There's Something About

Seattle

2019 Creative Economy Report

City of Seattle

On behalf of the City of Seattle, we are excited to introduce our first Creative Economy Report.

March 2019

In Seattle, we know that creativity does much more than add to our quality of life. Creativity is integral to the character of our city and is a powerful component of our economy. Seattle's creative workers push us to be better and think bigger.

Our city benefits every day from its diverse community of entrepreneurs, artists, and innovators. Musicians from Jimi Hendrix to Heart's Ann and Nancy Wilson to Nirvana's Kurt Cobain put our city on the world stage. Today, as our powerful technology sector draws companies and workers from around the world, our thousands of creatives continue to create the art and culture that helps draw hundreds of thousands of visitors to Seattle every year. Creatives make the films that showcase the beauty of our landscape, perform the concerts and plays that bring our community closer together, create the websites that take a human-centered design approach to make it easier for our neighbors to meet their needs, and so much more.

Yet we hear, more and more often, that some of our most creative residents are not benefitting from living in the city that is benefitting so much from them. The affordability crisis that has affected all of us is especially threatening for many members of our creative workforce. It is vital that we ensure that all members of our community can continue to live and work in Seattle.

Investing in creative skills and understanding their role in the wider economy is more important now than ever. With technological advances like automation and artificial intelligence gaining momentum and investment, it is equally important to invest in jobs that humans are uniquely qualified to do. Our focus is on fields that center creativity, the human experience, and the creation and preservation of culture.

To know how to support and grow our creative workforce, we first need to understand it. The Seattle Creative Economy Report is a benchmark study; with this starting point, we will be able to monitor changes over time and better understand the impacts of our interventions. Investing in creative industries can help drive interdisciplinary creative collaboration and innovation across all industry sectors, maintaining Seattle's reputation as the city that invents the future.

This work began years ago, and we are excited to carry it forward for years to come. Thank you to the hundreds of people who participated in the creative economy survey last year—your input gave us valuable real-world insight. It is a pleasure to share this initial report, and we look forward to an open dialogue on how this new information should shape our work.

Sincerely,

Kate Becker
Director, Office of Film + Music

Randy Engstrom
Director, Office of Arts & Culture

Karl Stickel
Interim Director, Office of Economic Development

Contents

Introduction

Why Study the Creative Economy?

The Office of Film & Music, Office of Economic Development and Office of Arts & Culture undertook studying the local creative economy because we know that creativity is vital to the health of our economy, both now and in the future.

Seattle is an economic and cultural powerhouse; we consistently rank as a top destination for tourists and as one of the best places to live in the United States. We owe this reputation in large part to the imagination and inventiveness of our local workforce. Not only do creative workers fill our local performance spaces and art galleries, but they are also essential to our booming tech sector, where computer programmers and software developers use creativity in their work every day.

Investing in creative skills and media arts education is important to keeping our workforce strong and competitive for years to come. In a training session for media arts teachers, Tiffany Dockery of Amazon had these words for educators:

> The reality is that most of the jobs that we have today may not exist in the future. The indicator that we should keep in mind is that creativity is the one thing that will differentiate those jobs, and relatedly is that most of your students will need to create their own jobs. The extent to which they can do that is based on their ability to think outside of the box, and media arts education is crucial to that endeavor.

At a time of extraordinary change in our city—as the public debates the merits of our tech boom, as many worry about affordability for creative workers, and as we seek to prepare our workforce for the economy of the future—it is more important than ever that we deeply understand creative workers' contributions to our community as well as the difficult challenges they face. This report is a major step toward building that understanding.

Goals of this Report

We are excited to introduce this new approach to thinking about the creative economy, knowing that we will continue to measure changes in the labor market and attempt to measure the impact of interventions on our workforce.

In planning, researching, and creating this report, we had three objectives:

1. **Define the creative economy**: No standard definition exists, so we considered a set of occupations and industries that allow us to use available data to quantify attributes of creative workers and businesses. Our definition of creative economy should always be open to debate and revision, especially as we recognize the continuous, dynamic interplay between technology and creativity.
2. **Quantify the creative economy**: Using data from a major labor market analytics firm, we used numbers to paint a picture of Seattle's creative economy. The numbers allow us to identify growing and declining occupa tions, compare earnings, unpack demographic characteristics – though not in as much detail as we should – and quantify some of the economic contributions of creative industries. This research also gives us a base line against which to measure future changes. We recognize that while the numbers may paint a picture, they do not tell the entire story. In fact, as we consider our next steps, we know we must continue to learn from the ac tual people who are spending their lives in creative pursuits.
3. **Inspire action:** We were our own primary audience for this report, and we undertook this work to help us identify bright spots where we can build momentum, as well as gaps and disparities we can work to close. We also hope to inspire action by other creative economy stakeholders, including re gional policy makers, creative workers, employers, creative advocacy orga nizations, and consumers of creative works.

