the region were: Anthem Blue Cross, CVS Health, and Target.

*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 bachelor’s degree as the typical entry-level education for *general and operations managers, administrative services and facilities managers, and project management specialists and business operations specialists*, and a high school diploma for *first-line supervisors of retail sales workers and first-line supervisors of non-retail sales workers*. In the LA/OC region, the majority of annual job openings (71%) typically require a bachelor’s degree. However, the national-level educational attainment data indicates between 30.2% and 38.8% of workers in the field have completed some college or an associate degree as their highest level of educational attainment. Of the 57% of entrepreneurship job postings listing a minimum education requirement in Los Angeles/Orange County, 54% (13,729) requested a bachelor’s degree, 42% (10,723) requested a high school diploma and 4% (1,108) requested an associate degree.

### **Educational Supply**

**Community College Supply**—Exhibit 4 shows the three-year average number of awards conferred by community colleges in the related TOP codes: Business Management (0506.00), and Small Business and Entrepreneurship (0506.40). The colleges with the most completions in the

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<sup>9</sup>Wage data is based on data collected over the previous three years. This historical data is a “point-in-time” estimate and does not reflect recent changes in minimum wage laws. [https://www.dir.ca.gov/dlse/FAQ\\_MinimumWage.htm](https://www.dir.ca.gov/dlse/FAQ_MinimumWage.htm)

region are Cerritos, Mt. San Antonio and Coastline. Over the past 12 months, there were eight other related program recommendation request from regional community colleges.

**Exhibit 4: Regional community college awards (certificates and degrees), 2016-2019**

| <b>TOP Code</b>                | <b>Program</b>                      | <b>College</b>     | <b>2016-2017 Awards</b> | <b>2017-2018 Awards</b> | <b>2018-2019 Awards</b> | <b>3-Year Award Average</b> |
|--------------------------------|-------------------------------------|--------------------|-------------------------|-------------------------|-------------------------|-----------------------------|
| 0506.00                        | Business Management                 | Cerritos           | 246                     | 405                     | 456                     | 369                         |
|                                |                                     | Citrus             | -                       | 1                       | 2                       | 1                           |
|                                |                                     | Compton            | 11                      | 2                       | 3                       | 5                           |
|                                |                                     | East LA            | 9                       | 26                      | 29                      | 21                          |
|                                |                                     | El Camino          | 17                      | 23                      | 23                      | 21                          |
|                                |                                     | Glendale           | 17                      | 10                      | 9                       | 12                          |
|                                |                                     | LA City            | 19                      | 15                      | 18                      | 17                          |
|                                |                                     | LA Mission         | 5                       | 4                       | 3                       | 4                           |
|                                |                                     | LA Pierce          | -                       | -                       | 3                       | 1                           |
|                                |                                     | LA Valley          | 42                      | 30                      | 33                      | 35                          |
|                                |                                     | Long Beach         | 15                      | 22                      | 21                      | 19                          |
|                                |                                     | Mt San Antonio     | 187                     | 161                     | 202                     | 183                         |
|                                |                                     | Santa Monica       | 10                      | 18                      | 23                      | 17                          |
|                                |                                     | <b>LA Subtotal</b> | <b>578</b>              | <b>717</b>              | <b>825</b>              | <b>707</b>                  |
|                                |                                     | Coastline          | 175                     | 71                      | 84                      | 110                         |
|                                |                                     | Cypress            | 2                       | 6                       | 6                       | 5                           |
|                                |                                     | Fullerton          | 124                     | 11                      | 11                      | 49                          |
|                                |                                     | Golden West        | 9                       | 8                       | 20                      | 12                          |
|                                |                                     | Irvine             | 11                      | 9                       | 3                       | 8                           |
|                                |                                     | North Orange Adult | 26                      | 24                      | 27                      | 26                          |
|                                |                                     | Orange Coast       | 3                       | 51                      | 40                      | 31                          |
|                                |                                     | Santa Ana          | 37                      | 81                      | 64                      | 61                          |
|                                |                                     | Santiago Canyon    | 3                       | 42                      | 17                      | 21                          |
| <b>OC Subtotal</b>             | <b>390</b>                          | <b>303</b>         | <b>272</b>              | <b>322</b>              |                         |                             |
| <b>Supply Subtotal/Average</b> |                                     |                    | <b>968</b>              | <b>1,020</b>            | <b>1,097</b>            | <b>1,028</b>                |
| 0506.40                        | Small Business and Entrepreneurship | Cerritos           | 15                      | 21                      | 34                      | 23                          |
|                                |                                     | Citrus             | -                       | 1                       | 2                       | 1                           |
|                                |                                     | Glendale           | 1                       | 2                       | -                       | 1                           |
|                                |                                     | LA City            | 8                       | 3                       | 7                       | 6                           |
|                                |                                     | LA Pierce          | -                       | -                       | 4                       | 1                           |
|                                |                                     | LA Trade           | 8                       | 7                       | 6                       | 7                           |



