



CENTER FOR A COMPETITIVE WORKFORCE

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**ENTERTAINMENT AND THE  
RISE OF DIGITAL MEDIA IN THE  
LOS ANGELES BASIN FULL REPORT**

*An Industry Disrupted*  
*February 2018*

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**Center for a Competitive Workforce**, a regional Strong Workforce project, is a partnership of 19 L.A. Region community colleges in the L.A.|O.C. Regional Consortium, LAEDC, Los Angeles Area Chamber of Commerce, and the Center of Excellence for Labor Market Research at Mt. San Antonio College. The Center's mission is to better align supply and demand data with labor market information, support industry-driven career education and workforce development programs, and strengthen industry engagement across our region's talent development systems with the goal to train, educate and upskill a more competitive workforce in the LA Basin for the knowledge-intensive industries that will come to dominate our economic future. This work will also address the talent gaps some employers face, and help balance the supply of skilled graduates with the projected demand of local employers, a balance which helps both job-seekers and local firms.

Learn more at [www.ccworkforce.org](http://www.ccworkforce.org).

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As grant-funded technical assistance providers, the seven Centers of Excellence across the state, located strategically to study the regional economies of California, support the community colleges by providing customized data on high growth, emerging, and economically-critical industries and occupations and their related workforce needs.



The Los Angeles and Orange County Regional Consortium (LAOCRC) provides local and regional decision makers with the increased capacity to measure regional progress toward goals of efficiency and effectiveness, while also improving their access to indicators that measure student/incumbent worker progress through the educational system.



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CHAMBER OF COMMERCE

The Los Angeles Area Chamber of Commerce champions economic prosperity and quality of life for the Los Angeles region by being the voice of business, promoting collaboration and helping members grow.



The LAEDC is a 501c3 non-profit dedicated to advancing opportunity and prosperity for all via objective economic research and analysis, strategic assistance to government and business, and targeted public policy. These efforts are guided and supported by the expertise and counsel of the LAEDC's business, government and education members and partners.

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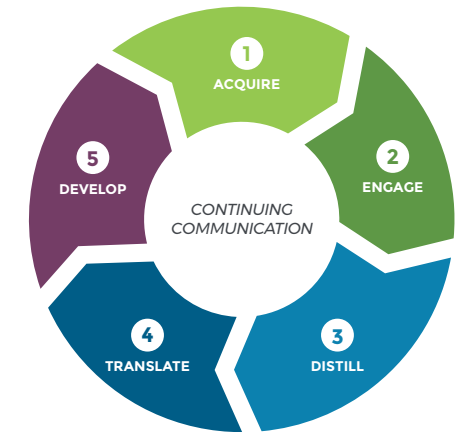
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# The Model

In 2016, California embarked on a path to train 1 million middle-skill workers and develop workforce opportunities to provide greater overall upward economic mobility and lift residents out of poverty. To this end, the Strong Workforce Program was established to spur career education in the state's 114 community colleges. Seven areas of student success have been targeted: 1) student success; 2) career pathways; 3) workforce data and outcomes; 4) curriculum; 5) faculty; 6) regional coordination; and 7) funding. The purpose is to increase the number of students enrolled in career education programs that will lead to more certificates, degrees, transfers to four-year institutions and employment in high-demand, high-wage jobs.

To achieve the Strong Workforce Program's co-equal goals in the Los Angeles Basin, the Center for a Competitive Workforce proposes to structure, deploy and structurally integrate the following five-part program model:



### 1. ACQUIRE PERSISTENT DATA AND ANALYSIS

Conduct economic research and applied analysis to better understand the region's targeted industries, their associated labor markets, growth occupations and five-year forecasts.

### 2. ENGAGE INDUSTRY FOR REAL-TIME, ONGOING DATA COLLECTION AND VALIDATION

Validate and amplify the quantitative research and analysis with primary research, including survey instruments and firm-level intelligence gathered through the Los Angeles County Economic Development Corporation (LAEDC) and Los Angeles Area Chamber of Commerce industry cluster councils.

### 3. DISTILL DETAILED LABOR MARKET INTELLIGENCE

Distill and refine data elicited through the above processes into translatable, useable information for consumption by the community colleges.

### 4. TRANSLATE AND COMMUNICATE DATA INTELLIGENCE TO COLLEGE COMMUNITY

Connect quantitative research/analysis, primary research and firm-level intelligence to curriculum developers and other relevant decision-makers (e.g. deputy sector navigators, faculty and career education deans) at the community colleges; and

### 5. NEW COURSES AND PROGRAMS DEVELOPED/UPDATED

Tailor new programs and courses through collaboration with industry professionals, that correct, modernize or enhance critical competencies and/or skills training gaps.

This report represents Phase 1 of the model. Phase 2 will begin almost simultaneously with this report's **release**.

# Preface

For over a century, the entertainment industry has thrived in the Los Angeles Basin, a region encompassing Los Angeles and Orange counties. Known as the home of the motion picture industry, the Los Angeles Basin also contains a significant portion of the recording industry. The industry's major companies have much, if not all, of their corporate operations in the region and maintain studios and production facilities across Southern California.

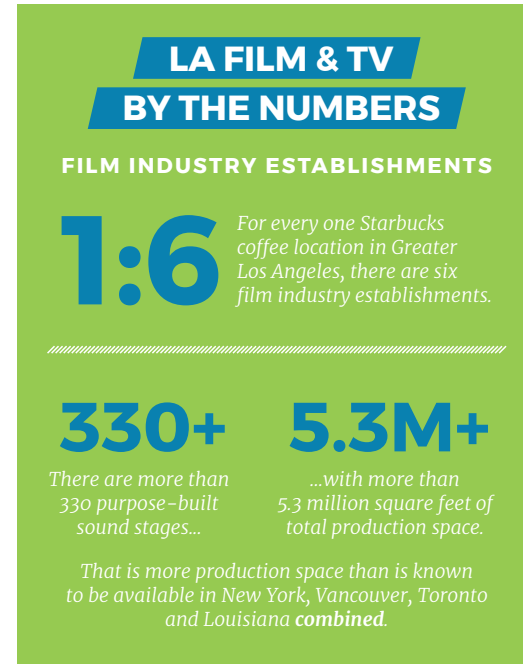
Even so, in a rapidly changing entertainment environment, the Los Angeles Basin is now but one competitor among many domestic and global locales for film and television projects. Following the rise of competitive film incentive programs in Canada in the late-1990s, and their spread across the United States from the early-2000s, the production landscape in the region changed significantly. Feature film projects, being costly and highly mobile, were the first type of production lost in great number to competing jurisdictions.

Due to fierce competition, a shift in viewing habits caused by the emergence of major players, such as Netflix, Hulu and Amazon, and a more competitive California Film & Television Tax Credit Program, television production is now the driving force in the region's entertainment economy. A combined estimated direct spend for the 2016-17 television season was approximately \$6.5 billion for scripted (one-hour and half-hour) television series in the region.

## Digitalization and Disruption: The Rise of Digital Media

While local industry leaders in film, television and music are still major contributors to the Los Angeles Basin economy, the region's motion picture and sound recording profile is evolving beyond traditional movie and television production. Digitization is disrupting almost every aspect of the media and entertainment industry from content creation and packaging, to ad platform architecture and distribution, to user interface and feedback. Already, digital is ubiquitous throughout the region's entertainment industry, accelerating new product acceptance times, altering financing and capitalization strategies, and greatly affecting business models, forecasts and industrywide trends.

To capitalize on these trends, a concentrated and specialized digital media industry has emerged, swiftly scaling and changing the entertainment industry in the Los Angeles Basin by blending digitized content and new distribution technologies.



Source: FilmLA

Already, digital is ubiquitous throughout the region's entertainment industry.

This fast-growing digital media and entertainment industry is characterized by a diverse array of technology and content firms and includes sectors as assorted as digital advertising, web gaming, interactive media, augmented reality, virtual reality and animation. This blended digital media and entertainment ecosystem combines the creative product with data to drive adoption and respond to shifts in consumer behavior, focusing on branded content and experiences with a cross-platform, multidimensional approach.

## Digital Disruption of the Media & Entertainment Value Chain



In the Los Angeles Basin, homegrown digital content firms are ascending as dominant players in digital media, such as Snap Inc., Fullscreen (which was acquired by AT&T and the Chernin Group), Makers Studios (which was acquired by the Walt Disney Company), and AwesomenessTV (which was bought by Dreamworks). Digital content firms are expanding into more traditional forms of entertainment, such as film and television. Prominent Silicon Valley, Seattle and New York firms such as YouTube, Vice and BuzzFeed are enlarging their footprint in the region as they shift from being content distributors to content creators. Not only are these new firms competing with traditional content creators, but, in some instances, they are supplanting them in market share and cultural prominence.

**AWESOMENESSTV**  
**YOUTUBE** **AMAZON**  
**SNAP INC.** **BUZZFEED**  
**MAKERS STUDIOS**  
**NETFLIX** **FULLSCREEN**

## TRADITIONAL MEDIA ACQUIRING DIGITAL MEDIA

- AT&T** → **FULLSCREEN**  
AT&T and the Chernin Group (Otter Media) acquired Fullscreen.
- DISNEY** → **MAKER STUDIOS**  
The Walt Disney Company acquired Maker Studios for \$500 million in 2014.
- DISNEY** → **HULU**  
The Walt Disney Company acquired a controlling stake in Hulu in 2017.
- DREAMWORKS** → **AWESOMENESSTV**  
Dreamworks acquired AwesomenessTV for \$117 million in 2014.

## DIGITAL MEDIA TAKING ON TRADITIONAL MEDIA

- NETFLIX** → **CONTENT BUDGET**  
Content distributor to content creator; Netflix says it will spend up to \$8 billion on content in 2018.
- NETFLIX** → **LA STUDIO SPACE**  
Netflix has acquired over 100K square feet of studio space in Los Angeles at the Sunset Bronson Studios.
- AMAZON** → **LA STUDIO SPACE**  
Amazon Studios is moving to Culver Studios, the historic space that gave birth to classic films such as "Citizen Kane" and "Gone with the Wind".
- BUZZFEED** → **LONG FORM CONTENT**  
Buzzfeed created a "Motion Pictures" department as they ramp up their long-form video content.
- MITU** → **LONG FORM CONTENT**  
Mitu hired David Ortiz from Endemol Shine to lead a long-form development, production and talent team.
- FACEBOOK** → **CONTENT DEALS**  
Facebook has signed video content deals with several publishers, including BuzzFeed, Vox, Group Nine media, and others. The deal includes long and short form, scripted and unscripted content.
- SNAPCHAT** → **CONTENT DEALS**  
Snapchat has signed video content deals with A&E Networks, NBCUniversal, and Hearst.
- SNAPCHAT** → **CHANNELS**  
Snapchat has content channels with publishers such as CNN, NBC, Vice, GO, ESPN, New York Times, National Geographic, and many others.

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# Entertainment

*An industry disrupted.*

In the Center for a Competitive Workforce’s baseline report “L.A. & Orange County Community Colleges: Powering Economic Opportunity” published in October 2017, the LAEDC’s Institute for Applied Economics identified six target industries in the Los Angeles Basin expected to undergo significant middle-skill job growth between 2016 and 2021. Entertainment was one of the six identified industries and an obvious choice for the center’s first “deep-dive” report.

Entertainment is a prominent industry that is highly concentrated and growing in the region. It offers significant economic benefits in terms of both wealth generation and opportunities for students attending community colleges in the region. This and other forthcoming deep-dive reports are intended to build knowledge concerning the region’s labor markets and provide a broader understanding of middle-skill workforce gaps, as gauged by the difference between industry needs and community college program completions.

## Entertainment Industry Defined

The entertainment industry includes the motion picture and sound recording, broadcasting (except internet), and performing arts and spectator sports industries (Exhibit 1).

The Los Angeles Basin’s motion picture and video production industry has a long-established history of providing entertainment for consumers throughout the world. The recent rise in digital media (characterized by digitized content that is encoded and can be distributed over computer networks) has brought transformative changes to the industry. Entertainment-related businesses have been contending with and/or adapting to increased use of social media, while the traditional television set is being replaced by computers and mobile devices.

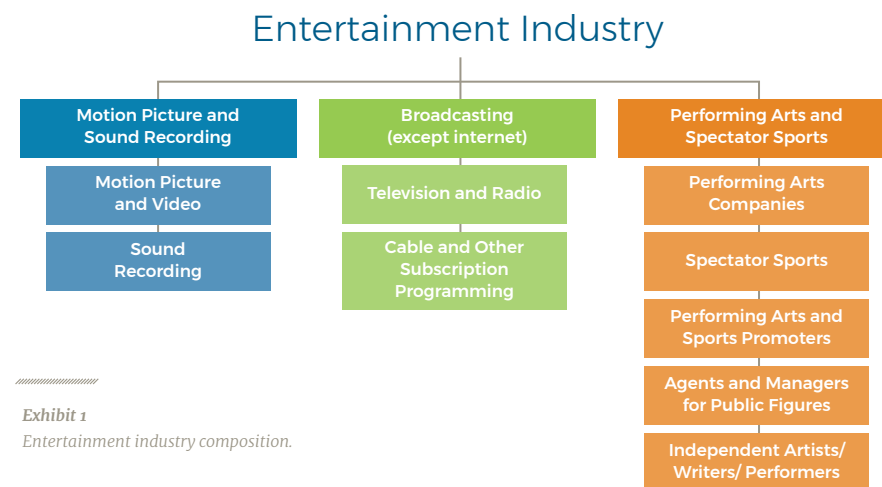


Exhibit 1  
Entertainment industry composition.

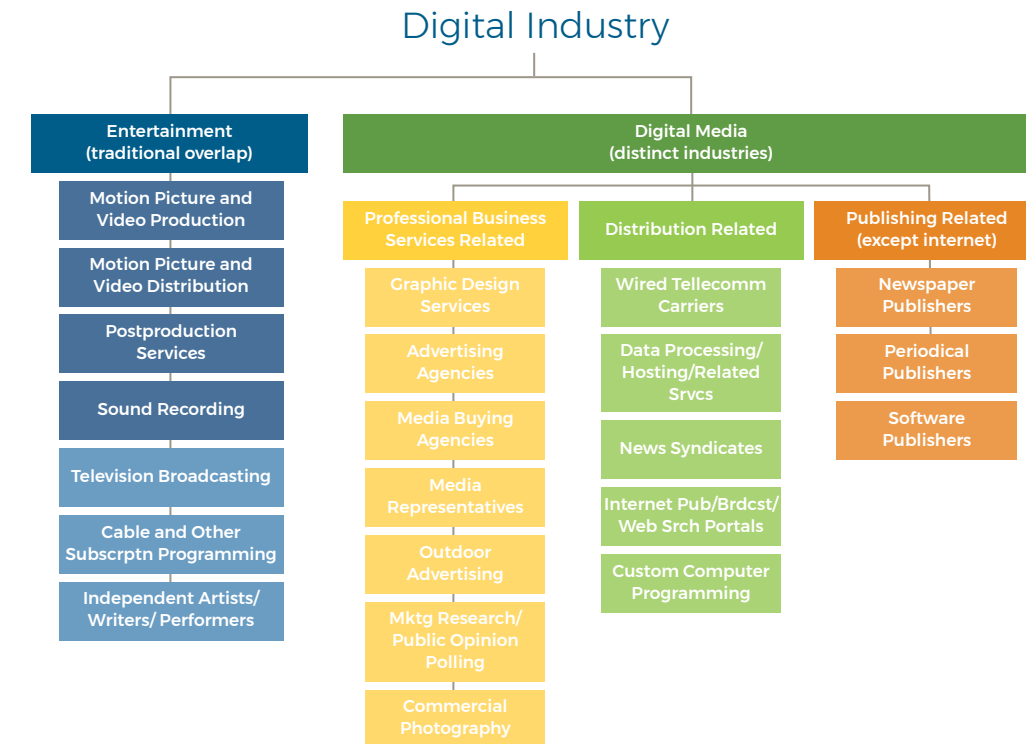


Exhibit 2  
Digital media industry composition.

## Digital Media Industry Defined

As digital media is a relatively new and evolving phenomenon, there is no widely accepted industry definition. The difficulty in quantifying the economic contribution of digital media as an industry in terms of employment, value added, earnings and output lies in the fact that it is a disruptive force across numerous industries. As such, those industries that have been most transformed by the rise of digital media have been pinpointed and are listed below.

In this report, the nomenclature “digital media industry” is used for simplicity. The digital media industry is split into two groups, entertainment, which is an overlap of industries included in the traditional definition of the entertainment industry, and digital media, which comprises additional distinct industries with a strong digital media presence, but that are not traditionally included as a part of the entertainment industry (Exhibit 2).

*Digital media is a disruptive force across numerous industries.*

NAICS	INDUSTRY TITLE	EXAMPLE 1	EXAMPLE 2	EXAMPLE 3
511110	Newspaper Publishers	tronc (Los Angeles Times)	Los Angeles Daily News	Hollywood Reporter
511120	Periodical Publishers	Time	LA Weekly	LA Confidential Media
511210	Software Publishers	Activision Blizzard	Electronic Arts	Square Enix
512110	Motion Picture and Video Production	Disney Studios	NBC Universal	Fullscreen
512120	Motion Picture and Video Distribution	Netflix	Amazon Studios	Vubiquity
512191	Teleproduction and Other Postproduction	Blur Studio	Digital Domain	Animal Logic
512199	Other Motion Picture and Video Industries	Technicolor	Picture Head	Reel FX
5122	Sound Recording	Concord Music Group	Livenation	Sony Music Entertainment
515120	Television Broadcasting	Hulu	CBS Films	Fox Television
515210	Cable and Other Subscription Programming	DirecTV	Viacom	HBO
517110	Wired Telecommunications Carriers	Time Warner Cable (Spectrum)	Comcast	Cox
518210	Data Processing, Hosting and Related	Google	Twitter	Defy Media
519110	News Syndicates	Associated Press	Thompson Reuters	Business Wire
519130	Internet Publishing and Broadcasting and Web Search Portals	Snap Inc (Snapchat)	Buzzfeed	Sony Interactive Ent (Playstation)
541430	Graphic Design Services	DeviantArt	DKNG	Lux Typographic + Design
541511	Custom Computer Programming Services	Riot Games	Naughty Dog Inc	Tinder (Match Group)
541810	Advertising Agencies	ReachLocal	Ziprecruiter	Wpromote Inc
541830	Media Buying agencies	Horizon Media	Starcom	Mediabrand Worldwide
541840	Media Representatives	BeachBody	Canvas Worldwide	Videology Inc.
541850	Outdoor Advertising	Clear Channel Outdoor	Lamar Central Outdoor	Outfront Media
541910	Marketing Rsrch and Public Opinion Polling	Nielsen	Ipsos	Pacific Research
541922	Commercial Photography	Copious	Flashaus Studios	Archangel Drone Videography
711510	Independent Artists, Writers and Performers	Creative Artists Agency	Minnesota Public Radio (American Public Media)	Kaufmann Media Group

**Exhibit 3**  
Examples of digital media companies in each NAICS classification.

Digital media is created by, used in and distributed via various types of firms across many industries. These firms are encountered in the daily lives of most Americans: search engines, video game developers, television broadcasters, streaming services and social apps, to name a few. Most government data sources concerning these companies and their industries are grouped according to the North American Industrial Classification System (NAICS), which classifies businesses according to their main activity. Employment estimates for the digital media industry are for all employees in these digital media-focused establishments; for this reason, they do not refer to digital media jobs exclusively but to all jobs supported by digital media-centric firms. For the purpose of this report, specific industry codes were selected by the LAEDC to encompass the digital media economic space. Examples of companies registered in each industrial classification are shown in Exhibit 3. In-house calculated employment shares were modeled and applied across the various industries to isolate payroll jobs specific to businesses connected to digital media.

# Sizing Things Up

*The industry defined.*

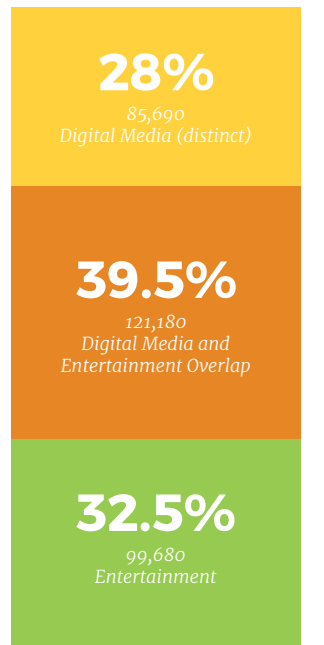
**A**nalysis of entertainment industry trends provides insights into the challenges and opportunities facing the industry's workers and employers. Understanding where the jobs are now, and in the future, is critical. This information can be used to tailor training and career education programs as well as regional policies to prepare for these changes. Industry and education leaders in the Los Angeles Basin have committed to strengthening the regional talent development system to fill the jobs of the future with a workforce that is competitive in a fast-changing global economy.

