

**Program Endorsement Brief: 0604.20/Television (Including Combined TV/Film/Video)
Drone Cinematography**

Orange County Center of Excellence, June 2021

Summary Analysis

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

The 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 two middle-skill occupations: *photographers (27-4021)*, and *camera operators, television, video and motion picture (27-4031)*. Middle-skill occupations typically require some postsecondary education, but less than a bachelor’s degree.¹ 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 does not appear to be a supply gap for these middle-skill cinematography occupations in the region. However, the supply data in this report includes completers who have been trained for various television and film occupations, and not solely photography and/or cinematography occupations. Additionally, the demand data in this report includes annual openings for all photography and camera operation occupations, not solely those that are related to drone cinematography. For those reasons, the COE is unable to determine the gap between supply and demand. While more than one-third of current workers in this field have completed some college or an associate degree, entry-level wages are lower than the living wage in Orange County. **Therefore, due to some of the criteria being met, the COE endorses this proposed program.** Detailed reasons include:

Demand:

- **Supply Gap Criteria** – Over the next five years, there is projected to be **1,555 jobs available annually** in the region due to new job growth and replacements, **which is less than the 2,869 awards conferred annually** by educational institutions in the region.

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

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

- However, both SOC codes in this report include all photography and camera operation occupations, and not solely drone-related cinematography occupations. Since the SOC code does not solely represent drone cinematography, **the number of annual job openings is overstated.**
- Over the past 12 months, there were **103 online job postings related to drone photography and/or camera operation.** The highest number of job postings were for photographers, real estate drone photographers, videographer/editors, architectural photographers, and associate architectural photographers
- **Living Wage Criteria** – Within Orange County, **all of the annual job openings for these middle-skill occupations** related to cinematography have **entry-level wages below the county’s living wage (\$17.36/hour).**²
- **Educational Criteria** – Within the LA/OC region, **66% of the annual job openings** for middle-skill occupations related to cinematography **typically require a high school diploma.**
 - While the national-level educational attainment data indicates between 24.2% and 33.7% of workers in the field have completed some college or an associate degree, **the occupation with the majority of the annual openings** for these middle-skill cinematography occupations (photographers) has **33.7% of workers in the field who have completed some college or an associate degree.**

Supply:

- There are **24 community colleges** in the LA/OC region that issue awards related to cinematography, conferring an average of **721 awards annually** between 2017 and 2020.
 - However, the TOP codes included in this report train for 10 other occupations in addition to middle-skill cinematography occupations, such as audio and video equipment technicians (27-4011), broadcast technicians (27-4012), and sound engineering technicians (27-4014). **Since these programs train for a variety of occupations with different skill-sets than what is necessary for cinematography, the COE is unable to determine the supply data solely for photographers and camera operators.**
- Between 2016 and 2019, there was an average of **2,148 awards conferred annually** in related training programs by non-community college institutions throughout the region.
 - Just as with the TOP Codes, these CIP codes also train for a variety of occupations, and not solely cinematography-related occupations. **Therefore, the COE is unable to determine the 4-year supply solely for photographers and camera operators.**

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

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for these middle-skill occupations related to cinematography. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 2% through 2024. There will be more than 1,500 job openings per year through 2024 due to job growth and replacements. It is important to note that both SOC codes in this report include all photography occupations and not solely drone-related photography and/or cinematography. Therefore, the data in Exhibit 1 is likely overstated for drone cinematography.

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

Exhibit 1: Occupational demand in Los Angeles and Orange Counties³

Geography	2019 Jobs	2024 Jobs	2019-2024 Change	2019-2024 % Change	Annual Openings
Los Angeles	13,599	13,832	233	2%	1,309
Orange	2,551	2,577	26	1%	247
Total	16,150	16,409	259	2%	1,555

Wages

The labor market endorsement in this report considers the entry-level hourly wages for these middle-skill occupations related to cinematography 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.

Orange County— All of the annual openings for these middle-skill occupations related to cinematography 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 \$12.73 and \$14.84. Experienced workers can expect to earn wages between \$42.42 and \$43.75, which are higher than the living wage estimate. Orange County's average wages are above the average statewide wage of \$36.89 for these occupations.

Los Angeles County— The majority (62%) of annual openings for these middle-skill occupations related to cinematography have entry-level wages below the living wage for one adult (\$15.04 in Los Angeles County).⁴ Typical entry-level hourly wages are in a range between \$13.38 and

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

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

\$17.48. Experienced workers can expect to earn wages between \$43.43 and \$48.37, which are higher than the living wage estimate. Los Angeles County’s average wages are above the average statewide wage of \$36.89 for these occupations.