| TOP Code | Program | College                        | 2016-2017 Awards | 2017-2018 Awards | 2018-2019 Awards | 3-Year Award Average |
|----------|---------|--------------------------------|------------------|------------------|------------------|----------------------|
|          |         | Mt. San Antonio                | 26               | 18               | 32               | 25                   |
|          |         | Pasadena                       | 2                | 5                | 3                | 3                    |
|          |         | Rio Hondo                      | 6                | 15               | 7                | 9                    |
|          |         | Santa Monica                   | 7                | 10               | 9                | 9                    |
|          |         | West LA                        | 3                | 3                | 5                | 4                    |
|          |         | <b>LA Subtotal</b>             | <b>76</b>        | <b>85</b>        | <b>109</b>       | <b>90</b>            |
|          |         | Coastline                      | 6                | 10               | 5                | 7                    |
|          |         | Cypress                        | 5                | 2                | 4                | 4                    |
|          |         | Fullerton                      | 1                | 3                | 4                | 3                    |
|          |         | Golden West                    | -                | 3                | 2                | 2                    |
|          |         | Irvine                         | 29               | 18               | 48               | 32                   |
|          |         | Saddleback                     | 4                | 10               | 8                | 7                    |
|          |         | Santa Ana                      | 4                | 4                | 7                | 5                    |
|          |         | Santiago Canyon                | 2                | 4                | -                | 2                    |
|          |         | <b>OC Subtotal</b>             | <b>51</b>        | <b>54</b>        | <b>78</b>        | <b>61</b>            |
|          |         | <b>Supply Subtotal/Average</b> | <b>127</b>       | <b>139</b>       | <b>187</b>       | <b>151</b>           |
|          |         | <b>Supply Total/Average</b>    | <b>1,095</b>     | <b>1,159</b>     | <b>1,284</b>     | <b>1,179</b>         |

**Non-Community College Supply**—It is important to consider the supply from other institutions in the region that provide training programs related to entrepreneurship. Exhibit 5 shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Codes: Business Administration and Management, General (52.0201), Entrepreneurship/Entrepreneurial Studies (52.0701), and Small Business Administration/Management (52.0703). Due to different data collection periods, the most recent three-year period of available data is from 2014 to 2017. Between 2014 and 2017, non-community colleges in the region conferred an average of 11,564 awards annually in related training programs.

**Exhibit 5: Regional non-community college awards, 2014-2017**

| CIP Code | Program                                         | College                    | 2014-2015 Awards | 2015-2016 Awards | 2016-2017 Awards | 3-Year Award Average |
|----------|-------------------------------------------------|----------------------------|------------------|------------------|------------------|----------------------|
| 52.0201  | Business Administration and Management, General | Abraham Lincoln University | -                | 2                | -                | 1                    |
|          |                                                 | Advanced College           | 2                | -                | 1                | 1                    |
|          |                                                 | Azusa Pacific University   | 282              | 178              | 111              | 190                  |
|          |                                                 | Bethesda University        | 4                | 6                | 8                | 6                    |
|          |                                                 | Biola University           | -                | -                | 116              | 39                   |
|          |                                                 | Brandman University        | 137              | 169              | 143              | 150                  |

