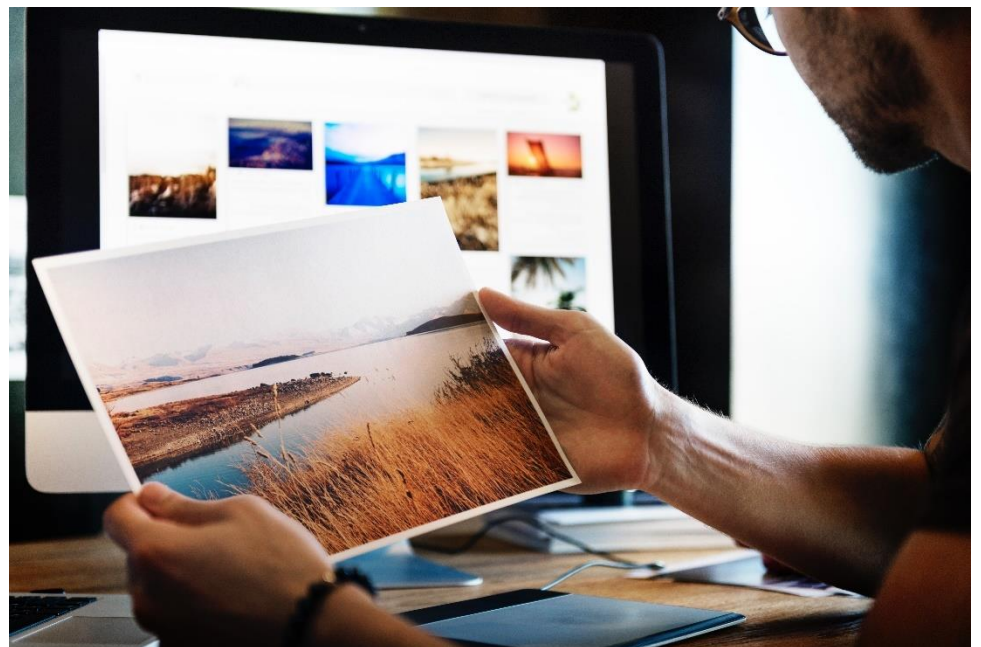


October 2019

Labor Market Analysis

Photography



Prepared by the Central Valley/Mother Lode Center of Excellence

Table of Contents

Summary3

Introduction.....4

Occupational Demand7

Wages7

Job Postings8

Education, Work Experience and Training.....11

Supply.....11

Student Outcomes12

Conclusion and Recommendation13

Appendix A: Methodology & Data Sources14

Summary

This study conducted by the Central Valley/Mother Lode Center of Excellence examines labor market demand, wages, skills and postsecondary supply for occupations related to photography for Modesto Junior College. Four occupations were identified:

- Art Directors (SOC 27-1011)
- Graphic Designers (SOC 27-1024)
- Photographers (SOC 27-4021)
- Camera Operators, Television, Video, and Motion Picture (SOC 27-4031)

Key findings:

- **Occupational demand** — Nearly 3,000 workers were employed in jobs related to photography in 2018. The largest occupation is graphic designers with 1,517 workers in 2017, a projected growth rate of 4% over the next five years, and 156 annual openings.
- **Wages** — The entry-level wages for three of the four occupations exceed the average self-sufficiency wage and living wage for a single adult in the region. The regional entry-level wages of photographers, however, falls below the region's living wage. The occupation earning the highest median wages is art directors, \$32.33/hour in the region and \$40.08/hour in the region. Wages for camera operators (television, video, and motion picture) are also strong.
- **Employers** — Top employers in the region are Pilot Flying J, Lifetouch, and Lululemon.
- **Job titles** — The most common occupational title in job postings is graphic designers. The most common job title is photographer.
- **Skills and certifications** — The top baseline skill is creativity, the top specialized skill is photography, and the top software skill is Adobe Photoshop. The most in-demand certification is a driver's license.
- **Education** — The typical education required for three of the four occupations is a bachelor's degree. A high school diploma is typically required for photographers.
- **Supply** — Analysis of postsecondary completions in the region shows that on average 85 awards were conferred in the Central Valley/Mother Lode region each year.