Job Postings

There were 103 online job postings related to drone photography and/or camera operation listed in the past 12 months. The highest number of job postings were for photographers, real estate drone photographers, videographer/editors, architectural photographers, and associate architectural photographers. The top skills were: photography, videography, Adobe Photoshop, Adobe InDesign, and scheduling. The top three employers, by number of job postings, in the region were: Costar Realty Group, Fox Corporation, and The Luxury Level.

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

Educational Attainment

The Bureau of Labor Statistics (BLS) lists a high school diploma as the typical entry-level education for *photographers*, and a bachelor’s degree for *camera operators, television, video, and film*. In the LA/OC region, the majority of annual job openings (66%) typically require a high school diploma. While the national-level educational attainment data indicates between 24.2% and 33.7% of workers in the field have completed some college or an associate degree, the occupation with the majority of the annual openings for these middle-skill cinematography occupations (*photographers*) has 33.7% of workers in the field who have completed some college or an associate degree as their highest level of education. Of the 39% of drone photography and/or camera operation job postings listing a minimum education requirement in Los Angeles/Orange County, 90% (36) requested a high school diploma, 5% (2) requested an associate degree and 5% (2) requested a bachelor’s degree.

Educational Supply

Community College Supply—Exhibit 2 shows the three-year average number of awards conferred by community colleges in the related TOP codes: Television (including combined TV/Film/Video (0604.20), Film Production (0612.20), Digital Media (0614.00), and Applied Photography (1012.00). The colleges with the most completions in the region are: LA City, Orange Coast, and Santa Monica. Over the past 12 months, there were 14 other related program recommendation requests from regional community colleges.

The TOP Codes in this report train for 10 television and film-related occupations in addition to the middle-skill cinematography occupations in this report. Therefore, COE is unable to determine the supply data when solely considering cinematography-related occupations.

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

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
0604.20		Compton	2	-	-	1

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
	Television (including combined TV/Film/Video)	El Camino	20	20	22	21
		Glendale	2	8	14	8
		LA City	56	39	34	43
		LA Pierce	5	11	26	14
		LA Valley	20	29	31	27
		Long Beach	9	39	35	28
		Mt San Antonio	21	48	54	41
		Pasadena	9	25	45	26
		Compton	2	-	-	1
		LA Subtotal	144	219	261	208
		Cypress	-	3	15	6
		Fullerton	27	56	48	44
		Orange Coast	5	19	40	21
		Saddleback	6	2	2	3
		Santa Ana	11	14	17	14
		OC Subtotal	49	94	122	88
		Supply Subtotal/Average			193	313
0612.20	Film Production	Cerritos	6	10	8	8
		LA City	34	61	62	52
		LA Valley	10	42	31	28
		Long Beach	4	3	-	2
		Santa Monica	27	40	59	42
		West LA	37	33	7	26
		LA Subtotal	118	189	167	158
		Orange Coast	48	49	48	48
		Saddleback	9	7	3	6
		OC Subtotal	57	56	51	55
Supply Subtotal/Average			175	245	218	213
0614.00	Digital Media	Glendale	-	-	1	0
		LA Mission	-	1	4	2
		LA Trade	7	19	11	12
		Long Beach	1	-	-	0
		Rio Hondo	-	-	2	1
		LA Subtotal	8	20	18	15
		Coastline	-	3	-	1

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
		Golden West	9	10	10	10
		Irvine	15	9	1	8
		Santa Ana	-	-	1	0
		OC Subtotal	24	22	12	19
Supply Subtotal/Average			32	42	30	35
1012.00	Applied Photography	East LA	17	24	5	15
		El Camino	8	10	10	9
		Glendale	-	-	6	2
		LA City	11	37	38	29
		LA Pierce	-	-	2	1
		Long Beach	2	-	-	1
		Mt San Antonio	21	40	31	31
		Pasadena	15	10	5	10
		Santa Monica	25	23	37	28
		LA Subtotal	99	144	134	126
		Cypress	11	5	5	7
		Fullerton	22	20	11	18
		Orange Coast	30	32	18	27
		OC Subtotal	63	57	34	51
Supply Subtotal/Average			162	201	168	177
Supply Total/Average			562	801	799	721

Non-Community College Supply—For a comprehensive regional supply analysis, it is also important to consider the supply from other institutions in the region that provide training programs for cinematography-related occupations. 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), Digital Communication and Media/Multimedia (09.0702), Radio and Television Broadcasting Technology/Technician (10.0202), Digital Arts (50.0102), Design and Visual Communications, General (50.0401), Cinematography and Film/Video Production (50.0602) and Film/Video and Photographic Arts, Other (50.0699). Due to different data collection periods, the most recent three-year period of available data is from 2016 to 2019. Between 2016 and 2019, four-year colleges in the region conferred an average of 2,148 awards annually in related training programs.