| CIP Code | Program | College                                               | 2014-2015 Awards | 2015-2016 Awards | 2016-2017 Awards | 3-Year Award Average |
|----------|---------|-------------------------------------------------------|------------------|------------------|------------------|----------------------|
|          |         | California Intercontinental University                | -                | -                | 5                | 2                    |
|          |         | California State Polytechnic University-Pomona        | 1,010            | 1,217            | 1,312            | 1,180                |
|          |         | California State University-Dominguez Hills           | 453              | 513              | 505              | 490                  |
|          |         | California State University-Fullerton                 | 1,902            | 2,120            | 2,155            | 2,059                |
|          |         | California State University-Long Beach                | 1,062            | 1,128            | 1,275            | 1,155                |
|          |         | California State University-Los Angeles               | 779              | 1,041            | 812              | 877                  |
|          |         | California State University-Northridge                | 547              | 616              | 604              | 589                  |
|          |         | California University of Management and Sciences      | 2                | 5                | -                | 2                    |
|          |         | Chapman University                                    | 297              | 341              | 381              | 340                  |
|          |         | Claremont Graduate University                         | 49               | 26               | 44               | 40                   |
|          |         | Concordia University-Irvine                           | 89               | 87               | 97               | 91                   |
|          |         | DeVry University-California                           | 303              | 225              | 192              | 240                  |
|          |         | East San Gabriel Valley Regional Occupational Program | 20               | 5                | -                | 8                    |
|          |         | Hope International University                         | 31               | 46               | 20               | 32                   |
|          |         | Learnet Academy                                       | 1                | 4                | 4                | 3                    |
|          |         | Life Pacific College                                  | -                | 3                | 5                | 3                    |
|          |         | Los Angeles ORT College-Los Angeles Campus            | 13               | 9                | 32               | 18                   |
|          |         | Los Angeles ORT College-Van Nuys Campus               | 2                | 4                | 16               | 7                    |
|          |         | Marymount California University                       | 49               | 59               | 57               | 55                   |
|          |         | Mount Saint Mary's University                         | 42               | 51               | 48               | 47                   |
|          |         | Mt Sierra College                                     | 8                | 13               | 10               | 10                   |
|          |         | Pacific States University                             | 3                | 4                | -                | 2                    |
|          |         | Pepperdine University                                 | 205              | 182              | 200              | 196                  |

| CIP Code             | Program                                      | College                                    | 2014-2015 Awards | 2015-2016 Awards | 2016-2017 Awards | 3-Year Award Average |
|----------------------|----------------------------------------------|--------------------------------------------|------------------|------------------|------------------|----------------------|
|                      |                                              | Platt College-Los Angeles                  | -                | 1                | 9                | 3                    |
|                      |                                              | Trident University International           | 432              | 454              | 407              | 431                  |
|                      |                                              | University of California-Irvine            | 126              | 163              | 159              | 149                  |
|                      |                                              | University of La Verne                     | 295              | 338              | 303              | 312                  |
|                      |                                              | University of Phoenix-California           | 1,734            | 1,384            | 1,214            | 1,444                |
|                      |                                              | University of Southern California          | 985              | 1,055            | 1,023            | 1,021                |
|                      |                                              | University of the People                   | -                | 31               | 41               | 24                   |
|                      |                                              | University of the West                     | 8                | 4                | 6                | 6                    |
|                      |                                              | Vanguard University of Southern California | 90               | 104              | 83               | 92                   |
|                      |                                              | Westcliff University                       | -                | -                | 148              | 49                   |
|                      |                                              | Whittier College                           | 77               | 79               | 81               | 79                   |
|                      |                                              | Woodbury University                        | 44               | 41               | 44               | 43                   |
| 52.0701              | Entrepreneurship/<br>Entrepreneurial Studies | Loyola Marymount University                | 58               | 73               | 72               | 68                   |
|                      |                                              | Mount Saint Mary's University              | 3                | 0                | 0                | 1                    |
|                      |                                              | Mt Sierra College                          | 7                | 6                | 3                | 5                    |
|                      |                                              | Pitzer College                             | 0                | 1                | 0                | 0                    |
|                      |                                              | California Intercontinental University     | 0                | 1                | 3                | 1                    |
|                      |                                              | University of Phoenix-California           | 2                | 0                | 0                | 1                    |
| 52.0703              | Small Business Administration/<br>Management | Pitzer College                             | -                | 1                | -                | 0                    |
| <b>Total/Average</b> |                                              |                                            | <b>11,153</b>    | <b>11,790</b>    | <b>11,749</b>    | <b>11,564</b>        |

