

Program Endorsement Brief: 1012.00/Applied Photography, 0612.20/Film Production, & 0614.00/Digital Media

Basic Drone Skills

Drone Photography

Drone Videography

Orange County Center of Excellence, March 2020

Summary Analysis

The 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 three middle-skill occupations: Photographers (SOC code 27-4021), Camera Operators, Television, Video, and Motion Picture (SOC code 27-4031), and Film and Video Editors (SOC code 27-4032). Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree.¹ Although two occupations, Camera Operators, Television, Video, and Motion Picture and Film and Video Editors, in this report typically require a bachelor's degree, they are considered middle-skill because approximately one-third of workers in the field have completed some college or an associate degree.

These three occupations have a high degree of self-employment, particularly in Orange County. Over 50% of workers in all three occupations are self-employed in Orange County. To better understand the differences in the number of workers that are self-employed and wages for self-employed and traditionally employed workers, the Occupational Demand and Wages sections of this report are divided into two groups: wage and salaried workers and self-employed workers. Wage and salaried workers are those who receive a paycheck from their employer, while self-employed workers are those for which self-employment is their primary form of income.² It is important to note that wages for self-employed workers could be misleading because self-employment income tends to be underreported.³

Because these programs add drone piloting and image capture skills to photography and videography, this report also includes an analysis of online job postings that request drone piloting knowledge and skills. This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with the relevant occupations.

Based on the available data there appears to be a supply gap for these photography and videography occupations in the region. However, two of the occupations in this report (Photographers and Camera Operators, Television, Video, and Motion Picture) have entry-level

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

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

² For more information, visit <https://kb.emsidata.com/methodology/class-of-worker-explained/>.

³ Czajka, J. L., Patnaik, A., & Negoita, M. (2018, November). Data on Earnings: A Review of Resources for Research. Retrieved March 23, 2020, from <https://www.dol.gov/sites/dolgov/files/OASP/legacy/files/Data-on-Earnings-Report.pdf>.

wages significantly below the California Family Needs Calculator hourly wage (living wage) in Orange County. Though entry-level wages for these occupations are below the living wage, over 50% of workers in both occupations are self-employed in Orange County. This high degree of self-employment pulls wages down because self-employed workers may not report all earnings, such as those made from cash transactions, so wages may be misleading. **Therefore, the COE cautiously endorses this proposed program.** Reasons include:

Demand:

- Over the next five years, there is projected to be **3,062 jobs available annually** in the region due to new job growth and replacements, **which is more than the 1,979 awards conferred annually** by educational institutions in the region.
- Over the past 12 months, there were **2,096 online job postings related to these occupations**. The highest number of job postings were for photographer, video editor, and videographer.
 - Of those, **3% (65) requested drone piloting skills**. The highest number of job postings that requested drone skills were for photographer, real estate photographer, and videographer.
- The national-level educational attainment data indicates **between 30% and 33.8% of workers in the field have completed some college or an associate degree** as their highest level of education.
- Typical entry-level hourly wages for these occupations are between \$12.97 and \$23.33. However, reported **wages vary greatly for self-employed and wage and salaried workers**.
 - Typical **entry-level hourly wages for Photographers are \$13.14 in Los Angeles County and \$12.24 in Orange County, which is lower than the California Family Needs Calculator** hourly wage (living wage) for one adult in each county. (\$15.04 in Los Angeles County and \$17.36 in Orange County).⁴
 - Typical **entry-level hourly wages** for this occupation in **Los Angeles County are \$11.34 for self-employed workers and \$15.02 for wage and salary workers**.
 - Typical **entry-level hourly wages** for this occupation in **Orange County are \$11.42 for self-employed workers and \$13.47 for wage and salary workers**.
 - Typical **entry-level wages for Camera Operators, Television, Video, and Motion Picture are \$14.75 in Orange County, which is below the living wage** for one adult in that county. However, **typical entry-level wages for this occupation in Orange County are \$9.91 for self-employed workers and \$18.55 for wage and salaried workers**.
 - **All occupations in this report have median wages between \$23.77 and \$35.32, which is above the living wage for both counties. Median wages for**

⁴ Living wage data was pulled from California Family Needs Calculator on 2/24/20. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

both wage and salaried and self-employed workers in all three occupations are above each county's living wage.

