

NEW SKILLS AT WORK

Keeping Los Angeles at the Cutting Edge in an Evolving Industry

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With Mike Bernick
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EXECUTIVE SUMMARY

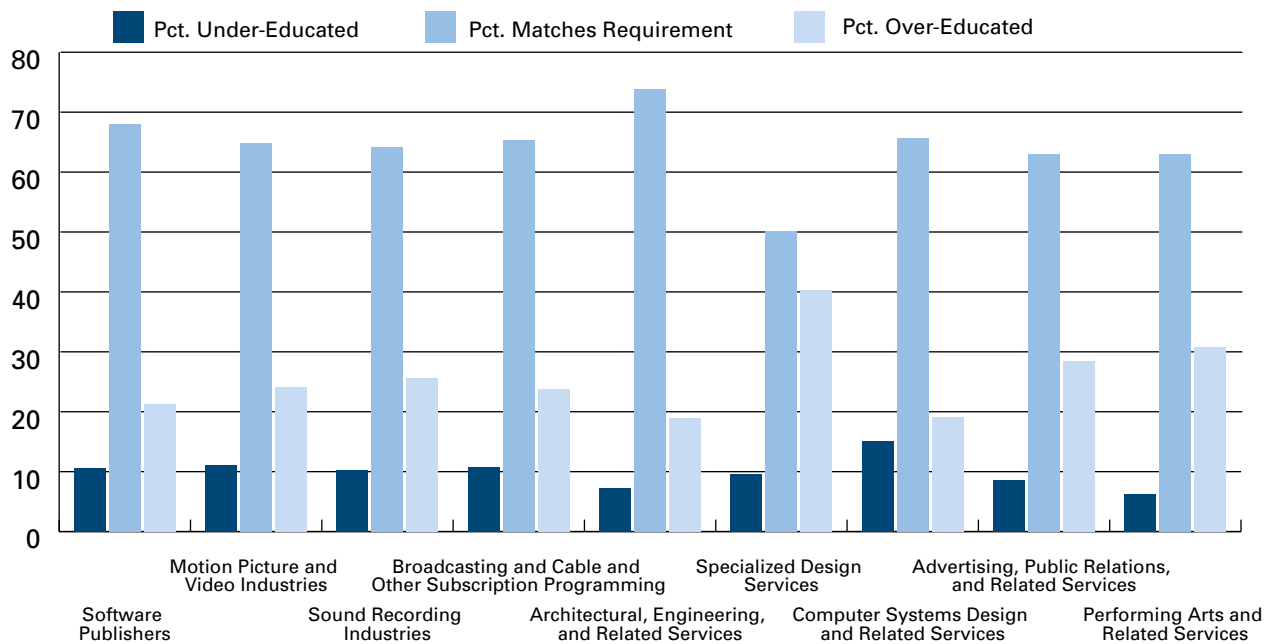
For more than a century, people have created filmed entertainment in Hollywood. Hollywood has been one of the key factors in defining California as a center of innovation and content-creation, and creative workers flock to the state to be part of a community of like-minded people. Workers have a chance to create not only movies, they also have the opportunity to break into television, and ultimately online streaming media.

While the Los Angeles region has long been the epicenter of production, globalization presents challenges and opportunities to the current and future workforce. While traditional production still flourishes, new media has dominated in recent years. With online-based content-creation and streaming platforms—coupled with short-form web-based media—the industry is seeing a massive change in how media is created and consumed. This shift has significant implications for the creative workforce in L.A. and around the world, both driven by the ease in which filming can now be performed in other global locations and the technology-driven skills required to adapt to the changing landscape. The key question at the core of our study: Is the workforce properly trained for this adjustment?

What began as a straightforward analysis of a potential skills gap in the workforce evolved into a larger examination of how the industry must expand with regard to opportunity and access. Ultimately, the major concern is not whether Hollywood has the means and ability to train its workforce for the continuing technology-driven new skillsets required—it almost certainly does. Rather, the primary concern is whether or not Hollywood can expand access to the training and skills to a much broader portion of the population in the L.A. region, both to provide a more diverse workforce that reflects the global market for media, but to also ensure that it has access to a wider variety of viewpoints and talent in an ever-changing world than the current system allows.

To evaluate creative cluster employment in the L.A. region, we undertook in-depth quantitative and qualitative research. The quantitative research consisted of a comprehensive assessment of American Community Survey (ACS) data, including North American Industry Classification System (NAICS) codes and occupational codes (SOC). This analysis yielded clear results that countered our initial presumption of a skills gap. To dig further into this, we conducted a qualitative research component through stakeholder interviews. Through this series of meetings, we found the perception of a properly prepared workforce, but an overwhelming sentiment of significant barriers to entry. We ultimately found that a skills gap does not exist; Hollywood's colleges, specialty schools, and apprenticeships ensure more than a sufficient supply of skilled individuals, even if those programs must continue to adapt to changing technologies. There is, however, an opportunity gap, inhibiting access to the quality education, training, and connections for diverse populations within the region. Being able to tap into that diversity is essential, not only for the local populace, but also for the strength of the future workforce in Hollywood.

Percentage education mismatch



Source: American Community Survey (2012-2014), BLS

In analyzing the challenges and opportunities for the local entertainment workforce in greater Los Angeles, we uncovered key findings through a combination of data analysis and direct engagement of key stakeholders in the entertainment unions, production companies, distributors, online content and digital media firms, educators, and activists:

Training: As seen in the chart above, a small percentage of candidates are underqualified for positions in the Creative Sector. This graphic demonstrates training and education programs are providing present and future generations with sufficient skills to succeed in the entertainment and media industries. We conducted a thorough review of the extensive training landscape in L.A., and educators are in tune with the demands of employers. Nonetheless, with a shift to more digital means of production, educators need to remain current with the latest technology. Still, the critical finding is not whether educational programs maintain adequate training levels. It is the failure of industry leaders, educators, and employers alike, to provide successful outreach and opportunity to disadvantaged and diverse communities. “Getting-in-the-door” strategies were emphasized repeatedly. Internships, fellowships, and apprenticeships were all highlighted as the primary means of obtaining and sustaining meaningful employment in the Creative Sector.

Global Competition: With the rise of globalization and the digitization of all media forms, the consumer-driven entertainment industry is more competitive than ever. Domestic competition for production is increasingly challenging, and states and countries are attempting to capitalize on companies looking for greater incentives. As noted in the Milken Institute’s report “A Hollywood Exit,” while these incentives can provide immediate attraction to production companies and growth for the local economy, job growth is by no means permanent. There are challenges associated in not having an ample production base, and most “above-the-line” talent—actors, writers, directors, and producers—is imported for the duration of a production, and ultimately returns to California. California—and Los Angeles in particular—has an edge, but in order to maintain that edge, the state and the county need to explore incentive structures and maintain workforce outreach and training levels.

Diversity: The ability for California’s Creative Sector to thrive into the future hinges on the entertainment and media industries ability to appeal to a diverse audience. Creation of diverse content requires input of a diverse workforce. There is a significant lack of comparable representation in Hollywood, given the overwhelmingly diverse population of the Los Angeles metro. We found a number of organizations, employers, and educators leading the charge on expanding access and breaking down barriers to entry, but those efforts alone are not enough. Exposure is the first step, but industry leaders must create a systematic approach to expanding access and enriching the pipeline.

Based on these findings, we identified five key takeaways for key principles involved in employing, representing, and educating the Los Angeles entertainment sector’s workforce:

- Recognize the key concern for the current workforce is an opportunity gap, not a skills gap.
- Identify the skills needed for new media—specifically technology—and ensure that new workers have skills needed to not only align with current jobs but also future ones.
- Develop strategies at both the employer and education level to increase outreach to diverse workforce candidates.
- Maintain and expand efforts for continuing education to keep skills current and cutting-edge, so that workers remain competitive.
- Analyze and adapt incentives and regulations to the changing media environment, namely to facilitate and encourage the growth and retention of local online content productions and new media.



California has a long history in entertainment. After all, it is home to the six largest film and television studios, Twentieth Century Fox, Warner Bros., Paramount, Universal, Sony Pictures, and Disney, as well as numerous emerging media and technology companies, such as Snap Inc., YouTube, and BuzzFeed. Traditional production companies gravitate toward the state—specifically to Los Angeles County—for its temperate climate that permits year-round outdoor filming and a large, skilled workforce. Furthermore, many new media and tech firms start in California due to the state’s culture of innovation and prominent educational institutions that provide well-skilled, new employees. While California has a distinct advantage, the globalization of entertainment presents both opportunities and challenges for the creative workforce. Training levels must be maintained to reduce the risk that this lucrative industry leaves its Golden State home base. Even if training levels are addressed, California faces a bigger hurdle that threatens its workforce: the lack of opportunity, particularly to those of diverse backgrounds.

This study began as an examination of the current state of the entertainment workforce in Los Angeles and to probe what training is required to enable the industry to thrive into the future. We expected to find demand for certain skills that much of the workforce does not presently have. While we uncovered room for improvement—particularly in technology—this wasn’t our primary finding. Instead, while the skills needed for the current jobs in the entertainment industry were plentiful, the skills required for the evolving new media and tech firms were not so widespread, particularly among the more diverse parts of the Los Angeles population. Consequently, the study evolved into an examination of the barriers to entry into the workforce, principally for women, people of color, and low-income populations. Through our analysis and many conversations with stakeholders, we developed a more direct focus on shaping the future of the Los Angeles entertainment industry workforce. The training apparatuses and awareness for imparting the new skillsets are present, but there is a significant disconnect among efforts to expand access.

Domestic and global tax credits still lure production in large numbers from California (an exodus eased by increased incentives in the state), but the ability to work remotely through new technologies has also played a role in the loss not only of local productions, but also the key elements of post-production and online content. Many creative sector jobs can essentially go anywhere in today’s highly-connected, digitally-driven economy. Increasingly, everything is digital—and we’re seeing a large shift in consumption from traditional television and movie theaters to online-based media. It is becoming more and more difficult to distinguish tech from entertainment, especially as filmmaking and gaming continue to converge. Traditional forms of media and entertainment, such as television and films designed for theatrical release, remain a critical component of the industry, but there has been a widespread rise in tech-media houses. This is a vital asset to a local economy because technologies and innovation create their own demand by continuously evolving delivery and production formats. Consumers have more options than ever before; and the industry, educators, and the workforce must keep pace.

In this fluid and rapidly evolving setting, we examine the most fundamental element: the entertainment and Creative Sector workforce. The quality of the workforce largely determines whether Los Angeles County retains its dominant position in global entertainment. Our study did not find a shortage of trained employees wherein supply cannot meet demand, however we are in danger of creating a lack of supply in the near future if we continue to allow jobs and skilled workers to leave the state while failing to provide the training needed to replace departing workers and maintain a base of skilled labor. We must ensure this base is broad in terms of the skills offered and flexible enough to expand, especially with regard to the advanced technologies employed in modern production.

There is, in fact, little evidence of inadequate training in higher and continuing education programs, particularly among the various unions, but access is another issue entirely. Local educators and training organizations can and should put additional emphasis on new technology; but most are in tune with the curricula demands of employers. Yet, we did find a clear opportunity gap—industry access for low-income and historically minority populations is glaringly problematic. That gap becomes clearly apparent with respect to minorities' access to education, technology, and networking. California's expansive education system—both public and private—offers many opportunities for training in any field. However, decreases in public funding for education have made it difficult even for middle-income families to finance their children's education. Further, newer jobs often require access to training on technology that is either not present in sufficient numbers at local schools, nor in the homes of many aspiring media professionals. Therefore, hopeful entertainment workers from lower- and middle-income groups fall further behind their more advantaged peers. Additionally, people of diverse backgrounds have far more difficulty getting jobs in the industry. That includes diversity based on gender, ethnicity, socioeconomic background, sexual orientation, etc. Historically, Hollywood has always been an insular industry rooted in connections, and, while that lack of diversity has come under fire recently, it has changed little. The absence of diversity impairs the industry's ability to speak to—and draw from—a broad audience.

The opportunity here is the modification of industry standards. Stakeholders and policymakers should place additional emphasis on technology, but they also need to address critical issues of access. The marketplace is changing, and the industry must do a better job of leveraging its assets. Global revenue is key to the success of the local/regional economy, and a well-trained, adaptable, and diverse industry facilitates the region's competitiveness in the market. Entertainment and the Creative Sector are core features of the California economy. The future challenge we will encounter is the changing face of the industry. The boundaries between the different divisions of entertainment have blurred so much that they are nearly non-existent. The industrial base in Southern California must adapt or risk being left behind.

Defining the Creative Sector and the entertainment industry

“The new media are extending the dissemination, interaction, or consequences of human communication.” - Williams, Frederick, *Research Methods and the New Media*, 1988.

In a world of digital communication, we have known for quite some time that “new media” is the way of the future. As a result, our view of entertainment has broadened beyond television, film, radio, and live performance to include anything from social media to free podcasts. Something that starts as a video game can be made into a feature-length film released in movie theaters. This muddies the idea of what is or is not part of the entertainment industry.

Even a narrowly defined entertainment industry includes a vast array of occupations—anything from catering to digital graphic designer. Many of the skills overlap from one industry to the next. Take the digital graphic designer as an example: a trained designer who develops graphical assets for movies could do the same work for video games. The overlap makes it difficult to restrict our analysis to the narrowly defined entertainment industry, without looking at other industries that might share its workforce. For this reason, our study will look at a handful of industries—which we will call the Creative Sector—identified through research and stakeholder outreach.