**Appendix A: Occupational demand and wage data by county**

**Exhibit 6. Orange County – Entrepreneurship Occupations**

| Occupation (SOC)                                                                        | Employment Type | 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) |
|-----------------------------------------------------------------------------------------|-----------------|---------------|---------------|--------------|---------------|-----------------|-----------------------------------------------|------------------------|-----------------------------------------------|
| General and Operations Managers (11-1021)                                               | All Employees   | 27,421        | 28,488        | 1,067        | 4%            | 2,635           | \$35.16                                       | \$53.49                | \$87.27                                       |
|                                                                                         | Self-Employed   | 296           | 305           | 9            | 3%            | 28              | \$12.30                                       | \$21.82                | \$40.91                                       |
| Administrative Services and Facilities Managers (11-3011)                               | All Employees   | 4,497         | 4,670         | 173          | 4%            | 414             | \$35.63                                       | \$50.06                | \$64.87                                       |
|                                                                                         | Self-Employed   | 27            | 29            | 2            | 7%            | 3               | \$9.24                                        | \$19.40                | \$43.58                                       |
| Project Management Specialists and Business Operations Specialists, All Other (13-1198) | All Employees   | 21,380        | 22,067        | 687          | 3%            | 2,216           | \$24.85                                       | \$34.35                | \$48.45                                       |
|                                                                                         | Self-Employed   | 262           | 298           | 36           | 14%           | 34              | \$14.63                                       | \$33.04                | \$84.66                                       |
| First-Line Supervisors of Retail Sales Workers (41-1011)                                | All Employees   | 14,369        | 14,249        | (120)        | (1%)          | 1,575           | \$14.11                                       | \$17.96                | \$24.51                                       |
|                                                                                         | Self-Employed   | 4,104         | 4,024         | (80)         | (2%)          | 448             | \$7.13                                        | \$14.65                | \$27.54                                       |
| First-Line Supervisors of Non-Retail Sales Workers (41-1012)                            | All Employees   | 4,584         | 4,485         | (99)         | (2%)          | 436             | \$17.54                                       | \$28.69                | \$43.33                                       |
|                                                                                         | Self-Employed   | 1,889         | 1,796         | (93)         | (5%)          | 177             | \$9.32                                        | \$18.33                | \$37.44                                       |
| <b>Total</b>                                                                            | All Employees   | <b>72,252</b> | <b>73,958</b> | <b>1,706</b> | <b>2%</b>     | <b>7,276</b>    |                                               |                        |                                               |
|                                                                                         | Self-Employed   | <b>6,577</b>  | <b>6,451</b>  | <b>(126)</b> | <b>(2%)</b>   | <b>689</b>      |                                               |                        |                                               |