Supply:

- There are **21 community colleges** in the region that have programs that train for the occupations in this report, conferring an average of **766 awards annually** between 2016 and 2019.
 - However, only **two colleges (Cypress and Mt. San Antonio) have programs related to drone photography or videography.**
- Between 2013 and 2016, there were an average of **1,213 awards conferred annually** in related training programs by non-community college institutions, all of which were generated by **12 individual four-year colleges throughout** the region.
 - However, **none of these programs have an emphasis on drone photography or videography.**

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for these photography and videography occupations. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 4% through 2023. There will be more than 3,060 job openings per year through 2023 due to job growth and replacements.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties⁵

| Geography | 2018 Jobs | 2023 Jobs | 2018-2023 Change | 2018-2023 % Change | Annual Openings |
|------------------|------------------|------------------|-------------------------|---------------------------|------------------------|
| Los Angeles | 24,860 | 25,846 | 986 | 4% | 2,744 |
| Orange | 2,718 | 2,883 | 165 | 6% | 318 |
| Total | 27,578 | 28,729 | 1,151 | 4% | 3,062 |

Wage and Salaried Workers

Exhibit 2 shows the five-year occupational demand projections for wage and salaried workers. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 1% through 2023. Wage and salaried workers account for 62% of workers in these three occupations in Los Angeles County and 32% in Orange County.

⁵ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Exhibit 2: Occupational demand for wage and salaried workers in Los Angeles and Orange Counties

| Geography | 2018 Jobs | 2023 Jobs | 2018-2023 Change | 2018-2023 % Change | Annual Openings |
|--------------|---------------|---------------|------------------|--------------------|-----------------|
| Los Angeles | 15,444 | 15,602 | 158 | 1% | 1,611 |
| Orange | 864 | 875 | 11 | 1% | 97 |
| Total | 16,309 | 16,478 | 169 | 1% | 1,708 |

Self-Employed Workers

Exhibit 3 shows the five-year occupational demand projections for self-employed workers. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 8% through 2023. This increase is projected to add over 1,500 more self-employed jobs than wage and salaried jobs over the next five years. Self-employed workers account for 38% of workers in these three occupations in Los Angeles County and 68% in Orange County.

Exhibit 3: Occupational demand for self-employed workers in Los Angeles and Orange Counties

| Geography | 2018 Jobs | 2023 Jobs | 2018-2023 Change | 2018-2023 % Change | Annual Openings |
|--------------|---------------|---------------|------------------|--------------------|-----------------|
| Los Angeles | 9,416 | 10,244 | 828 | 9% | 1,133 |
| Orange | 1,854 | 2,007 | 153 | 8% | 221 |
| Total | 21,802 | 23,484 | 1,682 | 8% | 2,569 |

Wages

Typical entry-level hourly wages for these photography and videography occupations are between \$12.97 and \$23.33.⁶ Because these occupations have a high degree of self-employment, particularly in Orange County, it is important to consider the differences in wages for wage and salaried workers versus those for self-employed workers. The following sections show the differences in typical entry-level, median, and experienced earnings for each group. Wage information for both groups, by county, is included in Appendix A.

Wage and Salaried Workers

Exhibit 4, on the following page, shows the typical entry-level, median, and experienced hourly wages for wage and salaried workers in each county for these three occupations. In Los Angeles County, typical entry-level hourly wages range from \$15.30 to \$26.13, all of which are above the living wage estimate of \$15.04 for Los Angeles County. In Orange County, typical entry-level hourly wages are between \$13.77 and \$23.43. Typical entry-level hourly wages for wage and salaried Photographers are \$13.77, which is significantly below the regional living wage of \$17.36 in Orange County. Wage and salaried workers in all three occupations can expect to earn median hourly wages above both counties' living wage estimates.