In this section, job counts, changes in payroll employment and wages are discussed for the two counties comprising the Los Angeles Basin, Los Angeles and Orange.

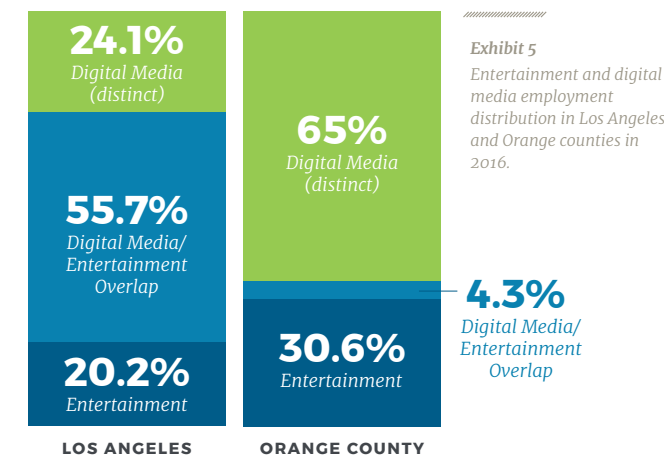
The digital media and entertainment industries employed 306,550 payroll workers in the Los Angeles Basin in 2016, accounting for 5.2 percent of total regional employment (Exhibit 4). Between the two industries, 121,180 workers were employed in "overlap" industries, those spanning the digital media and entertainment industry definitions. Examples of overlap industries are motion picture and video production, post production services, and independent artists, writers and performers.

The composition of digital media and entertainment industry employment in the two counties varies (Exhibit 5). As a result, the concentration of specific occupations and middle-skill employment opportunities also will differ.

306,550  
payroll jobs



**Exhibit 4**  
Employment distribution across entertainment and digital media industries.



**Exhibit 5**  
Entertainment and digital media employment distribution in Los Angeles and Orange counties in 2016.

Sources: QCEW, Estimates by LAEDC

# Industry Employment

## Entertainment Industry

The entertainment industry includes: motion picture and sound recording (NAICS 512); broadcasting, excluding internet (NAICS 515); and performing arts and spectator sports (NAICS 711).

Broadcasting (except internet) is broadly divided into two branches: TV and radio broadcasting; and cable and other subscription programming. Cable and other subscription programming includes cable TV networks, pay-per-view programming, satellite TV networks, and subscription television networks and services.

Performing arts and spectator sports is broadly divided into four branches: performing arts companies; spectator sports; promoters, agents and managers; and independent artists, writers and performers. Independent artists, writers and performers include freelance individuals (e.g., actors, producers, dancers, artists) performing in artistic productions, creating artistic and cultural works or productions, or providing technical expertise for these productions.

Using this definition, the industry employed 220,860 payroll workers in the Los Angeles Basin in 2016, accounting for more than 75 percent of all entertainment employment in California and nearly 20 percent (18.7 percent in 2016) of entertainment employment nationwide. Motion picture and sound recording industries accounted for 68 percent of total industry employment. Promoters, agents and managers had the next largest share, with just over 10 percent, or 22,310 jobs.

*Jobs in entertainment grew **four times** as fast compared to the regional economy as a whole.*

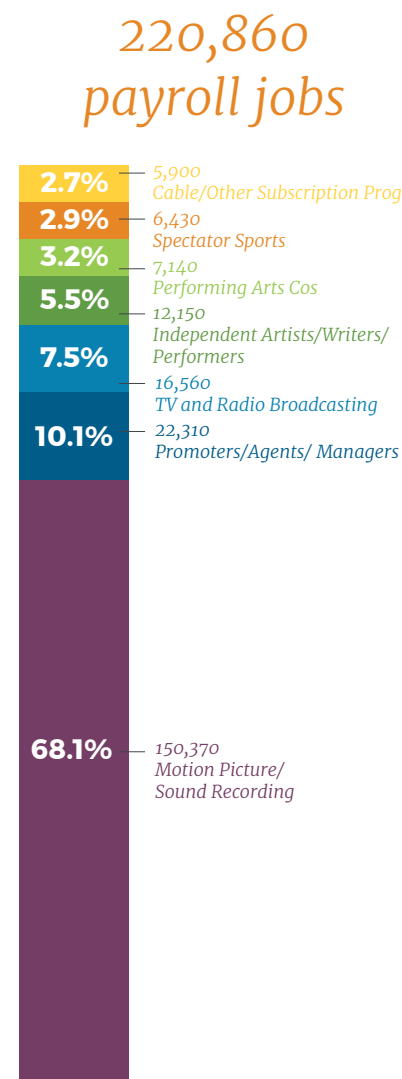


Exhibit 6  
Employment distribution across the entertainment industry.

## Entertainment Industry

Change in Payroll Employment from 2006:

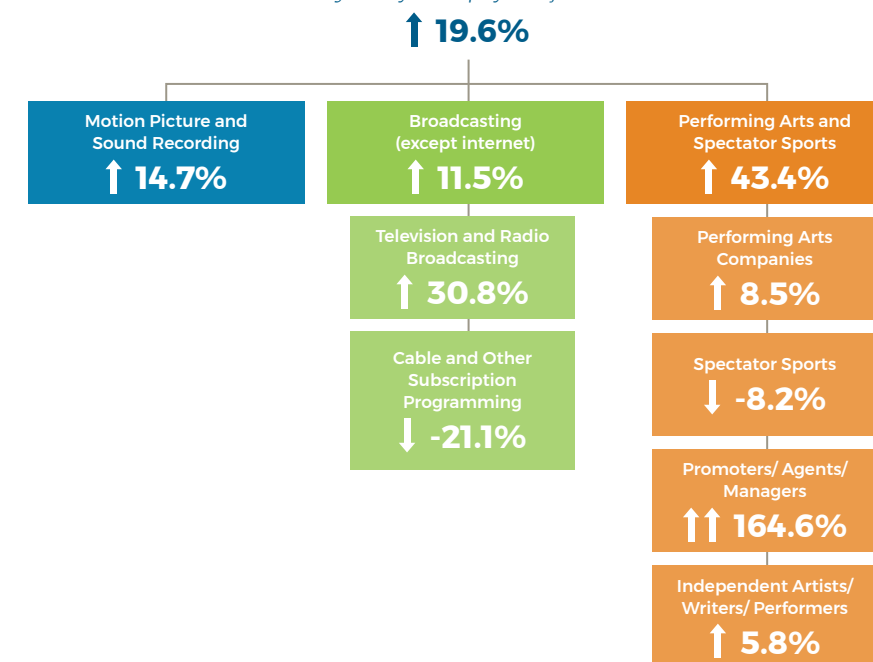


Exhibit 7  
Change in payroll employment in the entertainment industry.

Total employment in the industry has grown continuously since 2010, with an average annual growth rate of 1.9 percent per year, exceeding pre-recession peak levels. From 2006 to 2016, total payroll employment across all industries in the Los Angeles Basin increased by 4.0 percent, while employment in the entertainment industry cluster outpaced regional growth, adding over 36,130 jobs, an increase of 19.4 percent (Exhibit 7).

Much of the job growth in this industry has been led by a substantial increase in promoters, agents and managers, an occupation category which added more than 36,000 jobs over the period; this represents a growth rate of more than 164 percent. All component industries displayed solid job growth, except cable and other subscription programming and spectator sports; they experienced employment declines of 21 percent and 8 percent, respectively.



### Digital Media Industry

Digital media is present across many different industries. As a result, these industries have been grouped into four subcategories: (1) those that overlap with industries included as part of the traditional entertainment industry; (2) digital media found in professional and business services industries; (3) industries involved in the distribution of digital media content; and (4) digital media in publishing industries.

Digital media-related industries that overlap with legacy entertainment include motion picture production and distribution, postproduction and sound recording, television broadcasting and cable and other subscription programming, and independent artists, writers and performers.

There are a number of professional and business services industries that use digital-media-related tools, processes or content in the provision of services. These include: graphic design, advertising, media buyers and representatives; marketing research and public opinion polling; and commercial photography firms.

Industries involved in the distribution of digital media to individual consumers include: wired telecommunications carriers; data processing hosting and related news syndicates; internet publishing, broadcasting and web search portals, and custom computer programming.

Publishing industries rely on digital media as well. Newspaper and periodical companies publish online, embedding images and video clips in their websites. Software publishers include companies that create video games.

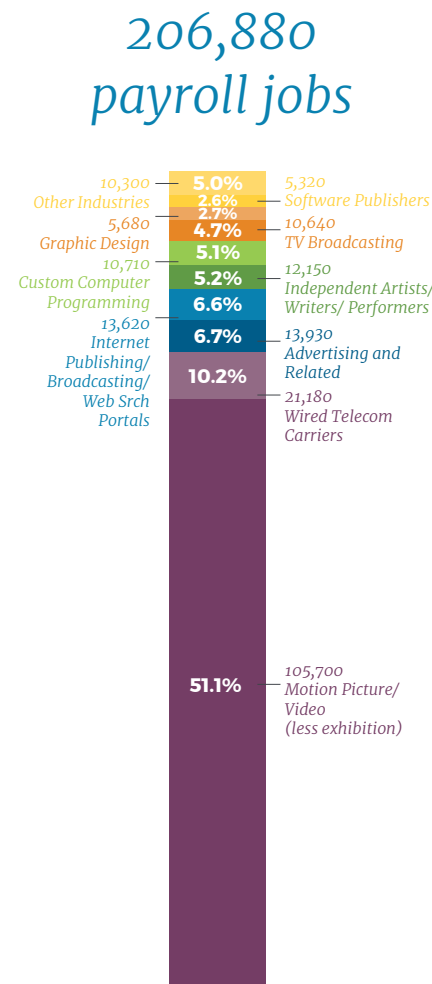


Exhibit 8  
Employment distribution across the digital media industry.

### Industries with Digital Media

Change in Payroll Employment from 2006:

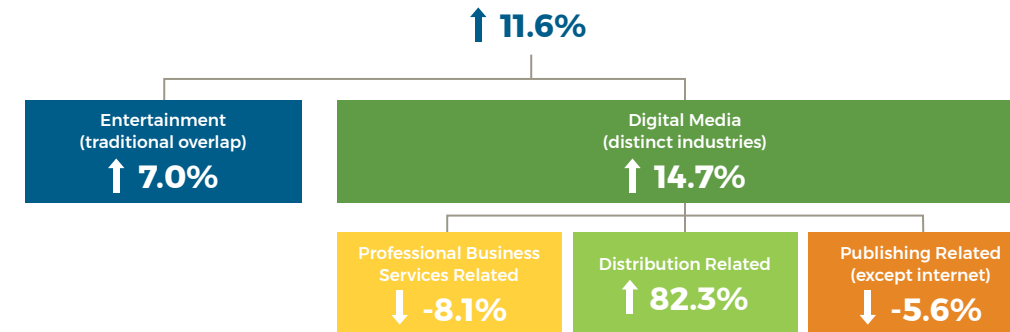


Exhibit 9  
Change in payroll employment in the digital media industry.

In 2016, the digital media industry employed 206,880 payroll workers across the Los Angeles Basin (Exhibit 8). Digital media industries that overlap with the entertainment industry account for roughly 60 percent of total digital media industry employment. About 27 percent, or 55,520 jobs, were related to distribution, while professional- and business-related digital media industries totaled just under 11 percent, or 22,230 jobs. Nearly 8,000 jobs, about 4 percent, were in publishing-related industries.

Industries affected by the rise of digital media have experienced mixed growth over the last 10 years. Industries involved with the distribution and consumption of digital media content have rapidly expanded, with more than three times as many payroll employees in wired telecommunications carriers and internet publishing and broadcasting in 2016 compared to 2006. Software publishing and custom computer programming also experienced solid job growth, increasing by more than 30 percent. Newspaper and periodical publishing and news syndicates suffered the deepest contraction, with 43 percent of jobs lost.

From 2006 to 2016, total payroll employment across these larger digital media industries increased 11.6 percent, adding over 30,300 jobs, while employment in the overall regional economy (across all industries in the Los Angeles Basin) grew by 4.0 percent (Exhibit 9).

*Real wages in industries with a transformative digital media presence grew by 14.2 percent, more than **three times** that of industries in the Los Angeles Basin.*

### Wages in the Industry

Entertainment and digital media industry employees are among the highest-paid employees in the regional economy. Overall, employees in entertainment earned, on average, \$113,720 annually, and those employed in digital media earned \$116,820. These earnings are more than double the regional average across all industries, \$59,890 annually.

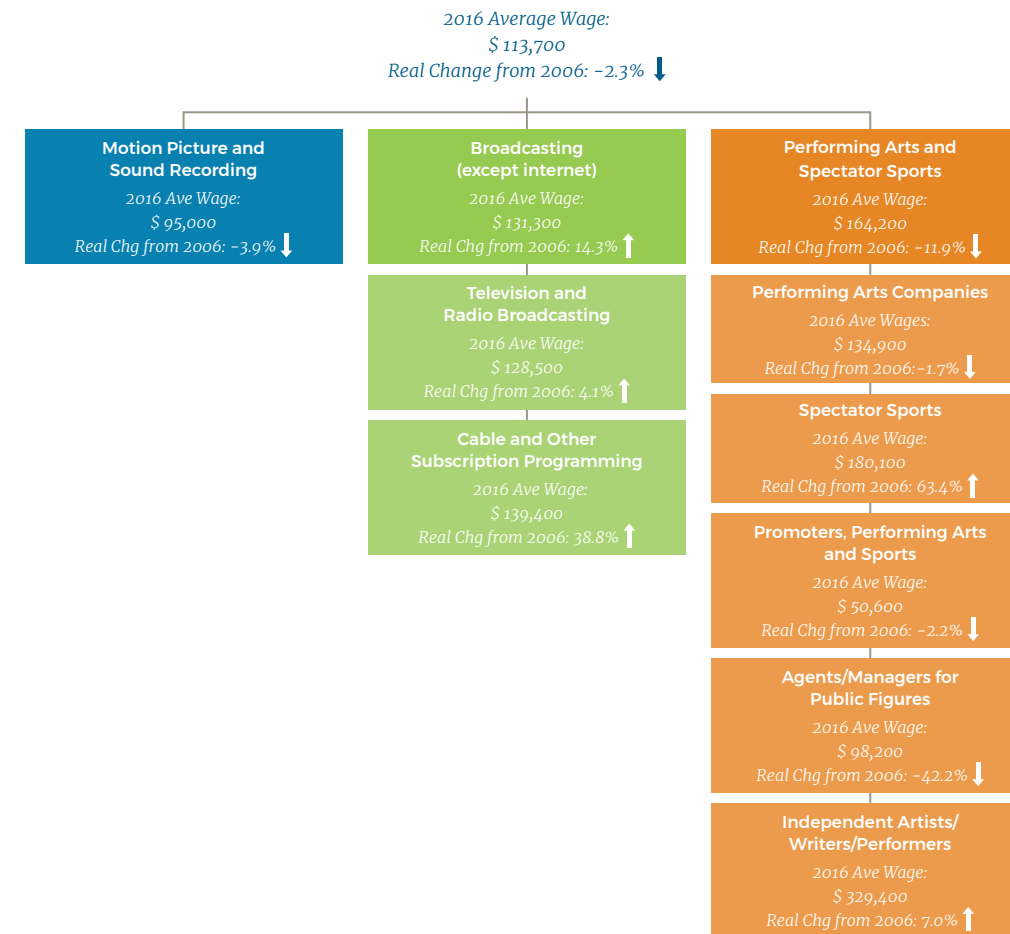
However, some industries in entertainment and digital media pay lower wages. For example, the performing arts and sports promoters industry pays on average \$50,560 per year and the graphic design and market research industries pay \$77,390 per year.

The industry with the highest wages is independent artists, writers and performers with \$329,400 in average annual earnings. These average wages reflect independent producers, movie stars and sports figures, many of whom have very high wages that skew the industry's average wage.

Real wages in industries identified as having a transformative digital media presence grew overall by 14.2 percent, more than three times the growth of all industries in the Los Angeles Basin, where inflation-adjusted (real) wages increased by nearly 4 percent. In contrast, wages in the entertainment industry declined by 2.3 percent, an annual average growth rate of -0.2 percent.

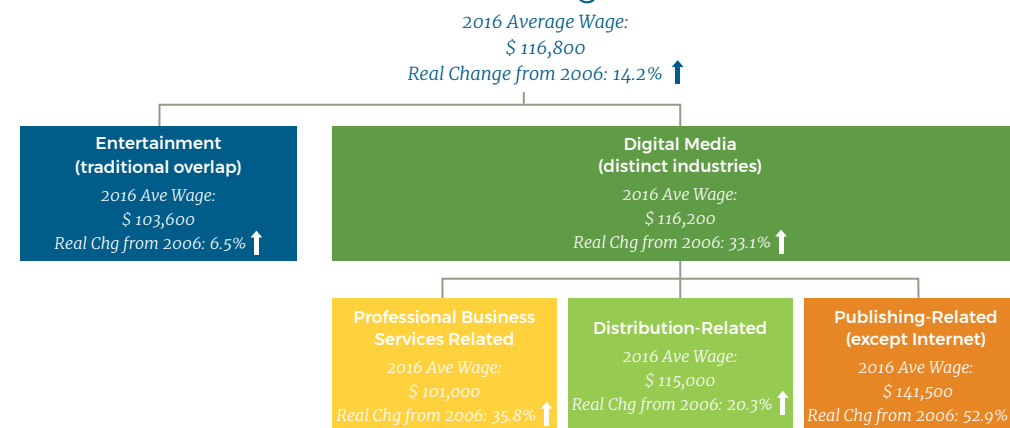
Wage growth has been fastest in the spectator sports, 63 percent growth, and cable and other subscription programming industries, 40 percent growth, between 2006 and 2016. There were two digital media-influenced industries that had the strongest real wage growth. Graphic design, market research and commercial photography experienced a wage increase of 94 percent. Wages increased by 49 percent in data processing, data hosting and related activities.

## Entertainment and Media



**Exhibit 10**  
Real wage growth across entertainment industries since 2006.

## Industries with Digital Media



**Exhibit 11**  
Real wage growth across industries affected by digital media since 2006.

### Competitiveness and Regional Advantage

A region's competitiveness in an industry is a function of many factors, including the attractiveness and value of the product(s)/service(s) produced/delivered, the costs of inputs such as labor and energy, the productivity of individual firms, and the geographic concentration of the industry. Industries that are highly-concentrated in a region are likely to be more competitive. Entertainment is a clear example of an industry with regional strengths in the Los Angeles Basin because there is a clustering of firms, workers and supporting players that enable the industry to be more specialized, nimble, and as a result, more competitive.

To measure competitiveness, location quotients were used.<sup>1</sup> Based on analysis, the region's entertainment industry continues to be relatively competitive, with a location quotient of 4.5. This means the entertainment industry is over four times more concentrated in the Los Angeles Basin compared to the national average. Industries with a regional digital media presence also are competitive, with a location quotient of 2.1.

Changes in competitiveness over time show whether an industry in a region is gaining or losing competitive strength. In general, location quotients of the region's component industries are varied and change over time.

The region maintains an impressive competitive strength in motion picture and sound recording, but this has declined slightly since 2006, as other regions have built capacity in this traded industry (Exhibit 12).

Employment has declined in several component industries within the entertainment industry and digital media industries. The change in the location quotient provides some insight into the relative strength of these industries compared to the national average.