Key Findings

Seattle's creative economy appears strong when viewed in aggregate. Growth in creative occupations is outpacing overall job growth (23% vs. 15%, 2012-2017). We added 4,373 more creative jobs than would be expected if Seattle had followed national trends. At $30.76, the Seattle metro has the second highest cost of living-adjusted, median hourly earnings for creative workers among large and medium metros. Creative industries contribute 18% of Seattle's gross regional product, compared to 4% of the U.S. gross domestic product. Finally, each new job in a creative industry creates a total of three local jobs.

However, the creative economy is not monolithic. This report provides a series of reminders that data disaggregation is essential if we care about uncovering disparities related to race, gender, and the value society places on the various types of creative work. Our definition includes both high-earning creatives working in computer occupations and low-earning creatives working in arts, design, entertainment and media occupations, the former being the highest paid in the U.S., while the latter are the lowest paid. This disparity is further exacerbated by whether a worker is employed or self-employed.

When we examined the demographic makeup of creative occupations, we found that in most occupational families, people of color are underrepresented, even though overall, they appear to be overrepresented. In aggregate, women are underrepresented in creative occupations, but the disparity varies greatly by occupation. The available data made possible a limited analysis based on race and gender, and it did not allow for any cross-tabulation of multiple attributes.

67,350
creative jobs in Seattle

23%
creative job growth[1]

$30.76
median hourly earnings[2]

[1] *From 2012-2017, compared to 15% growth in all jobs*

[2] *Creative workers in the Seattle Metro (2nd highest among large and medium metros)*

Top 5 Creative Occupations
(2017)

1. **15,728** Software Developers
2. **5,664** Photographers
3. **3,688** Graphic Designers
4. **2,683** Writers and Authors
5. **3,381** Computer Programmers

Fastest-growing Occupations
(2012-2017)

1. ↑ **41.7%** Web Developers
2. ↑ **37.3%** Software & App Developers
3. ↑ **31.7%** Actors
4. ↑ **31.1%** Library Technicians
5. ↑ **26.5%** Writers and Authors

\+ **More than half** of creative jobs are in Arts, Design, Entertainment, and Media occupations. More than **a third** are in Computer and Mathematical occupations.

\+ Seattle added **4,373** more creative jobs than would be expected if the city had followed national trends.

$ Seattle has the **lowest earnings**[3] in arts, design, entertainment and media-related occupations.

$ Seattle has the **highest earnings**[3] in computer-related occupations.

[3] *Cost-of-living adjusted; among US metros with more than one million people*

Many populations are underrepresented in the largest creative occupations:

Female workers
Underrepresented in 7 of the 10 largest creative occupations

American Indian or Alaska Native workers
Underrepresented in 9 of the 10 largest creative occupations

Asian workers
Underrepresented in 5 of the 10 largest creative occupations

Black or African American workers
Underrepresented in 9 of the 10 largest creative occupations

Hispanic or Latino workers
Underrepresented in 8 of the 10 largest creative occupations

Native Hawaiian or Other Pacific Islander
Underrepresented in 10 of the 10 largest creative occupations

Workers of two or more races
Underrepresented in 9 of the 10 largest creative occupations

3x jobs multiplier:

Each new job in a creative industry creates a total of three local jobs.

$6.75 billion

earned by creative industry workers (2017)

$24 billion

creative industry goods and services sold (2017)

18%

contribution to Seattle's GDP (2017)

What's Next?

This report's findings inform the ongoing and future work of the Office of Film & Music, Office of Economic Development, and Office of Arts & Culture in the following areas:

Prepare for the future of work. The Future of Work Subcabinet and interdepartmental Staff Planning Group have been directed by Mayor Durkan to improve economic opportunity for youth in Seattle today, while preparing youth for the economy of the future. With increasing risk of automation for certain occupations, and the rise of the gig economy and non-traditional forms of employment, we need to create a comprehensive youth development system, so youth can build transferable skills and competencies, including entrepreneurship, computational thinking, empathy, and creativity. The Creative Economy Report will help inform the Subcabinet's ongoing work.

Prioritize skills and competency-based education and workforce development. The City of Seattle and its partners will invest in skills and competency-based education and workforce development programs to prepare young people to use creative skills *and* get paid. We are moving beyond the popular emphasis on STEM (Science, Technology, Engineering, Math) education to STEAM—including an emphasis on arts.