⁶ Entry-level wage is defined as the twenty-fifth percentile hourly wage. Wages for experienced workers are defined as the seventy-fifth percentile hourly wage.

| County | Occupation (SOC) | Entry-Level Hourly Earnings (25 th Percentile) | Median Hourly Earnings | Experienced Hourly Earnings (75 th Percentile) |
|-------------|---|---|------------------------|---|
| Los Angeles | Photographers (27-4021) | \$15.30 | \$26.72 | \$38.37 |
| | Camera Operators, Television, Video, and Motion Picture (27-4031) | \$20.70 | \$33.50 | \$46.70 |
| | Film and Video Editors (27-4032) | \$26.13 | \$36.70 | \$72.76 |
| Orange | Photographers (27-4021) | \$13.77 | \$23.71 | \$33.85 |
| | Camera Operators, Television, Video, and Motion Picture (27-4031) | \$18.55 | \$30.01 | \$41.89 |
| | Film and Video Editors (27-4032) | \$23.43 | \$32.92 | \$65.22 |

Self-Employed Workers

Exhibit 5 shows the typical entry-level, median, and experienced hourly wages for self-employed workers in each county for these three occupations. In Los Angeles County, typical entry-level hourly wages range from \$9.67 to \$13.82, all of which are below the living wage estimate for that county. In Orange County, typical entry-level hourly wages are between \$9.91 and \$13.82, all of which are significantly below the living wage for that county.

While typical entry-level wages for self-employed workers in these occupations are below each county's living wage, it is important to note that self-employed earnings could be misleading because self-employment income is typically underreported. Additionally, while typical entry-level hourly wages for self-employed workers in these occupations are below the living wage in both counties, median wages for self-employed workers are above it.

| County | Occupation (SOC) | Entry-Level Hourly Earnings (25 th Percentile) | Median Hourly Earnings | Experienced Hourly Earnings (75 th Percentile) |
|-------------|---|---|------------------------|---|
| Los Angeles | Photographers (27-4021) | \$11.34 | \$22.67 | \$45.64 |
| | Camera Operators, Television, Video, and Motion Picture (27-4031) | \$9.67 | \$20.00 | \$38.10 |
| | Film and Video Editors (27-4032) | \$13.53 | \$28.00 | \$53.33 |
| Orange | Photographers (27-4021) | \$11.42 | \$22.84 | \$45.98 |
| | Camera Operators, Television, Video, and Motion Picture (27-4031) | \$9.91 | \$20.50 | \$39.04 |
| | Film and Video Editors (27-4032) | \$13.82 | \$28.59 | \$54.45 |

Job Postings—There were 2,096 online job postings related to these photography and videography occupations listed in the past 12 months. The highest number of job postings were for photographer, video editor, and videographer. The top skills were photography, video editing, adobe photoshop, videography, and social media. The top three employers, by number of job postings, in the region were Mom365, Lifetouch, and Iconic Group. Of the 2,096 online job postings, 17% (361) listed a minimum education requirement.

To identify job postings that requested drone piloting skills, a keyword filter was applied to the full list of job postings related to photography and videography. The keywords used for the filter are listed in Appendix A. Of the 2,096 online job postings, 65 requested drone piloting skills. The highest number of job postings were for photographer, real estate photographer, and videographer. The top skills were photography, videography, scheduling, adobe photoshop, and customer service. The top three employers, by number of job postings, were Costar Group, Virtuance, and The Luxury Level. Of these 65 postings, only 8% (5) listed a minimum education requirement.

Educational Attainment—The Bureau of Labor Statistics (BLS) lists a high school diploma or equivalent as the typical entry-level education for Photographers and a bachelor’s degree as the typical entry-level education for Camera Operators, Television, Video, and Motion Picture and Film and Video Editors. The national-level educational attainment data indicates between 30% and 33.8% of workers in the field have completed some college or an associate degree. Of the 17% of job postings listing a minimum education requirement in Los Angeles/Orange County, 87% (315) requested a high school diploma or vocational training and 13% (46) requested an associate degree.

Supply

Community College Supply—Exhibit 2, on the following page, shows the three-year average number of awards conferred by community colleges in the related TOP codes: Radio and Television (0604.00), Television (0604.20), Film Production (0612.20), Photography (1011.00) and Applied Photography (1012.00).