Based on a comparison of occupational demand and supply, there is an undersupply of 198 trained workers in the region and 6,300 workers in the state. The Center of Excellence recommends that Modesto Junior College work with the retail, hospitality, tourism and entertainment regional director, the college's advisory board, and local industry in the expansion of programs to address the shortage of workers in photography-related jobs in the region.

Introduction

The Central Valley/Mother Lode Center of Excellence was asked by Modesto Junior College to provide labor market information for photography. Review of the Taxonomy of Programs revealed the following programs are appropriate for this analysis:

- 101200 - Applied Photography
- 103000 - Graphic Art and Design
- 061400 - Digital Media

The geographical focus for this report is the Central Valley/Mother Lode (CV/ML) region, but statewide demand and supply data has been included for broader applicability and use. Analysis of the program and occupational data related to photography resulted in the identification of four applicable occupations. The Standard Occupational Classification (SOC) System titles and codes used in this report are:

- Art Directors (SOC 27-1011)
- Graphic Designers (SOC 27-1024)
- Photographers (SOC 27-4021)
- Camera Operators, Television, Video, and Motion Picture (SOC 27-4031)

The SOC codes, occupational titles, job descriptions, sample job titles, and knowledge and skills from the Bureau of Labor Statistics and O*NET OnLine are shown in Exhibit 1.

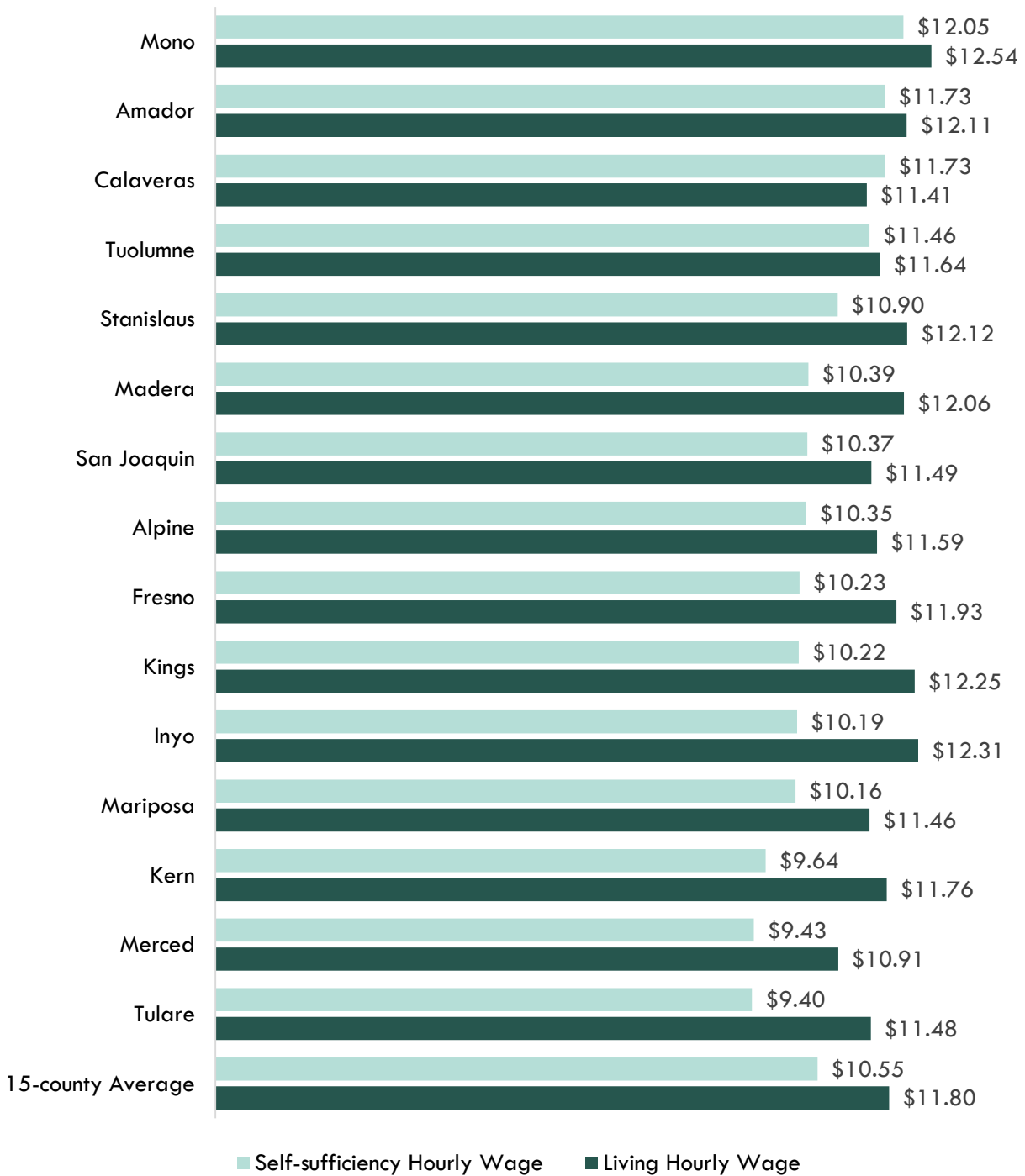
Exhibit 1. SOC titles, job descriptions, sample job titles, and knowledge and skills for photography