*Entertainment employment is four and a half times more concentrated in the Los Angeles Basin than it is nationwide.*

### Entertainment Industry

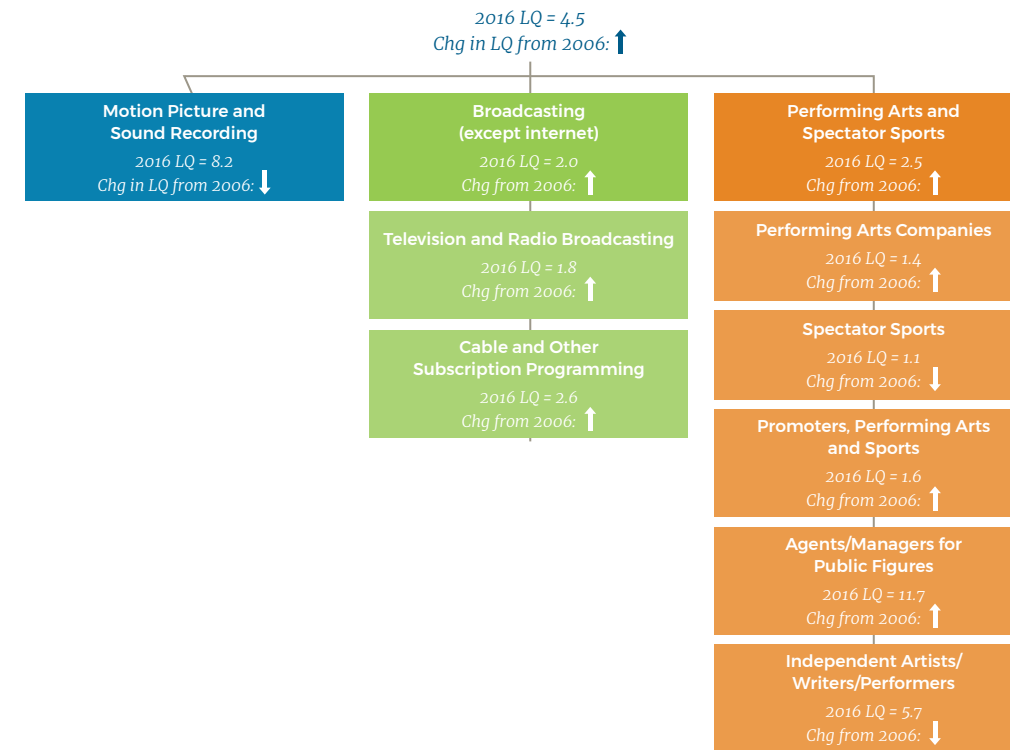
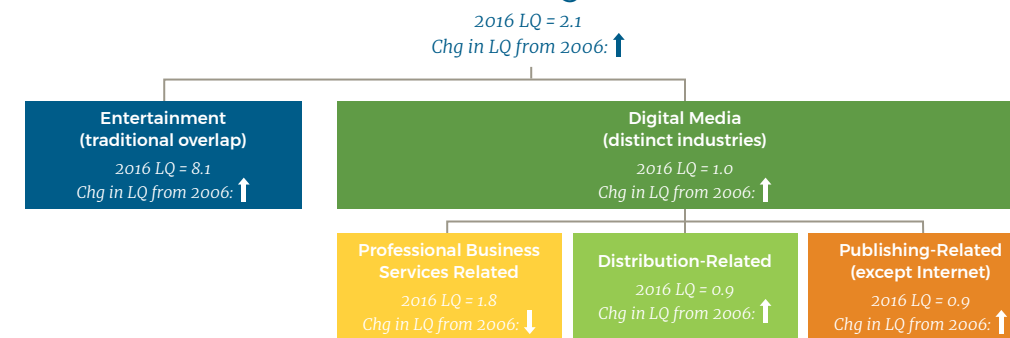


Exhibit 12  
Industry competitiveness as measured by location quotients since 2006.

### Industries with Digital Media



<sup>1</sup>See appendix for location quotient definition.

*The entertainment industry in the Los Angeles Basin grew its national employment share from 16.9 percent in 2006 to 18.7 percent in 2016.*

Overall, the region's share of national entertainment industry employment has grown over the last 10 years. The Los Angeles Basin accounted for 16.9 percent of all employment in the entertainment industry nationwide in 2006. This share increased to 18.7 percent in 2016, indicating a movement of employment to the region.

For the larger industries in which digital media activity is prominent, their share of national employment has remained a constant 8.7 percent from 2006 to 2016, with minimal fluctuation over the period among component industries.

A closer examination reveals the region is strongest, in terms of its national employment share, in three entertainment industries: motion picture and sound recording; agents and managers for public figures; and independent artists, writers and performers (Exhibit 13). Each of these three industries account for at least a quarter of industry employment nationwide, with nearly half of all agents and managers for public figures in the nation employed in the Los Angeles Basin in 2016.

For industries transformed by digital media, the Los Angeles Basin is strongest in advertising industries and internet publishing, accounting for 8 percent of national employment, and broadcasting and web search portals, 6.6 percent of national employment.

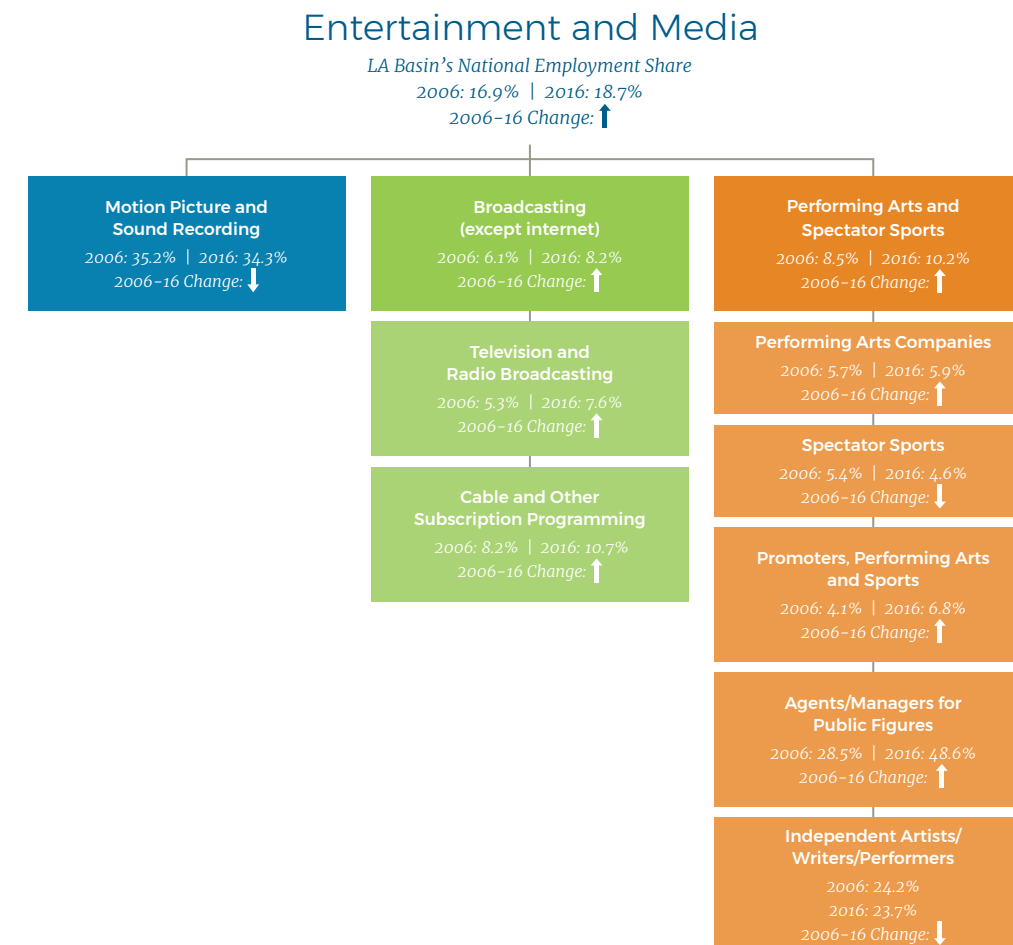
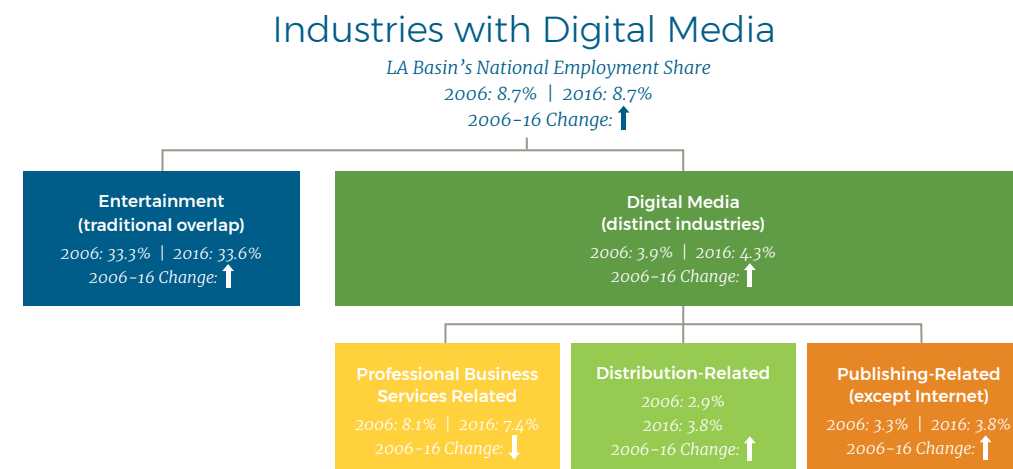


Exhibit 13  
Los Angeles Basin Employment Share of National Employment by Industry



# Spreading the Wealth

*Economic impact of entertainment and digital media.*

The extent to which an industry's impact extends to other sectors of the economy and into local households depends on the share of industry revenue recirculated within the region. The total economic contribution of the entertainment industry to the economy of the Los Angeles Basin is magnified through its supply chain and payroll spending.

## Where the Entertainment Industry Spends Its Revenues

Firms generate revenues through sales of their products and services, and use those funds to purchase the inputs needed to produce their products and services, pay workers and taxes, and generate a return on capital in the form of profits.

In 2015 (the most recent data available), the entertainment industry spent \$39.7 billion on labor payments and distributed \$44.5 billion in profits (Exhibit 14). Purchases of intermediate inputs into production reached \$26.2 billion, accounting for 23.4 percent of all outlays. Tax payments represent a very small percentage of all outlays.

The overall impact that an industry has on the broader regional economy depends upon the expenditures made within the region. In general, outlays for labor costs occur locally, and households are supported by these earnings.

If most of the inputs used in production are purchased from local suppliers, those firms experience increased demand for their products and can ramp up hiring, thereby supporting additional households in the region. If, on the other hand, most of the inputs are purchased elsewhere in the nation, then these purchases have no impact locally (other than perhaps in their transportation and storage) and the industry itself generates fewer indirect effects.

Together, labor costs and regional purchases of intermediate inputs determine the spillover, or multiplier, impacts of the industry.

*Entertainment impacts a broad spectrum of industries through its supply chain.*

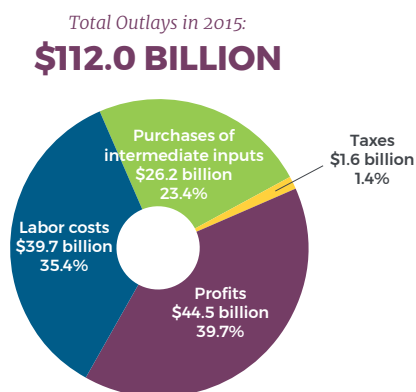


Exhibit 14  
How the entertainment industry allocates revenues.

## The Entertainment Industry's Regional Economic Contribution

The contribution of the entertainment industry to the regional economy is measured by analyzing its direct activity, as well as indirect and induced activity. This contribution is dependent on the payments made to suppliers of intermediate goods and services in the region and payments made to workers, who usually live locally and spend most of their incomes on household purchases from local suppliers.

In addition to the 220,840 direct payroll jobs in the entertainment industry, there were 144,600 contingent workers in the industry. An additional 87,580 jobs were supported in 2015 through indirect effects of supply chain purchases (those made outside the industry) (Exhibit 15). More than 198,000 jobs were supported through the household spending of employees in the industry and its supply chain.

Labor income (which includes wages and benefits) earned by all entertainment-supported employment in the Los Angeles Basin reached \$57.2 billion in 2015. This accounts for 10.8 percent of all labor income paid in the region.

The industry produced \$115.7 billion in value-added, which accounted for 12.8 percent of the Los Angeles Basin's gross regional product (Exhibit 16).

The overall impacts of the entertainment industry are widely distributed across many sectors of the economy through indirect and induced effects, including construction, food services, manufacturing industries, real estate, rental, leasing, wholesale trade, professional and technical services, and administrative support and waste services.

The entertainment industry's total fiscal impact in 2015—including direct, indirect and induced activity—exceeded \$22.0 billion (Exhibit 17). This includes, for example, property taxes paid by firms and households, sales taxes on consumption purchases, personal and corporate income, and payroll taxes paid for and by employees.

	DIRECT	TOTAL	% OF LA BASIN TOTAL
Output (\$ billions)	\$ 112.0	\$ 161.2	10.9
Employment (jobs)*	365,450	681,750	8.2
Labor Income (\$ billions)	\$ 39.7	\$ 57.2	10.8
Value-Added (\$ billions)	\$ 85.7	\$ 115.7	12.8

\*Includes contingent workers

Source: Estimates by LAEDC

Exhibit 16  
The entertainment industry's total entertainment economic contribution, 2015.

681,750 total jobs

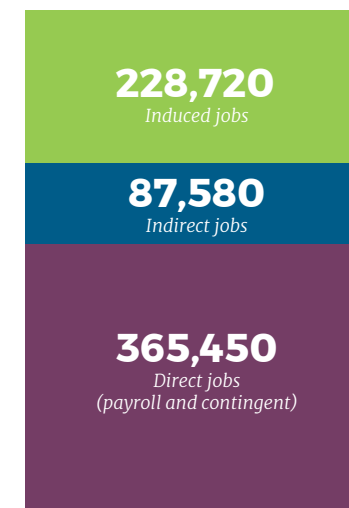


Exhibit 15  
Direct, indirect and induced jobs resulting from the entertainment.

	\$ BILLIONS
<b>By Type of Tax:</b>	
Personal income taxes	\$ 7.0
Social insurance	5.7
Sales and excise taxes	2.1
Property taxes	1.3
Corporate profits taxes	5.0
Other taxes	1.0
<b>Total</b>	<b>\$ 22.0</b>
<b>By Type of Government:</b>	
Federal	\$ 15.6
State	4.4
Counties	1.4
Cities	0.1

Source: Estimates by LAEDC

Exhibit 17  
The entertainment industry's total fiscal impacts by type.

### Entertainment Supply Chain Analysis

The intermediate purchases of the entertainment industry comprise an important part of the overall economic contribution of the industry. It was shown above that these accounted for 23.4 percent of the industry outlays, or \$26.2 billion, in 2015.

Gross inputs are a combination of goods and services. In this industry, approximately 40 percent of intermediate goods are information-related goods and services, such as post production work, software and telecommunications (see left panel in exhibit below). Professional and business services accounted for just over 20 percent of intermediate inputs. These include management services, advertising and public relations, employment services, and other business support services. Financial activities and trade, transportation and utilities, respectively, accounted for 12 percent and five percent of intermediate inputs, including such services as banking and wholesale trade and truck transportation. The remaining 25 percent of inputs were provided by other industries.

### Regional Purchase Gap

The ability of a region to fill the demands of its industries speaks to the richness and diversity of the regional economy. Not all regions can effectively compete, or wish to compete, with suppliers of specific goods and services based elsewhere. Industries making purchases of goods elsewhere are clearly benefiting from lower costs, better quality or other advantages to importing intermediate goods rather than purchasing from local firms.

The percent of all inputs purchased regionally are shown in the right panel of Exhibit 18. In general, professional and business services are purchased from regional suppliers. Firms in the entertainment industry purchase more than 90 percent of these services from regional suppliers. Similarly, the region is able to supply the industry with more than 94 percent of its financial activities needs.

In contrast, less than five percent of the industry's purchases of information-related goods and services occur in the Los Angeles Basin. Because this represents a significant share of the industry's intermediate inputs, the impact on the overall regional supply pipeline is devastating in the magnitude of this lost opportunity. In terms of value, the industry spends about \$16 billion with firms outside the region.

The percentage of intermediate goods and services that an industry is able to purchase from local suppliers has a direct impact on its contribution to the region's economic activity. The higher that percentage, the larger the multiplying effects that its revenues will have, which translates to increased wealth generation for the region.

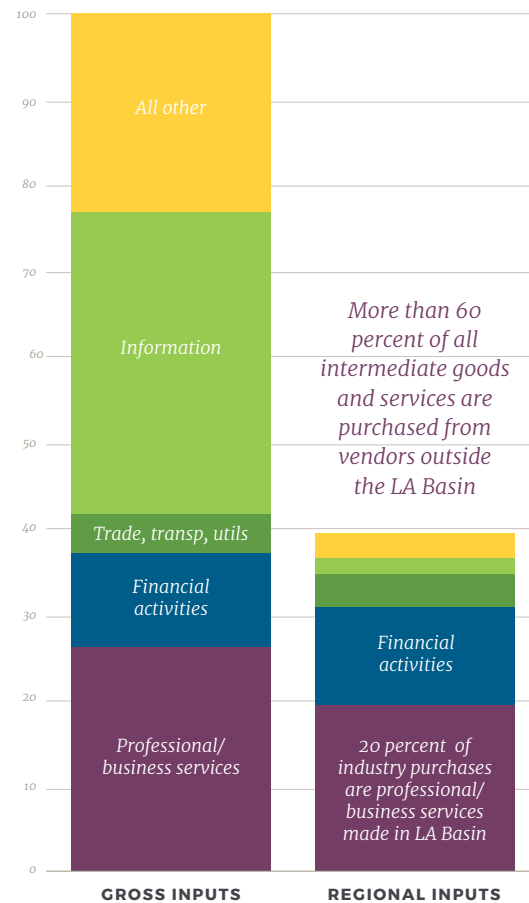


Exhibit 18  
Entertainment industry regional provision of inputs.

About 20 percent of the entertainment industry's purchases are for professional and business services from firms in the Los Angeles Basin.

### Digital Media's Regional Economic Contribution

Based upon the 206,870 direct payroll jobs in digital media in the Los Angeles Basin, an additional 138,900 jobs were supported (in 2016) through indirect effects of supply chain purchases that are not made within the industry itself. An additional 177,800 jobs were supported through the household spending of employees in the industry, as well as its supply chain (Exhibit 19). These estimates are conservative, as they exclude contingent workers.

Labor income (which includes wages and benefits) earned by all digital media supported employment in the Los Angeles Basin reached \$45.0 billion, accounting for approximately 8.5 percent of all labor income paid in the region.

Together, the industry produced \$92.4 billion in value-added, which accounted for 10.3 percent of the Los Angeles Basin gross regional product (Exhibit 20).

Many different industry sectors reap the rewards of the Industry through its widely distributed overall impacts. Indirect and induced effects benefit construction, food services, manufacturing industries, real estate and rental and leasing, wholesale trade, and administrative support and waste services.

The total fiscal impact of the economic activity in 2016 attributable to the digital media industry, including direct, indirect and induced activity, was roughly \$17.9 billion (Exhibit 21). This includes, for example, property taxes paid by firms and households, sales taxes on consumption purchases, personal and corporate income, and payroll taxes paid for and by employees.

	DIRECT	TOTAL	% OF LA BASIN TOTAL
Output (\$ billions)	\$ 88.9	\$ 137.4	9.3
Employment (jobs)*	206,880	523,580	6.3
Labor Income (\$ billions)	\$ 26.7	\$ 45.0	8.5
Value-Added (\$ billions)	\$ 62.0	\$ 92.4	10.3

\*Includes contingent workers

Source: Estimates by LAEDC

Exhibit 20  
Total economic contribution of digital media, 2016.

523,580  
total jobs



Exhibit 19  
Direct, indirect and induced jobs resulting from the digital media industry.

	\$ BILLIONS
<b>By Type of Tax:</b>	
Personal income taxes	\$ 5.5
Social insurance	4.7
Sales and excise taxes	1.8
Property taxes	1.1
Corporate profits taxes	4.0
Other taxes	0.8
<b>Total</b>	<b>\$ 17.9</b>
<b>By Type of Government:</b>	
Federal	\$ 12.6
State	3.6
Counties	1.2
Cities	0.6

Exhibit 21  
The digital media industry's total fiscal impacts by type.

Source: Estimates by LAEDC

# Demand-side Analysis

*Industry outlook and future workforce needs.*

To determine where the entertainment industry is headed, the growth of its component industries was forecasted over the next five years and used to extrapolate future workforce needs, that is, the demand for workers.

## Entertainment Industry Outlook

Between 2016 and 2021, very little growth in the entertainment industry is projected in the Los Angeles Basin, with positive net new job growth estimated at 490 jobs (or 0.2 percent) across all skills levels. While growth is projected in the motion picture and sound recording industries group, and the performing arts and spectator sports industries group, there will be significant contraction in broadcasting, where job loss will offset employment gains in other industries.

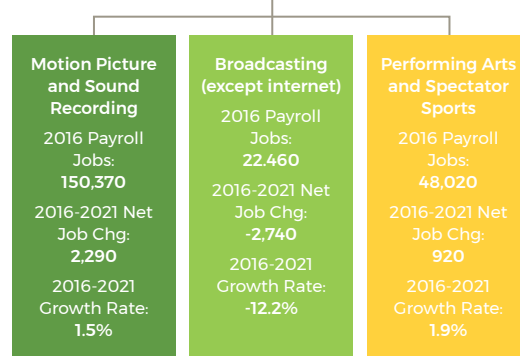
Over the next five years, the motion picture and sound recording industries expected to add nearly 2,300 jobs to existing employment of 150,400 workers, a growth rate of 1.5 percent (Exhibit 22). Many incumbent industry players are investing in new technologies through strategic mergers and acquisitions, and by creating new divisions, to compete with major digital media players, such as Amazon, Hulu and Netflix, which are directly competing with longstanding movie and television studios. These efforts to compete with disruptive challengers will result in positive, though very slight, growth.