The Creative Careers Interdepartmental Team, in partnership with the Employment Pathways Interdepartmental Team, is exploring new ways to invest in programs and organizations that provide career-connected learning opportunities for students, youth, and teachers that range from career exposure, awareness and exploration activities to more intensive earn-and-learn models. This includes leveraging current partnerships, such as our relationship with the Creative Advantage, to bring more arts education into classrooms with a focus on building the skills and competencies needed for youth to be competitive in the changing economy. Existing examples include Career Days and "try-a-trade" events in partnership with local employers and the Seattle Colleges, which give youth opportunities to meet industry professionals and learn about the variety of career options that are available. In addition, the team uses labor market data and research reports to inform school curriculum and support communities to build creative workforce programs that meet the needs of our economy.

The City is vastly expanding its capacity to support internal programs and our partner organizations, launch new events and programs, and research what is and is not working to prepare and support our current and future creative workforce.

Further understand the creative workforce and barriers to entry. In 2019, the Office of Arts & Culture (ARTS) and Office of Economic Development will collaborate on an intentional, mixed research method, rigorous Puget Sound regionally-focused creative workforce study with a race and social justice lens. This will be led by ARTS through on-going partnerships with the UW Evans School and Mellon/American Council of Learned Societies funding. We need data that tell us about the lived experiences of creative workers, that give us a macro-level portrait of where our creative workforce resides in the Puget Sound region, what that portrait looks like through an intersectional race, gender, and class lens and analysis, and what the creative jobs of the future might be like. ARTS is interested in identifying barriers at the entry, middle, and established tiers of creative economy work, and designing recommendations for how to increase access for those who historically have been left out.

Understand and communicate the connections between arts and computer occupations. We are expanding our definition of "creative" and working to understand where creativity shows up across occupations. For example, how are creatives in gaming and virtual reality categorized in our occupational data? How can a worker use creative skills in higher-paying creative occupations? Understanding how creative skills and competencies align to form a career pathway can help students and workers reach high-paying occupations.

Continue to collect data. Moving forward, we will track annual changes in creative occupation counts, wages, and demographics; in-demand skills for creative jobs; and the economic impact of creative industries (earnings, sales, jobs multipliers). Continuing to collect and monitor trends will help us understand whether our efforts to increase equity and opportunity are having desired effects.

Background & Methodology

Defining the Creative Economy

While much has been written about the creative economy, a standard definition does not exist. It may seem relatively straightforward to come up with a list of "creative industries" and quantify their economic impact, but as we quickly learned, the creative economy is a much more complex system than a limited set of industries. Creative work takes place across a range of industries, many of which may not fit our notion of "creative." John Howkins, author of *The Creative Economy*, defines the creative economy as:

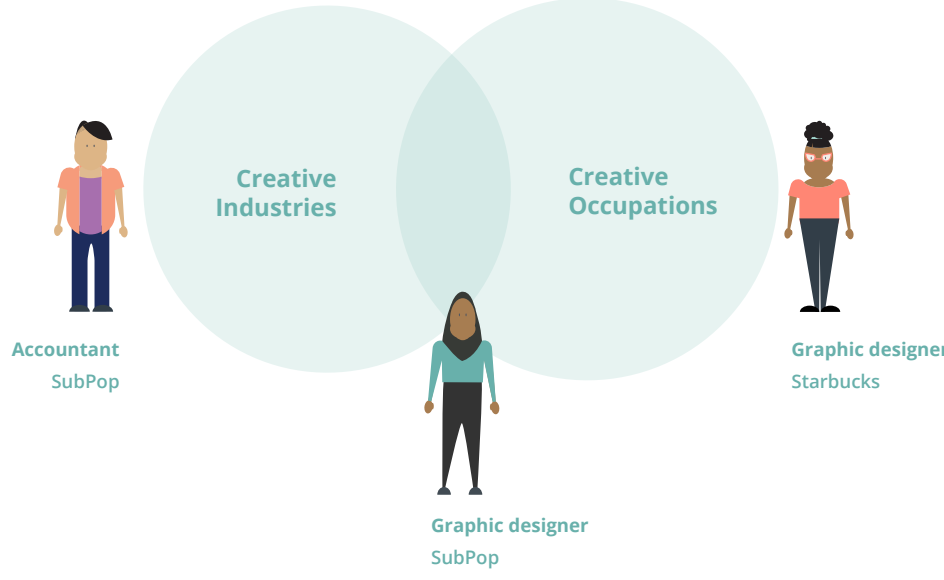
> "Economic systems where value is based on imaginative qualities rather than the traditional resources of land, labor and capital. Compared to creative industries, which are limited to specific sectors, the term is used to describe creativity throughout a whole economy."
>
> (Howkins, 2013).

Our approach focuses primarily on creative occupations, allowing us to examine jobs that use creative skills and produce creative results across all industries. We augment occupational data with estimates of the economic impact of creative industries. By analyzing both creative occupations and industries, we provide a more complete look at the economic impact of creative work than past studies that have focused on limited sets of industries, such as film and music. While we acknowledge that this method is still more limited than Howkins' systemic approach to the creative economy, the availability of high quality labor market data and our ability to analyze demographic, economic, and geographic characteristics of local creative workers led us to conclude that our approach would produce actionable insights about the local creative economy and the people engaged in it.