A creative economy is defined by the adjective “creative,” which is “marked by the ability or power to create.”¹ Extending this idea, we define our Creative Sector with industries related to content creation. We include any industry that is heavily involved in the design, creation, and sustenance of art, entertainment or technology content in our Creative Sector. This sector includes a variety of industries:

- Software publishing
- Motion picture and video
- Sound recording
- Radio and television broadcasting
- Cable and other subscription programming
- Architectural, engineering, and related services
- Specialized design services
- Computer systems design and related services
- Advertising, public relations, and related services
- Performing arts companies
- Promoters and performing arts, sports, and similar events
- Agents and managers for artists, athletes, entertainers, and other public figures
- Independent artists, writers, and performers

As innovation and digitization of the Creative Sector increases, some companies are taking on roles across more than one of these industries. For example, some tasks in motion picture or television post-production have historically been contracted out, but now, some new technology studios and independent production companies may have the capacity to take on more of these tasks in-house. Or in some cases, a company who previously concentrated on content distribution may now be taking on content creation as well, including firms such as Netflix, Amazon, and Hulu, as well as prior adopters such as HBO and Showtime. For these and many other reasons, the lines between many of the industries we have chosen as part of our Creative Sector continue to blur. This makes it necessary to combine more specific case-by-case information obtained from our stakeholders with more concrete, but less detailed, information from survey data to complete the picture of Los Angeles's Creative Sector and, more specifically, the entertainment industry.

Though software publishing is commonly perceived as part of the Information Technology sector, its role in the Creative Sector has become increasingly pronounced. Southern California's "Silicon Beach" has welcomed many tech startups in recent years, clustering a unique group of content creators, including many that focus on software publishing. The diversity of the Los Angeles area makes it an ideal laboratory for product testing. With several universities, including the California Institute of Technology and a strong film and entertainment program at the University of Southern California, the area also provides a deep talent base.

Los Angeles earned its reputation as the entertainment capital of the world. Though the sound recording industry is identified as one face of the area's entertainment industry (publishers such as Universal Music Group, Warner Music, Sony Music, and many recording studios are in Los Angeles), motion picture and video are its flagship industries. All of the major television networks have studios in the Los Angeles area, making the region a mecca for both mediums. Workers who want to enter the entertainment business find that Los Angeles gives them their best chance. Due to the nature and duration of many film and television projects, it is the least risky option for managers to fill positions with workers they are already connected with, or those recommended by friends and associates.

The landscape for the motion picture and television industries has been altered by our digital world. In the past, the industry generally consisted of a gig² production schedule with a project's duration, which was dependent on many factors, including budget and method of distribution. Now, the pervasion of internet access and the demand for content allows companies to create a high-volume of short form digital projects for which they can pull from a full-time staff rather than hiring from project-to-project. These two vastly different production models are now present in Los Angeles, and lead to a certain amount of ambiguity when it comes to employment data.

Technology has also increased the mobility of TV and film production. Increased mobility along with tax incentives elsewhere means Los Angeles has lost production work. However, the metro remains a dominant hub due to its unbeatable collection of skilled labor, industry-related financing, and distribution. To keep production, it is necessary to invest in the maintenance and strengthening of Los Angeles' comparative advantage brought by Creative Sector skilled labor.

Television is a huge part of the entertainment industry and the Creative Sector. Technology has allowed for increased production values in shorter amounts of time, giving way to premium channel behemoths like Showtime’s “Homeland” and HBO’s “Game of Thrones.” These changes have also brought top movie writers, directors, and actors to the small screen. The long-held perception of television as the lesser medium has diminished.

As production platforms change, distribution and delivery of content is evolving along with technological advancement. Television series have multiple methods of distribution in our new digital world. Premium channels offer online streaming platforms and now companies like Netflix, Hulu, and Amazon Prime not only distribute series produced by other networks, but create original series that have won wide, popular, and critical acclaim. They also have attracted notoriety for content that is not constrained by federal regulators such as the Federal Communications Commission, which sets limits on nudity, violence, and sexual content for broadcast television.

As smartphones and easier internet access have broadened the user base of online platforms, a new wave of digital content creators emerged in Los Angeles with ventures such as Funny or Die, BuzzFeed, and Cracked joining its creative cluster, often drawing on existing talent to drive new ventures. These companies create short form videos that are solely disseminated digitally and can be produced quickly. Rather than hire on a project-by-project basis as film and television production companies typically do, online outlets are more likely to have full-time staff that can handle a high volume of small projects.

Although the entertainment industry is still thought of as a gig economy, the role of innovation and digitization has actually given the Creative Sector two distinct production schedules. The traditional entertainment industry still has its project-based gig economy while new media is more likely to offer full-time jobs with more security and benefits.

Stakeholder engagement

As the quantitative approach provides clear benchmarking to depict size, employment trends, and wage characteristics of the entertainment and Creative Sector in Los Angeles, our analysis also included thorough engagements with experts and practitioners in the field. Our qualitative intake includes employers, unions, and educators as well as active skilled workers engaged in the industry. That qualitative analysis is critical to understand people’s impressions on the state of the sector and its workforce. Through their extensive knowledge of the Creative Sector—particularly with a focus on the making of films, commercials, and TV—our analysis provides a richer and better understanding on recruiting, training, and the utilization of skilled labor. This emphasis on interactions with stakeholders at various levels of production results in our primary finding: there isn’t an apparent shortage in skilled labor (where adequate supply is not meeting demand), rather, an opportunity gap—those with the necessary skillsets simply can’t get in or the current skill level may not be satisfactory for future needs.

Through our conversations with stakeholders, it became clear that while certain skills are needed to remain current in this constantly evolving industry, the problem is not so much with employment candidates who lack the necessary skills; it is with struggling to gain entry. Skilled candidates who aspire to work in entertainment have trouble accessing the industry through ordinary channels, particularly low-income and minority individuals who lack connections. Even in low-to-middle skill jobs, Hollywood has always been a company town that is largely familial based. Particularly in traditional production, the old adage holds true—it's not what you know, it's who you know. We set out to uncover how, working within the current system, we could emphasize training in necessary skills while at the same time lessening barriers to entry.

We also turned our focus to the emerging new media industry. While the traditional entertainment industry still accounts for a lion share of the sector and is well-represented in the Los Angeles metro economy, the new media industry augments the economy by adding (not by replacing) jobs that would otherwise not be based in California. We were particularly interested in this microcosm because we know these types of jobs require a digital technical skill level above many traditional “below-the-line” manual abilities, and it is therefore a prime example of how and why employment access for a diverse population is critical to remaining competitive. As mentioned earlier, Silicon Beach has emerged as a leading power in content creation and media distribution. Through this qualitative analysis, we explored how new media differed from traditional media, and opportunities for human capital development in Los Angeles County.

We engaged with entertainment industry stakeholders throughout Summer and Fall 2016. These included educators, union and nonprofit leadership, and employers across the sector. We held an employer stakeholder roundtable in June and an educator roundtable in July. We also conducted numerous one-on-one interviews and site visits with individuals and groups from all categories.

In all of our stakeholders outreach meetings and interviews, we framed the discussion around the competition the sector faces, as well as building capable and agile talent pools that can take on domestic and global challenges. Finally, of no less importance, we focused on a competitive institutional framework for talent generation, workforce training, and most importantly access to opportunity through training and networking apparatuses.



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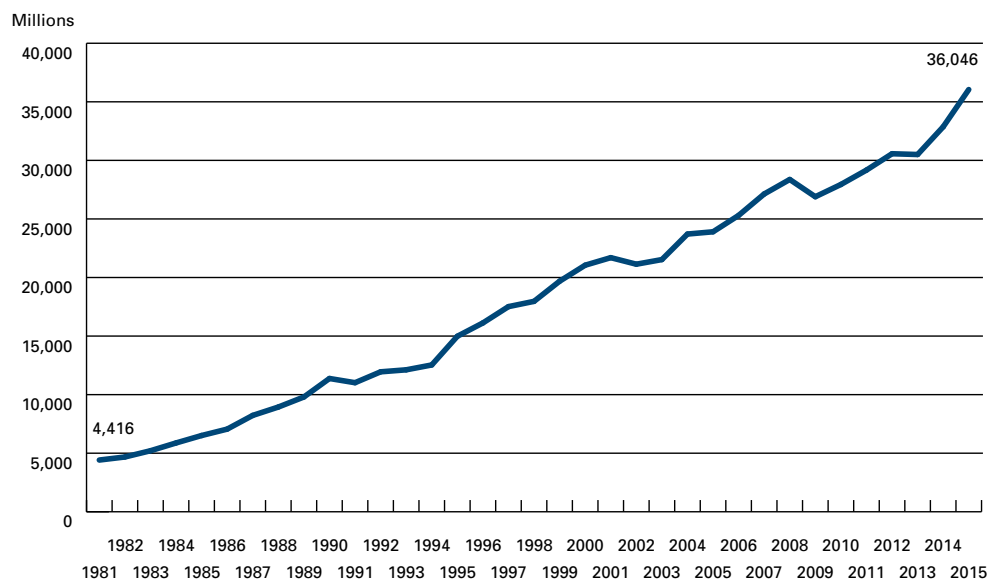
ANALYSIS OF THE LOS ANGELES COUNTY CREATIVE SECTOR

EMPLOYMENT PATTERNS IN CREATIVE SECTOR INDUSTRIES

When analyzing employment patterns in the Creative Sector there is no evident skills gap that needs filling, due in large part to the tremendous concentration of talent that historically developed to make Los Angeles a globally dominant entertainment industry cluster. Instead, due to production flight, there are often reasons for skilled workers to relocate part-time or full-time to other metro centers of production. Data shows that most workers meet or exceed the education level the Bureau of Labor Statistics (BLS) marks as required for entry for their respective occupations. Furthermore, the Creative Sector does not lack qualified, or even over-qualified workers, yet in many Creative Sector industries overtime hours are prevalent. This points to an access issue where qualified unemployed or underemployed workers are not utilized to curb the overemployment of a resource—in this case that resource is human capital.

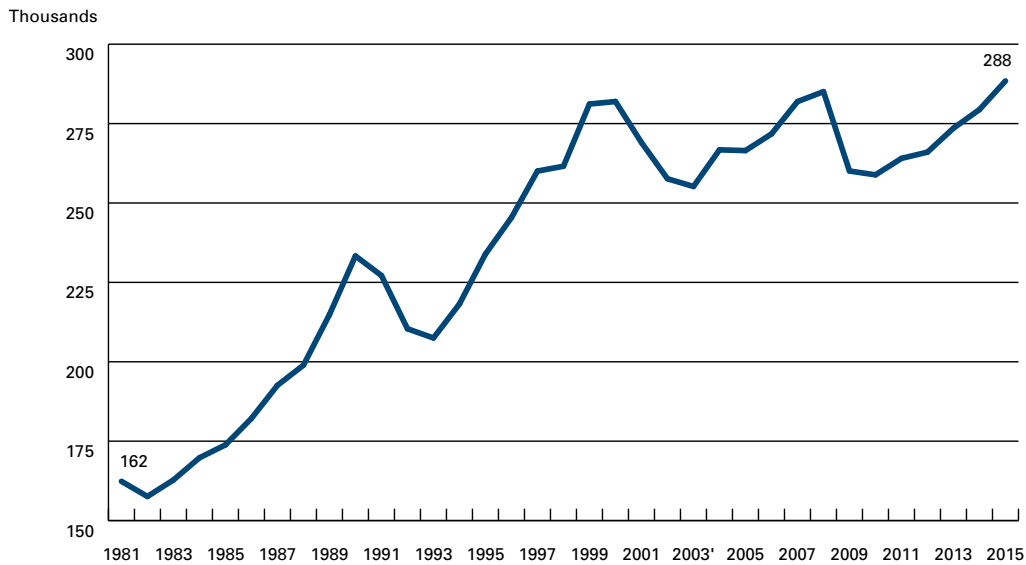
Figures 1 and 2 show the overall growth in the Creative Sector in the last few decades as total wages have grown over 700 percent and total employment over 70 percent. Though both wage and employment increased, the change in employment is less linear, experiencing some fluctuation over the years. The dotcom bubble burst in the early 2000s and the great recession at the end of that decade coincide with the last two major dips in Creative Sector employment (Figure 2). The dip in the early 2000s illustrates just how intertwined technology became in the Los Angeles entertainment industry, and reflected the significant impact of runaway production, which is well documented in prior Milken Institute publications.³ Certain occupations have developed trends as digital pervasion has increased. Jobs related to traditional entertainment that use older technologies to produce content are reducing because new digital production methods and digital distribution of content are more prevalent.

Figure 1: Total wages in the Los Angeles Creative Sector



Sources: Moody's Analytics, Bureau of Labor Statistics

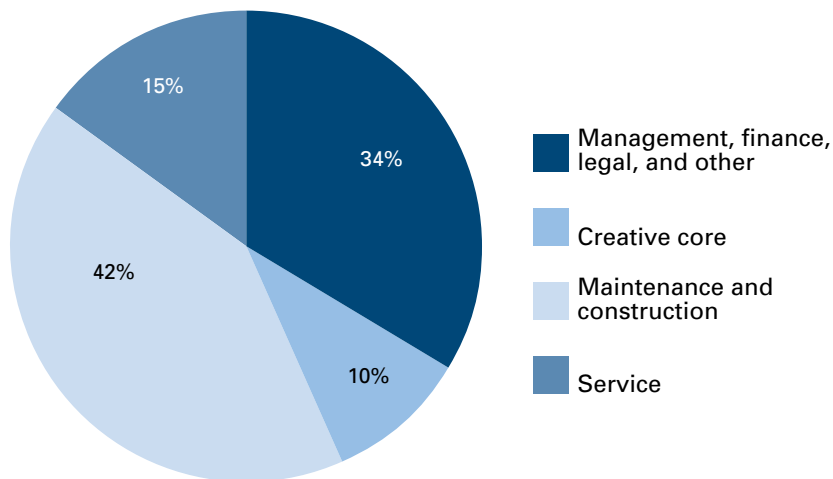
Figure 2: Total employment in the Los Angeles Creative Sector



Sources: Moody's Analytics, Bureau of Labor Statistics

Many jobs in the Creative Sector are not confined to one or even two industries. When looking at where the future of employment is for the Creative Sector, it is imperative to understand what common occupation types comprise the largest proportions of the sector. The following graph (Figure 3) shows the four major categories of creative industry occupations and what percentage of jobs each category employs.

Figure 3: Creative Sector occupational breakdown, 2014



Source: Occupations Employment Survey

Figure 3 shows the largest piece of the Creative Sector is actually “maintenance and construction” work. Although these occupations are important parts of the Creative Sector, many are not directly involved in content creation and generally not the type of jobs pursued by those seeking entry to Los Angeles’s Creative Sector. The same can be said for many of the “management, finance, legal, and other” category and “service” category jobs as well. For our purposes, we discuss jobs which are more closely related to content creation. Therefore, Table 1 features common occupations that show growth between 2010 to 2014 in the Occupational Employment Survey (OES) that better align with our concentration.