Non-internet broadcasting industries have shed jobs as younger generations have disconnected from traditional media providers in favor of mobile apps, such as Spotify, Hulu and Netflix. As a result, non-internet broadcasting industries are expected to experience substantial employment declines of 12.2 percent over the next five years in the Los Angeles Basin.

Performing arts and spectator sports industries are projected to modestly expand employment by nearly 2 percent over the next five years. Gains are largely due to hiring related to performing arts and sports promoters, and agents and managers of public figures. With Hollywood at the heart of the region's entertainment industry, and numerous professional sports teams calling the area home, employment opportunities have been fostered for representatives of high-profile athletes and celebrities.

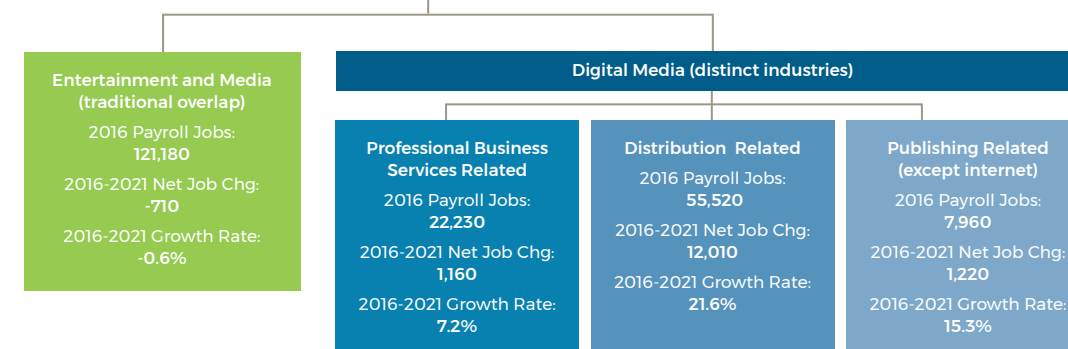
*Digital media continues to disrupt, transforming traditional forms of entertainment and information.*

## Entertainment Industry Outlook



*Exhibit 22*  
Employment outlook for major component industries comprising the entertainment industry.

## Digital Media Industry Outlook



*Exhibit 23*  
Employment outlook for major component industries comprising the digital media industry.

## Digital Media Industry Outlook

Digital media continues to upend the status quo, particularly in the realm of traditional forms of entertainment and information. Between 2016 and 2021, digital media industry employment in the Los Angeles Basin is expected to grow by nearly 7 percent, adding more than 14,000 new jobs.

Industries such as newspapers and periodicals are expected to continue to hemorrhage jobs over the next five years. Newspaper employment is projected to shrink by 29.6 percent, and periodicals by 12.8 percent. Motion picture employment is forecasted to contract by nearly 18 percent. Employment by outdoor representatives for advertisement media, such as billboards, is projected to decline by roughly the same amount. However, the digital sectors of newspapers, periodicals and outdoor representatives are all estimated to grow.

The largest growth is predicted in wired telecommunications, internet publishing and broadcasting, and media buying agencies. However, wired telecommunications, and internet publishing and broadcasting, are already entirely digital industries, so their growth represents a continuation of an overall narrative of the rise of digital media.

Overall, the digital sectors of industries related to media publishing and distribution are projected to grow the most compared to other sectors (Exhibit 23). Jobs related to digital professional business services are estimated to increase modestly. Employment by digital entertainment industries will remain constant. The largest hit to entertainment employment will result from the declining need for stock footage libraries and film laboratories, which are being replaced by less labor-intensive digital processes.

*Digital media employment in the Los Angeles Basin is expected to add more than 14,000 new jobs.*

### Future Workforce Needs: Entertainment Industry

The number of projected new jobs can be combined with job openings from replacements and retirements to provide an overall estimate of employer hiring needs.

Most of the job openings expected over the next five years will be due to workers changing jobs or retiring, rather than the creation of new jobs in the entertainment industry.

Overall, 26,970 total job openings will be created in the entertainment industry in the Los Angeles Basin over the next five years, of which an estimated 26,480 will be replacement workers (Exhibit 24).

The highest number of openings will be in occupations related to arts, design, entertainment and media, such as film and video editors, and television, video and motion picture camera operators. Business and financial occupations will provide the second highest number of openings, with 1,430 new jobs created over the next five years and 1,580 jobs needing replacement workers.

The minimum educational attainment needed by workers to fill these jobs also can be forecast, providing insights that educational and training providers in the region can use to update, expand or create programs.

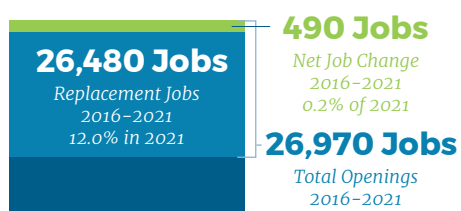
Of all entertainment industry openings in the next five years, more than 40 percent will require a bachelor's degree or higher (Exhibit 25) for entry. These represent jobs that are above middle-skill. Approximately 52 percent of openings will be for workers with a high school diploma or less. Only 5 percent of total openings will require some college or postsecondary education.

#### Entry-Level Requirements



Exhibit 25  
Educational requirements for entertainment industry job openings.

## 221,330 Jobs in 2021



## 194,360 Jobs

Static Jobs  
2016-2021  
88.0% in 2021

Exhibit 24  
Employment outlook for the entertainment industry.

### Middle-skill Occupations in Entertainment

Currently, middle-skill jobs comprise over half of all jobs in the entertainment industry (Exhibit 26). Analysis of the skills classifications for total job openings over the next five years reveals that nearly half of projected openings are for middle-skill occupations. This reinforces the selection of this industry as a valid target for community college programs. Additionally, the skill sets learned in these programs are applicable to entertainment, digital media and where the two industries intersect.

Middle-skill occupations in entertainment are diverse, from carpenters and electricians who build sets, to production assistants, video technicians, heavy truck drivers, choreographers and accounting clerks (Exhibit 28). Job duties vary along with wages. Some occupations provide full-time employment, while others do not.

Unlike other industries, the entertainment industry has a significant number of middle-skill occupations that are project-based, resulting in significant employment churn and relatively higher numbers of replacement jobs annually. This is important to note, as the net change in jobs can be negative, but due to the nature of the employment, there can be a high number of total openings in an occupation.

Examples of middle-skill occupations in the entertainment industry with high replacement rates include choreographers, dancers and animal trainers (Exhibit 28).

### Are Digital Media Middle-skill Occupations Gaining Ground?

Several occupations in the entertainment industry showed significant job growth outside the industry. To determine whether digital media is responsible for driving that growth, the distribution of entertainment occupations and how it has changed over time were analyzed, using consistent and comparable data at the state-level (data is not available at the regional level) for the past four years. For example, if audio and video tech jobs appear to be migrating from the traditional entertainment industry into digital media industries, then the employment share of this occupation would increase in digital media at a faster rate than in entertainment.

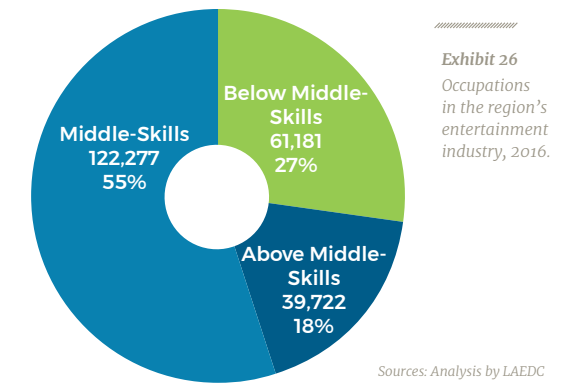
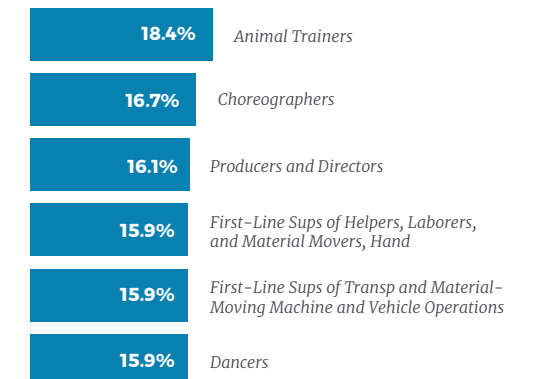


Exhibit 26  
Occupations in the region's entertainment industry, 2016.



Exhibit 27  
Skills Classification for Total Openings 2016-2021.



Sources: BLS; Estimates by LAEDC

Exhibit 28  
Middle-skill occupations with high employment churn.

Below Middle-skill	<ul style="list-style-type: none"> <li>Costume Attendants</li> <li>Laborers and Freight, Stock and Material Movers, Hand</li> </ul>
Middle-skill	<ul style="list-style-type: none"> <li>Multimedia Artists and Animators</li> <li>Audio and Video Equipment Technicians</li> </ul>
Above Middle-skill	<ul style="list-style-type: none"> <li>Software Developers, Applications</li> <li>Set and Exhibit Designers</li> </ul>

Exhibit 29  
Examples of below-middle-skill, middle-skill and above-middle skill occupations.



SOC	OCCUPATIONAL GROUP	NEW JOBS	REPLACEMENT JOBS	TOTAL JOB OPENINGS
27-2012	Producers and Directors	-660	3,560	2,910
27-4011	Audio and Video Techs	480	720	1,200
27-4032	Film and Video Editors	500	570	1,070
43-5061	Production, Planning and Expediting Clerks	220	430	650
27-1022	Fashion Designers	370	240	610
27-4031	Camera Operators, TV, Video and Motion Picture	220	290	510
41-3011	Advertising Sales Agents	110	310	420
39-5091	Makeup Artists, Theatrical and Performance	330	70	390
27-1014	Multimedia Artists and Animators	-100	480	380
27-4021	Photographers	100	160	260
39-5012	Hairdressers, Hairstylists and Cosmetologists	150	90	240
27-4014	Sound Engineering Techs	-190	380	200
27-3012	Public Address System and Other Announcers	70	60	130
27-3011	Radio and Television Announcers	-40	150	110

Sources: Census Bureau, OES; Estimates by LAEDC

Interestingly, the occupational distribution within the industries has not significantly changed during the past four years. However, the analysis revealed there are several middle-skill occupations that are increasing their employment share faster in digital media industries than in the entertainment industry (Exhibit 30). Conversely, we also identified additional occupations that are strengthening their employment share in the entertainment industry at a faster rate than in the digital media industries (Exhibit 31).

While there is movement in the occupational structure of the two industry groups, it is still very slight. Currently, digital media may be impacting the entertainment industry in terms of content, distribution and consumption; however, when it comes to their workforces, each of the two industry groups will provide ample employment opportunities for middle-skill workers, which is promising news for individuals completing postsecondary and career education programs through the region's community colleges.

### Top Middle-skill Occupations

Despite changes in how entertainment is produced, distributed and consumed, the demand for middle-skill workers in the traditional entertainment will continue to be a primary driver of future job openings. Among the wide range of occupations in the entertainment industry, thousands of middle-skill workers will be needed to fill vacancies for audio and video equipment technicians, and film and video editors.

Middle-skill occupations predicted to have significant job prospects over the next five years and that stand to benefit from investment into postsecondary non-degree and career education programs include producers and directors, audio and video technicians, and film and video editors.

The top 14 occupations by projected total openings in the Los Angeles Basin over the next five years are shown in Exhibit 32.

Exhibit 32  
Top middle-skill occupations by total openings, 2016-2021.

Percent change in occupational distribution 2012 to 2016

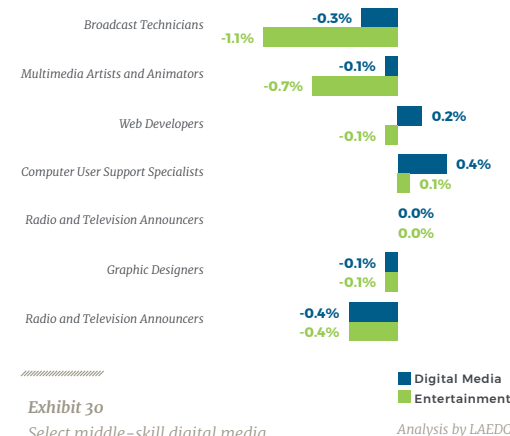


Exhibit 30  
Select middle-skill digital media occupations gaining and losing share.

Percent change in occupational distribution 2012 to 2016

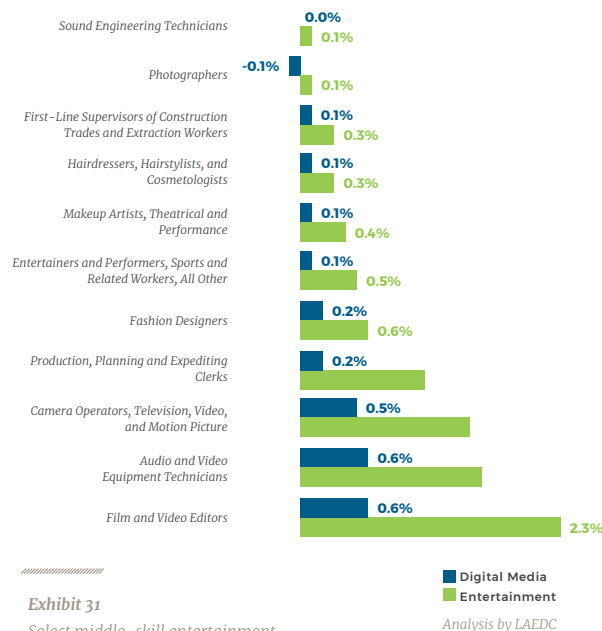


Exhibit 31  
Select middle-skill entertainment occupations gaining and losing share.

# Supply-Side Analysis

The region's community college talent pool.

This section details community college program offerings and student completions related to middle-skill occupations in the region's digital media and entertainment industries. A diversity of courses and program offerings affords students the opportunity to be well-positioned for various entertainment and digital media positions, while providing local employers a talent pool trained in the latest software, media, online and other related technologies.

As described, in part, above, over the next five years, the Los Angeles Basin can expect more than 4,000 total job openings annually for middle-skill digital media and entertainment occupations across all industries.

With 27 unique digital media and entertainment training programs offered by 27 campuses, community colleges in the region conferred approximately 2,500 awards in the 2015-16 academic year. This represents an increase of more than 130 awards from the 2013-14 academic year.

However, the number of completions does not appear to be adequate to meet future workforce needs.

### Digital Media Training Programs

Digital media programs merge traditional computer technologies with skills and techniques from fine arts and communications disciplines. Established programs such as photography, desktop publishing, commercial art and graphic art are evolving to meet industry needs with more technologically-focused programs as evidenced by program names such as digital art, digital photography, digital design and publication. A complete list of available community college programs can be found at [www.ccworkforce.org](http://www.ccworkforce.org).

The region's digital media programs afford students the opportunity to pursue middle-skill positions in radio, film, print media, advertising agencies, internet media companies, and television and broadcasting companies.

Middle-skill occupations, highlighted for their strong employment outlook in the digital media sector include:

- Advertising sales agents,
- Film and video editors,
- Multimedia artists and animators,
- Production clerks,
- Public address system and other announcers, and
- Radio and television announcers.

Over the next five years, the LA Basin can expect more than 4,000 annual job openings for middle-skill digital media and entertainment occupations.

SOC	OCCUPATION	ENTERTAINMENT & MEDIA		ALL INDUSTRIES			Avg. Hourly Earnings
		2016 Jobs	5-Year Total Job Openings	2016 Jobs	5-Year Total Job Openings	Annual Total Job Openings	
27-4032	Film and video editors	12,240	1,070	12,590	1,070	210	\$ 47.28
43-5061	Production clerks	3,170	650	23,110	4,610	920	\$ 23.22
41-3011	Advertising sales agents	2,070	420	9,110	1,110	220	\$ 36.08
27-1014	Multimedia artists and animators	5,120	380	6,490	700	140	\$ 32.69
27-3012	Public address system and other announcers	410	130	550	90	20	\$ 20.08
27-3011	Radio and television announcers	1,030	110	1,040	110	20	\$ 32.23
<b>Total Employment in Digital Media Target Occupations</b>		<b>24,040</b>	<b>2,760</b>	<b>52,890</b>	<b>7,690</b>	<b>1,530</b>	

Exhibit 33  
Digital media middle-skill employment outlook.

### Digital Media Occupational Demand

In 2016, middle-skill digital media occupations provided 52,890 jobs across all industries in the region. These occupations will offer an estimated 7,690 openings over the next five years – approximately 1,530 job openings each year until 2021 (Exhibit 31).

Employers in the Los Angeles Basin employed just under 12,600 film and video editors in 2016 and are expected to need more than 200 additional workers annually in this field over the next five years (Exhibit 33). Film and video editors earn, on average, \$47.28 per hour, more than three times the living wage for one adult in the region. In fact, most occupations in this group pay at least two times the region’s living wage.

Occupations with the lowest wages include announcers of radio and television, and public address system and other announcers. These positions are projected to have the fewest annual job openings over the next five years, reflective of the move away from traditional media practices.

### Digital Media Program Awards

Community college program completions reflect the increasing importance of digital technology skills. In the 2015-16 academic year, 12 community college programs that prepare students for digital-media-related occupations conferred more than 900 awards (Exhibit 34).

College television programs include specialized areas of study such as, electronic media and electronic moviemaking. These programs prepare students for television crew positions, television production and video production. Overall, 208 certificates and degrees related to television were awarded in the 2015-16 academic year. Los Angeles City College’s certificate program accounted for 90 of the 208 awards. Los Angeles Valley College and Fullerton College also conferred a high number of television-related awards.

COMMUNITY COLLEGE PROGRAM	2015-16 AWARDS
Television (including combined TV/Film/Video)	208
Film Production	174
Graphic Art and Design	169
Radio and Television	86
Animation	70
Computer Graphics and Digital Imagery	67
Radio	39
Digital Media	36
Multimedia	28
Sales and Salesmanship	25
Advertising	7
Broadcast Journalism	4
<b>Total</b>	<b>913</b>

Exhibit 34  
Community college awards related to digital media.

Film production, and graphic art and design programs also had high completion numbers. Film production completions were highest at:

- Los Angeles City College, 65 awards;
- Orange Coast College, 46 awards; and
- West Los Angeles College, 27 awards.

Regarding graphic art and design, Santa Monica College conferred 34 awards, and Golden West College gave 31 awards in 2015-16. These two colleges led the region with the most graphic art and design awards granted. Santa Monica College awarded 18 associate degrees and 16 certificates, and Golden West awarded five associate degrees and 26 certificates.

Combined, these three programs conferred 551 awards in the 2015-16 academic year. Middle-skill positions related to television, film production, and graphic art and design include: film and video editors, multimedia artists and animators, and production clerks. The anticipated need for new and replacement workers in related occupations is estimated at 420 workers per year until 2021.

### Entertainment Training Programs

The entertainment industry in the Los Angeles Basin relies on workers in the areas of fashion, hair, makeup, photography and technical professions. Community colleges provide the requisite education and training for many of these positions. A complete list of available community college programs can be found at [www.ccworkforce.org](http://www.ccworkforce.org).

Middle-skill occupations highlighted for their strong employment outlook in the entertainment sector include:

- Audio and video equipment technicians;
- Camera operators (television, video and motion picture);
- Fashion designers;
- Hairdressers, hairstylists and cosmetologists;
- Makeup artists (theatrical and performance);
- Photographers;
- Producers and directors; and
- Sound engineering technicians.

SOC	OCCUPATION	ENTERTAINMENT & MEDIA		ALL INDUSTRIES			
		2016 Jobs	5-Year Total Job Openings	2016 Jobs	5-Year Total Job Openings	Annual Total Job Openings	Avg. Hourly Earnings
27-2012	Producers and Directors	22,090	2,910	23,000	3,180	640	\$ 59.01
27-4011	Audio and Video Equipment Technicians	7,650	1,200	10,710	1,880	380	\$ 26.51
27-1022	Fashion Designers	1,970	610	5,270	760	150	\$ 36.72
27-4031	Camera Operators, Television, Video, and Motion Picture	6,290	510	6,370	520	100	\$ 33.63
39-5091	Makeup Artists, Theatrical and Performance	1,720	390	1,720	390	80	\$ 36.57
27-4021	Photographers	1,300	260	3,690	810	160	\$ 20.42
39-5012	Hairdressers, Hairstylists, and Cosmetologists	730	240	10,080	2,560	510	\$ 12.91
27-4014	Sound Engineering Technicians	3,870	200	4,040	200	40	\$ 36.29
<b>Total Employment in Entertainment Target Occupations</b>		<b>45,620</b>	<b>6,320</b>	<b>64,880</b>	<b>10,300</b>	<b>2,060</b>	

Exhibit 35  
Entertainment middle-skill employment outlook

### Entertainment Occupational Demand

Employment in the entertainment industry is only partially captured by traditional job counts because hairstylists, makeup artists, photographers and other creative occupations often find work through non-traditional means of employment. Often, workers in creative fields will work as contractors and sometimes hold more than one job, making it difficult to obtain a true estimate of the need for workers.