It is important to note that, while all these programs train students to enter the occupations in this report, only two of them have an emphasis on drone photography or videography. According to the Chancellor’s Office Curriculum Inventory (COCI 2.0), Cypress has a program titled “UAV/UAS Drone Photography and Video” and Mt. San Antonio has a program titled “Drone Camera Operator,” both of which are listed under the Applied Photography (1012.00) TOP Code.⁷ However, since awards data is collected and reported by TOP code- and because colleges can offer multiple programs listed under the same TOP code- the COE is unable to quantify the exact amount of awards that were conferred in programs specifically related to drone photography and videography.

Over the past 12 months, there were four other program recommendation requests related to photography or videography from regional community colleges. None of these requests had an emphasis on drone photography or videography.

⁷ <https://coci2.ccctechcenter.org/programs>

Exhibit 2: Regional community college awards (certificates and degrees), 2016-2019

| TOP Code | Program | College | 2016-2017 Awards | 2017-2018 Awards | 2018-2019 Awards | 3-Year Award Average |
|--------------------------------|---|--------------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|
| 0604.00 | Radio and Television | LA Valley | 10 | 14 | 16 | 13 |
| | | Long Beach | 6 | 10 | - | 8 |
| | | Mt San Antonio | - | - | 2 | 2 |
| | | Santa Monica | 19 | 27 | 8 | 18 |
| | | LA Subtotal | 35 | 51 | 26 | 37 |
| | | Fullerton | - | 2 | 3 | 3 |
| | | Saddleback | 69 | 40 | 206 | 105 |
| | | Santa Ana | - | - | 5 | 5 |
| | | Santiago Canyon | - | 2 | 2 | 2 |
| | | OC Subtotal | 69 | 44 | 216 | 110 |
| Supply Subtotal/Average | | | 104 | 95 | 242 | 147 |
| 0604.20 | Television (including combined TV/Film/Video) | Compton | 3 | 2 | - | 3 |
| | | El Camino | 19 | 20 | 20 | 20 |
| | | Glendale | 8 | 2 | 8 | 6 |
| | | LA City | 96 | 56 | 40 | 64 |
| | | LA Pierce | - | 5 | 9 | 7 |
| | | LA Valley | 30 | 20 | 28 | 26 |
| | | Long Beach | - | 9 | - | 9 |
| | | Mt San Antonio | 16 | 21 | 48 | 28 |
| | | Pasadena | 4 | 9 | 25 | 13 |
| | | LA Subtotal | 176 | 144 | 178 | 166 |
| | | Cypress | - | - | 3 | 3 |
| | | Fullerton | 24 | 27 | 56 | 36 |
| | | Orange Coast | - | 5 | 19 | 12 |
| | | Saddleback | 6 | 6 | 2 | 5 |
| | | Santa Ana | 5 | 11 | 11 | 9 |
| | | OC Subtotal | 35 | 49 | 91 | 58 |
| | | Supply Subtotal/Average | | | 211 | 193 |
| 0612.20 | Film Production | Cerritos | 5 | 6 | - | 6 |
| | | LA City | 58 | 34 | 58 | 50 |
| | | LA Valley | 12 | 10 | 41 | 21 |
| | | Long Beach | - | 4 | - | 4 |
| | | Santa Monica | 24 | 27 | 40 | 30 |
| | | West LA | 29 | 37 | 26 | 31 |
| | | LA Subtotal | 128 | 118 | 165 | 137 |