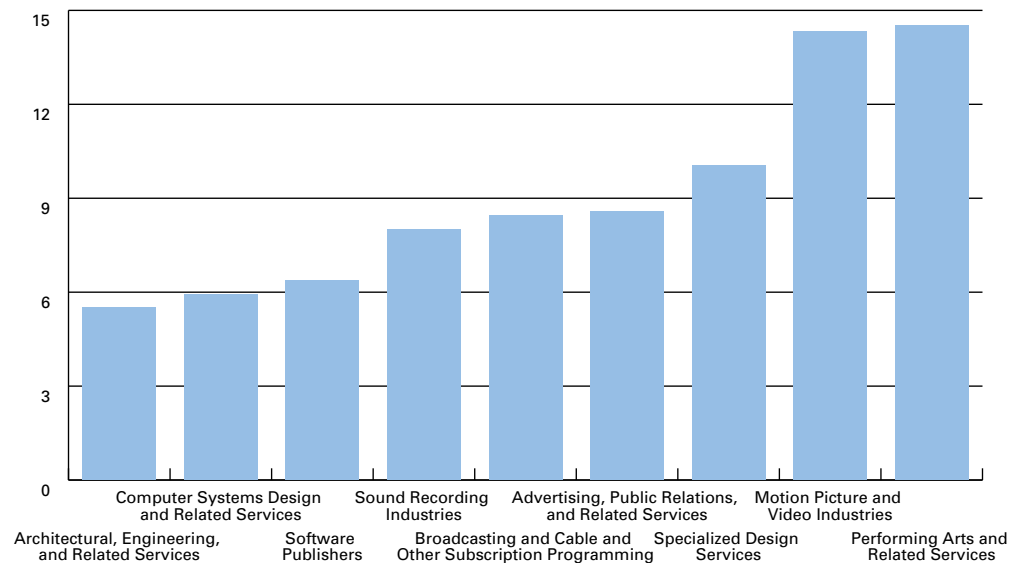
The featured occupations in Table 1 cover many different skill and education levels, but one noticeable trend is many of them require a Science, Technology, Engineering, and Mathematics (STEM) background. This should come as no surprise with the advent of new media, which is produced and distributed through digital mediums. New media companies are hiring full-time employees with a broader range of skills that may include data analysis or coding, as well as creativity.

Table 1: Featured occupations in the Creative Sector

OCCUPATION	TYPICAL EDUCATION REQUIREMENT	PERCENT TOTAL EMPLOYMENT GROWTH 2010-2014
DESIGNERS, ALL OTHER	Bachelor's degree	123.93
PHOTOGRAPHERS	High school diploma or equivalent	108.96
COMPUTER AND INFORMATION RESEARCH SCIENTISTS	Doctoral or professional degree	81.84
COMPUTER HARDWARE ENGINEERS	Bachelor's degree	77.26
OPERATIONS RESEARCH ANALYSTS	Bachelor's degree	74.29
ANIMAL TRAINERS	High school diploma or equivalent	68.05
MEETING, CONVENTION, AND EVENT PLANNERS	Bachelor's degree	49.27
MULTIMEDIA ARTISTS AND ANIMATORS	Bachelor's degree	46.85
HAIRDRESSERS, HAIRSTYLISTS, AND COSMETOLOGISTS	Postsecondary non-degree award	46.11
ENVIRONMENTAL ENGINEERS	Bachelor's degree	41.16

Source: Bureau of Labor Statistics and Occupational Employment Survey

Figure 4: Unemployment rate by industry



Source: American Community Survey (2012-2014)

As shown in Figure 4, the top three highest unemployment rates exist in traditional creative industries: specialized design services, motion picture and video industries, and performing arts and related services. This does not necessarily signal a lack of industry growth, but rather the willingness of people in traditional creative industries to struggle through periods of unemployment. In contrast, the three lowest unemployment rates exist in creative industries that employ new skills: software publishing, the computer systems design and related service industry, and the architectural, engineering, and related service industry. This signals that people with STEM skills have relatively less trouble finding work in our Creative Sector.

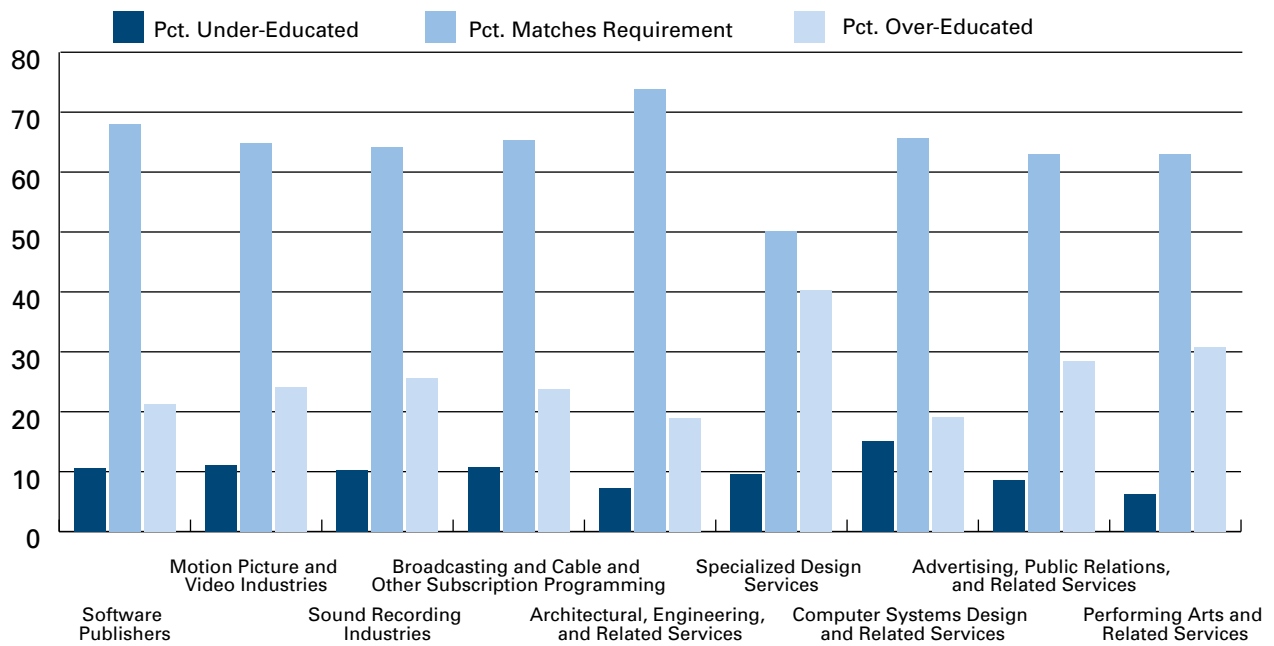
However, it should be noted that the two industries with the highest unemployment are characterized by gig economies. People in these economies often have multiple jobs other than the Creative Sector profession they report on surveys. These other jobs may be through independent or non-employer sources that are not easily tracked by survey data. Also, just because workers are considered employed within their profession does not mean they ultimately get as much work as they need. This means there are times when workers who are employed, albeit in a different line of work than their identified profession, may be counted as unemployed. Vice versa, there may be times when people who are underemployed are counted as employed. These factors make employment in gig economies difficult to track with survey data.⁴

Industry overview

When analyzing the Creative Sector, it is important to understand the education, employment, pay, and hours worked trends in specific industries. As we know that the Creative Sector's human capital issue is access, not a lack of skills, there are certain red flags for which to look—high rates of sufficient and over-education and overtime.

By comparing the education requirement for an occupation according to the BLS to a person's actual education level (who holds that occupation), we can determine whether someone is under-educated, sufficiently educated, or over-educated for his or her job. Figure 5 shows that Creative Sector industries across the board had low levels of under-education. In a rare case, over-education reached 40 percent of workers in the specialized design services industry, but most other industries' percent of over-educated hovered around the lower 20s (Figure 5).

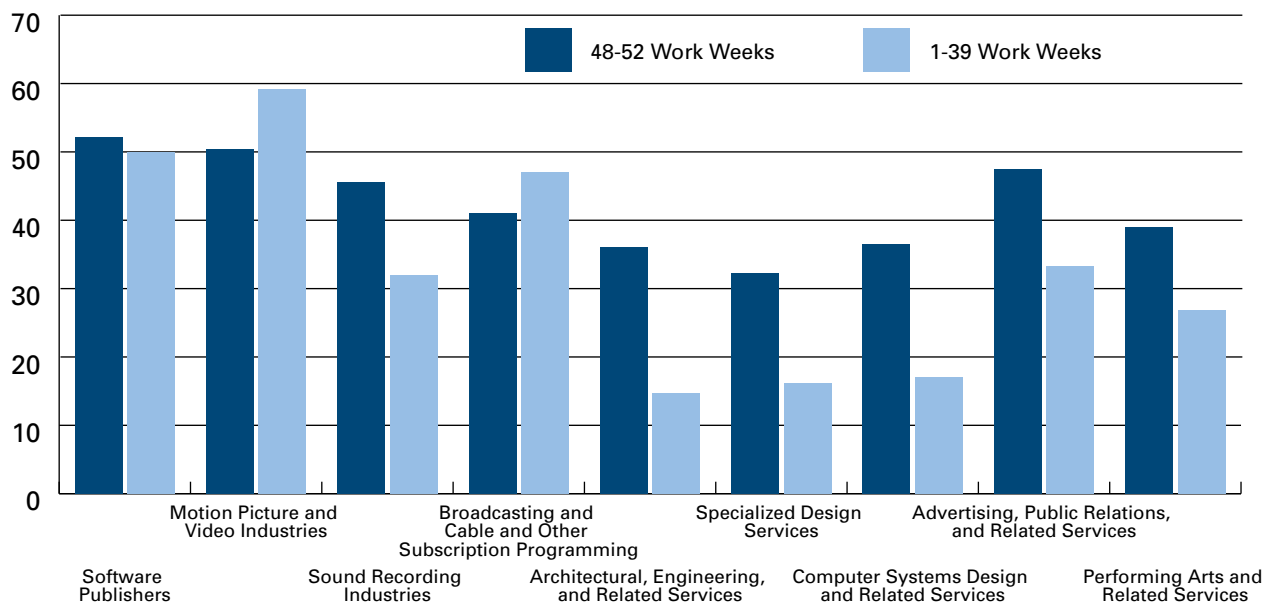
Figure 5: Percentage education mismatch



Source: American Community Survey (2012-2014), BLS

Concerning hours worked, we are most interested to know if employees are consistently working overtime, or greater than 40 hours per week. Over-employing a resource—human capital in this case— would mean that an employer has labor produce beyond its production possibility, which is unsustainable in the long-run. Knowing which industries have high rates of workers who average overtime hours throughout the year is important in order to decide which areas require the most work with connecting employees and employers. Figure 6 shows that higher rates of overtime hours tend to exist in industries that are artistic in nature or related to traditional entertainment.

Figure 6: Percentage of full-year workers and part-year workers averaging over 40 hours of work per week



Source: American Community Survey (2012-2014), BLS

Some industries show strong growth, oversaturation, or a marked need for intervention regarding the matching of employees and employers. We profile the software publishing, the motion picture and video, the broadcasting and cable and other subscription programming, the specialized design services, and the advertising, public relations, and related services industries for a deeper understanding of the Creative Sector.

Industry profiles

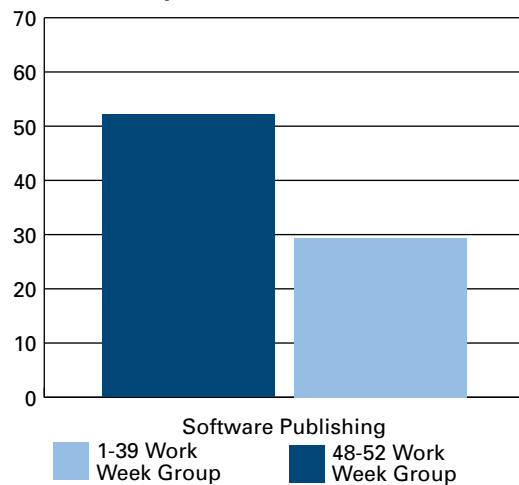
SOFTWARE PUBLISHING: NAICS 5112

Highlights:

- Wages grew 190 percent from 2004-2014—largest growth in Creative Sector.
- 89 percent of employees work 48+ weeks in a year.
- Of employees working 48+ weeks annually, 52 percent work an average of >40 hours per week—highest rate of overemployment for full-year workers in the Creative Sector.
- Third (out of nine) lowest unemployment rate in Creative Sector.
- 89 percent of employees meet or exceed the BLS education requirements for entering their occupations.

Sources: American Community Survey (2012-2014), BLS, Occupational Employment Survey

Figure 7: Percent of workers averaging >40 hours per week



Employment for the software publishing industry steadily increased from 2004-2014, (Appendix 1, Figure 14), and shows that tech is experiencing growth beyond Silicon Valley in California. With the last decade of innovation, video games became a larger part of the entertainment business. The ever-increasing quality of games and gaming systems has brought higher price points for gaming products and higher revenue for video game companies. The visuals have become so realistic that the film and video game production have overlapped. Movies like “The Fifth Element,” “The Matrix,” and “300” delivered on the back of massive world-building effects of the “Star Wars” series and “Avatar” to usher in a new era of visual art in the entertainment industry.

With further need for software programming in entertainment, we can expect the industry’s presence in the Los Angeles Creative Sector to continue growing. Large increases in wages generally indicate that employers are demanding more labor. Furthermore, nearly 87 percent of employees work at least 48 weeks out of the year, implying the industry is not based on gig production. More pointedly, of those who work 48 weeks or more in the year, over half of them average work week hours in the overtime range (over 40 hours in a week). The overemployment of current labor is evidenced by the high percentage of employees who work overtime regularly. The overemployment of current resources, increasing wages, and low unemployment rates among the top occupations (Table 2) implies demand is increasing for workers in this industry.