Absent a systematized method for capturing all employment of creative workers, traditional labor market data provides a current count of nearly 64,900 middle-skill jobs in entertainment occupations in the Los Angeles Basin across all industries (Exhibit 35). Over the five years from 2016-2021, this group of eight occupations will need to fill an estimated 10,300 vacancies – approximately 2,060 job openings per year.

### Entertainment Program Awards

In the region, 12 community college programs that prepare students for entertainment-related occupations conferred more than 2,100 awards in the 2015-16 academic year (Exhibit 36).

More than 60 percent of all entertainment-related completions, 1,355 associate degrees and certificates, were produced in the following three programs: cosmetology and barbering, commercial music and television. Citrus College, Fullerton College and Saddleback College had the most cosmetology and barbering completions in the 2015-16 academic year, accounting for 348 of the region's 1,355 awards. In the commercial music field, Los Angeles City College awarded 275 certificates.

COMMUNITY COLLEGE PROGRAM	2015-16 AWARDS
Cosmetology and Barbering	733
Commercial Music	414
Television (including combined TV/Film/Video)	208
Film Production	174
Fashion Design	165
Applied Photography	126
Radio and Television	86
Animation	70
Technical Theater	52
Radio	39
Digital Media	36
Fashion	34
<b>Total</b>	<b>2,137</b>

Exhibit 36  
Community college awards related to entertainment.

# Community Colleges

Digital media and entertainment training.

Currently, 27 community colleges in the Los Angeles Basin train students for occupations in digital media and entertainment. The wide spectrum of certificates and degree programs spans commercial music and recording technology, entertainment and theater technology, animation, mobile app and web design, augmented and virtual reality, gaming and digital video, and audio production. Nine colleges were selected to highlight some of the program offerings in the region.

### Program Spotlight

#### Cerritos College

Students can earn an associate degree through the college's Commercial Music program, which offers training for professional careers in audio studios, film studios, live performance venues and video game development. Students learn how recording, live sound and production apply to the recording, film, television and video game industries. This program covers the technical and creative aspects of the music industry, as well as music business, composing, recording, production, audio editing, film scoring and marketing. Students train on industry-standard equipment in preparation for entry-level positions as audio technicians, broadcast technicians, recording engineers, music editors, dialog editors and composers. The college also offers an Entertainment Technology Occupational Program focusing on technical and production skills for careers in the live performance entertainment industry. Students who earn this certificate gain professional skills in lighting, staging, set construction, rigging and audio mixing technologies used in outdoor and indoor productions as well as film studios. This program trains students to work as entry-level stage technicians for portable entertainment events, including theater productions, concerts, exhibitions and set design for film productions.

#### Citrus College

Citrus College offers associate degrees and certificates related to the Digital Media and Entertainment industries. The college's Associate of Science (A.S.) in Recording Technology and Certificate in Recording Technology are hands-on, career education programs that develop critical skills in audio engineering and live sound reinforcement. Students learn how to record sound for many different purposes from film to video games, the internet and live performances. Audio basics necessary to engineer any kind of music and sound are taught, including rock concerts, classical recordings and movie scenes. Students have access to world-class recording studio facilities. The Emerging Theatre Technologies (ETT) program develops critical skills in stage lighting, live-sound reinforcement, stage technology, live-event video and project management. ETT instructors are professionals working in concert touring, theme park production, television, film, theater and corporate event production. Students are trained in a console lab with high-end technologies and learn truss rigging, automated scenery, media server, torque certification and video wall. ETT actively tours Southern California, and top students are selected to tour Hawaii for two weeks with all expenses paid. On average, 90 percent of ETT student interns are hired by production companies where they have interned.

### Golden West College

Golden West College offers a digital arts associate degree, a digital media associate degree, as well as degrees in video game development and software development. Students learn how to produce professional audio and digital video recordings, design and build web-based apps, and digitally edit audio, video and graphic content. The college offers certificates in digital media-animation, digital media-computer assisted photo imaging, digital media-graphic design, and design media-web design and development.

### Irvine Valley College

The Interactive Media Arts Department focuses on augmented and virtual reality output, gaming and interactive media. The department offers four certificate programs: Immersive Design - 2D Design; Immersive Design - 3D Design; Immersive Design - Game Design; and Immersive Design - Environmental Design. Five students represented the department as semifinalists in the Institute of Electrical and Electronics Engineers (IEEE) GameSIG Intercollegiate Computer Game Showcase in 2017. These individuals competed against teams of bachelor's and master's degree students from colleges and universities in the Orange County area.

### Long Beach City College (LBCC)

The Fundamentals of Digital Media Arts Program is an interdisciplinary program that provides the training and skills needed to meet the new and fluid demands of a 21st Century digital media marketplace. The program offers interdisciplinary coursework, incorporating art, music, film, photography, graphics and television broadcasting and provides a strong foundation in aesthetics, theory and technology. Exposed to the creative uses of digital technology, students are prepared to enter a multidisciplinary work environment. Having received state approval to further provide in-demand training for the creative workforce, LBCC has expanded its certificate offerings to include two new advanced certificate programs, Digital Media Advanced Production and Digital Media Interactive Design and Animation. On-campus labs offer full capabilities in graphic production, 3D printing, projection mapping, and sound and video editing.

### Los Angeles City College (LACC)

The LACC Theatre Academy offers an entertainment technology program, including certificates 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 certificates in the areas of television production, cinema production, cinema-video production and directing skills.

*In the Los Angeles Basin, 27 of the 28 community colleges train students for occupations in digital media and entertainment.*

### Los Angeles Trade-Tech College

The college's digital media programs consist of three stackable certificates. Students begin with an 18-unit certificate in Digital Media and can pursue additional certificates in Mobile App and Web Design and Digital Video and Audio. A digital media certificate and associate degree provide students with the fundamental skills required to gain employment in a variety of technology-driven, creative fields. Students are introduced to video, audio and computer design programs and receive hands-on experience with digital tools and software while learning industry-related concepts and terminology. The Mobile App and Web Design program teaches best practices in the design, development, testing and delivery of a variety of applications. Students who complete this program enter careers as mobile and interactive application developers, web designers and other technology-related careers in a rapidly evolving industry. The Digital Video and Audio program teaches advanced skills in audio and video production. Students gain competencies in video editing, sound recording, sound mixing and special effects using industry-recognized software and tools. The program promotes the innovative design of digital video and audio across a variety of delivery platforms and upon completion of the program, students are prepared for middle-skill positions in the film, television and recording industries.

### Pierce College

Pierce College offers courses in costume design, graphic design, music, technical theatre, theatre arts, and television, film and electronic media.

### Santa Monica College (SMC)

SMC offers associate degrees and certificates related to the entertainment industry, including an associate degree in Entertainment Promotion/Marketing Production, the only associate degree of its kind 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 promotional spots for television. The course is the result of a partnership with PromaxBDA, an industry association representing promotion, marketing and design professionals, and is aimed at underrepresented groups in the entertainment industry.

# Conclusion

*Immediate next steps: activating the report.*

**A**s stated earlier, this report is the beginning of the Center for a Competitive Workforce's comprehensive program to retool the our region's career education programs for the in-demand occupations of tomorrow, in this case the entertainment and digital media industries—which are among the most prominent industries in our region. These careers and related occupations are being dramatically altered by significant, but identifiable, digital transformation trends that are changing how content is created, consumed and distributed.

With the entertainment industry's talent being trained at community colleges throughout the LA Basin, we are poised to engage industry and partners in the next steps. Building on the labor market data and industry trends identified in this report related to supply and demand in the entertainment and digital media industry, the real work begins to further validate and qualitatively expand on the report's quantitative findings. Much of this work will be conducted through the Center for a Competitive Workforce partnership and in collaboration with the LAEDC's Digital Media Entertainment (DME) Industry Council and the LA Area Chamber of Commerce's Bixel Exchange (Bixel Exchange), which are two of the largest regional organizations representing leaders from many of the biggest brands within the entertainment and digital media industry.

Guided by this report, the DME Industry Council and Bixel Exchange will form subgroups with industry leaders and practitioners from the target occupations identified, along with their direct supervisors, as the individuals best-positioned with industry and firm-level intelligence regarding job-related changes, as well as the new competencies that are required for the candidates they interview and hire.

By engaging entertainment and digital media industry experts on behalf of the community colleges, the Center for a Competitive Workforce seeks to garner first-hand knowledge about the essential and trending requirements for students to be prepared for current and future occupations and careers in the entertainment and digital media industry.

Once target occupational profiles are established, the Center for a Competitive Workforce will facilitate and invest in developing stronger ties with employers through our key community college partners, such as Deputy Sector Navigators, curriculum development specialists, faculty and career education deans, to enhance, reconfigure and/or develop new industry-validated programs and curricula. One of our goals is the development of industry-informed and recognized "model curriculum" that colleges can adopt or adapt and that inspires more relevant student work-based learning opportunities.

Finally, the Center for a Competitive Workforce will continuously communicate these findings and outcomes, primarily through its recently launched site: [ccworkforce.org](http://ccworkforce.org), to increase student access and better inform all regional stakeholder of the successes, gaps, opportunities and challenges in these rapidly involving industries, as well as the performance of the LA Basin's community colleges as they endeavor to empower their students to thrive in this incredibly dynamic space.

# Occupational Profiles

*Employment numbers and worker characteristics.*

**D**etailed information has been compiled for the top 14 middle-skill occupations in the entertainment and digital media industries. Data from 2016, the most recent available, was used to determine wages and worker characteristics for the charts included with the profiles.

The information on top industries employing these occupations, current and projected employment, wages and demographics can be used by community colleges to tailor existing programs and guide outreach to potential students. The occupational analyses that follow may even inspire new program development or new approaches in attracting students to promising career paths.

Each occupational profile contains:

- Hourly wages paid in 2016 for workers in Los Angeles and Orange counties compared to the living wage;
- The distribution of workers across industry sectors in the Los Angeles Basin;
- Metrics for the occupation including the number of current jobs and projected openings; and
- Worker characteristics, such as educational attainment, age distribution, race and ethnicity, and gender.

## Top 14 Occupations

**Producers and Directors (SOC 27-2012)**

**Audio and Video Equipment Technicians (SOC 27-4011)**

**Film and Video Editors (SOC 27-4032)**

**Production, Planning, and Expediting Clerks (SOC 43-5061)**

**Fashion Designers (SOC 27-1022)**

**Camera Operators, Television, Video, and Motion Picture (SOC 27-4031)**

**Advertising Sales Agents (SOC 41-3011)**

**Makeup Artists, Theatrical and Performance (SOC 39-5091)**

**Multimedia Artists and Animators (SOC 27-1014)**

**Photographers (SOC 27-4021)**

**Hairdressers, Hairstylists, and Cosmetologists (SOC 39-5012)**

**Sound Engineering Technicians (SOC 27-4014)**

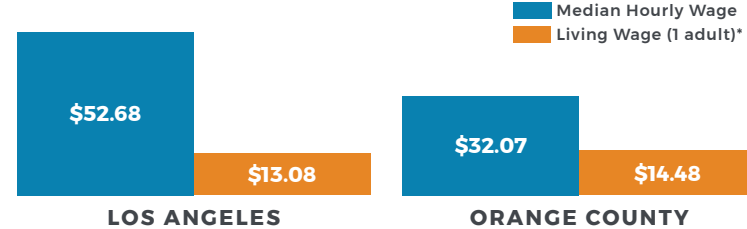
**Public Address System and Other Announcers (SOC 27-3012)**

**Radio and Television Announcers (SOC 27-3011)**

# Producers and Directors (SOC 27-2012)

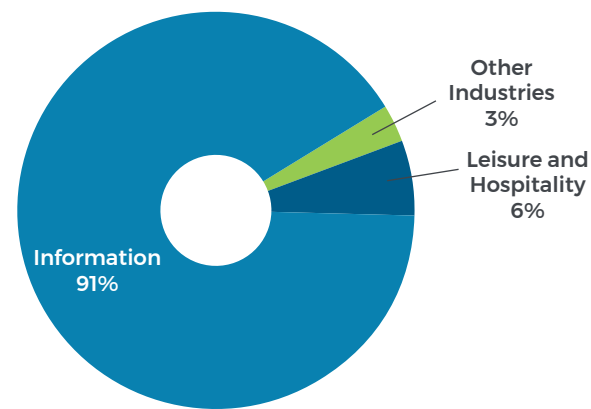
Producers and directors are identified as a middle-skill occupation. They produce or direct stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Responsible for creative decisions, such as interpretation of script, choice of actors or guests, set design, sound, special effects and choreography.

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator

## INDUSTRY DISTRIBUTION



## Industry Distribution

Producers and directors are almost exclusively hired by the entertainment industry. In 2016, **22,090 producers and directors** were employed in the entertainment industry in the LA Basin. They accounted for **96.0 percent** of employment in this occupation across all industries.

The three industry subsectors that employ the largest number of producers and directors in the LA Basin are:

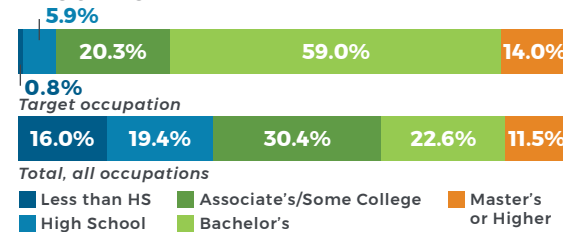
- Motion Picture and Sound Recording (NAICS 512)
- Broadcasting, not Internet (NAICS 515)
- Performing Arts, Spectator Sports and Related (NAICS 711)



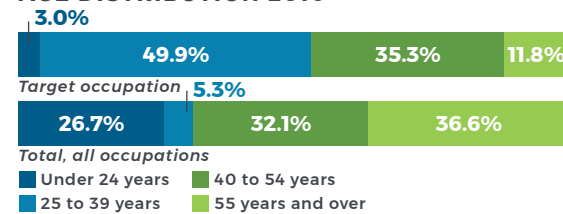
## Worker Characteristics

The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:

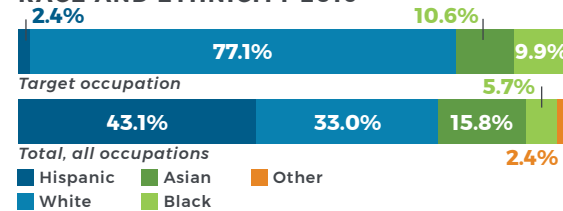
### EDUCATIONAL ATTAINMENT 2016



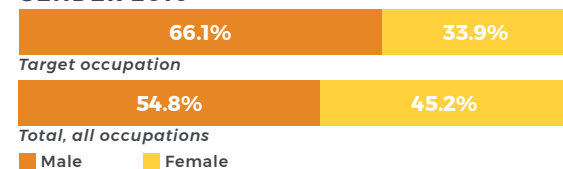
### AGE DISTRIBUTION 2016



### RACE AND ETHNICITY 2016



### GENDER 2016



# Audio and Video Equipment Technicians (SOC 27-4011)

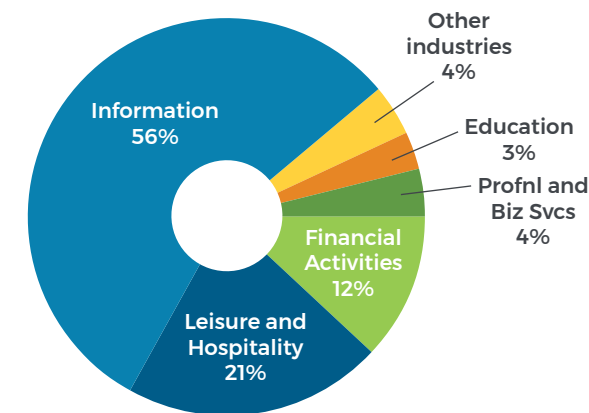
Audio and video equipment technicians are identified as a middle-skill occupation. They set up, or set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. May also set up and operate associated spotlights and other custom lighting systems.

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator

## INDUSTRY DISTRIBUTION

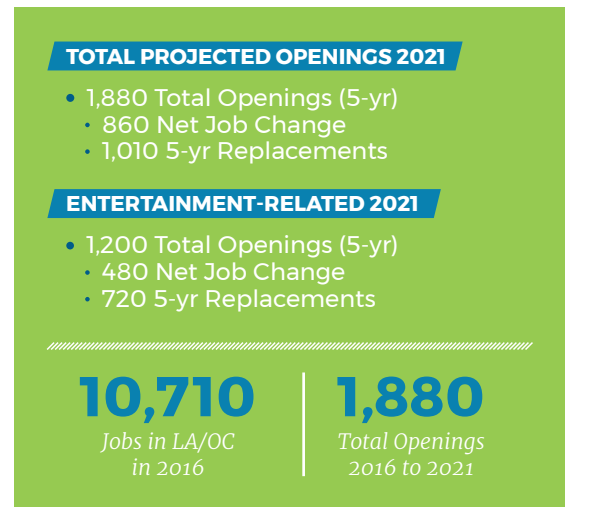


## Industry Distribution

Audio and video equipment technicians are hired across a number of different industries; however, most are employed in entertainment; **7,650 audio and video techs** were employed in the industry in the LA Basin in 2016. They accounted for **71.4 percent** of employment in this occupation across all industries.

The three industry subsectors that employ the largest number of audio and video equipment techs in the LA Basin are:

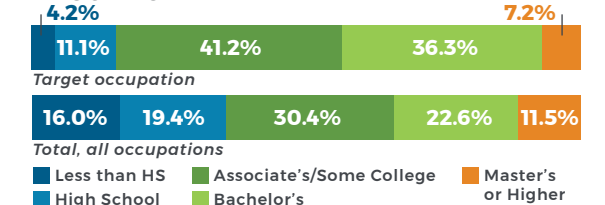
- Motion Picture and Sound Recording (NAICS 512)
- Performing Arts, Spectator Sports and Related (NAICS 711)
- Rental and Leasing Services (NAICS 532)



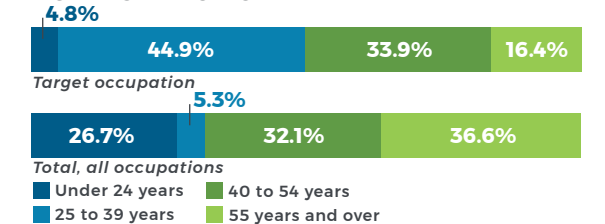
## Worker Characteristics

The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:

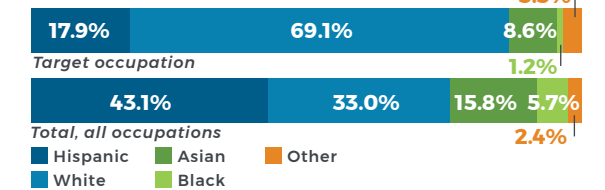
### EDUCATIONAL ATTAINMENT 2016



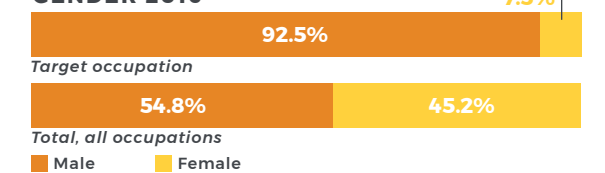
### AGE DISTRIBUTION 2016



### RACE AND ETHNICITY 2016



### GENDER 2016



# Film and Video Editors (SOC 27-4032)

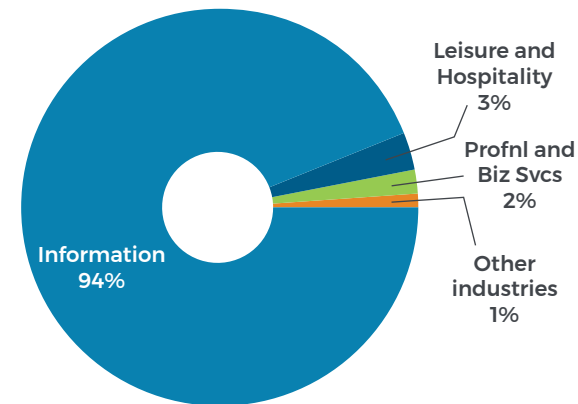
Film and video editors are identified as a middle-skill occupation. They edit moving images on film, video, or other media. May edit or synchronize soundtracks with images.