SOC TITLE & CODE	DESCRIPTION	SAMPLE JOB TITLES	KNOWLEDGE & SKILLS
Art Directors (SOC 27-1011)	Formulate design concepts and presentation approaches for visual communications media, such as print, broadcasting, and advertising. Direct workers engaged in art work or layout design.	Art Director; Art Supervisor; Creative Director; Creative Guru; Design Director; Designer; Director of Creative Services, Consumer Products; Group Art Supervisor; Production Manager; Senior Art Director	Knowledge Sales and Marketing English Language Communications and Media Computers and Electronics Customer and Personal Service Skills Active Listening Speaking Judgment and Decision Making Time Management Complex Problem Solving
Graphic Designers (SOC 27-1024)	Design or create graphics to meet specific commercial or promotional needs, such as packaging,	Artist, Creative Director, Creative Manager, Design Director, Designer,	Knowledge Design Communications and Media

SOC TITLE & CODE	DESCRIPTION	SAMPLE JOB TITLES	KNOWLEDGE & SKILLS
	displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.	Graphic Artist, Graphic Designer, Online Producer, Production Artist, Publications Designer	English Language Fine Arts Computers and Electronics Skills Active Listening Critical Thinking Speaking Reading Comprehension Active Learning
Photographers (SOC 27-4021)	Photograph people, landscapes, merchandise, or other subjects, using digital or film cameras and equipment. May develop negatives or use computer software to produce finished images and prints. Includes scientific photographers, aerial photographers, and photojournalists.	Advertising Photographer, Commercial Photographer, Newspaper Photographer, Owner/Photographer, Photo Editor, Photographer, Photojournalist, Portrait Photographer, Sports Photographer, Studio Owner	Knowledge Customer and Personal Service Sales and Marketing Computers and Electronics Fine Arts English Language Skills Active Listening Speaking Service Orientation Social Perceptiveness Active Learning
Camera Operators, Television, Video, and Motion Picture (SOC 27-4031)	Operate television, video, or motion picture camera to record images or scenes for various purposes, such as TV broadcasts, advertising, video production, or motion pictures.	Camera Operator, Cameraman, Master Control Operator (MCO), News Videographer, Production Assistant, Production Technician, Studio Camera Operator, Television News Photographer, Truck Operator, Videographer	Knowledge English Language Computers and Electronics Communications and Media Telecommunications Skills Active Listening Coordination Judgment and Decision Making Reading Comprehension Speaking

The average self-sufficiency wage for a single adult in the Central Valley/Mother Lode (CV/ML) region is \$10.55/hour, and the current average living wage for a single adult is \$11.80/hour. Self-sufficiency and living wage data by county are shown in Exhibit 2. In the wages sections of this report, Pct. 25 hourly denotes entry-level wages, and median represents experienced wages.

Exhibit 2. Self-sufficiency and living wages in the CV/ML region



Occupational Demand

The Central Valley/Mother Lode region employed 2,945 workers in photography occupations in 2018 (Exhibit 3). The largest occupation is graphic designers with 1,517 workers in 2018. This occupation is projected to grow by 4% over the next five years and has the greatest number of projected annual openings, 156.