| TOP Code | Program | College | 2016-2017 Awards | 2017-2018 Awards | 2018-2019 Awards | 3-Year Award Average |
|--------------------------------|---------------------|--------------------|------------------|------------------|------------------|----------------------|
| | | Orange Coast | 36 | 48 | 49 | 44 |
| | | Saddleback | 7 | 9 | 7 | 8 |
| | | OC Subtotal | 43 | 57 | 56 | 52 |
| Supply Subtotal/Average | | | 171 | 175 | 221 | 189 |
| 1011.00 | Photography | Cerritos | 1 | 3 | - | 2 |
| | | Citrus | - | 12 | 9 | 11 |
| | | Glendale | 3 | 9 | 8 | 7 |
| | | LA City | 20 | 13 | - | 17 |
| | | Pasadena | 8 | - | - | 8 |
| | | Rio Hondo | 3 | - | 5 | 4 |
| | | LA Subtotal | 35 | 37 | 22 | 31 |
| | | Orange Coast | 2 | - | - | 2 |
| | | Saddleback | 4 | 4 | 2 | 3 |
| | | Santa Ana | 4 | 2 | 8 | 5 |
| | | OC Subtotal | 10 | 6 | 10 | 9 |
| Supply Subtotal/Average | | | 45 | 43 | 32 | 40 |
| 1012.00 | Applied Photography | East LA | 5 | 17 | 20 | 14 |
| | | El Camino | 7 | 8 | 10 | 8 |
| | | LA City | 28 | 11 | 37 | 25 |
| | | Long Beach | 1 | 2 | - | 2 |
| | | Mt San Antonio | 15 | 21 | 40 | 25 |
| | | Pasadena | - | 15 | 10 | 13 |
| | | Santa Monica | 21 | 25 | 23 | 23 |
| | | LA Subtotal | 77 | 99 | 140 | 105 |
| | | Cypress | 34 | 11 | 5 | 17 |
| | | Fullerton | 12 | 22 | 20 | 18 |
| | | Orange Coast | 14 | 30 | 32 | 25 |
| OC Subtotal | 60 | 63 | 57 | 60 | | |
| Supply Subtotal/Average | | | 137 | 162 | 197 | 165 |
| Supply Total/Average | | | 668 | 668 | 961 | 766 |

Non-Community College Supply—It is important to consider the supply from four-year institutions in the region that provide training programs for the occupations in this report. Exhibit 3 shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Codes: Radio and Television (09.0701) and Cinematography and Film/Video Production (50.0602). Due to different data collection periods, the most recent three-year period of available data is from 2013 to 2016. Between 2013 and

2016, four-year colleges in the region conferred an average of 1,213 awards annually in related training programs. While these programs train students for the occupations analyzed in this report, none of them have an emphasis on drone photography or videography.

Exhibit 3: Regional non-community college awards, 2013-2016

| CIP Code | Program | College | 2013-2014 Awards | 2014-2015 Awards | 2015-2016 Awards | 3-Year Award Average |
|--------------------------------|--|---|------------------|------------------|------------------|----------------------|
| 09.0701 | Radio and Television | California State University-Los Angeles | 124 | 144 | 187 | 152 |
| | | California State University-Northridge | 408 | 414 | 414 | 412 |
| | | Loyola Marymount University | 0 | 1 | 0 | 0 |
| | | Pepperdine University | 21 | 24 | 23 | 23 |
| | | LA Subtotal | 553 | 583 | 624 | 587 |
| | | California State University-Fullerton | 222 | 202 | 198 | 207 |
| | | The Academy of Radio and TV Broadcasting | 36 | 11 | 20 | 22 |
| | | OC Subtotal | 258 | 213 | 218 | 230 |
| Supply Subtotal/Average | | | 811 | 796 | 842 | 816 |
| 50.0602 | Cinematography and Film/Video Production | Art Center College of Design | 29 | 22 | 24 | 25 |
| | | Biola University | 59 | 47 | 46 | 51 |
| | | Loyola Marymount University | 75 | 67 | 50 | 64 |
| | | University of Southern California | 109 | 100 | 89 | 99 |
| | | Woodbury University | 1 | 10 | 5 | 5 |
| | | LA Subtotal | 273 | 246 | 214 | 244 |
| | | Argosy University-The Art Institute of California-Orange County | 11 | 14 | 19 | 15 |
| | | Chapman University | 130 | 165 | 119 | 138 |
| OC Subtotal | 141 | 179 | 138 | 153 | | |
| Supply Subtotal/Average | | | 414 | 425 | 352 | 397 |
| Supply Total/Average | | | 1,225 | 1,221 | 1,194 | 1,213 |