**Exhibit 7. Los Angeles County – Entrepreneurship Occupations**

| <b>Occupation (SOC)</b>                                                                 | <b>Employment Type</b> | <b>2019 Jobs</b> | <b>2024 Jobs</b> | <b>5-Yr Change</b> | <b>5-Yr % Change</b> | <b>Annual Openings</b> | <b>Entry-Level Hourly Earnings (25<sup>th</sup> Percentile)</b> | <b>Median Hourly Earnings</b> | <b>Experienced Hourly Earnings (75<sup>th</sup> Percentile)</b> |
|-----------------------------------------------------------------------------------------|------------------------|------------------|------------------|--------------------|----------------------|------------------------|-----------------------------------------------------------------|-------------------------------|-----------------------------------------------------------------|
| General and Operations Managers (11-1021)                                               | All Employees          | 69,570           | 72,069           | 2,499              | 4%                   | 6,644                  | \$35.21                                                         | \$53.62                       | \$87.53                                                         |
|                                                                                         | Self-Employed          | 933              | 966              | 33                 | 4%                   | 89                     | \$12.32                                                         | \$21.85                       | \$40.97                                                         |
| Administrative Services and Facilities Managers (11-3011)                               | All Employees          | 12,304           | 12,736           | 432                | 4%                   | 1,123                  | \$36.62                                                         | \$51.47                       | \$66.70                                                         |
|                                                                                         | Self-Employed          | 84               | 91               | 7                  | 8%                   | 9                      | \$9.26                                                          | \$19.46                       | \$43.70                                                         |
| Project Management Specialists and Business Operations Specialists, All Other (13-1198) | All Employees          | 55,264           | 57,023           | 1,759              | 3%                   | 5,729                  | \$25.47                                                         | \$35.22                       | \$49.69                                                         |
|                                                                                         | Self-Employed          | 716              | 825              | 109                | 15%                  | 95                     | \$14.67                                                         | \$33.12                       | \$84.87                                                         |
| First-Line Supervisors of Retail Sales Workers (41-1011)                                | All Employees          | 41,702           | 40,918           | (784)              | (2%)                 | 4,552                  | \$14.56                                                         | \$18.73                       | \$25.58                                                         |
|                                                                                         | Self-Employed          | 13,186           | 12,493           | (693)              | (5%)                 | 1,416                  | \$7.07                                                          | \$14.53                       | \$27.32                                                         |
| First-Line Supervisors of Non-Retail Sales Workers (41-1012)                            | All Employees          | 12,407           | 12,116           | (291)              | (2%)                 | 1,182                  | \$16.50                                                         | \$27.24                       | \$41.93                                                         |
|                                                                                         | Self-Employed          | 5,811            | 5,607            | (204)              | (4%)                 | 549                    | \$9.41                                                          | \$18.50                       | \$37.79                                                         |
| <b>Total</b>                                                                            | <b>All Employees</b>   | <b>191,247</b>   | <b>194,863</b>   | <b>3,616</b>       | <b>2%</b>            | <b>19,229</b>          |                                                                 |                               |                                                                 |
|                                                                                         | <b>Self-Employed</b>   | <b>20,730</b>    | <b>19,982</b>    | <b>(748)</b>       | <b>(4%)</b>          | <b>2,158</b>           |                                                                 |                               |                                                                 |

**Exhibit 8. Los Angeles and Orange Counties – Entrepreneurship Occupations**

| <b>Occupation (SOC)</b>                                                                 | <b>Employment Type</b> | <b>2019 Jobs</b> | <b>2024 Jobs</b> | <b>5-Yr Change</b> | <b>5-Yr % Change</b> | <b>Annual Openings</b> |
|-----------------------------------------------------------------------------------------|------------------------|------------------|------------------|--------------------|----------------------|------------------------|
| General and Operations Managers (11-1021)                                               | All Employees          | 96,992           | 100,557          | 3,565              | 4%                   | 9,278                  |
|                                                                                         | Self-Employed          | 1,229            | 1,271            | 42                 | 3%                   | 117                    |
| Administrative Services and Facilities Managers (11-3011)                               | All Employees          | 16,801           | 17,406           | 605                | 4%                   | 1,536                  |
|                                                                                         | Self-Employed          | 111              | 120              | 9                  | 8%                   | 11                     |
| Project Management Specialists and Business Operations Specialists, All Other (13-1198) | All Employees          | 76,644           | 79,090           | 2,446              | 3%                   | 7,945                  |
|                                                                                         | Self-Employed          | 977              | 1,123            | 146                | 15%                  | 129                    |
| First-Line Supervisors of Retail Sales Workers (41-1011)                                | All Employees          | 56,071           | 55,167           | (904)              | (2%)                 | 6,127                  |
|                                                                                         | Self-Employed          | 17,290           | 16,517           | (773)              | (4%)                 | 1,864                  |
| First-Line Supervisors of Non-Retail Sales Workers (41-1012)                            | All Employees          | 16,991           | 16,601           | (390)              | (2%)                 | 1,618                  |
|                                                                                         | Self-Employed          | 7,700            | 7,403            | (297)              | (4%)                 | 726                    |
| <b>Total</b>                                                                            | <b>All Employees</b>   | <b>263,499</b>   | <b>268,821</b>   | <b>5,322</b>       | <b>2%</b>            | <b>26,505</b>          |
|                                                                                         | <b>Self-Employed</b>   | <b>27,307</b>    | <b>26,433</b>    | <b>(874)</b>       | <b>(3%)</b>          | <b>2,847</b>           |