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator

## INDUSTRY DISTRIBUTION

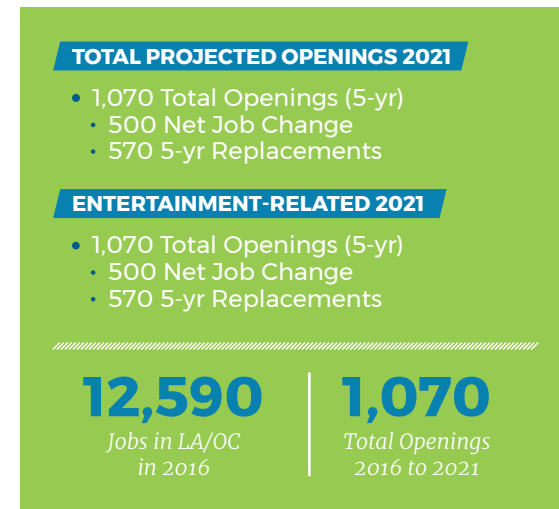


## Industry Distribution

Film and video editors are hired across a number of different industries. Approximately **12,240 film and video editors** were employed in the entertainment industry in the LA Basin in 2016. They accounted for **97.2 percent** of employment in this occupation across all industries.

The three industry subsectors that employ the largest number of film and video editors in the LA Basin are:

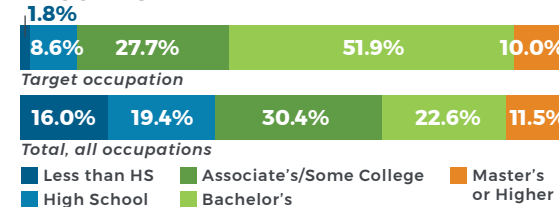
- Motion Picture and Sound Recording (NAICS 512)
- Broadcasting (except Internet) (NAICS 515)
- Performing Arts, Spectator Sports and Related Industries (NAICS 711)



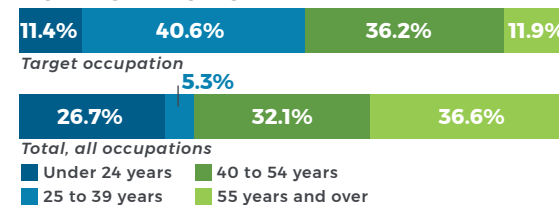
## Worker Characteristics

The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:

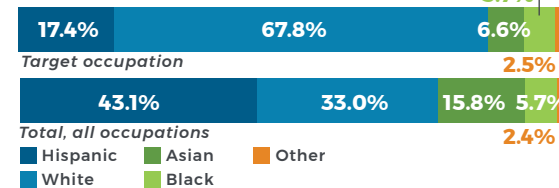
## EDUCATIONAL ATTAINMENT 2016



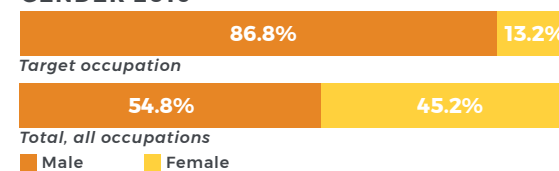
## AGE DISTRIBUTION 2016



## RACE AND ETHNICITY 2016



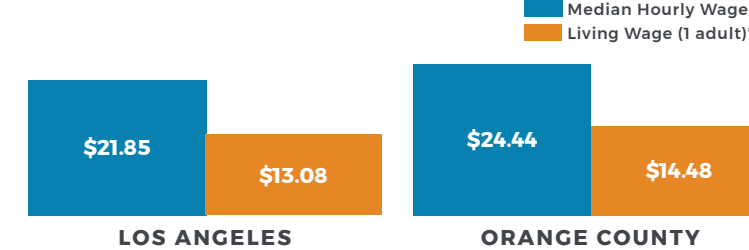
## GENDER 2016



# Production, Planning and Expediting Clerks (SOC 43-5061)

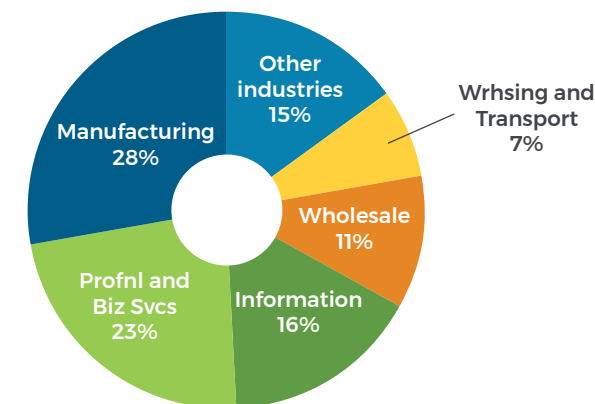
Production, planning and expediting clerks are identified as a middle-skill occupation. They compile information and records to draw up purchase orders for procurement of materials and services. These occupations include schedulers, planners and production assistants.

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator

## INDUSTRY DISTRIBUTION

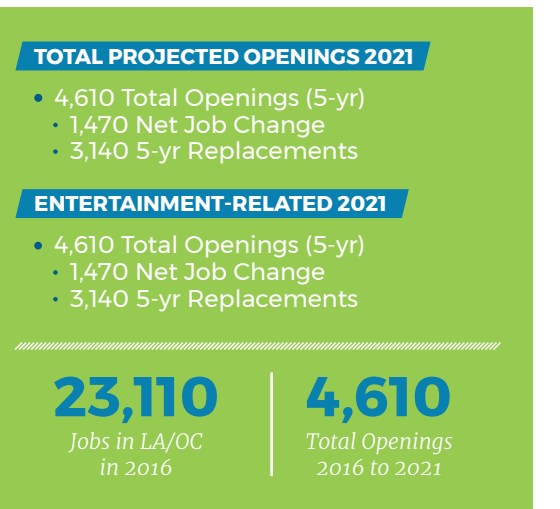


## Industry Distribution

Production, planning, and expediting clerks are hired across a number of different industries; however, a significant number are employed by the entertainment industry; **3,170 production, planning and expediting clerks** in 2016 in the LA Basin. They accounted for **13.7 percent** of employment in this occupation across all industries.

The three industry subsectors that employ the largest number of schedulers, planners and production assistants in the LA Basin are:

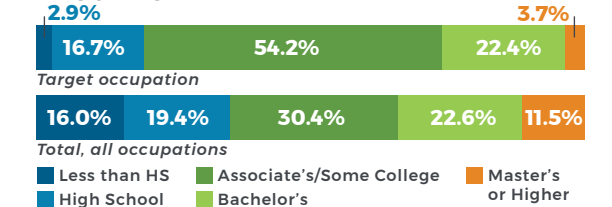
- Motion Picture and Sound Recording Industries (NAICS 512)
- Professional, Scientific and Technical Services (NAICS 541)
- Administrative and Support Services (NAICS 561)



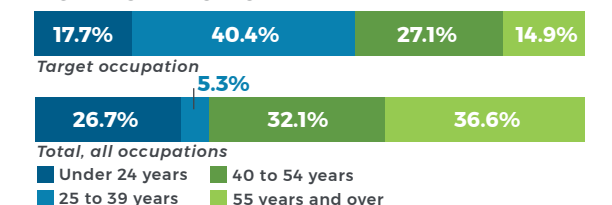
## Worker Characteristics

The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:

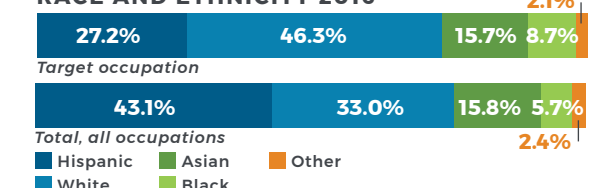
## EDUCATIONAL ATTAINMENT 2016



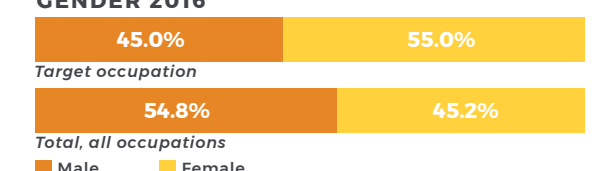
## AGE DISTRIBUTION 2016



## RACE AND ETHNICITY 2016



## GENDER 2016

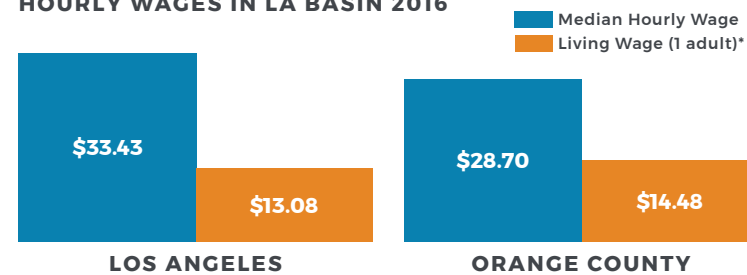


# Fashion Designers

(SOC 27-1022)

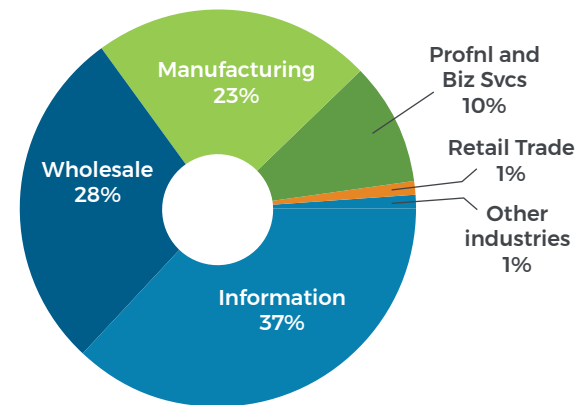
Fashion designers are identified as a middle-skill occupation. They design clothing and accessories. Create original designs or adapt fashion trends.

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator

## INDUSTRY DISTRIBUTION

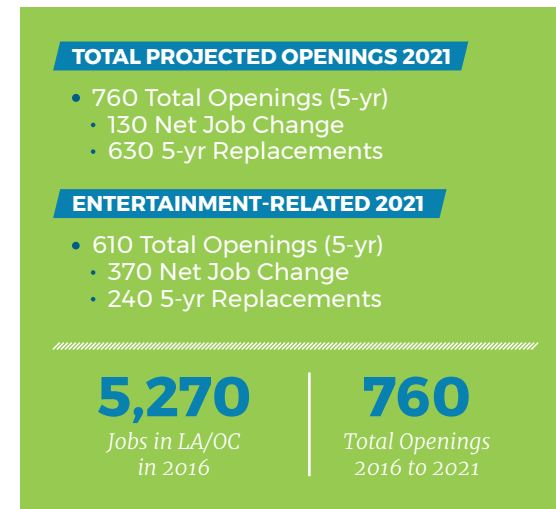


## Industry Distribution

Fashion designers are hired across a number of different industries; however, a large number are hired by motion picture and sound recording firms. The entertainment industry employed **1,970 fashion designers** in 2016 in the LA Basin. They accounted for **37.4 percent** of employment in this occupation across all industries.

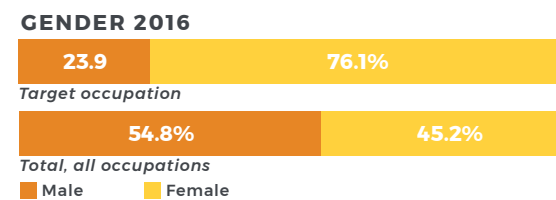
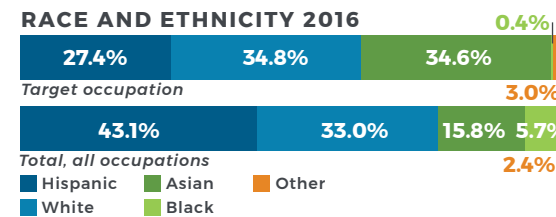
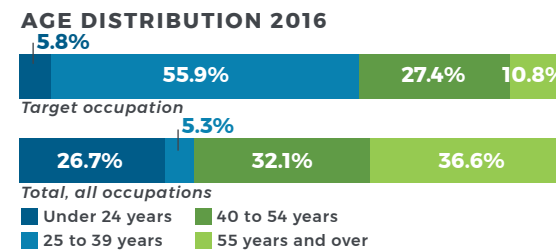
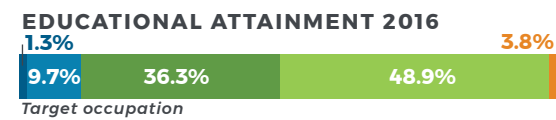
The three industry subsectors that employ the largest number of fashion designers in the LA Basin are:

- Motion Picture and Sound Recording (NAICS 512)
- Wholesalers, Nondurable Goods (NAICS 424)
- Apparel Manufacturing (NAICS 315)



## Worker Characteristics

The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:

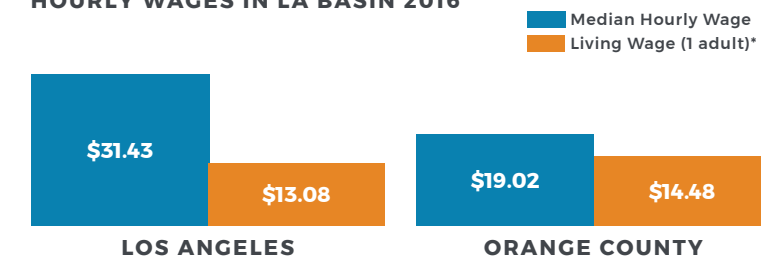


# Camera Operators, Television, Video and Motion Picture

(SOC 27-4031)

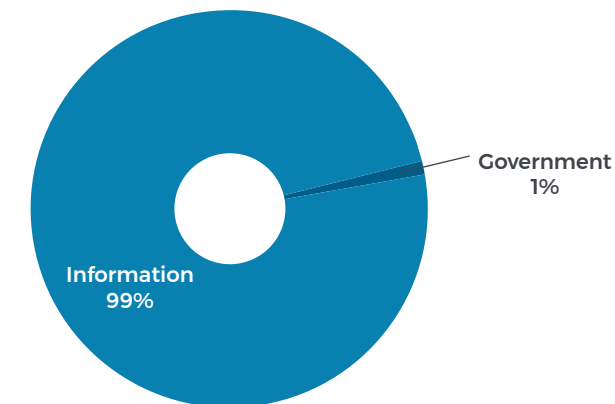
Television, video and motion picture camera operators are identified as a middle-skill occupation. They operate television, video, or motion picture camera to record images or scenes for various purposes, such as TV broadcasts, advertising, video production, or motion pictures.

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator

## INDUSTRY DISTRIBUTION



## Industry Distribution

Television, video and motion picture camera operators are almost exclusively hired by entertainment industries; **6,290 television, video and motion picture camera operators** were employed in the entertainment industry in the LA Basin in 2016. They accounted for **98.7 percent** of employment in this occupation across all industries.

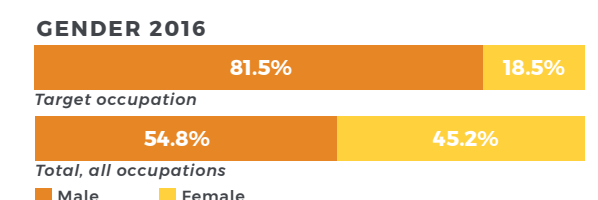
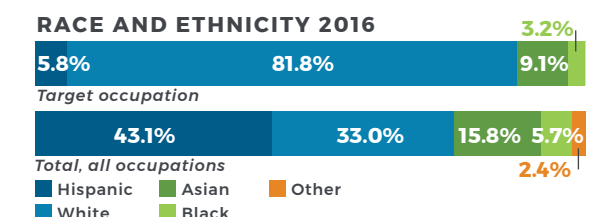
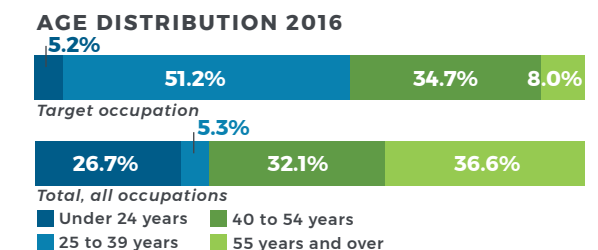
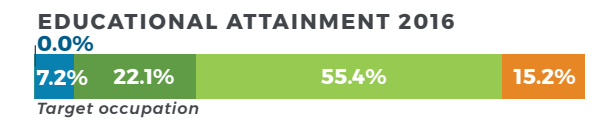
The three industry subsectors that employ the largest number of television, video and motion picture camera operators in the LA Basin are:

- Motion Picture and Sound Recording (NAICS 512)
- Broadcasting (except Internet) (NAICS 515)
- Local Government (NAICS 93)



## Worker Characteristics

The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:





# Advertising Sales Agents

(SOC 41-3011)

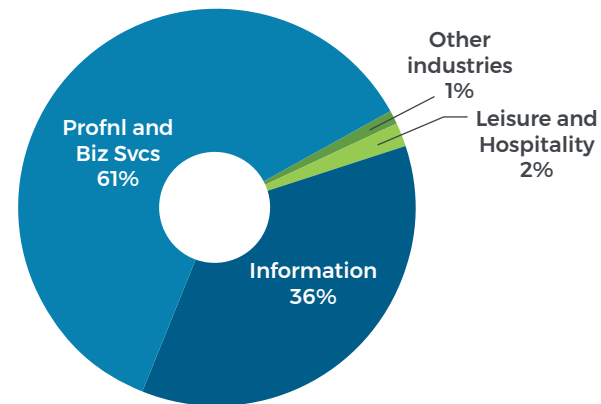
Advertising sales agents are identified as a middle-skill occupation. They sell or solicit advertising space, time, or media in publications, signage, TV, radio, or Internet establishments or public spaces.

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator

## INDUSTRY DISTRIBUTION

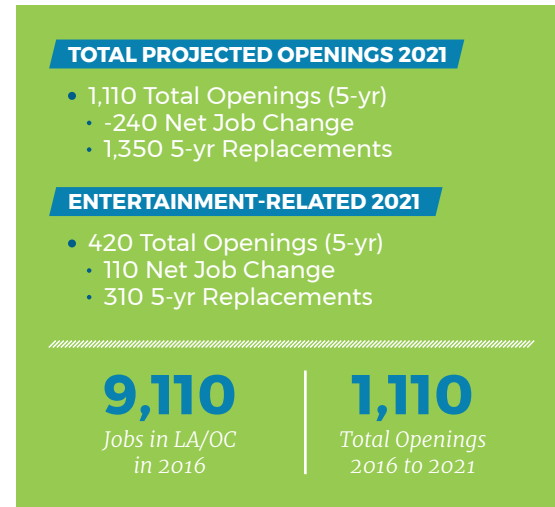


## Industry Distribution

Advertising sales agents are hired across a number of different industries. In 2016, approximately **2,070 advertising sales agents** were employed in the entertainment industry in the LA Basin. They accounted for **22.7 percent** of employment in this occupation across all industries.