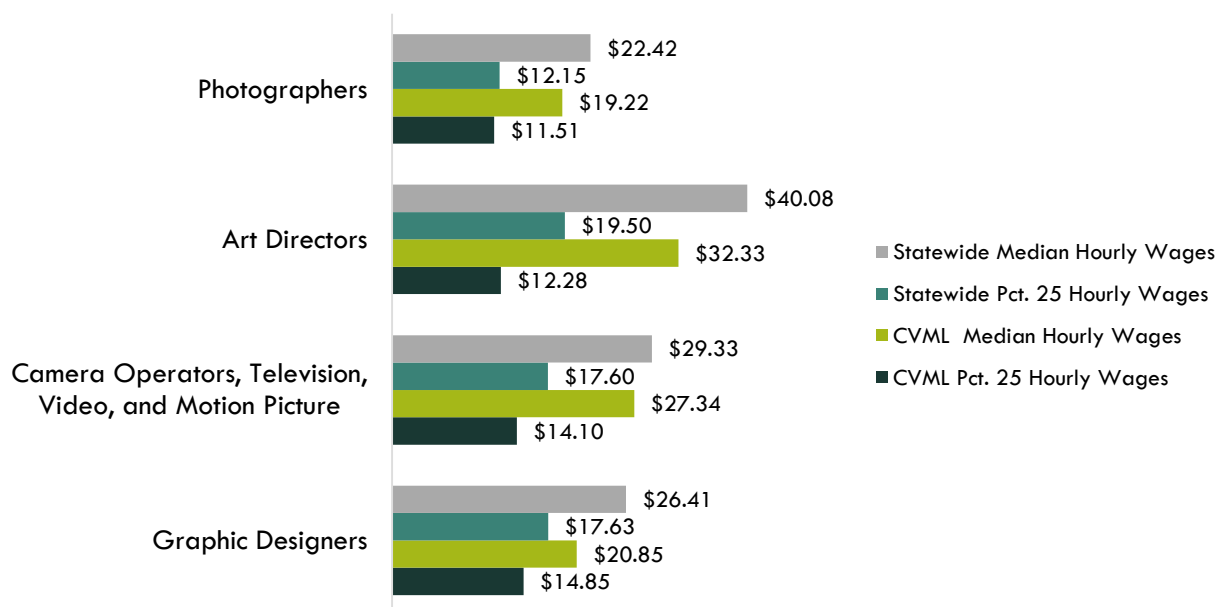
Exhibit 3. Photography employment and occupational projections in the CV/ML region

OCCUPATION	2018 JOBS	2023 JOBS	2018-2023 CHANGE	5-YEAR % CHANGE	ANNUAL OPENINGS
Art Directors	405	424	19	5%	37
Graphic Designers	1,517	1,575	58	4%	156
Photographers	907	891	(16)	(2%)	79
Camera Operators, Television, Video, and Motion Picture	116	121	5	4%	12
TOTAL	2,945	3,011	66	2%	284

Wages

Exhibit 4 compares the entry-level and experienced wages of the photography occupations. The entry-level wages for three of the four occupations exceed the region's living wage and self-sufficiency wage for one adult. The regional entry-level wage of photographers, however, falls below the region's living wage. The occupation earning the highest median wages is art directors, \$32.33/hour in the region and \$40.08/hour in the region. Wages for camera operators are also relatively high.

Exhibit 4. Entry-level and experienced wage comparison for photography in the region and state



Job Postings

There were 467 job postings for the four occupations in the Central Valley/ Mother Lode region from October 2018 through September 2019. The top employers advertising these job postings are listed in Exhibit 5.

Exhibit 5. Top photography employers by number of job postings

Employer	Job Postings
Pilot Flying J	32
Lifetouch	29
Lululemon	21
Iconic Group	19
Mom365	18
Kalo	16
Pro Motionpix, Llc	7
Sinclair Broadcast Group	7
University Pacific	7
Digital Attic	5

Job Titles

Exhibit 6 shows how job postings for the four targeted occupations in the region are distributed across four O*NET OnLine occupations. The majority of job postings, 227 in total, use the occupational title graphic designers, followed by photographers, 195 job postings.

Exhibit 6. Top occupational titles in job postings for photography

Occupational Title	Job Postings
Graphic Designers	227
Photographers	195
Camera Operators, Television, Video, and Motion Picture	33
Art Directors	12

Analysis of the 467 advertised job titles for the targeted occupations reveals the top title is photographer, occurring in 136 job postings, followed by graphic designer, 116 job postings (Exhibit 7).