With a lack of jobs going unfilled and insufficient evidence that workers in this industry lack qualifications for their jobs, still there is no evident skills gap. Rather, not enough of the candidates enter this field at all, let alone find gainful employment in the Los Angeles area.

Table 2: Top 10 occupations in software publishing (NAICS 5112)

OCCUPATION	PERCENT OF INDUSTRY	UNEMPLOYMENT RATE
Programmers and Developers	15.96	3.33
Financial Clerks, All Other	7.45	7.14
Marketing and Sales Managers	4.26	0.00
Computer and Information Systems Managers	4.26	12.50
Computer Occupations, All Other	3.72	14.29
Customer Service Representatives	3.72	14.29
Executive Managers And Legislators	3.19	0.00
Construction Managers	3.19	0.00
Computer Programmers	3.19	0.00
Inspectors, Testers, Sorters, Samplers, Weighers	2.66	20.00

Source: American Community Survey (2012-2014)

The top occupation in the software publishing industry is programming and developing. Of the people who identify as a programmer or developer within the software publishing industry, only 3.33 percent are unemployed, indicating that workers who enter this field do not have difficulty finding a job (Table 2). Although Los Angeles lags behind Silicon Valley, and increasingly Canadian incentive-driven metros such as Vancouver and Toronto in programming employment, a very strong concentration of workers in this sector remain in Los Angeles. With the rise of new tech entertainment firms located in the metro, demand in this sector is only likely to grow.

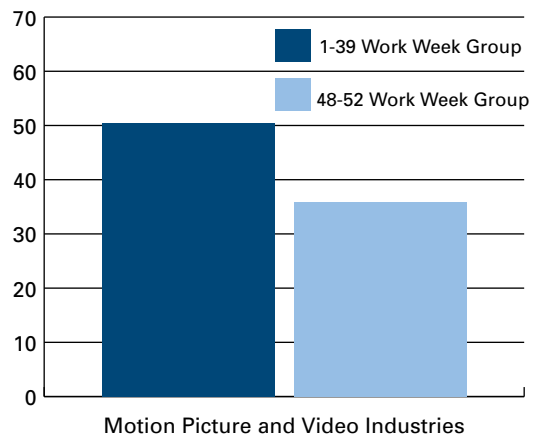
MOTION PICTURE AND VIDEO INDUSTRIES: NAICS 5121

Highlights:

- 24 percent of workers in this industry are part-year workers (work 1-39 weeks a year)—second highest rate of part-year workers in the Creative Sector.
- 36 percent of those who work 1 to 39 weeks per year work a weekly average of over 40 hours per week—highest rate of overemployment for part-year workers in the Creative Sector.
- 50 percent of full-year workers (48-52 weeks per year) are also overemployed—second highest rate of overemployment for full-year workers in the Creative Sector.
- 89 percent of employees meet or exceed the BLS education requirements for entering their occupation.

Source: American Community Survey (2012-2014), BLS

Figure 8: Percent of workers averaging >40 hours per week



Employment in the motion picture and video industries fell from 2004 to 2009 but began to grow again from 2009 to 2014 (Appendix 1, Figure 14). Despite the rise, the industries did not return to pre-recession numbers by 2014. Wages experienced little to no growth from 2004 to 2009 but did pick up from 2009 to 2014 (Appendix 1, Figure 15). Much of the employment and wage trend in these industries is attributed to the great recession.

The large percentage of employees who work between one and 39 weeks out of the year—and the long workdays that are common during those weeks—reflects its gig based economy. Even so, the industries’ full-year workers also put in high rates of overtime hours, characterizing it as perhaps the hardest-working segment of the Creative Sector.

When seeing a high rate of unemployment as well as common overtime hours for current employees, it is logical to assume there are unemployed workers in this industry that should be easing this overemployment of resources. Why is this readily available supply of labor not utilized? We know that these workers are technically qualified by BLS education standards as 89 percent of workers meet or exceed the requirements for their occupations. Rather than a skills gap for those under-utilized workers, we see an opportunity gap. Employers do not have access to these workers, and vice versa, those workers do not have access to pathways of employment in this field.

Table 3: Top 10 occupations in motion picture and video industries (NAICS 5121)

OCCUPATION	PERCENT OF INDUSTRY	UNEMPLOYMENT RATE
Producers and Directors	15.77	14.56
Camera Operators and Editors in Film and Video	7.17	15.30
Editors	5.33	12.44
Actors	3.9	39.22
Artist Occupations Not Requiring a Bachelor's	3.5	18.98
Writers and Authors	3.16	24.19
Secretaries	3.04	10.08
Photographers	3.01	20.34
Production, Planning, and Expediting Clerks	2.99	23.93
Executive Managers and Legislators	2.25	5.68

Source: American Community Survey (2012-2014)

Some of the highest unemployment rates within the Creative Sector are seen in the motion picture and video industries (Figure 4). There is an alarmingly high unemployment rate of 39.2 percent for actors (Table 3). People continue to enter the acting occupation even though the probability of finding work is low in comparison to any other top occupation in the motion picture and video industries. Because entertainment employment is very often project-based rather than constant, year-round employment, large numbers of workers in the industry are not employed 52 weeks a year. Still, we can observe a great deal by investigating how many employees find enough work to demonstrate higher levels of employment throughout the year in the Los Angeles metro.

**BROADCASTING AND CABLE
AND OTHER SUBSCRIPTION
PROGRAMMING:
NAICS 515**

Highlights:

- 89 percent of people in these industries meet or exceed BLS requirements for entry into their occupation.
- 30 percent of those who work 1 to 39 weeks per year work a weekly average of over 40 hours per week—second highest rate of overemployment for part-year workers in the Creative Sector.

Source: American Community Survey (2012-2014), BLS

Though wages increased in broadcasting and cable and other subscription programming from 2004 to 2014, employment did not trend upward (Appendix 1, Figure 14 and Figure 15). The increase in wages without matching employment increases may indicate the impact of innovation. Technology may be replacing human labor.

Figure 9: Percent education mismatch

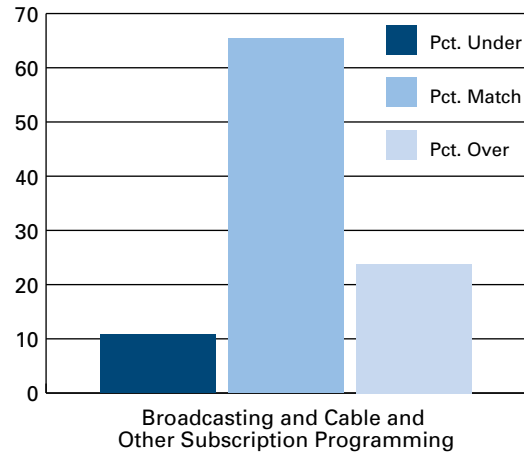


Table 4: Top 10 occupations in broadcasting and cable and other subscription programming (NAICS 515)

OCCUPATION	PERCENT OF INDUSTRY	UNEMPLOYMENT RATE
Producers and Directors	10.95	9.32
Advertising Sales Agents	6.33	9.68
Camera Operators and Film and Video Editors	4.15	8.20
Writers and Authors	3.74	16.36
Photographers	3.74	5.45
Telecommunications Line Installers and Repairers	3.74	5.45
Editors	3.61	13.21
Marketing and Sales Managers	3.13	4.35
Customer Service Representatives	3.13	6.52
Accountants and Auditors	2.93	0.00

Source: American Community Survey (2012-2014)

Among its top 10 employed occupations, more traditional entertainment jobs such as producing, directing, writing, and editing had relatively high unemployment rates from 2012-2014 as shown in Table 4. The common service jobs in the broadcasting and cable industries had lower unemployment rates.

SPECIALIZED DESIGN SERVICES INDUSTRY: NAICS 5414

Highlights:

- 20 percent of people working in this industry are part-year workers (work 1-39 weeks)—third highest rate of part-year workers in the Creative Sector.
- Only 12 percent of part-year workers average <40 work hours per week—second lowest rate of overemployment for part-time workers in the Creative Sector.
- 40 percent of people employed in this industry exceed the BLS requirement for entry to their occupation—highest rate of over-education in the Creative Sector.

Figure 10: Percent of workers averaging >40 hours per week

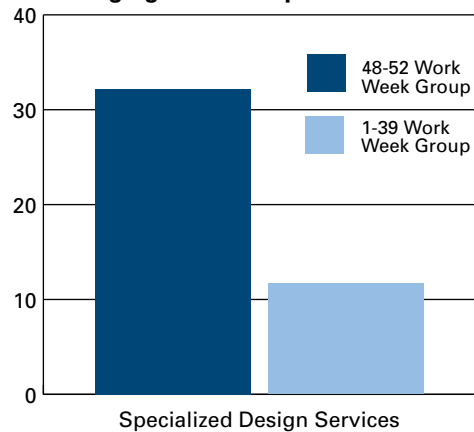
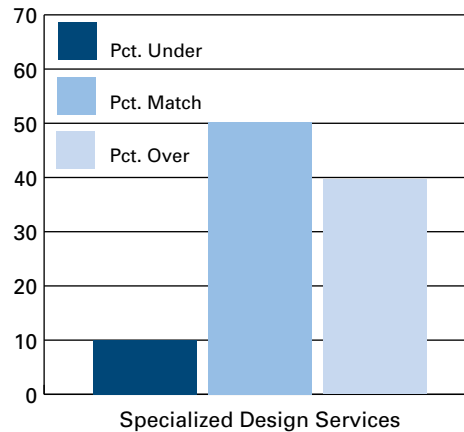


Figure 11: Percent education mismatch



Source: American Community Survey (2012-2014), BLS

Employment has increased considerably since 2009, making this industry a strong part of the Creative Sector (Appendix 1, Figure 14). However, it also has the highest rate of over-education, meaning that many workers have formal education in excess of what the BLS indicates as required for their jobs. Furthermore, many workers do not work year-round and when they do work, they do not average as many overtime hours as workers in other Creative Sector industries. The workers in this industry are not only over-educated, there also seems to be a surplus of labor.

Table 5: Top 10 occupations in specialized design services (NAICS 5414)

OCCUPATION	PERCENT OF INDUSTRY	UNEMPLOYMENT RATE
Design Occupations Not Requiring a Bachelor's	43.13	14.09
Design Occupations Requiring a Bachelor's	19.12	1.04
Artist Occupations Not Requiring a Bachelor's	5.48	12.73
Sales Representatives, Services, All Other	1.79	11.11
Executive Managers and Legislators	1.39	0.00
Education Administrators	1.39	0.00
Property, Real Estate, and Community Association Managers	1.2	8.33
Secretaries	1.2	8.33
Office Clerks, General	1.2	0.00
General and Operations Managers	1	10.00
Sales and Marketing Managers	1	0.00
Bookkeeping, Accounting, and Auditing Clerks	1	20.00

Source: American Community Survey (2012-2014)

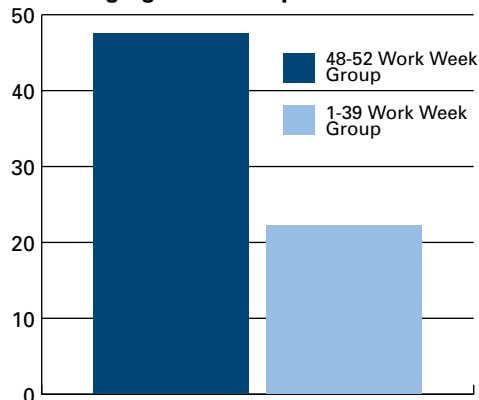
With relatively high unemployment in most of the top occupations (Table 5) and an over-educated pool of occupants this industry seems oversaturated. However, as stated before, employment in this industry overall did increase from 2009 to 2014. This increase was partly driven by California’s overall key global role in design, and the continued presence of many creative fields in the entertainment sector which still draw upon design talent.

ADVERTISING, PUBLIC RELATIONS, AND RELATED SERVICES: NAICS 5418

Highlights:

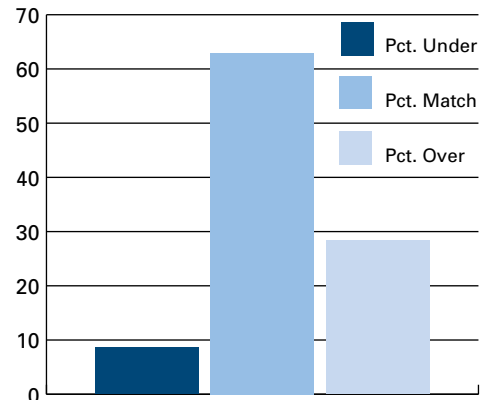
- Of full-year (48+ weeks per year) workers in this industry, 48 percent average over 40 hours per week—third highest rate of overemployment for full-year workers in the Creative Sector.
- 91 percent of people in this industry meet or exceed the BLS requirement for entry to their occupation.

Figure 12: Percent of workers averaging >40 hours per week



Source: American Community Survey (2012-2014), BLS

Figure 13: Percent education mismatch



Employment in this industry was negatively impacted during the recession but did see a very small increase from 2010 to 2014 (Appendix 1, Figure 14). Wages have maintained a modest growth rate from 2004 to 2014 (Appendix 1, Figure 15). Though the industry's unemployment rate is not the highest in the Creative Sector, it is only surpassed by specialized design services, motion picture and video industries, and performing arts (Figure 4) which are all three characterized by gig employment and possibly have overstated unemployment rates. With higher unemployment and prevalent overtime hours year-round, it seems that there are many people who wish to work in this industry and are willing to work long hours to stay in it. Though human capital is being overemployed, 91 percent of workers are technically qualified for their job according to BLS. Again, this leads us to an opportunity gap rather than a skills gap.

Table 6: Top 10 occupations in advertising, public relations, and related services (NAICS 5418)

OCCUPATION	PERCENT OF INDUSTRY	UNEMPLOYMENT RATE
Advertising Sales Agents	12.66	11.30
Advertising and Promotions Managers	7.08	1.01
Public Relations Specialists	6.15	6.98
Design Occupations Requiring a Bachelor's	3.86	3.70
Executive Managers and Legislators	3.51	0.00
Design Occupations Not Requiring a Bachelor's	3.43	10.42
Writers and Authors	3.43	12.50
Education Administrators	3	2.38
Customer Service Representatives	2.93	19.51
Marketing and Sales Managers	2.79	12.82

Source: American Community Survey (2012-2014)

Overall, the top occupations in the advertising, public relations, and related services industries have relatively high unemployment rates for the Creative Sector (Table 6). Management positions outside of sales seem to have the lowest unemployment rates.