As with the TOP Codes, the CIP codes in this report train for various television and film occupations, and not solely cinematography-related occupations. Therefore, the COE cannot determine the supply data solely for cinematography-related occupations.

Exhibit 3: Regional non-community college awards, 2016-2019

CIP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Award Average
09.0701	Radio and Television	CSU-Fullerton	191	174	205	190
		CSU-Long Beach	-	-	1	0
		CSU-Los Angeles	152	174	158	161
		CSU-Northridge	448	414	399	420
		Pepperdine University	26	26	25	26
		The Academy of Radio and TV Broadcasting	11	23	34	23
		University of La Verne	9	11	22	14
09.0702	Digital Communication and Media/Multimedia	CSU-Dominguez Hills	50	41	58	50
		Fremont College	1	1	1	1
		Los Angeles ORT College-(CLOSED)	15	10	8	11
		Marymount California Univ.	-	-	3	1
		Vanguard University of Southern California	12	7	8	9
10.0202	Radio and Television Broadcasting Technology/Technician	East San Gabriel Valley ROP	13	18	1	11
		National Polytechnic College	-	-	-	-
		The Academy of Radio and TV Broadcasting	3	13	3	6
50.0102	Digital Arts	Los Angeles Academy of Figurative Art	3	-	3	2
		Marymount California Univ.	12	17	15	15
		Otis College of Art and Design	63	92	69	75
		Univ. of Southern California	22	16	14	17
		Woodbury University	3	4	1	3
50.0401	Design and Visual Communications, General	Bethesda University	3	-	-	1
		Biola University	3	2	5	3
		California State Polytechnic University-Pomona	-	-	-	-
		Fashion Institute of Design & Merchandising-Los Angeles	181	155	142	159
		Gnomon	28	37	48	38
		Otis College of Art and Design	37	43	34	38
		Platt College-Los Angeles	-	5	-	2

CIP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Award Average
		UC-Los Angeles	-	-	-	-
		University of La Verne	1	-	-	0
		Univ. of Southern California	-	-	-	-
50.0602	Cinematography and Film/Video Production	Art Center College of Design	32	28	18	26
		Biola University	49	42	62	51
		California Institute of the Arts	17	10	11	13
		Chapman University	162	160	174	165
		Fashion Institute of Design & Merchandising-Los Angeles	14	13	14	14
		Los Angeles Film School	77	145	220	147
		Loyola Marymount Univ.	82	71	71	75
		Mount Saint Mary's Univ.	16	8	12	12
		New York Film Academy	94	230	205	176
		University of La Verne	1	-	-	0
		Univ. of Southern California	96	101	105	101
		Woodbury University	8	16	13	12
50.0699	Film/Video and Photographic Arts, Other	California Institute of the Arts	38	45	41	41
		Los Angeles Film School	-	30	34	21
		Woodbury University	9	18	24	17
Supply Total/Average			1,982	2,200	2,261	2,148

Appendix A: Occupational demand and wage data by county

Exhibit 4. Orange County

Occupation (SOC)	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Photographers (27-4021)	2,267	2,272	5	0%	217	\$12.73	\$24.29	\$42.42
Camera Operators, Television, Video, and Film (27-4031)	284	305	21	8%	30	\$14.84	\$25.04	\$43.75
Total	2,551	2,577	26	1%	247			

Exhibit 5. Los Angeles County

Occupation (SOC)	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Photographers (27-4021)	8,593	8,584	(9)	(0%)	813	\$13.38	\$24.94	\$43.43
Camera Operators, Television, Video, and Film (27-4031)	5,005	5,248	242	5%	495	\$17.48	\$28.72	\$48.37
Total	13,599	13,832	233	2%	1,309			

Exhibit 6. Los Angeles and Orange Counties

Occupation (SOC)	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	Annual Openings
Photographers (27-4021)	10,861	10,856	(4)	(0%)	1,030
Camera Operators, Television, Video, and Film (27-4031)	5,289	5,552	264	5%	525
Total	16,150	16,409	259	2%	1,555

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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