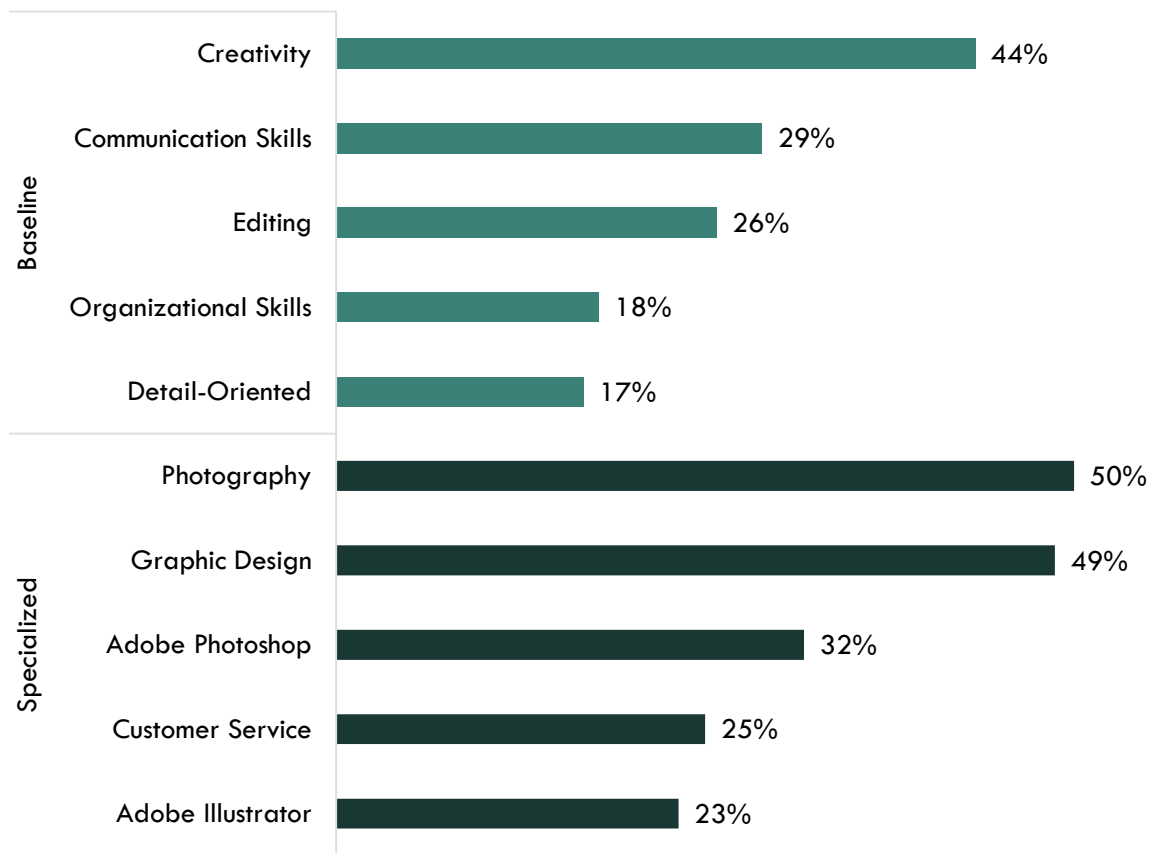
Exhibit 7. Top job titles by number of job postings for photography

Job Title	Job Postings
Photographer	136
Graphic Designer	116
Sandwich Artist	32
Freelance Graphic Designer	27
Videographer	27
News Photographer	20
Graphic Artist	13
School Photographer	13
Art Director	7
Real Estate Photographer	7

Skills

Exhibit 8 depicts the top baseline and specialized skills for the four targeted occupations. The three most important baseline skills are creativity, 44% of job postings, communication skills, 29%, and editing, 26%. The top three specialized skills are photography, 50% of job postings, graphic design, 49%, and Adobe Photoshop, 32%.