The three industry subsectors that employ the largest number of advertising sales agents in the LA Basin are:

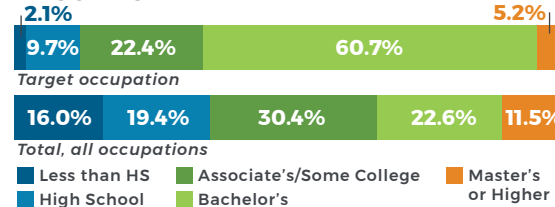
- Professional, Scientific and Technical Services (NAICS 541)
- Broadcasting, not Internet (NAICS 515)
- Publishing industries, except Internet (NAICS 511)



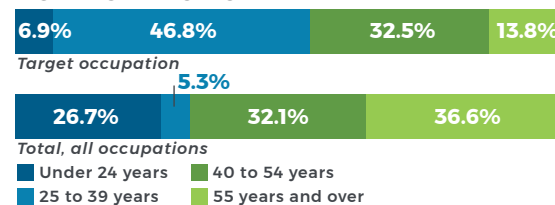
## Worker Characteristics

The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:

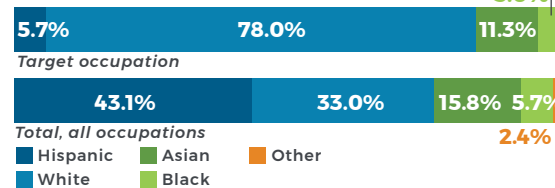
## EDUCATIONAL ATTAINMENT 2016



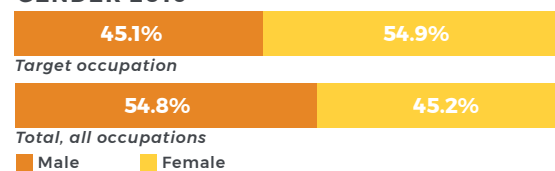
## AGE DISTRIBUTION 2016



## RACE AND ETHNICITY 2016



## GENDER 2016

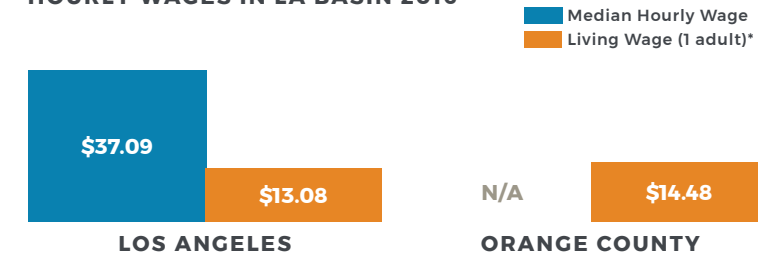


# Makeup Artists, Theatrical and Performance

(SOC 39-5091)

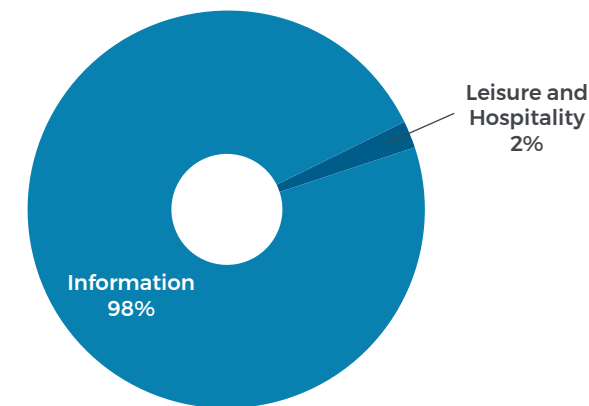
Theatrical and performance makeup artists are identified as a middle-skill occupation. They apply makeup to performers to reflect period, setting and situation of their role.

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator  
OC wage data not available

## INDUSTRY DISTRIBUTION

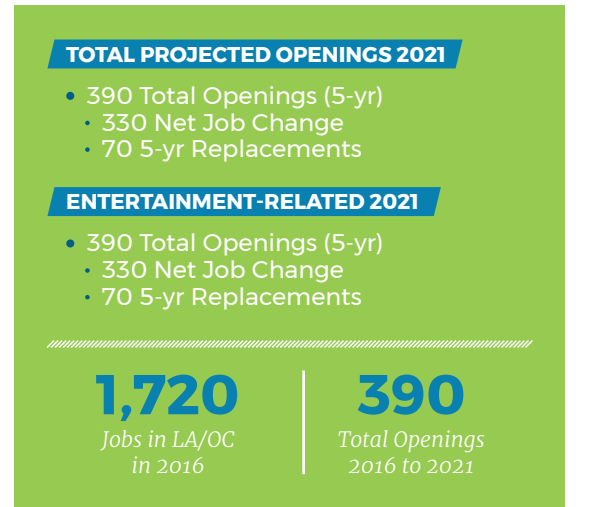


## Industry Distribution

Theatrical and performance makeup artists are only hired by the entertainment industry; **1,720 theatrical and performance makeup artists** were employed in the LA Basin in 2016, accounting for **100 percent** of employment in this occupation across all industries.

The three industry subsectors that employ theatrical and performance makeup artists in the LA Basin are:

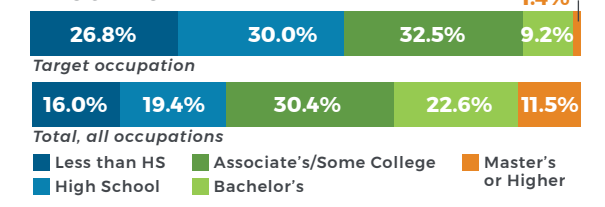
- Motion Picture and Sound Recording (NAICS 512)
- Performing Arts, Spectator Sports and Related (NAICS 711)
- Broadcasting, not Internet (NAICS 515)



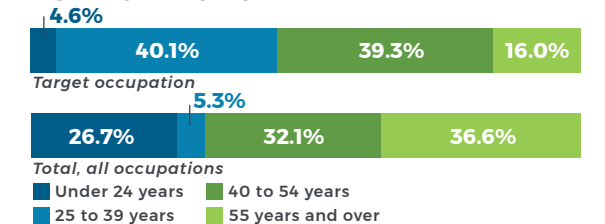
## Worker Characteristics

The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:

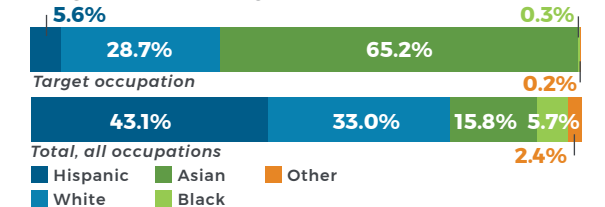
## EDUCATIONAL ATTAINMENT 2016



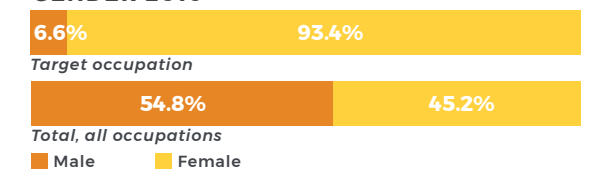
## AGE DISTRIBUTION 2016



## RACE AND ETHNICITY 2016



## GENDER 2016

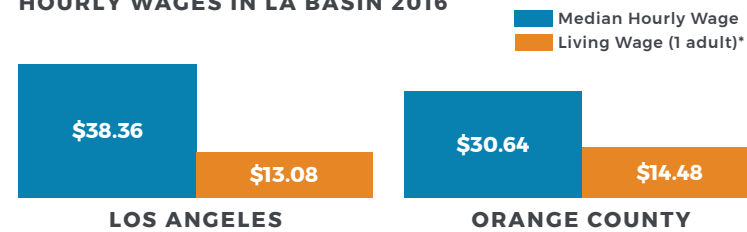


# Multimedia Artists and Animators

(SOC 27-1014)

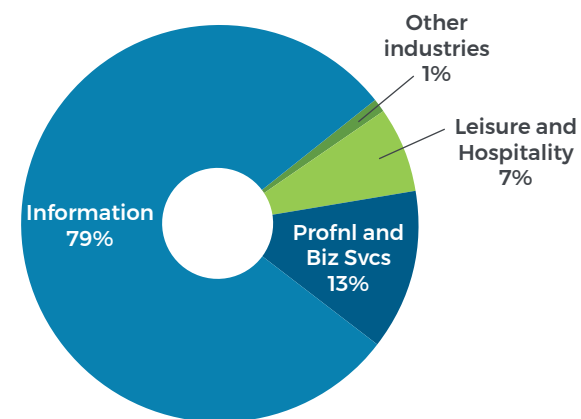
Multimedia artists and animators are identified as a middle-skill occupation. They create special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in products or creations, such as computer games, movies, music videos and commercials.

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator

## INDUSTRY DISTRIBUTION

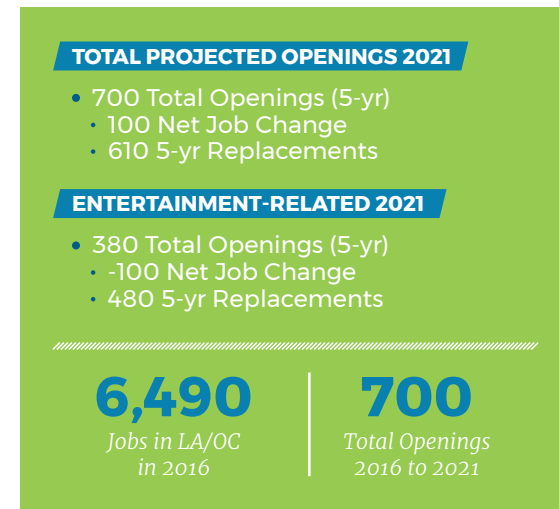


## Industry Distribution

Multimedia artists and animators are hired across a number of different industries, including those in digital media. Approximately **5,120 multimedia artists and animators** were employed in the entertainment industry in the LA Basin in 2016. They accounted for **78.9 percent** of employment in this occupation across all industries.

The three industry subsectors that employ the largest number of multimedia artists and animators in the LA Basin are:

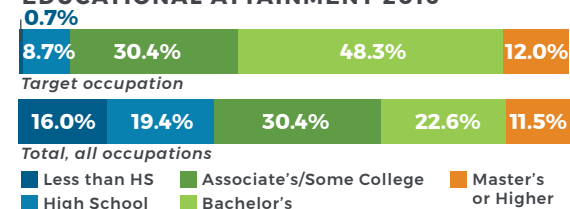
- Motion Picture and Sound Recording (NAICS 512)
- Professional, Scientific and Technical Services (NAICS 541)
- Performing Arts, Spectator Sports and Related (NAICS 711)



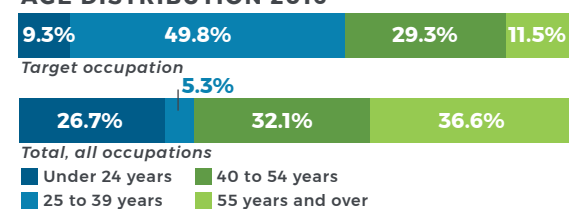
## Worker Characteristics

The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:

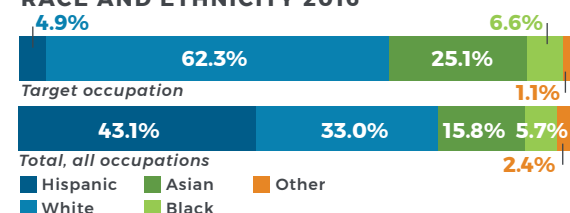
### EDUCATIONAL ATTAINMENT 2016



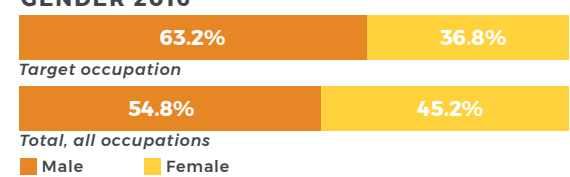
### AGE DISTRIBUTION 2016



### RACE AND ETHNICITY 2016



### GENDER 2016

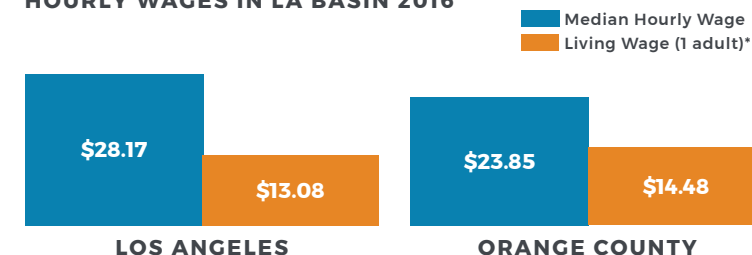


# Photographers

(SOC 27-4021)

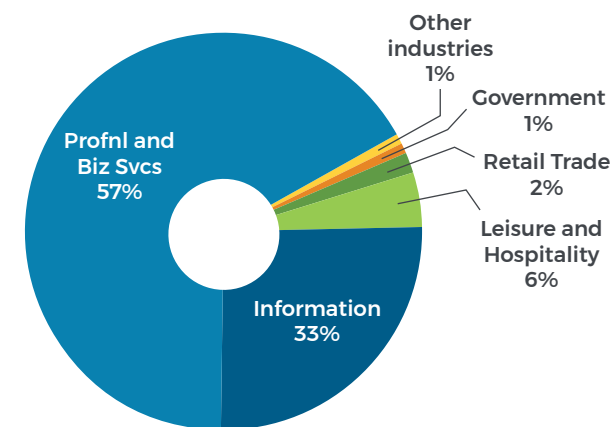
Photographers are identified as a middle-skill occupation. They photograph people, landscapes, merchandise, or other subjects, using digital or film cameras and equipment. May develop negatives or use computer software to produce finished images and prints. Includes scientific photographers, aerial photographers and photojournalists.

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator

## INDUSTRY DISTRIBUTION

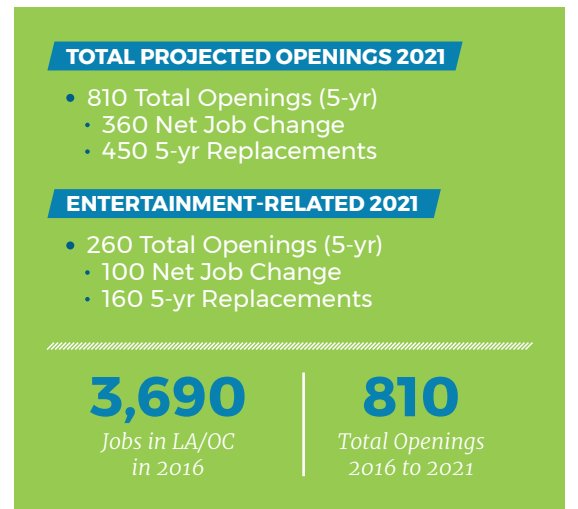


## Industry Distribution

Photographers are hired across a number of different industries; however, a significant number are employed in entertainment; **1,300 photographers** were employed in the entertainment industry in the LA Basin in 2016. They accounted for **35.2 percent** of employment in this occupation across all industries.

The three industry subsectors that employ the largest number of photographers in the LA Basin are:

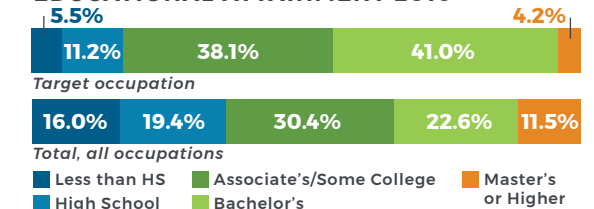
- Professional, Scientific and Technical Services (NAICS 541)
- Motion Picture and Sound Recording (NAICS 512)
- Performing Arts, Spectator Sports and Related (NAICS 711)



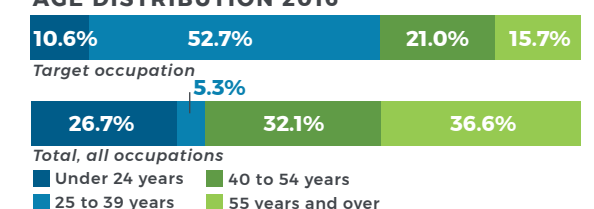
## Worker Characteristics

The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:

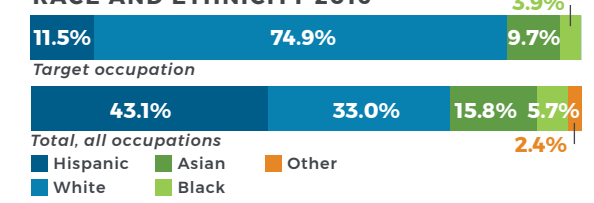
### EDUCATIONAL ATTAINMENT 2016



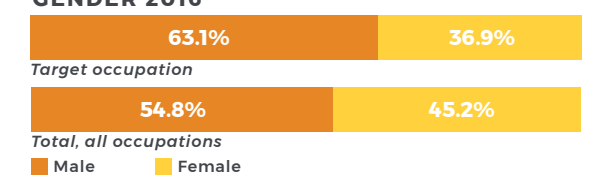
### AGE DISTRIBUTION 2016



### RACE AND ETHNICITY 2016



### GENDER 2016

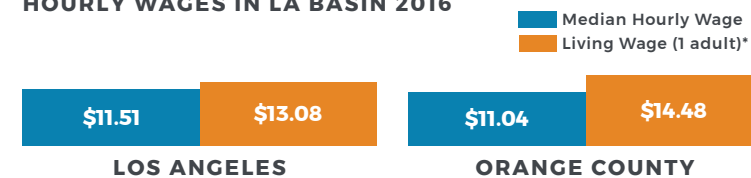


# Hairdressers, Hairstylists and Cosmetologists

(SOC 39-5012)

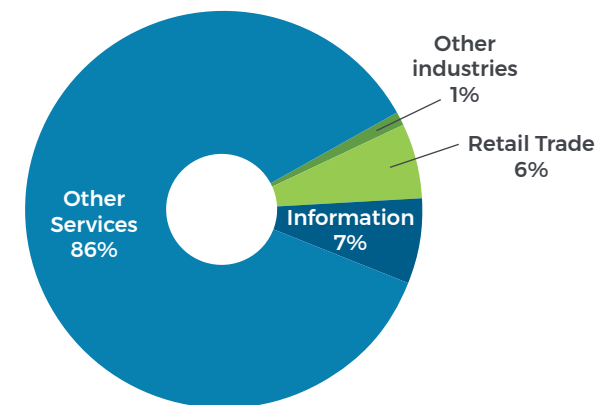
Hairdressers, hairstylists and cosmetologists are identified as a middle-skill occupation. They provide beauty services, such as shampooing, cutting, coloring, and styling hair, and massaging and treating scalp. May apply makeup, dress wigs, perform hair removal, and provide nail and skin care services. Excludes "makeup artists, theatrical and performance" (39-5091), "manicurists and pedicurists" (39-5092), and "skincare specialists" (39-5094).

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator

## INDUSTRY DISTRIBUTION



## Industry Distribution

Hairdressers, hairstylists and cosmetologists are hired across a number of different industries; however, only a small share is employed in entertainment; **730 hairdressers, hairstylists and cosmetologists** were employed in the entertainment industry in the LA Basin in 2016. They accounted for **7.2 percent** of employment in this occupation across all industries.

The three industry subsectors that employ the largest number of hairdressers, hairstylists and cosmetologists in the LA Basin are:

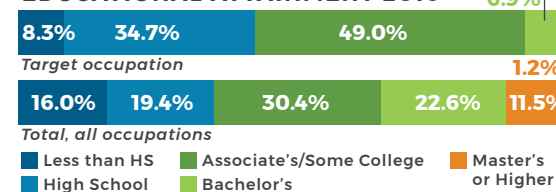
- Personal and Laundry Services (NAICS 812)
- Motion Picture and Sound Recording (NAICS 512)
- Health and Personal Care Stores (NAICS 446)



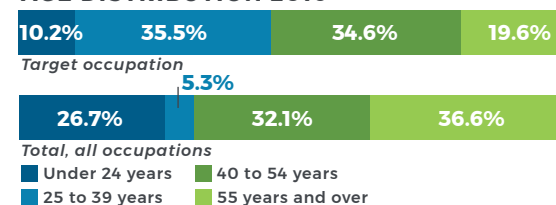
## Worker Characteristics

The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:

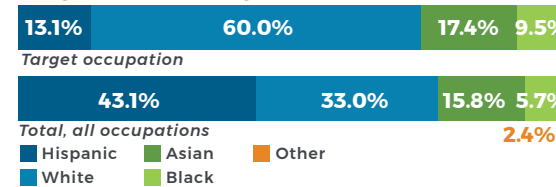
### EDUCATIONAL ATTAINMENT 2016



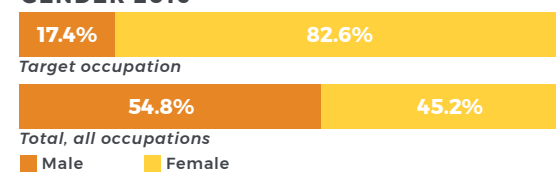
### AGE DISTRIBUTION 2016



### RACE AND ETHNICITY 2016



### GENDER 2016

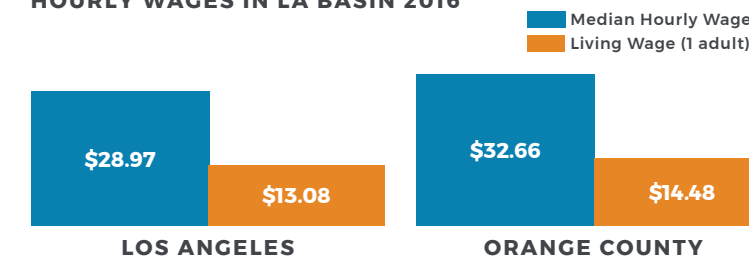


# Sound Engineering Technicians

(SOC 27-4014)

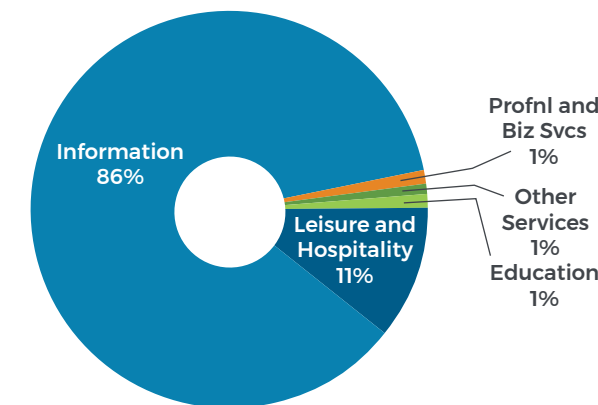
Sound engineering technicians are identified as a middle-skill occupation. They operate machines and equipment to record, synchronize, mix, or reproduce music, voices, or sound effects in sporting arenas, theater productions, recording studios, or movie and video productions.