**Exhibit 9. Other occupations with highest rates of self-employment – Los Angeles and Orange Counties**

| Occupation (SOC)                                             | Geography | 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) |
|--------------------------------------------------------------|-----------|-----------|-----------|-------------|---------------|-----------------|-----------------------------------------------|------------------------|-----------------------------------------------|
| Childcare Workers (39-9011)                                  | OC        | 3,941     | 4,087     | 146         | 4%            | 627             | \$5.19                                        | \$9.77                 | \$17.18                                       |
|                                                              | LA        | 25,356    | 24,380    | (976)       | (4%)          | 3,698           | \$5.18                                        | \$9.75                 | \$17.14                                       |
| Home Health and Personal Care Aides (31-1128)                | OC        | 1,905     | 2,102     | 197         | 10%           | 353             | \$7.03                                        | \$11.67                | \$18.87                                       |
|                                                              | LA        | 13,186    | 12,493    | (693)       | (5%)          | 1,409           | \$7.07                                        | \$14.53                | \$27.32                                       |
| First-Line Supervisors of Retail Sales Workers (41-1011)     | OC        | 4,104     | 4,024     | (80)        | (2%)          | 447             | \$7.13                                        | \$14.65                | \$27.54                                       |
|                                                              | LA        | 9,819     | 10,400    | 582         | 6%            | 1,700           | \$7.08                                        | \$11.77                | \$19.02                                       |
| Hairdressers, Hairstylists, and Cosmetologists (39-5012)     | OC        | 4,945     | 5,226     | 281         | 6%            | 692             | \$9.32                                        | \$15.53                | \$24.17                                       |
|                                                              | LA        | 15,546    | 16,055    | 508         | 3%            | 2,077           | \$9.32                                        | \$15.54                | \$24.18                                       |
| First-Line Supervisors of Non-Retail Sales Workers (41-1012) | OC        | 1,889     | 1,796     | (93)        | (5%)          | 176             | \$9.32                                        | \$18.33                | \$37.44                                       |
|                                                              | LA        | 5,811     | 5,607     | (204)       | (4%)          | 547             | \$9.41                                        | \$18.50                | \$37.79                                       |
| Carpenters (47-2031)                                         | OC        | 3,636     | 3,638     | 2           | 0%            | 376             | \$10.67                                       | \$17.08                | \$26.81                                       |
|                                                              | LA        | 13,501    | 13,760    | 259         | 2%            | 1,451           | \$10.67                                       | \$17.07                | \$26.80                                       |
| Heavy and Tractor-Trailer Truck Drivers (53-3032)            | OC        | 1,484     | 1,549     | 65          | 4%            | 186             | \$10.97                                       | \$19.12                | \$34.76                                       |
|                                                              | LA        | 10,231    | 10,449    | 218         | 2%            | 1,223           | \$10.83                                       | \$18.86                | \$34.30                                       |

| Occupation (SOC)                                                                                                                | Geography | 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) |
|---------------------------------------------------------------------------------------------------------------------------------|-----------|----------------|----------------|--------------|---------------|-----------------|-----------------------------------------------|------------------------|-----------------------------------------------|
| Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other (11-9198) | OC        | 5,662          | 5,994          | 332          | 6%            | 509             | \$11.11                                       | \$21.96                | \$38.81                                       |
|                                                                                                                                 | LA        | 19,233         | 20,669         | 1,436        | 7%            | 1,802           | \$11.16                                       | \$22.05                | \$38.97                                       |
| Photographers (27-4021)                                                                                                         | OC        | 1,595          | 1,705          | 109          | 7%            | 185             | \$11.41                                       | \$22.82                | \$45.94                                       |
|                                                                                                                                 | LA        | 5,778          | 6,200          | 422          | 7%            | 676             | \$11.33                                       | \$22.66                | \$45.62                                       |
| Real Estate Sales Agents (41-9022)                                                                                              | OC        | 5,067          | 5,122          | 55           | 1%            | 495             | \$14.62                                       | \$27.52                | \$54.84                                       |
|                                                                                                                                 | LA        | 13,555         | 14,030         | 475          | 4%            | 1,404           | \$14.63                                       | \$27.54                | \$54.88                                       |
| <b>Total</b>                                                                                                                    | <b>OC</b> | <b>34,229</b>  | <b>35,242</b>  | <b>1,013</b> | <b>3%</b>     | <b>4,046</b>    |                                               |                        |                                               |
|                                                                                                                                 | <b>LA</b> | <b>132,016</b> | <b>134,042</b> | <b>2,026</b> | <b>2%</b>     | <b>15,986</b>   |                                               |                        |                                               |



## 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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