Formal Creative Sector education

Formal education programs are the first step in training a well-rounded workforce. The entertainment industry is no exception; many education programs in unionized fields often follow more traditional apprenticeship programs, and not just two and four-year college programs. Career exposure for young people can start as early as middle school, especially in creative fields where an aptitude is fostered early on. According to professionals, employers look for a critical mindset as much as technical skills—an approach that is often developed early on. Early career exposure is especially important for young people who aren't in regular contact with people in creative clusters, particularly low-income and minority populations. In talking with educators and industry professionals, we found that education and training programs stayed relatively up-to-date with workforce trends and employer demand, training on the latest in media technology, as well as interpersonal aptitude. We detail a multitude of educational programs below. What we note, however, is that while education is important, on-the-job training via apprenticeship, internship, formal on-boarding process, etc. is integral. We expand upon the State's and region's education and training infrastructure in Appendix 2.

Particularly in the Los Angeles area, educational programs designed for the entertainment industry are in no short supply. There are a number of highly ranked four-year universities that have reputable film, television, and media programs. These include University of California Los Angeles, University of Southern California, Chapman University, and Loyola Marymount University. California boasts one of the most expansive public higher education systems in the country, including the University of California, California State University, and California Community College systems. In the Los Angeles area, there are five California State Universities and 28 community colleges alone. There are also a number of private arts schools—Otis College of Design, American Film Institute, California Institute of the Arts, and Art Center College of Design—with well-regarded, industry-specific programs.

A number of educators are grappling with their response to employer demands. For example, Santa Monica College (SMC) offers associate degrees and certifications related to entertainment, with the associate degree in entertainment promotion/marketing promotion—the only such associate degree in the state. The entertainment promotion discipline includes a “Promo Pathway” program, a 10-month course that teaches students how to write, produce, and edit TV promotional spots. The course is aimed at underrepresented groups in the entertainment industry.

Additionally, SMC is one of only a few community colleges to respond to trends of employer demand for a four-year degree by offering a four-year bachelor of science degree in interaction design. Frank Dawson, the associate dean of career of technical education at SMC, cited the prohibitive cost of some colleges and certificate programs work as a barrier to entry. Many companies require bachelor degrees, thus, SMC is responding to this need while still offering relatively affordable tuition.

Several other low-cost California Community Colleges offer similar degrees and certifications, including Los Angeles City College (LACC), Golden West College, and Pierce College. While curricula in the entertainment industry is not part of their core competency, these institutions offer associate degrees and certifications in a number of fields designed for the Creative Sector. These are expanded on in Appendix 2. Additionally, the California Community College Chancellor’s Office has established a system-wide office to assist training in information communications technologies (ICT) and digital media. The ICT recently established a website, “Entertainment Edge,” which brings together all relevant courses, degrees, and certifications linked to the entertainment industry across the 28 colleges in the region.

Otis College of Design is the largest private school focused on the Creative Sector with approximately 1,100 students. Otis commissions the Los Angeles Economic Development Corporation to prepare an annual report on the Creative Economy, a noteworthy contribution. This report highlights jobs in the Creative Sector (upwards of 400,000) and the value of these industries to the local economy. We highlight this in Appendix 2.

While the Los Angeles education sector seeks to be at the forefront, we heard from one studio executive that schools—community colleges in particular—do not direct enough emphasis on placement after degree completion. While private universities often have expansive career services support, community colleges don’t have the necessary funding. This executive argued that curriculum changes are superfluous. Some programs, particularly private programs, are knocking down the doors of companies to find suitable employment for their graduates, and others are simply not. Private Universities’ job placement rates are indicative of that extra push for placement.

Public educators voiced that state and federal funding historically is not linked to job placement. At community colleges, for example, emphasis was always placed on the transfer rate to a four-year institution. Many people entering the entertainment industry do not require four-year degrees to be successful, particularly in the technical fields, such as lighting, cameras, gaffing, wardrobe, etc. Even in hi-tech fields, career technical education can teach the computer programming skills required. Career technical education follows a similar narrative. Enough emphasis has not been placed on getting students into jobs, as public schools simply cannot afford to put time and money into placement activities.

The University of California at Los Angeles (UCLA) is a notable institution leading the charge with its Extensions Entertainment Studies program. The university boasts a “balance of theory and practice” with a hands on approach to their curriculum. Their emphasis on internship and placement are impressive, with an expansive career services offering. They provide a wide range of certificate programs from cinematography to the businesses and management of entertainment. On the new media side, UCLA Extension also offers a 250-hour coding bootcamp that can be completed while students are working, which eases the burden of individuals who have no choice but to work. However this field of study is not eligible for federal financial aid, a significant drawback for the program. Public education and federal funding is integral to empowering low-income and minority populations with the necessary skillsets to gain entry into the entertainment and media industries.

“What’s important is a longitudinal view. It’s not just about placement. That’s not economic development. It’s where people are in five, ten, fifteen years. Are we making lives better?” - Radhika Seshan, associate dean of business development and chief operating officer, UCLA Extension.

We also heard from many of the new media companies that they are not necessarily looking for technical skills; they are looking for an adaptable and critical-thinking mentality. They want generalists. Educators seem in tune with this change. Patricia Ramos at SMC confirmed the emphasis towards interdisciplinary learning. However, new media in particular prefers that employees do not come with any preconceived notions of how things are supposed to be done. BuzzFeed Motion Pictures, for example, trains all incoming employees from scratch. They tend to not hire employees for specific roles, rather, BuzzFeed rotates employees through a number of positions to determine best fit. United Talent Agency is similar in that respect with its hiring process—they try not to hire for a particular discipline and have an extensive three week on-boarding process.

“Career Technical Education programs have to be responsive to employer needs and demands. We’re noticing in the tech and entertainment industries that it’s not traditional occupational training programs anymore. It’s more interdisciplinary.”
- Patricia Ramos, dean, workforce and economic development, Santa Monica College

Highlight on arts programs

Art programs are often viewed as a “ticket to entry” into the Creative Sector, regardless of whether the skills and education garnered are directly applicable to a student’s ultimate occupation. In a survey of art alumni⁵ living in Los Angeles, 32.6 percent of responders had an internship during their program which supports the “ticket to entry” idea. Furthermore, 80.6 percent of people who had an internship were also able to find a job that was related to their studies. In contrast, only 64.5 percent of art alumni who did not have an internship found a job related to their studies.

Though we established 42 percent of the Creative Sector is comprised of people employed in the management, finance, legal, and other category, many alumni from art programs felt their education did not prepare them with skills related to this category. In fact, of the people who felt that entrepreneurial skills are important to perform effectively in their profession or work life, only 30.9 percent of those people also believed their institutions helped them acquire or develop these necessary entrepreneurial skills. Similarly, of the people who felt financial and business management skills are important to perform effectively in their profession or work life, only 23.3 percent of those people also believed their institutions helped them acquire or develop these necessary financial and business management skills. Crucially, 31.1 percent of the alumni who reported technological skills are important to perform effectively in their profession or work life believed their programs did not prepare them with these skills. In a sector that increases digitization daily, technological skills are more important than ever for these students.

On the other hand, people who invest in art education probably have an occupation within the Creative Sector in mind. Of the people who expressed that artistic technique is important to perform effectively in their profession or work life, 89.6 percent of those people also believed their institutions helped them acquire or develop necessary artistic technique. Furthermore, of the people who reported creative thinking and problem solving skills are important to perform effectively in their profession or work life, 92.6 percent of those people also believe their institutions helped them acquire or develop these necessary creative thinking and problem solving skills.

The most compelling evidence that an art program degree gets a “ticket to entry,” or more access, when it comes to entering the workforce is the fact that 89 percent of alumni report having found their first job or work experience at least by 12 months post-graduation while only one percent of responders reported not having found a job at the time of the survey. Moreover, of students who reported satisfaction with opportunities to network at their institutions, 76 percent were able to find work in less than four months.

Training by way of experience: internship, apprenticeship, mentorship, and continuing education

Formal education and training is, of course, valuable; however, in the Creative Sector, the best learning happens by way of experience, even for people with college degrees. The best path to entry in this industry is an internship or apprenticeship, and was the most agreed upon topic by all stakeholders. This allows a candidate to gain exposure in the field as a whole and facilitates connections. All of the training providers—community colleges and state universities, private colleges, and training agencies, and Workforce Development Boards—promote opportunities for internships, both paid and unpaid. Also, private companies often have formal or informal internship and apprenticeship programs. The stakeholder group identified the “getting in the door” strategies as a priority going forward, augmenting technical training.

The State funds two main employer-based training initiatives: the Employment Training Panel (ETP), with over \$90 million in funds which began in the early 1980s, and the California Apprenticeship Initiative (CAI) with around \$15 million per year, a newer funding source that started in the 2015-2016 year. These government-backed initiatives are noteworthy, but the private sector needs to invest more in the creative workforce, especially as the sector often selects employment candidates with experience over those with formal education/training.

Creative Sector ETP funding totals \$5.5 million in 21 contracts. Funding is allocated towards training of new and existing workers in new technology. Contracts of note are Moviola Digital Arts Institute, Dream Works Animation SKG, and Deluxe Digital Studios. Programs are explained in depth in Appendix 2.

Several stakeholders noted the value of apprenticeships, particularly in the entertainment industry. One producer we interviewed noted, nothing compares to the value of an on-set education. The apprenticeship concept has assumed greater prominence in recent years in California, with a push to expand apprenticeships to non-traditional fields. CAI was established to fund the expansion, with around \$15 million in each of its first two years. The entertainment and creative industries are fields identified for new apprenticeships, though the take up has been slow.

The CAI funded one of 24 apprenticeship and pre-apprenticeship projects in the 2015-2016 fiscal year in the entertainment and creative industries. This project, sponsored by the Downey Unified School District (Downey), aims to establish several formal apprenticeships, registered with the State of California, in the “Creative Industries.” Downey is a significant example of how the apprenticeship model works effectively to boost enthusiasm about career pathways and boost high school graduation rates. As the Creative Sector is so prominent in the Los Angeles region and on-the-job training is so valued in the entertainment and media industry, it follows that greater emphasis should be placed on government funding support such activities.

UTA, a private talent company, offers one of the most extensive and successful onboarding programs (mentioned above) in the entertainment industry. UTA's onboarding and training approach exposes entry-level employees to all aspects of the business of entertainment and the practices of the creative community. Laura Roenick, who leads UTA's learning & development efforts, says the agency aims for its program to feel similar to a "...graduate school for entertainment." Unique to UTA's approach is that the agency leverages its diverse range of national partnerships including with universities and other organizations—to enable candidates to be sourced for its Agent Training Program and Internship Program to bring together a group of future entertainment executives for an intensive apprenticeship.

While internship programs are a good strategy, participants are typically required to enroll in college at the time of the internship. That can serve as a significant hurdle, as young people either aren't cognizant of their own desired career trajectory while in school or they never enroll in school because of the cost or resource barriers. Furthermore, although intern, fellow, or mentor programs are often the best way to gain entry, it is worth noting that minority and low-income communities often do not have the ability to undertake these opportunities when unpaid. Students and other young family members are frequently required to contribute financially to their families.

However, once a candidate has found placement into his or her chosen career, unions often encourage and provide for continuing education. In particular, the more technical unions by nature of their work are required to stay current on the latest technologies; it is an integral component for enhancing the workforce. Unions also provide opportunities for dependable, sustained employment within the entertainment sphere and offer well-paying, middle-skill jobs. The issue here is the difficulty getting into a union. We spoke with several union representatives who stated rising membership rates. However, several outside parties commented on the difficulty in obtaining union membership. Qualifications vary depending on the union, but workers need to clock a certain number of hours on union productions in order to be considered for membership. This is often seen as a significant hurdle as union productions tend to hire union members.

"How do we train the next generation of video engineers? It's three-fold. There is the education sector—partnering with colleges and universities to ensure that students are getting the information they need. There's mentorship—in the field training, which is such a critical part of IATSE's [International Alliance of Theatrical Stage Employees] lineage—on-set training with well-seasoned vets to pass down that knowledge. The last piece—continuing education, like the company I started to train video engineers, called Mission Critical Media. We train in video data in big, high-pressure situations in the entertainment field." - Jillian Arnold, video engineer, board member, IATSE Local 695

In addition, numerous stakeholders agreed that early exposure for minority groups is the best time to create awareness of opportunities in entertainment, media, and technology. Media literacy is critical, especially for young minority students. If exposure starts in middle school or high school, students are more likely to aspire to work in the field. We heard that student sentiment was, "We didn't know you knew or cared about us," from one stakeholder who conducted outreach in predominantly minority, low-income schools in East Los Angeles. Frequently, students in minority and low-income communities do not even consider the entertainment industry as an option, because they are unaware that they have that option.

Educators are working with non-profits and employers to change this. An example of early technology exposure is the K-14 Career Pathways Trust Grant program out of the California Community College Doing What Matters initiative. Downey received a grant to expose its middle and high school students to technology using a hands-on approach. The Bayha Group, an educational partner for Downey, was contracted as part of the grants administration. Downey emphasizes STEAM (not STEM) education: science, technology, engineering, arts, and mathematics. The Bayha group is working to create new forms of apprenticeships within the entertainment and technology fields, but that has not translated to employer buy-in as of yet.

Streetlights, a nonprofit production assistant training program, is a good example of an organization that works on a smaller scale to train and place young people in the entertainment workforce. Dorothy Thompson, the founder and executive director of Streetlights, says the production assistant role is a natural entry point into the industry because workers are "...right there side-by-side with the people who have jobs to offer."