Appendix A: Occupational demand and wage data by county, all workers

Exhibit 4. Los Angeles County

| Occupation (SOC) | 2018 Jobs | 2023 Jobs | 5-Yr Change | 5-Yr % Change | Annual Openings | Entry-Level Hourly Earnings (25th Percentile) | Median Hourly Earnings | Experienced Hourly Earnings (75th Percentile) |
|---|------------------|------------------|--------------------|----------------------|------------------------|---|-------------------------------|---|
| Photographers (27-4021) | 8,105 | 8,265 | 160 | 2% | 892 | \$13.14 | \$23.95 | \$41.83 |
| Camera Operators, Television, Video, and Motion Picture (27-4031) | 4,799 | 5,081 | 282 | 6% | 541 | \$18.21 | \$30.43 | \$45.33 |
| Film and Video Editors (27-4032) | 11,956 | 12,500 | 544 | 5% | 1,311 | \$23.47 | \$35.43 | \$67.75 |
| Total | 24,860 | 25,846 | 986 | 4% | 2,744 | | | |

Exhibit 5. Orange County

| Occupation (SOC) | 2018 Jobs | 2023 Jobs | 5-Yr Change | 5-Yr % Change | Annual Openings | Entry-Level Hourly Earnings (25th Percentile) | Median Hourly Earnings | Experienced Hourly Earnings (75th Percentile) |
|---|------------------|------------------|--------------------|----------------------|------------------------|---|-------------------------------|---|
| Photographers (27-4021) | 2,128 | 2,221 | 93 | 4% | 243 | \$12.24 | \$23.12 | \$39.95 |
| Camera Operators, Television, Video, and Motion Picture (27-4031) | 214 | 232 | 18 | 8% | 25 | \$14.75 | \$25.54 | \$40.80 |
| Film and Video Editors (27-4032) | 375 | 429 | 54 | 14% | 50 | \$18.53 | \$31.20 | \$58.14 |
| Total | 2,718 | 2,883 | 165 | 6% | 318 | | | |

Exhibit 6. Los Angeles and Orange Counties

| Occupation (SOC) | 2018 Jobs | 2023 Jobs | 5-Yr Change | 5-Yr % Change | Annual Openings | Entry-Level Hourly Earnings (25th Percentile) | Median Hourly Earnings | Experienced Hourly Earnings (75th Percentile) |
|---|------------------|------------------|--------------------|----------------------|------------------------|---|-------------------------------|---|
| Photographers (27-4021) | 10,234 | 10,486 | 252 | 2% | 1,135 | \$12.97 | \$23.77 | \$41.49 |
| Camera Operators, Television, Video, and Motion Picture (27-4031) | 5,013 | 5,314 | 301 | 6% | 566 | \$18.09 | \$30.12 | \$45.17 |
| Film and Video Editors (27-4032) | 12,331 | 12,929 | 598 | 5% | 1,361 | \$23.33 | \$35.32 | \$67.04 |
| Total | 27,578 | 28,729 | 1,151 | 4% | 3,062 | | | |

Appendix B: Keywords used in job postings filter

- Aerial cinematography
- Autonomous pilot
- Capture specialist
- Drone
- Drone image capture
- Drone operations
- Drone operator
- Drone photography
- Drone pilot
- Drone technician
- Drone videography
- FAA
- Part 107
- Part 107 pilot
- sUAS
- UAS
- UAS mechanic
- UAS Operator
- UAS pilot
- UAS technician
- UAV mechanic
- UAV operator
- UAV pilot
- UAV technician
- Unmanned aerial system operator
- Unmanned aerial system pilot
- Unmanned aerial vehicle operator
- Unmanned aerial vehicle pilot
- Unmanned aircraft system operator
- Unmanned aircraft system pilot
- Unmanned aircraft vehicle operator
- Unmanned aircraft vehicle pilot

Appendix C: 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
- Employment Development Department, Unemployment Insurance Dataset
- Living Insight Center for Community Economic Development

- 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)

For more information, please contact:

Jesse Crete, Director
Center of Excellence, Orange County
crete_jesse@rsccd.edu

March 2020