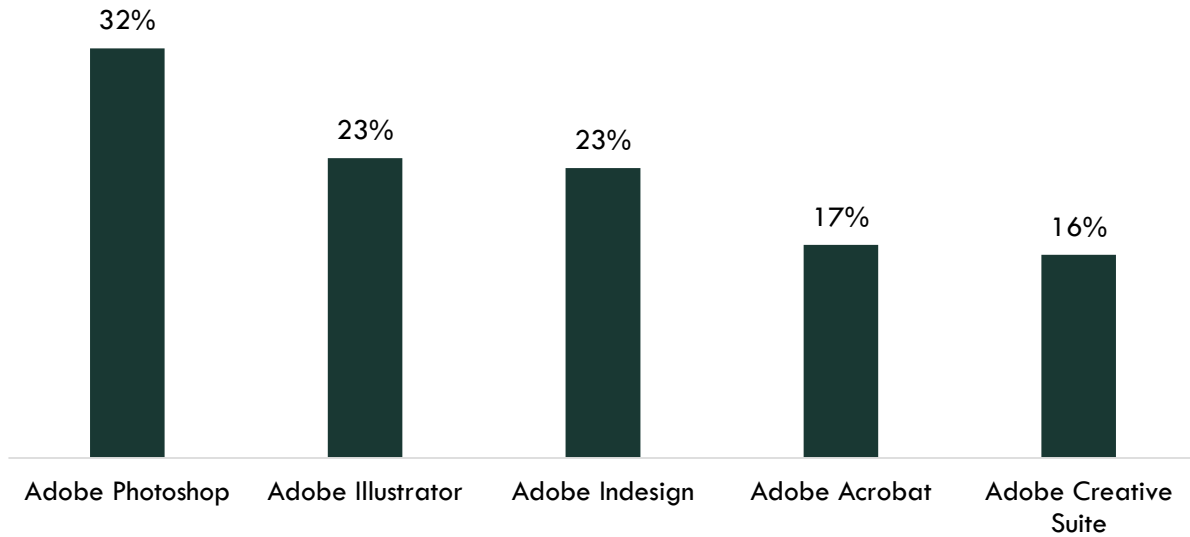
Exhibit 8. In-demand photography baseline and specialized skills



Software Skills

Analysis also included the software skills most in demand by employers. Adobe Photoshop and Illustrator rank first and second (Exhibit 9).

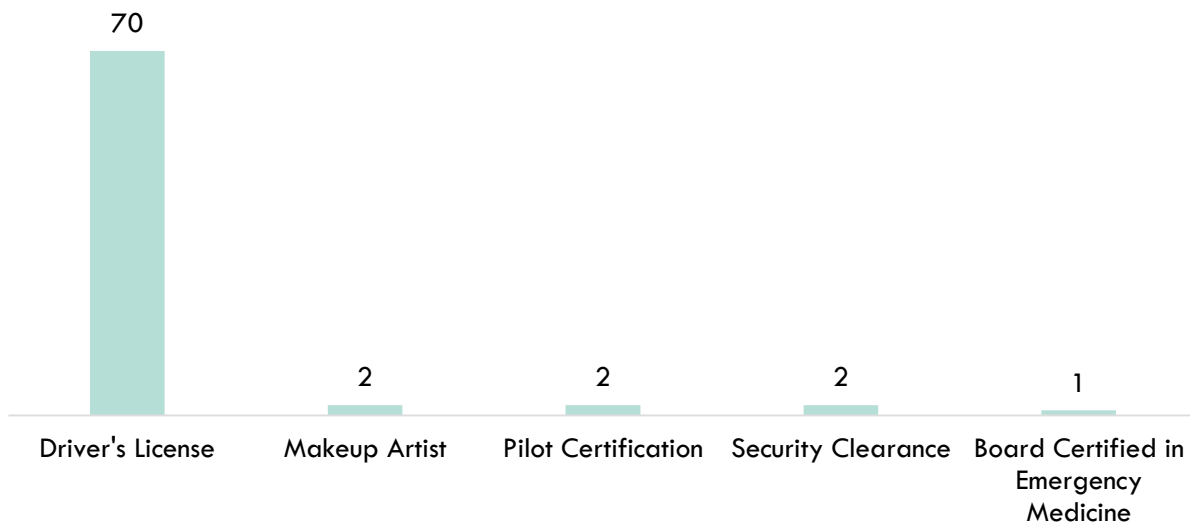
Exhibit 9. In-demand photography software skills



Certifications

Of the 467 job postings, 70 indicated a need for a driver's license. The next two top certifications are makeup artist and pilot certification (Exhibit 11).