Misalignment of goals

One comment we heard consistently amongst stakeholders was that educators, workforce development boards, and industry are not on the same page. Steve Wright of the California Community Colleges discussed how often Workforce Development Boards (WDBs) and community colleges are misaligned. There is no set procedure for how educational institutions, WDBs, and employers should engage. Some employers go directly to colleges rather than via WDBs, and some employers go directly to WDBs with industry needs and consequently WDBs approach colleges in turn. It depends on the individual relationships and the networks of key players. A representative from the Verdugo Workforce Development Board highlighted the missing element of business leaders in the industry. Leaders have excellent relationships with local colleges and unions, with enough depth and clout to develop training programs, but not so much with the commercial side of the industry itself.

"A student seeking career advice in today's rapidly changing, tech-heavy workplace will have difficulty getting good advice. Training institutions and employers seem to be speaking different languages. This counseling gap is the elephant in the room of workforce training. Students and educational institutions need to anticipate future workforce needs with the same skill of a Fortune 50 corporate marketing research team. Operating with limited and incomplete information, workforce development groups, the educational system, and employers are like ships passing in the night."
- Steve Wright, statewide director, workforce & economic development, California Community Colleges

The Los Angeles region is split among nine local WDBs, administering federal workforce funds (see Appendix 2). All of the WDBs utilized training funds for entertainment/creative industries training and/or placement though they differed in the priority given to entertainment compared to other sectors. For the Southeast Los Angeles County (SELACO) WDB, entertainment/creative industry training was a lower priority. Other local WDBs, such as Verdugo, Los Angeles County, and South Bay, listed a higher priority for the entertainment sector, but still below healthcare (a top priority for all WDBs), and other sectors. WDBs train workers seeking to enter the entertainment field, workers in the entertainment field who seek to improve their skills, and workers in the entertainment field who have been laid off and are re-training for other positions in entertainment (or more often in other sectors).

The Verdugo WDB is one example of where federal training funds are used for both training of new workers, including high schools students in the area, and re-training of laid-off entertainment workers. Re-training is done primarily through Studio Arts, an independent training school (Education for Entertainment Creatives) with Verdugo funding individual workers taking classes. In its response, Verdugo staff also cited working with two school districts in the area to develop Career Pathway Programming in Digital Media, a project funded by the California Career Pathways Trust, a state-funded effort. Bob Mejia of the Verdugo WDB commented on the growth of information and communications technology in general for the WDB and particularly the role of training in digital production skills.

“From a technical perspective in the Entertainment Industry...the rise of digital entertainment is driving a need for digital skills among pre-production, production, and post-production personnel more than ever. Front-end and back-end web developers are almost a necessity for serious media and entertainment firms...We facilitate occupational training for customers according to their individual interests, aptitudes and opportunities based on local labor market conditions. This means that in terms of structured off-the-shelf training, we must rely on the available supply of instructional services and institutions...Some schools and colleges are better equipped to answer the call...with (mixed results) in up-to-date curricula, quality instructors, state of the industry equipment, and access to ongoing industry intelligence to keep curricula current.” - Bob Mejia, Verdugo Workforce Development Board

The South Bay WDB also highlighted the importance of individual referrals to training schools as well as connections to local high schools and community colleges. South Bay also uses Studio Arts as a training provider that places students in computer illustration and animation, digital set design, technical animation, and visual effects, in addition to Lifton Institute of Media Arts and Sciences, with classes in animation and “behind-the-camera” jobs. The local high school, Centinela, sponsors a career pathway program in digital and media arts, and the local WDB assists with internship placements.

While there are many resources available, there is no established and streamlined system for communication among educators, workforce boards, unions, and industry. Awareness is also a widespread issue. Often, students and job seekers are not aware of the programs available to them. WDBs are there to help via connections with schools and employers, but eligible individuals often don't know about these resources. The Los Angeles region may have sufficient training classes, certifications and degree programs (some might say, duplicative), but potential and incumbent workers in the entertainment industry need to know how to better access them and also how to find employment in the gig economy. This is in line with not only teaching technical skills but also teaching soft skills like communication, time management, and leadership to better serve candidates in their job searches.



4

PREPARING A 21ST CENTURY ENTERTAINMENT WORKFORCE

Global competition

Globalization and global competition play a significant role in workforce demand in Los Angeles. The geographic lines of production, medium, and delivery are blurred by today's digital age, so much so that virtually any task can be achieved from anywhere. Production incentives have only exacerbated this trend. Film is no longer simply film, as is true for television, gaming, and any other form of entertainment media. With tax incentives located elsewhere, combined with the new direct-to-consumer nature of media, Hollywood is facing stiff competition from other geographic regions. What can institutions do to prepare for these impacts?

Many of our stakeholders credited the success of California's Film & Television Tax Incentive Program as it brought runaway production back to Los Angeles County. But a few stated that other locations still have superior incentives. The Milken Institute wrote on runaway production in 2010, 2012, and 2014,⁶ advocating for increased incentives, and in 2014, California tripled funding for film and television tax credit. Many studio heads as well as FilmL.A. (the nonprofit organization that manages film permits in the city and county) ascribe those tax incentives to an increase in state-wide production. According to FilmL.A., there was a 6.2 percent increase from 2015 to 2016 in total shooting days in Los Angeles (from 37,289 to 39,605).⁷ But still other states and countries continue to fight for that business. We heard from studio heads that their preference is to film in Los Angeles much more than they currently do. The Los Angeles region is home to a significant portion of the entertainment industry. They were trained here, they are based here, and they would prefer to work here.

Although other U.S. states like New York and Louisiana and countries like Canada and Australia offer incentives, it does not necessarily sustain growth for their local economies. Studios retain domestic control of the productions (oftentimes, in Los Angeles), and ship California-based talent on-site to complete the production. While most states build in a certain percentage local hiring requirement, once the production is over, those employees are out of a job. Yet, some states and countries where filming is relatively frequent are building up an ample, trained employment base from which to draw from. Studios are ultimately looking for ways to increase profitability, and if that means hiring local to ease relocation costs, that's what they will do if the option is available to them. It is essential for the creative labor pool in Los Angeles to remain cutting edge, not just competitive. This can be done through a technically-trained and diverse workforce.

Traditional production locations are largely based on certain factors such as aesthetic and weather, but post-production treatments like special effects can be executed from virtually any location these days. We have all heard the stories of post-production companies being critical and commercial successes but going out of business because the cost of operating elsewhere—Canada, China, Britain, India—is much lower. For example, the visual effects company awarded the 2013 Oscar for the production of *Life of Pi*, *Rhythm and Hues*, went bankrupt before receiving the award. A combination of tax breaks and cheaper labor make the whole endeavor much more affordable. Some of the best visual effects companies remain in Los Angeles, but the labor pool is not deep enough. One producer expressed interest in contracting with an L.A.-based visual effects company for her last production, but could not

find one available. This reinforces the demand for software programming and other technology-based skillsets to further deepen the labor pool.

While the California incentive programs have been successful, they do not extend to short form digital content creation. We heard from several stakeholders from major new media companies: while they are committed to remaining in Los Angeles, tax incentives would indeed bolster that commitment. Short-form content creation is the new frontier and most large companies have offices in the L.A. region. But these decision-makers would prefer not to be at a disadvantage simply because they differ from traditional production. On that note, there are significant barriers and logistics in producing short-form projects in the L.A. area; L.A. County permits are expensive, upwards of \$700 for a complex day-long shoot. These productions have small budgets, which makes that expense cost prohibitive. Thus, many short-form, web-based content creators shoot illegally and face steep fines for doing so. The City of Los Angeles Mayor's Office, working in conjunction with FilmL.A., is currently in the process of developing a new policy pilot designed with web-based media in mind, but there are challenges related to cost-effectiveness. However, with so many large multi-channel networks in the L.A. area—Buzzfeed, AwesomenessTV, Funny or Die, and the ilk—it is worth exploring ways to ease the process of filming for these companies and content creators in the city.

Moreover, the changing face of media is leading to a different kind of packaging and distribution. Many households opt-out of a traditional cable package in favor of streaming services. One survey of consumers cited 78 percent subscribe to at least one streaming service.⁸ Not only are people consuming media differently, there has been a major shift in content-creation to newer media production companies. This point is demonstrated in the rise of non-traditional studios that produce critically-acclaimed projects which are at the same time commercial successes. In the past several years, Netflix has risen up as a prominent content-generator, with series like "Orange is the New Black," "Stranger Things," and "Making a Murderer." Amazon Studios has emerged as a leader this awards season with series "Mozart in the Jungle," "Transparent," "Goliath," and the full-length feature film "Manchester by the Sea."

This has significant implications for California's workforce. While content-creation methods remain relatively similar (i.e. the need for lighting, cameras, grip work, etc. remains unchanged), the emphasis on technology is quite different. Traditional studios are still hiring, but the emergence of alternative studio production opens new doors for workers who are willing to adapt. Training and adoption of new technologies goes far in terms of skillset. As mentioned in the industry profiles, software programming is emerging as a dominant trend in the Creative Sector.

Spotlight on diversity

Some say with the recent Oscars, including the popular Twitter hashtag #oscar-sowhite, that concerns of diversity are in the past. This most recent Oscars Awards Ceremony (2017) brought us a more diverse Oscar-nominated slate than ever before. Is Hollywood's diversity problem solved? Hardly. It's deep-seated and wrought with internal politics and external pressures. While we won't comprehensively assess this and other related topics here, we will briefly discuss why a change is good for business. The issue at its core is not about representation; it's about opportunity. Diversity—ethnic, socioeconomic, gender, or otherwise—will not change at a high level unless it changes at the entry point. We need to work to create more opportunities for access by minorities, low-income individuals, and women; not just in front of the camera but behind-the-scenes and in the office as well, as highlighted in Milken's 2017 report.⁹

Los Angeles is one of the most diverse regions in the world with residents from more than 180 countries, speaking 140 languages. Women represent half of the population. White people make up 61 percent of the general population and have 74 percent of Creative Sector jobs.¹⁰ Women make up 47 percent and represent just under 35 percent of the jobs. Not only are those numbers not representative of the eligible labor force, they are not representative of the population. If entertainment and media want to speak to a global market, they need to have a global, diverse perspective represented in their workforce.

A 2016 USC Annenberg School for Communication and Journalism study explores minority, female, and LGBT representation in the top 100 grossing films of 2015. Researchers found that 73.7 percent of characters were white, and of 107 directors, only four were Black or African American and six were Asian or Asian American. With regard to gender, 32 percent depicted a female as the lead or co-lead and, of the 1,365 directors, writers, and producers, just 19 percent were female. Those numbers don't include most crew members, but if females and minorities are not at the executive level, the less likely they are to be hired at the entry level.¹¹

A number of organizations and companies are addressing—and continue to address—diversity hiring initiatives and programs. One nonprofit in particular has worked towards this goal for more than 20 years. The Streetlights training program boosts ethnic diversity where minorities are under-represented on production sets. Each Streetlights class is comprised of diverse individuals, often from low-income backgrounds, who are trained as production assistants. The organization also assists with job placement. The T. Howard Internship Program is also a reputable program that impacts diversity in the media and entertainment industry. It incorporates a full-time paid summer internship with professional, networking, mentorship, and scholarship opportunities. There are also minority-owned businesses which put an emphasis on diversity hiring at different levels of the Creative Sector.

We heard from some stakeholders that they see the diversity landscape changing, but not at the executive level. Some companies have formal diversity programs, but new media is a compelling example of an emerging industry that doesn't just feel a moral obligation to hire from a diverse pool; it is a value proposition. In today's world, media is tasked with grabbing the attention of a diverse audience. Companies that create original content for mass audiences need to have the ability to speak to every population regardless of gender identity, sexual orientation, or ethnicity.

"We need to lean into the next generation of media creators. There are many companies that are cultivating a variety of voices. There is massive opportunity there." - Ze Frank, president, BuzzFeed Entertainment Group

We consistently heard from stakeholders regarding the "democratization of content creation." Content is still king, but the methods/means of creation has opened up significantly. Production is relatively the same, but distribution is dynamically different, and constantly evolving. If young, diverse individuals have the power of the internet to create and distribute content, the burden returns to educators and industry leaders to encourage that ability. New media offers more opportunity for individual content creation. Technology has opened a door for people who wouldn't necessarily work in entertainment. With the rise of short-form, web-based media, virtually anyone with a smart phone can be a content creator. Heightened media exposure, especially in the Los Angeles region, creates an environment in which many individuals want to go into the Creative Sector. As more people of diverse backgrounds take up positions in media, they advocate for other diverse individuals. This expands opportunities for diverse individuals to gain access to the Creative Sector.



5

KEY TAKEAWAYS

The creative and entertainment sectors in Los Angeles are a key driver not only of the metro's economy, but also its cultural identity. The robust, traditional entertainment and media economy developed over the past century has been bolstered by a budding new media presence and the rise of new entertainment technology firms.

In performing an in-depth analysis on the data of the local Creative Sector, and engaging with key stakeholders, we identified a series of key takeaways on the trends in the industry. Los Angeles policy makers, employers, educators, unions, workers, and other participants can leverage these takeaways to better prepare themselves for the new skills required to maintain Los Angeles' key global role in the entertainment industry:

- **Recognize the key concern for the current workforce is an opportunity gap, not a skills gap:** Our analysis of the employment data and engagement with stakeholders emphasized the fact that Hollywood's system of apprenticeship and local educational institutions produces more than enough skilled individuals to meet the sector's local employment needs. However, because apprenticeships are highly relationship-based, it is often difficult for people from backgrounds who are not already connected to the industry to access them. In addition, educational opportunities often require high tuition/costs, or require access to a learning environment at home or in high school in order to qualify for admission or otherwise succeed in existing programs.
- **Identify the skills needed for new media:** As the entertainment industry continues to evolve into online content in various forms, the skills required to utilize new technologies often requires either continuing education for existing workers, or a new skillset for people attempting to enter the industry. While in some cases, new media allows anyone with a smartphone to record a video and post it online, being able to actually earn a living doing so requires a technical savvy, or an ability to market and find effective distribution that only a few people develop on their own. An emphasis on STEM and interdisciplinary education is needed for most workers in order to keep up with demands both of current and intended employers.