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator

## INDUSTRY DISTRIBUTION



## Industry Distribution

Sound engineering technicians are hired across a number of different industries; however, most are employed in entertainment; **7,650 sound engineering techs** were employed in the entertainment industry in the LA basin in 2016. They accounted for **95.8 percent** of employment in this occupation across all industries.

The three industry subsectors that employ the largest number of sound engineering technicians in the LA basin are:

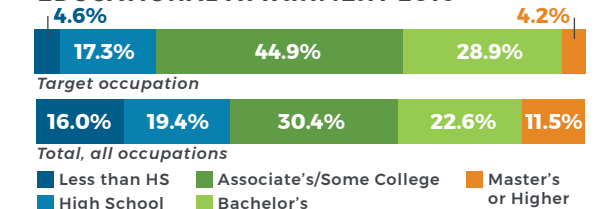
- Motion Picture and Sound Recording (NAICS 512)
- Performing Arts, Spectator Sports and Related (NAICS 711)
- Broadcasting, not Internet (NAICS 515)



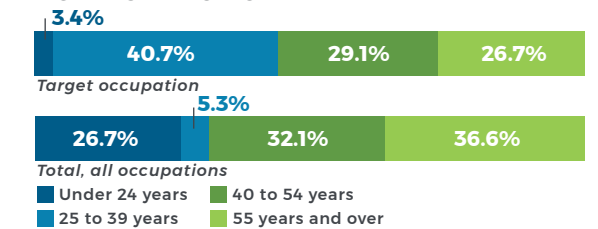
## Worker Characteristics

The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:

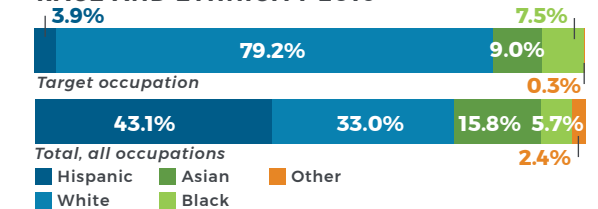
### EDUCATIONAL ATTAINMENT 2016



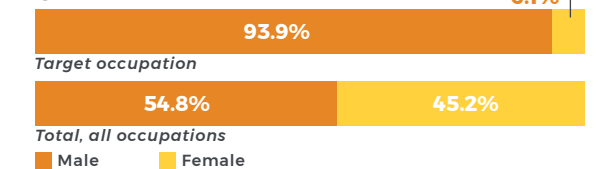
### AGE DISTRIBUTION 2016



### RACE AND ETHNICITY 2016



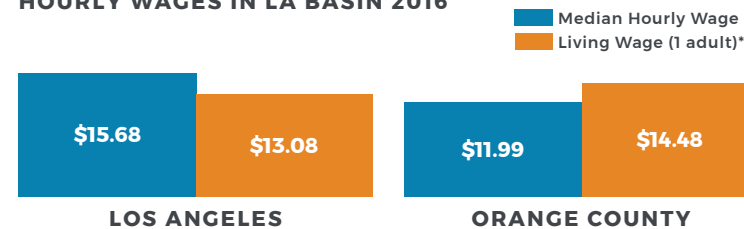
### GENDER 2016



# Public Address System and Other Announcers (SOC 27-3012)

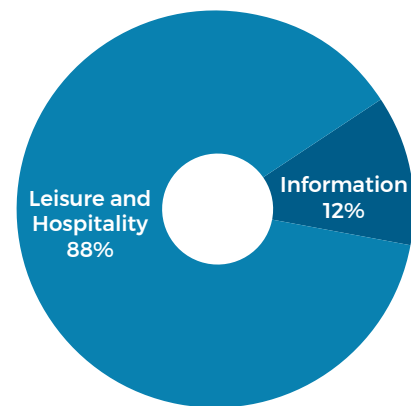
Public address system and other announcers are identified as a middle-skill occupation. They make announcements over public address system at sporting or other public events. May also act as master of ceremonies or disc jockey at weddings, parties, clubs, or other gathering places.

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator

## INDUSTRY DISTRIBUTION

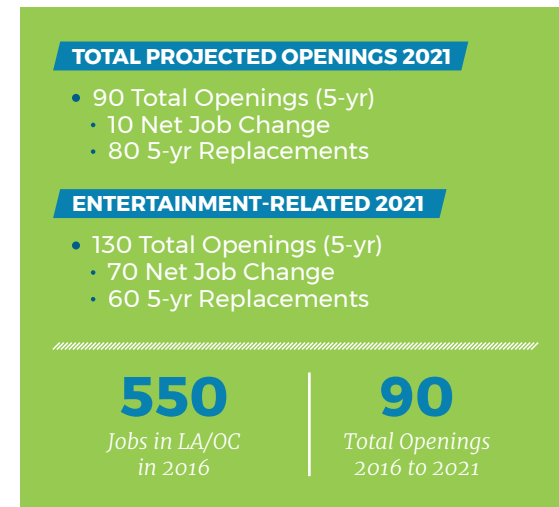


## Industry Distribution

Announcers are hired across a number of different industries with most employed in spectator sports. In 2016, **410 public address system and other announcers** were employed in the entertainment industry in the LA Basin. They accounted for **76 percent** of employment in this occupation across all industries.

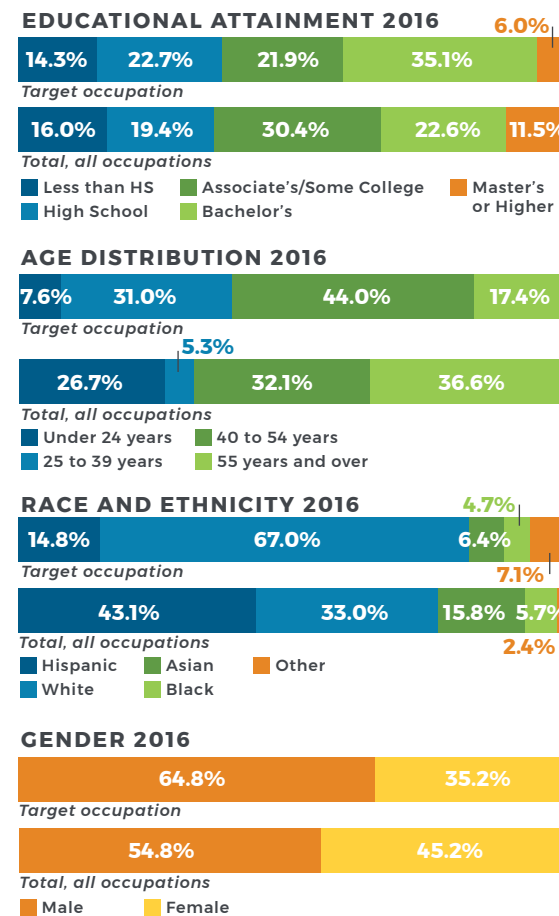
The three industry subsectors that employ the largest number of public address system and other announcers in the LA Basin are:

- Performing Arts, Spectator Sports and Related (NAICS 711)
- Food sServices and Drinking Places (NAICS 722)
- Motion Picture and Sound Recording (NAICS 512)



## Worker Characteristics

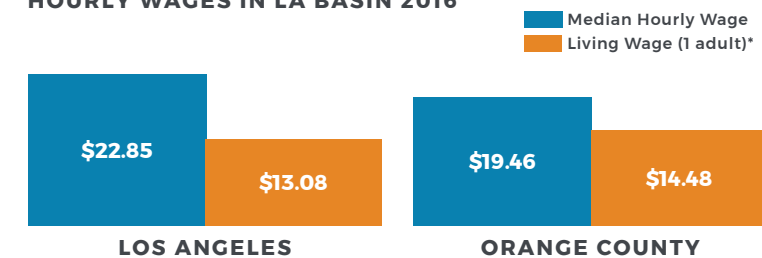
The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:



# Radio and Television Announcers (SOC 27-3011)

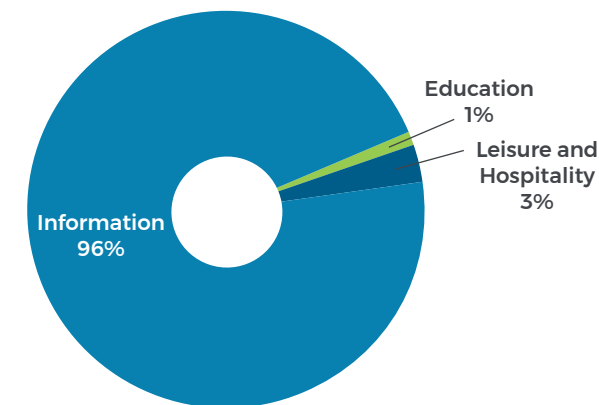
Radio and television announcers are identified as a middle-skill occupation. They speak or read from scripted materials, such as news reports or commercial messages, on radio or television. May announce artist or title of performance, identify station, or interview guests. Excludes "Broadcast News Analysts" (27-3021).

## HOURLY WAGES IN LA BASIN 2016



\* MIT Living Wage Calculator

## INDUSTRY DISTRIBUTION

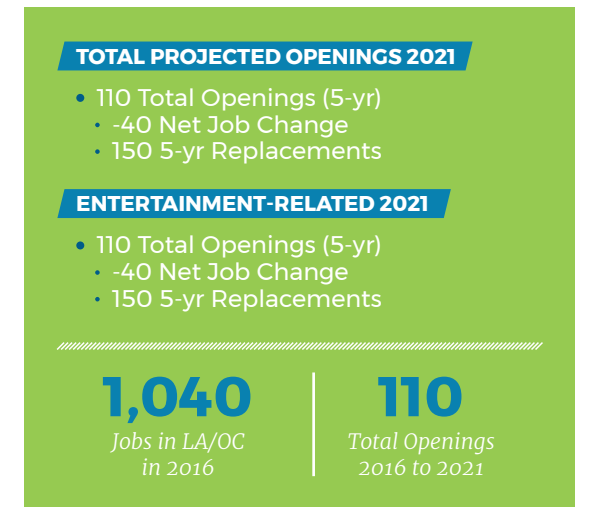


## Industry Distribution

Radio and television announcers are hired almost exclusively in entertainment. In 2016, **7,650 radio and television announcers** were employed in the entertainment industry in the LA Basin accounting for **99.0 percent** of employment in this occupation across all industries.

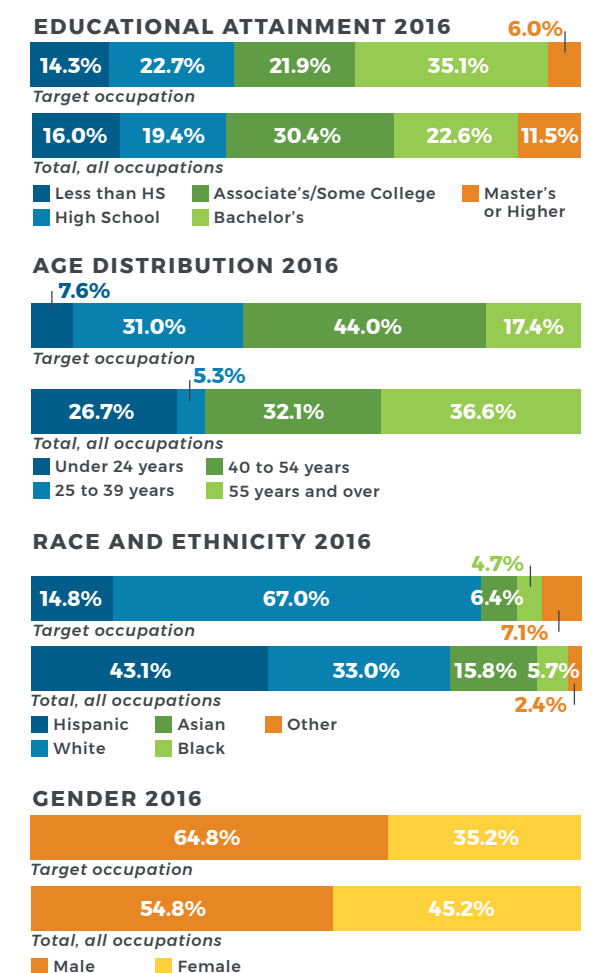
The three industry subsectors that employ the largest number of radio and television announcers in the LA Basin are:

- Broadcasting, not Internet (NAICS 515)
- Motion Picture and Sound Recording (NAICS 512)
- Performing Arts, Spectator Sports and Related (NAICS 711)



## Worker Characteristics

The demographics of the workforce provide an additional layer of information to further highlight who is employed in this occupation in the LA Basin:



# Appendix

*How (and why) we did what we did.*

Numerous data sources and methodologies were used to measure the target industry for this deep dive.

## Industry Forecast

An economic forecast is created to project employment by industry over the next five years using statistical analysis of historical data paired with the most recent qualitative information impacting a set of 151 industries in the Los Angeles Basin. The industries configured for this forecast are defined through the North American Industry Classification System (NAICS) and comprise industries denoted with 2-digit, 3-digit and 4-digit codes through the NAICS hierarchical classification system. A key input for the regional forecast is projected population growth in Los Angeles and Orange counties, provided by the California Department of Finance. State and national trends concerning production methods, consumer behavior, construction and property values that correspond to each industry are a few of the inputs used for the economic forecast model.

## Occupations and Projections

Occupations are commonly classified using the Standard Occupational Classification (SOC) system, developed by the Bureau of Labor Statistics. This system classifies workers into 840 detailed occupations that share similar job duties, skills, education and training. These occupations are not industry-specific, but are common to many industries. For example, retail salespersons are employed in a full spectrum of industries, from department and discount stores to computer systems design.

The economic forecast for employment by industry is used to guide a projection of net new jobs for each occupation, calculated by applying the industry occupational composition to the detailed industry employment forecast; occupational forecasts are aggregated across industries.

The United States Census Bureau estimates replacement needs by industry and occupation through detailed surveys of employers and households. These take into account industry changes, the age of the current workforce within each industry and occupation, and the nature of the career path. These estimates are an important component of occupational job openings and workforce development needs, since the retirement and promotion of individuals leave openings for new entrants and those moving up the career ladder.

Total openings are the sum of projected five-year replacement needs and positive net new jobs forecast over the period.

## Target Industries and Occupations

Target industries are selected using a variety of metrics: middle-skill job share; the projected change in middle-skill jobs from 2016 to 2021 (number and rate); the five-year job replacement rate; the 2016 location quotient; the change in location quotient from 2011 to 2016; the 2016 annual average wage relative to all industries; and value added per worker. (Middle-skill jobs require education and training beyond a high school diploma but less than a bachelor's degree.)

Target occupations are selected in a two-step process. First, all occupations identified as middle-skill are isolated from each target industry. Then, a variety of metrics are used to select target occupations: 2016 employment; projected net job change; replacement rate; number of projected replacement jobs from 2016 to 2021; number of projected total job openings from 2016 to 2021; and annual median wages.

## Location Quotient

A common metric to assess a region's competitiveness is employment concentration or location quotients. A location quotient for an industry in a specific region compares the percent of total employment in the industry to the average percent nationwide. For example, if 4 percent of employment in a region is in the aerospace industry compared to 2 percent across the nation, the location quotient for the region's aerospace industry is 2, indicating the region is more specialized in aerospace than the nation.

A location quotient equal to 1.0 indicates the employment concentration in the region is equal to the nation, meaning the region is not highly-specialized in that industry. Higher location quotients imply a competitive advantage. While there can be some variation in this metric, the location quotient threshold of 1.2 usually demonstrates regional specialization and competitiveness.

## Supply

Community colleges and other two-year educational institutions provide education and training relevant to middle-skill occupations. Comparing occupations with related training programs provides information for supply-and-demand analysis. The number of awards conferred by community colleges reflects the most recent data available from the 2015-16 academic year. Award data for other two-year education institutions is from the 2014-2015 academic year. Due to data and timing limitations, training gap forecasts are an approximation of unmet labor demand do not represent an absolute oversupply or undersupply of available talent. In addition, a one-to-one relationship between program completions and occupational demand does not exist because some programs train for multiple occupations. Consequently, awards for some education and training programs overall with multiple occupations.

## Economic Impact and Contribution Analysis

Economic contribution analysis is used to estimate the portion of a region's economic activity that can be attributed to an existing industry sector, including the expenditure of money for goods and services from regional vendors. These purchases circulate throughout the regional economy.

The entertainment and digital media industries spend billions of dollars every year on wages and benefits for employees and contingent workers. These workers, as well as the employees of all suppliers, spend a portion of their incomes on groceries, rent, vehicle expenses, health care, entertainment, and so on. This recirculation of household earnings multiplies the initial industry spending through indirect and induced effects.

The extent to which the initial expenditures multiply is estimated using economic models that depict the relationships between industries (such as aerospace and its suppliers) and among different economic agents (such as industries and their employees). These models are built upon data of expenditure patterns reported to the Bureau of Labor Statistics, U.S. Census Bureau and Bureau of Economic Analysis of the U.S. Department of Commerce. Data is regionalized to reflect local conditions such as wage rates, commuting patterns, and resource availability and costs.

The magnitude of the multiplying effect differs from one region to another depending on the extent to which the local region can fill the demand for all rounds of supplying needs. For example, the automobile manufacturing industry has high multipliers in Detroit and Indiana since these regions have deep supplier networks, while the same industry multiplier in Phoenix is quite small. In another example, the jobs multiplier for the construction industry is higher in, say, Arkansas, than in California because a given amount of spending will purchase fewer workers in Los Angeles than in Little Rock.

Multipliers also differ from year to year as relative material and labor costs change and as the production "recipe" of industries change. For example, the IT revolution significantly reduced the job multiplier of many industries (such as manufacturing, accounting and publishing) as computers replaced administrative and production workers.

The metrics used to determine the value of the economic contribution are employment, labor income, value-added and the value of output. Employment includes full-time, part-time, permanent and seasonal employees and the self-employed, and is measured on a job-count basis regardless of the number of hours worked. Labor income includes all income received by both payroll employees and the self-employed, including wages and benefits such as health insurance and pension plan contributions. Value-added is the measure of the contribution to GDP made by the industry, and consists of compensation of employees, taxes on production and gross operating surplus (otherwise known as profit). Output is the value of the goods and services produced. For most industries, this is simply the revenues generated through sales; for others, such as retail, output is the value of the services supplied.

Estimates are developed using software and data from IMPLAN Group, LLC which traces inter-industry transactions resulting from an increase in demand in a given region. The economic region of interest in this document is the Los Angeles Basin. The activity is reported for 2015, the most recent year for which a complete set of data is available. Estimates for labor income and output are expressed in 2015 dollars to maintain consistency with the reported industry activity.

The total estimated economic contribution includes direct, indirect and induced effects. Direct activity includes materials purchased and employees hired by the industry itself. Indirect effects are those which stem from employment and business revenues resulting from purchases made by the industry and any of its suppliers. Induced effects are those generated by household spending of employees whose wages are sustained by both direct and indirect spending.

Contribution analysis differs from economic impact analysis in that linkages between the individual component industries are removed, so that indirect activity is not double-counted as part of direct activity. For example, firms in the aerospace industry purchase supplies from smaller manufacturers of aerospace parts, which would then be included as both direct revenue of the parts supplier and as an expense of the aerospace industry, resulting in a double-counting of overall revenue. Breaking these inter-industry linkages eliminates this double-counting and is a more accurate method of estimating the economic contribution of the industry cluster.

## Data Sources

All data was obtained from the Bureau of Labor Statistics and the Census Bureau. Annual employment and payroll data are from the Quarterly Census of Employment and Wages series. Estimates for non-disclosed employment and payroll data were produced using proportional shares of the prior year's data or using midpoint estimates from the Census Bureau's County Business Patterns dataset. Occupational data are from the Occupational Employment Statistics program. Unless noted otherwise, all data is for the 2016 calendar year.

## Supply Chain and Output Analysis

Composition of gross output is a metric tracked by the BEA at the state level. It is assumed that the proportion attributable to each component of this metric at the county level is comparable to that at the state level. This seems reasonable given the size of the Los Angeles Basin and its economic activity in the state. Estimates of regional purchases of intermediate goods and services are produced using econometric models by the IMPLAN Group, LLC.

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