Exhibit 11. Top photography certifications requested in job postings



Education, Work Experience and Training

The four occupations are middle-skill occupations (Exhibit 12). Three occupations typically require a bachelor's degree. Photographers typically have completed a high school diploma or the equivalent.

Exhibit 12. Education, work experience, training and Current Population Survey results for photography occupations¹

Occupation	Typical Entry-level Education	Work Experience Required	Typical On-The-Job Training	CPS
Art Directors	Bachelor's degree	5 years or more	None	27.1%
Graphic Designers	Bachelor's degree	None	None	29.2%
Photographers	High school diploma or equivalent	None	Long-term	34.6%
Camera Operators, Television, Video, and Motion Picture	Bachelor's degree	None	None	27.9%

Supply

Analysis of program data from the California Community Colleges Chancellor's Office Data Mart included the TOP codes: 101200 - Applied Photography, 103000 - Graphic Art and Design, and 061400 - Digital Media. Analysis of the last three years of TOP code data shows that, on average, 85 awards were conferred in the Central Valley/Mother Lode region each year (Exhibit 13).

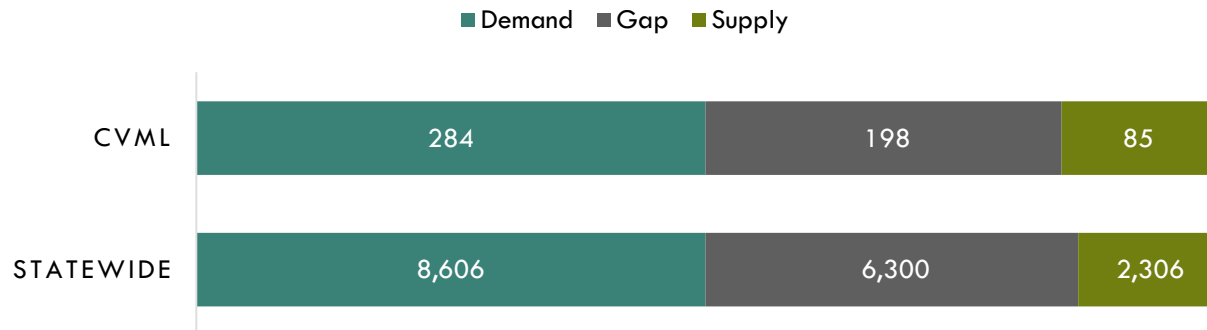
Exhibit 13. Postsecondary supply for photography occupations in the region

College	TOP Code-Title	Degrees	Certificates	Subtotal
Bakersfield	101200 - Applied Photography	0	4	4
	103000 - Graphic Art and Design	11	13	24
Columbia	061400 - Digital Media	1	2	3
Fresno City	101200 - Applied Photography	4	18	22
	103000 - Graphic Art and Design	6	2	8
Merced	101200 - Applied Photography	0	0	0
San Joaquin Delta	101200 - Applied Photography	0	1	1
	103000 - Graphic Art and Design	7	3	10
Sequoias	061400 - Digital Media	0	1	1
	103000 - Graphic Art and Design	1	11	12
Total		30	56	85

¹ "Labor Force Statistics from the Current Population Survey," Bureau of Labor Statistics, <https://www.bls.gov/cps/>.

There is an undersupply of 198 photography workers in the region and 6,300 workers in the state (Exhibit 14).

Exhibit 14. Photography workforce annual demand and supply in the CV/ML region and state



Student Outcomes

Exhibit 15 summarizes employment and wage outcomes from the California Community College Chancellor's Cal-PASS Plus LaunchBoard for the TOP codes related to photography.

Exhibit 15. Regional metrics for the TOP codes related to photography

Metric	Applied Photography	Graphic Art and Design	Digital Media
	101200	103000	061400
Students Who Got a Degree or Certificate	13	36	28
Number of Students Who Transferred	139	168	94
Employed in the Second Fiscal Quarter after Exit	61% (n=64)	58% (n=140)	51% (n=110)
Median Change in Earnings	39% (n=25)	102% (n=39)	44% (n=42)
Attained a Living Wage	30% (n=46)	30% (n=87)	37% (n=63)
Job Closely Related to Field of Study	*	*	*

* denotes data not available.