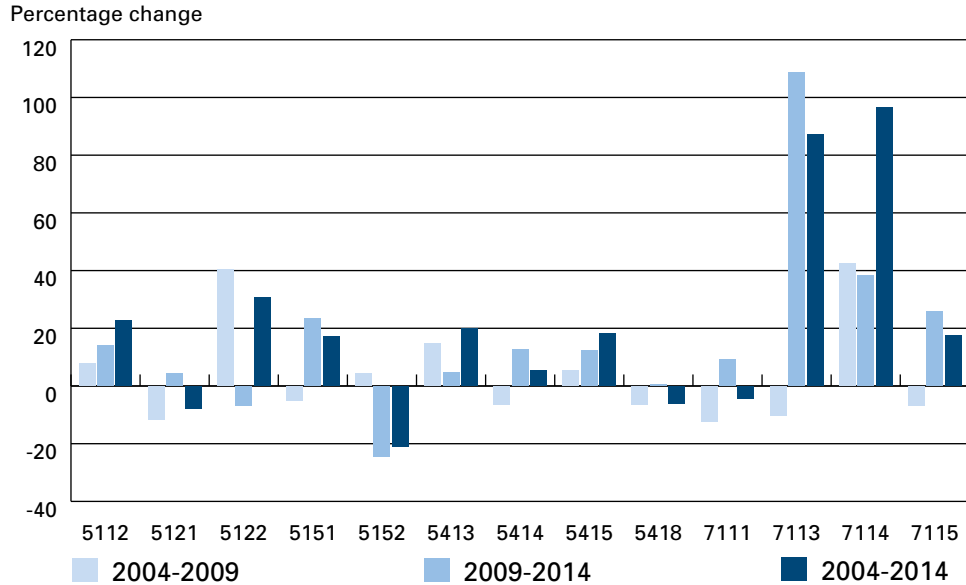
- Develop strategies at the employer and education level for increasing outreach:** While the entertainment industry remains one of the key employers in the metro that provides significantly above average wages, our engagement of stakeholders revealed that access to those opportunities is often highly inconsistent, unless prospective workers arrive with prior connections—or luck. Expanding outreach to local high schools, often in disadvantaged communities, either through existing programs, or by developing new programs at the employer level, is essential to ensure Los Angeles’ diverse workforce is able to access the skills needed for the evolving industry. The state and county not only need to invest in programs designed to bridge the opportunity gap but hold the programs accountable for placement and active engagement with employers in the short- and medium-term. Current models for such engagement like Streetlights already exist and emphasize placement while affecting change from the ground up. Other apprenticeship/ employer pathway models have proven successful, but do not necessarily emphasize diversity as a primary focus. The state and county should consider funding for employer outreach and placement. In addition, individual employers should advocate and fund paid internship programs for young people.
- Maintain and expand efforts at continuing education:** In our engagement with stakeholders, training was often considered in the context of new entrants into the entertainment/creative industries. But two other forms of training will be equally important going forward: 1) training for the incumbent workforce to keep skills current and to encourage mobility amongst firms and projects; and 2) training for entertainment workers to transition into other sectors. Several of the creative unions, such as the Screen Actors Guild and IATSE, have already recognized the importance of keeping skills fresh, and adapting to new media types. IATSE’s connection to several different job types allows them to have a larger impact. But it is essential even for unions that these programs adapt and stay up to date. For areas such as new media and post-production where such programs may not be available, it is important that employers ensure that their workforce retain key skills, either through internal programs or by partnering with local community colleges.
- Analyze and adapt incentives and regulations to the changing media environment:** As locations such as Silicon Beach continue to grow, and as newer short-form content is developed for online distribution, the city, county, and state need to examine both their production incentives and permitting process to ensure that smaller, lower-cost productions do not choose to flee to lower cost locations. The City of Los Angeles already has an examination of its procedures underway, but it is important that any such effort is continuous in order to remain current and competitive.

California is a global example of a thriving entertainment and media industry, and Los Angeles County is at the center. While we found no existing skills gap, the industry must continue to evolve to remain not just competitive, but cutting-edge. A growing emphasis on diversity and technology will narrow the opportunity gap and nurture Los Angeles’ creative workforce of tomorrow.



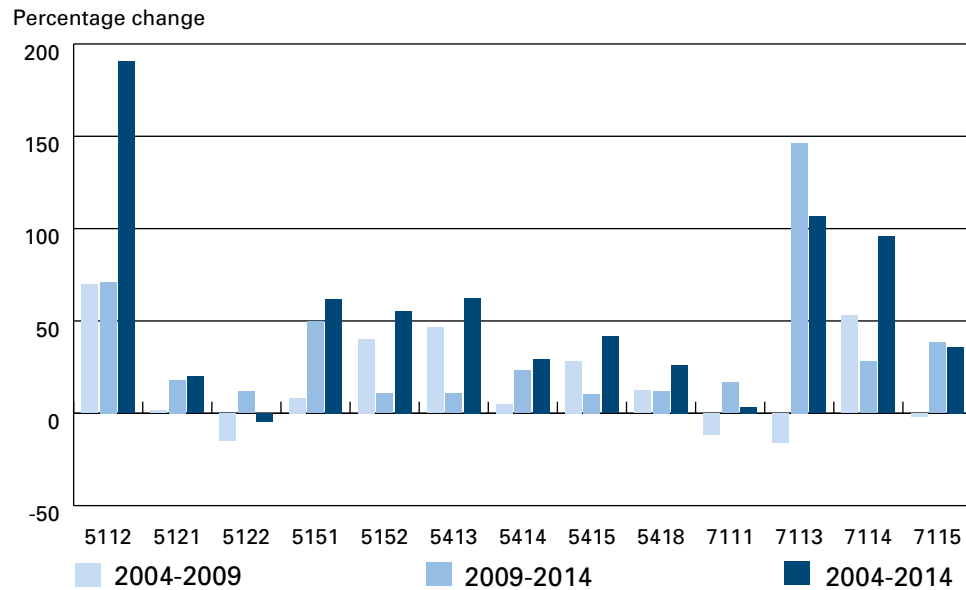
**APPENDIX 1:
Quantitative Analysis of Creative Sector Industries and Industry Profiles**

Figure 14: Percentage change in Creative Sector employment by industry NAICS code



Source: Occupational Employment Survey (2004-2014)

Figure 15: Percent change in Creative Sector wages by industry NAICS code



Source: Occupational Employment Survey (2004-2014)

APPENDIX 2:

The Extensive Network of Training for the Entertainment/Creative Industries

I. Los Angeles Area Community Colleges Training for the Entertainment/Creative Industries/University-based Training

The 28 community colleges in the Los Angeles region offer the most extensive range of classes in the entertainment/creative industries among training and education institutions. These classes in turn lead to a range of associate degrees and certifications. A quick snapshot of programs:

- **Santa Monica College (SMC):** SMC offers associate degrees and certifications related to entertainment, with the associate degree in entertainment promotion/marketing promotion—the only such associate degree in the state. The entertainment promotion discipline includes a “Promo Pathway” program, a 10-month course that teaches students how to write, produce, and edit TV promotional spots. The course is the result of a partnership with PromaxBDA, the entertainment marketing association, and is aimed at underrepresented groups in the entertainment industry.
- **Los Angeles City College (LACC):** The LACC Theatre Academy offers an entertainment technology program, including certifications for backstage jobs, and training in theatrical lighting, sound design, scenic painting, and computer aided drafting and design. The Cinema and Television Program offers an associate degree and eight certifications in specialties of television production, cinema production, cinema-video production, and directing skills.
- **Golden West College:** Golden West offers an associate degree in digital arts and one in digital media, as well as degrees in video game development and software development. It offers certifications in digital media-animation, digital media-computer assisted photo imaging, digital media-graphic design, and design media-web design and development.
- **Pierce College:** Pierce College offers associate degrees related to entertainment industry employment in costume design, graphic design, technical theatre option, and theatre arts.

Beyond the training courses and degrees/certifications at the individual community colleges, the statewide Chancellor’s Office has established a system-wide office to train in Information Communications Technologies (ICT) and Digital Media. Steve Wright, the director of this office, is currently pursuing the establishment of a website, “Entertainment Edge,” which brings together all relevant courses, degrees and certifications linked to the Creative Sector across the 28 colleges in the region.

The private and public four-year colleges and universities also offer training related to entertainment/creative industry employment.

- **California State University, Northridge (CSUN):** CSUN, a state university, participated when the Milken Institute convened workforce practitioners and is one of the more active universities in the field, with a variety of curricula. These include bachelor degrees and masters degrees for entertainment/creative industries writing, production, technical, backstage, and support jobs. The CSUN College of Arts, Media, and Communication offers undergraduate programs in electronic media management, film production, media theory, multimedia production, screen and television production, and a masters program in screenwriting. The College boasts strong employment ties to the entertainment/creative industry employers and high job placement rates of its graduates.

II. Local Workforce Development Boards (WDBs) Training in the Entertainment/Creative Industries

The Los Angeles region is split among nine WDBs that administer federal workforce funds. Five of these WDBs participated in a survey prepared for this research project on their training links to the entertainment/creative industries.

The training undertaken by the WDBs is a mix of three forms of training: workers seeking to enter the entertainment field, workers currently in the entertainment field who seek to improve their skills, and workers currently in the entertainment field who have been laid off and are re-training for other positions in entertainment, or more often in other sectors.

Below is a brief summary of WDB survey responses:

- **Los Angeles County WDB:** The Los Angeles County WDB oversees seven workforce areas in the region. The Los Angeles County WDB staff gathered data from regions to identify numbers of direct placements in the NAICS codes associated with the entertainment/creative industries. The placements totaled a modest 54 among all seven workforce areas. The County WDB reported job seekers for entertainment/creative industry positions mainly directed to the region's extensive community college training.
- **Los Angeles City WDB:** As with the County WDB, the Los Angeles City WDB reported small numbers of direct placements in NAICS codes associated with entertainment/creative industries in 2015-2016. The Los Angeles City WDB—which oversees 17 WorkSource/America's Job Centers in its jurisdiction—reached out to these Centers, and found little response. Two of the Centers reported a handful of placements in the entertainment industry NAICS codes in the 2015-2016 fiscal year, even as total placements were around 700 per Center.
- **Verdugo WDB:** The Verdugo WDB reported using federal training funds for both training of new workers, including high schools students in the area, and re-training of laid-off entertainment workers. The re-training is done primarily through Studio Arts, an independent training school ("Education for Entertainment Creatives") with Verdugo funding individual classes for workers. In its response, Verdugo staff also cited working with two school districts in the area to develop career pathway programming in Digital Media—a project funded by the California Career Pathways Trust, a state-funded effort.
- **South Bay WDB:** The South Bay WDB, like the Verdugo WDB, highlighted the importance of individual referrals to training schools as well as connections to local high schools and community colleges. South Bay funds individual training for both job seekers and laid-off workers to be re-trained at independent entities. South Bay, like Verdugo, uses Studio Arts as a training provider that places students in computer illustration and animation, digital set design, technical animation and visual effects, and reports success in placing students. It also has subsidized training at a second training provider, Lifton Institute of Media Arts and Sciences, with classes in animation and "behind-the-camera" jobs. The local high school, Centinela, sponsors a career pathway program in digital and media arts, and the local WDB assists with internship placements.

- **Southeast Los Angeles County (SELACO) WDB:** SELACO staff reported entertainment as below its top five sector priorities. Job seekers who express interest in entertainment/creative industries are generally referred to Cerritos College, the local community college and to the Norwalk LaMirada School District. Like other colleges noted above, Cerritos has a range of training courses in entertainment technology, computer animation, public relations, and film production and editing. SELACO also maintains a partnership with three high schools in the Norwalk LaMirada School District who seek to provide early training for high school students in entertainment/creative industry skills, including a Visual and Performing Arts Pathway and a Film and Video Production Pathway.

III. State Training Initiatives Funding Employer-Based Training in the Entertainment/Creative Industries

Two main State-funded training initiatives have been established, utilizing state funding sources for employer-based training. The Employment Training Panel (ETP) with over \$90 million in funds per year through a portion of payroll tax revenue, is the main funding source that has been in existence since the early 1980s. The California Apprenticeship Initiative (CAI) with around \$15 million per year, is a newer funding source, started in the 2015-2016 year.

The ETP funds training in the entertainment/creative industries, as part of its funding across all major sectors. The total funding for entertainment/creative industries in the Los Angeles region for the past five years totals \$5.5 million in 21 contracts. Funding coverage includes training new entrants into the entertainment industry, and a greater share for training incumbent workers in new technology. The following three contracts represent the largely incumbent worker training, focused on evolving digital technologies:

- **Moviola Digital Arts Institute:** The contract totaling nearly \$400,000 with the Moviola Digital Arts Institute, approved in June 2011, is an example of training incumbent workers in new technologies. The contract funded the Institute to retrain 365 production, post-production and technical support staff in advanced technology in various computer hardware and software editing skills. Curriculum courses include Avid (systems support, Media Composer, Pro Tools, and Unity); Adobe (Aftereffects, Dreamweaver, Flash, Photoshop); Apple; and Ableton and Smoke. Workers needed these skills to retain employment in the field, and did not have the in-house expertise to train in these skills.
- **Dream Works Animation SKG:** DreamWorks Animation SKG was awarded \$394,000 in a training contract approved in January 2016 to train 1,253 of its own employees in emerging animation, film, and visual technology. This was the fourth contract that Dream Works Animation (DWA) received from ETP since 2011. In recommending the contract, the staff noted the competition of the entertainment industry (animation, film, and visual effects, in particular) and need for on-going adaptation to new, cutting-edge technology.
- **Deluxe Digital Studios (DDS):** ETP funding of around \$100,000 was awarded to DDS, a provider of duplication services to the entertainment industry in film, video, and digital media. The funding aimed to train 59 incumbent workers at the DDS offices in Burbank, Hollywood, and Los Angeles in “Advanced Technologies” to converge video and internet technology skills.

The CAI was established to fund the expansion of apprenticeships in non-traditional fields, with around \$15 million available for its first two years. The CAI funded 24 apprenticeship and pre-apprenticeship projects in the 2015-2016 fiscal year, but only one focused on the entertainment/creative industries. This project, sponsored by the Downey Unified School District, establishes several formal apprenticeships, registered with the State of California, in the “Creative Industries,” including creative director, graphic designer, communications specialist, and audio/video/photography technician. The project was awarded over \$900,000 in funding in January 2016, though at the time of writing all apprenticeships remain in the development stage, and no apprentices have been filled as yet.

IV. Independent Entertainment/Creative Industry Training Schools

Adding to the public community colleges and universities in the area are the independent arts schools, focused on the entertainment/creative industries. Eight major independent schools operate in the region: Art Center College of Design, California Institute of the Arts, The Colburn School, Columbia College, Hollywood, L.A. Film School, Laguna College of Art and Design, New York Film Academy, Los Angeles, and Otis College of Art and Design.

- **Otis College (Otis):** Otis has been in existence since 1918 and is the largest, with around 1,100 students. It offers training and degree programs in its established programs in communication arts (graphic design, illustration), fashion design, and fine arts (painting, photography, sculpture). In recent years, reflecting the shifting employment in entertainment, it strengthened and expanded its digital media programs (animation, game & entertainment design, motion design). Since 2007, Otis has commissioned the Los Angeles County Economic Development Corporation to prepare an Otis Report on the Creative Economy. The most recent Otis Report, issued in 2015, identifies the Los Angeles metro area as the “Creative Capital of the United States” with over 418,000 jobs in the “creative industries”—higher than the New York City metro area. The report provides a broad definition of “creative industries” to include 12 sub-sectors, not only the core entertainment/creative sub-sectors—entertainment, digital media, communication arts and visual and performing arts—but also art galleries, furniture, and decorative arts, and toys.

The Otis Report is a strategic tool for schools that grant degree/certifications to highlight job opportunities in the entertainment/creative industries, as well as the value of these industries to the overall Los Angeles area economy. These independent arts schools continue to make their case for additional government resources to expand training.

Independent schools are joined by another group of community training agencies that are aimed at job placement but not degree/certificate granting. Among these schools in the Los Angeles region are several described above as part of the WDBs-funded training agencies: Studio Arts, Lifton Institute of Media Arts and Sciences, Future Media Concepts, and Streetlights.

APPENDIX 3: Data Sets
 American Community Survey

Using the American Community Survey (ACS) dataset we constructed a three-year pooled cross-sectional dataset, starting in 2012 and ending in 2014. The ACS is the only data set that contains industry codes (NAICS) and occupational codes (SOC) that can be matched to educational attainment. An outstanding issue for analysis of this project and any demographic controls using the ACS going forward is the race variable provided does not include a Hispanic category. Individual income was transformed into 2012 real dollars. The ACS for each of the three years is a one percent sample of the US total population that contains over three million observations per year. The purpose of this data set is to create a representative sample of the Los Angeles core Creative Sector. We define this by industries that create content in the entertainment industry e.g. video game not sports.

From this data we subset the Los Angeles Metropolitan Statistical Area (MSA) which contains just over 240,000 observations. Based on the Milken Institute’s definition, the L.A. Creative Sector, Figure 1 represents what we traditionally think of as creative industries, as well as the growing high-tech sector in the MSA. We do not filter out any occupational codes because we want to include a complete employment profile. The hi-tech NAICS are meant to capture the increasing use of technology in the Creative Sector. We intend to provide a complete profile of content creators and their platforms. This includes industries like advertising, video games, and other technology-driven content creation. We filtered out employment samples that are not in the labor force nor employed in the selected Creative Sector NAICS. After this filtering, the remaining data set contains 16,015 observations.

The main issue with this data is missing values. There are about 3,000 observations that have incomplete SOCs because of the ACS data cleaning process. The SOCs that are problematic are 119, 439, 1940, 2590, and 2740. These codes represent actors, musicians, and designers and other necessary occupations in the LA Creative Sector. We group the six-digit SOCs that are aggregates from the ACS occupation classification based on BLS educational requirement: average income and relative position to the national median (Figure 2). To make these data points useable, we applied machine learning techniques and a linear discriminate analysis (DA) selection model. We use the total ACS data set from 2012 to 2014 with additional characteristic variables to train the DA on subsets of the data to enhance the predictive power of the analysis. Once the model has been trained and SOCs have been estimated to the full six-digit SOC we use the unique identifier (ID) supplied by ACS to merge together the predicted SOCs with the main dataset. During the merging process, due to the way the ACS constructs their ID variable, we had to drop two observations because the observations had the same ID. The final dataset is 16,013 observations.

Table 7: Milken Institute Creative Sector NAICS: American Community Survey

5112	5121	5122	5131	5132	5161	515	5152	5413	5414	5415	5418	711
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Table 8: Milken Institute Creative Sector NAICS: American Community Survey

131070	252010	253000	271010	271020	272040
273010	273090	292010	299000	414010	532010

Moody’s Analytics data and Occupational Employment Statistics:

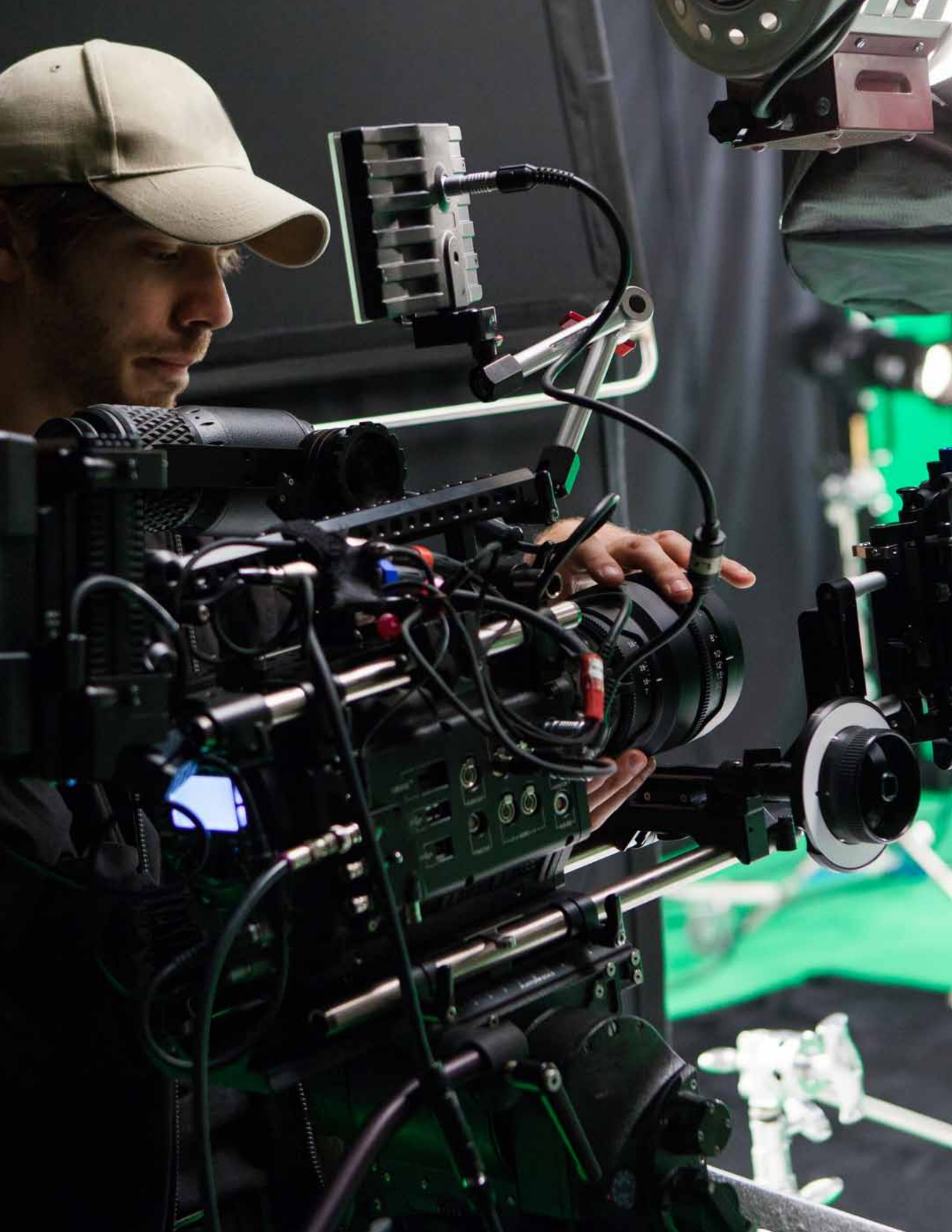
We created an interpolated data set using employment and wage data from Moody’s Analytics and the Occupational Employment Statistics (OES). We use a total of 10 years from 2004 to 2014 for this data set. In order to have another way to evaluate the employment and wage characteristics by both industry and occupations, it is necessary to combine these data sets. In this data set we interpolate data for the total Los Angeles MSA and the Los Angeles Creative Sector. The Creative Sector in this data set are defined by the Milken Institute (Figure 3). We use all the SOCs that exist in the L.A. MSA. We assume a time dependence resulting in a random walk for the interpolation. The final product is an estimated dataset that is based on the share of employment or wages represented by occupations of an industry. We accept that there are some major issues with the OES data. Due to the way that the OES is collected, we do not have a complete look that the change in occupational make up overtime. This dataset is best observed under the lens of a pooled cross-sectional that can help provide some context for employment and wages in the LA Creative Sector.

Table 9: Creative Sector NAICS Moody’s and OES data

5112	5121	5122	5131	5132	5161	5151	5152
5152	5413	5414	5415	5418	7113	7114	7115

Strategic National Arts Alumni Project:

Strategic National Arts Alumni Project (SNAAP) 2011-2013 data were used with permission from The Indiana University Center for Postsecondary Research. SNAAP provides national data on arts alumni while defining “art” fields broadly—performance, design, architecture, creative writing, film, media arts, illustration, fine art, etc. This is similar to our Creative Sector, although SNAAP data does not use NAICS codes. SNAAP survey data from all Los Angeles and Orange County zip codes were used in our analysis. Though zip codes are not as precise as county lines, the area included is very similar to the Los Angeles MSA. We obtained a data set with the entire SNAAP collection of Los Angeles and Orange County zip codes and then a random sample giving us one third of the remaining national data—a dataset with 27,502 observations. After filtering to concentrate on Los Angeles and Orange County zip codes, we had a final dataset with 5,702 observations. Of this dataset there were varied response rates for survey questions, giving us—although detailed information—largely anecdotal evidence.



APPENDIX 4: STAKEHOLDERS

We would like to thank all those who we interviewed or attended stakeholder meetings to provide input for this paper.

Educators/Government/Nonprofit

Angela Allison, K-12 Career Pathways, California Community Colleges
June Bayha, Bayha Group
Chris Cagle, South Bay, Workforce Investment Board
Rafael Carbajal, County of Los Angeles
Yolanda Castro, SELACO Workforce Development Board
Jennifer Childress, United Negro College Fund
Associate Dean Frank Dawson, Santa Monica College
Phil Dunn, Foothill Workforce Development Board
FilmL.A.
Sandra Harmsen, San Bernardino County Workforce Development Board
Kristiina Hackel, California State University Los Angeles
Michelle Garakian, City of Los Angeles
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Greg Irish, Los Angeles City Workforce Development Board
Michael Kelly, The L.A. Coalition
Andrea Medina, California Career Pathways Trust
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Associate Dean Radhika Seshan, UCLA Extension
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Karen Shores, California Career Pathways Trust
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Steve Wright, California Community Colleges
Scott Young

Employers

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Chris Erwin, Big Frame
Ze Frank, BuzzFeed Entertainment Group
Matthew Hennick, BuzzFeed Motion Pictures
Matt Horwitz, Echo Lake Entertainment
Antonio Manning, JPMorgan Chase
Ted Milner, Executive Temps
Laura Roenick, United Talent Agency
Shane Vierra, Netflix
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Unions

Jillian Arnold, IATSE Local 695
Michael Chambliss, IATSE Local 600
Gary Lucchesi, Lakeshore Entertainment, Producers Guild of America (PGA)
Laurie McCreary, Revelation Studios, Producers Guild of America (PGA)
Michael Miller, IATSE
Illyanne Morden-Kitchaven, Screen Actors Guild-American Federation of Television
and Radio Artists (SAG-AFTRA)
Chuck Slocum, Writers Guild of America (WGA)

ENDNOTES

1. Merriam-Webster Dictionary. <https://www.merriam-webster.com/dictionary/creative>.
2. According to the BLS, there is no official definition of what qualifies for a gig. The BLS says they would describe a gig as, "...a single project or task for which a worker is hired, often through a digital marketplace, to work on demand." The BLS makes no distinction on the hirer's proprietorship status. <https://www.bls.gov/careeroutlook/2016/article/what-is-the-gig-economy.htm>
3. A Hollywood Exit: What California Must Do to Remain Competitive in Entertainment—and Keep Jobs <http://www.milkeninstitute.org/publications/view/620>
4. Bureau of Labor Statistics on gig economies, <http://www.bls.gov/careeroutlook/2016/article/what-is-the-gig-economy.htm>
5. Strategic National Arts Alumni Project 2011-2013 data, used with permission from the Indiana University Center for Postsecondary Research.
6. A Hollywood Exit. <http://www.milkeninstitute.org/publications/view/620>
7. FilmL.A. <http://www.filmla.com/feature-production-rebounds-in-l-a-as-local-filming-sets-new-records/>
8. <http://www.strategyand.pwc.com/media/file/2016-Entertainment-and-Media-Trends.pdf>
9. Hollywood's Diversity Problem: It's Not Just Actors. <http://assets1b.milkeninstitute.org/assets/Publication/Viewpoint/PDF/Hollywoods-Diversity-Problem-Its-Not-Just-Actors.pdf>
10. Hollywood's Diversity Problem: It's Not Just Actors. <http://assets1b.milkeninstitute.org/assets/Publication/Viewpoint/PDF/Hollywoods-Diversity-Problem-Its-Not-Just-Actors.pdf>
11. Inequality in 800 Popular Films: Examining Portrayals of Gender, Race/Ethnicity, LGBT, and Disability from 2007-2015. USC Annenberg Media, Diversity, & Social Change Initiative. <http://annenberg.usc.edu/pages/~media/MDSCI/Dr%20Stacy%20L%20Smith%20Inequality%20in%20800%20Films%20FINAL.ashx>

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