Conclusion

The entry-level wages of three of the four occupations exceed the CV/ML region's self-sufficiency and living wages for one adult. The regional entry-level wage of photographers, however, falls below the region's living wage. The occupation earning the highest median wages is art directors, \$32.33/hour in the region and \$40.08/hour in the region. Wages for camera operators (television, video, and motion picture) are also strong.

There were 467 job postings in the past 12 months for occupations related to photography in the region. Analysis of skills and certification requirements in job postings indicates:

- The top baseline skill is creativity, and the top specialized skill is photography.
- The top software skill is Adobe Photoshop.
- The top certification is a driver's license.

There is an undersupply of trained workers, a shortage of 198 in the region and 6,300 in the state.

Recommendation

Based on these findings, it is recommended that Modesto Junior College work with the retail, hospitality, tourism and entertainment regional director, the college's advisory board, and local industry in the expansion of programs to address the shortage of workers to fill photography-related jobs in the region.

Appendix A: Methodology & Data Sources

Data Sources

Labor market and educational supply data compiled in this report derive from a variety of sources. Data were drawn from external sources, including the Economic Modeling Specialists, Inc., the California Community Colleges Chancellor’s Office Management Information Systems Data Mart and the National Center for Educational Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). Below is the summary of the data sources found in this study.

Data Type	Source
Labor Market Information/Population Estimates and Projections/Educational Attainment	Economic Modeling Specialists, Intl. (EMSI). EMSI occupational employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level EMSI earnings by industry: economicmodeling.com .
Living Wage	A living wage calculator that estimates the cost of living in a specific community or region: livingwage.mit.edu .
Typical Education Level and On-the-job Training	Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education and typical on-the-job training to each occupation for which BLS publishes projections data: www.bls.gov/emp/ep_education_tech.htm .
Labor Force, Employment and Unemployment Estimates	California Employment Development Department, Labor Market Information Division, labormarketinfo.edd.ca.gov
Job Posting and Skills Data	Burning Glass, http://www.burning-glass.com/
Additional Education Requirements/ Employer Preferences	The O*NET Job Zone database includes over 900 occupations as well as information on skills, abilities, knowledge, work activities and interests associated with specific occupations: www.onetonline.org

Key Terms and Concepts

Annual Job Openings: Annual openings are calculated by dividing the number of years in the projection period by total job openings.

Education Attainment Level: The highest education attainment level of workers age 25 years or older.

Employment Estimate: The total number of workers currently employed.

Employment Projections: Projections of employment are calculated by a proprietary Economic Modeling Specialists, Intl. (EMSI) formula that includes historical employment and economic indicators along with national, state and local trends.

Living Wage: The cost of living in a specific community or region for one adult and no children. The cost increases with the addition of children.

Occupation: An occupation is a grouping of job titles that have a similar set of activities or tasks that employees perform.

Percent Change: Rate of growth or decline in the occupation for the projected period; this does not factor in replacement openings.

Replacements: Estimate of job openings resulting from workers retiring or otherwise permanently leaving an occupation. Workers entering an occupation often need training. These replacement needs, added to job openings due to growth, may be used to assess the minimum number of workers who will need to be trained for an occupation.

Total Job Openings (New + Replacements): Sum of projected growth (new jobs) and replacement needs. When an occupation is expected to lose jobs, or retain the current employment level, number of openings will equal replacements.

Typical Education Requirement: represents the typical education level most workers need to enter an occupation.

Typical On-The-Job Training: indicates the typical on-the-job training needed to attain competency in the skills needed in the occupation.

Wages Family Compositions: The living wage calculator estimates the living wage needed to support families. For single adult families, the adult is assumed to be employed full time. For two adult families where both adults are in the labor force, both adults are assumed to be employed full time. For two adult families where one adult is not in the labor force, one of the adults is assumed to be employed full time while the other non-wage-earning adult provides full-time child care for the family's children. Full-time work is assumed to be year-round, 40 hours per week for 52 weeks, per adult. Families with one child are assumed to have a 'young child' (4 years old). Families with two children are assumed to have a 'young child' and a 'child' (9 years old). Families with three children are assumed to have a 'young child,' a 'child,' and a 'teenager' (15 years old).