Future research should focus on more clearly understanding the nuances and interconnected nature of the creative economy, especially the nature of creative work, where creative workers often piece together multiple "gigs," as well as the relationship between technology and creative work in a city on the forefront of video gaming and virtual/augmented reality.

Creative Industries and Creative Occupations

The primary way to approach labor market data is through industry and occupational classifications. Industry classifications describe the activities of businesses while occupational classifications describe the activities of workers. Industries generally employ people in many different occupations, from support staff to executives. Similarly, many occupations are found in many different industries. The graphic below provides a framework for thinking about creative industries and occupations.



Occupations and Industries Included in this Report

This report uses a set of 63 Standard Occupational Classifications (SOC) and a set of 55 North American Industry Classification System (NAICS) codes to comprise our definitions of creative occupations and industries. Complete lists can be found in Appendices 1 and 2.

Occupations

The occupational codes are further divided into job families to distinguish between types of occupations. The job families are as follows:

- Management Occupations (SOC 11)
- Business and Financial Occupations (SOC 13)
- Computer and Mathematical Occupations (SOC 15) (hereafter referred to as Computer Occupations)
- Architecture and Engineering Occupations (SOC 17)
- Education, Training, and Library Occupations (SOC 25)
- Arts, Design, Entertainment, Sports, and Media Occupations (SOC 27) (hereafter referred to as Arts, Design, Entertainment and Media Occupations)
- Construction and Extraction Occupations (SOC 47)
- Production Occupations (SOC 51)

References to job families throughout this report refer to the subsets of each job family that we consider creative occupations. For example, the federal government's set of occupations within the Arts, Design, Entertainment, Sports, and Media job family includes several sports-related occupations, such as *umpires* and *coaches*. We exclude those and several other occupations, while still using the official job family names to align with the SOC system.

Of course, assigning occupations binary designations of "creative" and "non-creative" requires some subjective judgement, which is why we used as a starting point the list of occupations included in the Creative Vitality Suite, a data suite created by the Western States Arts Federation in partnership with our primary data source, Emsi. We narrowed the list to more closely align with the missions and spheres of influence of the Offices of Film + Music, Economic Development, and Arts & Culture. Our definition is more limited than that of *Rise of the Creative Class* author Richard Florida (he includes all knowledge workers, including healthcare, business, and legal occupations), but more broad than traditional arts occupations.

Our inclusion of tech occupations may provoke debate, especially when considering the outsized impact of the three included occupations (*Software Developers*, *Applications*; *Computer Programmers*; and *Web Developers*) on the aggregate statistics. However, we would be remiss if in 21st century Seattle we excluded what the Bureau of Labor Statistics calls "the creative minds behind computer programs" (Bureau of Labor Statistics, 2018). Their medium may not be a stage, canvas, or movie screen, but it is becoming increasingly difficult to argue that occupations that design and produce what are essentially audio/visual products are drastically different from the occupations included in the Arts, Design, Entertainment and Media job family. To account for tech's large influence on the aggregate numbers, each step of our analysis drills down into either job families or individual occupations.

Industries

The industries included in the report were adapted from a list of industries included in the City of Bellevue's recent Creative Economy Strategy as well as a 2013 report by the Creative Economy Coalition, entitled America's Creative Economy: A Study of Recent Conceptions, Definitions, and Approaches to Measurement Across the USA (Harris, Collins, & Cheek). We consider these industries to have creativity as an essential input that drives economic and/or cultural value.

Data Source

Occupation and Industry data come from Economic Modeling Specialists, International (Emsi). By combining traditional government sources for labor market information, such as the Occupational Employment Statistics, American Community Survey, and the Washington State Employment Security Department with data from online social profiles, resumes, and job postings, Emsi provides one of the most complete pictures of our local and national workforce.

The four datasets that comprise Emsi's "complete employment" set allow us to include employed and self-employed workers whose primary source of income is in creative occupations, as well as workers who earn secondary income from creative occupations. The latter category, which is captured in Emsi's Extended Proprietor dataset, would not normally be used when analyzing most other occupations and industries, but is essential when estimating the size and impact of the creative economy due to the prevalence of part-time, gig, and freelance work. Without it our analysis would risk severely undercounting creative workers.

Geography

Throughout our research, we use the smallest geographic unit for which data are available. In most cases, a collection of zip codes approximates the city of Seattle. For demographic data, we use King County, and for earnings comparisons to other metros, we use the Seattle-Tacoma-Bellevue Metropolitan Statistical Area.

A Deep Dive Into Creative Occupations

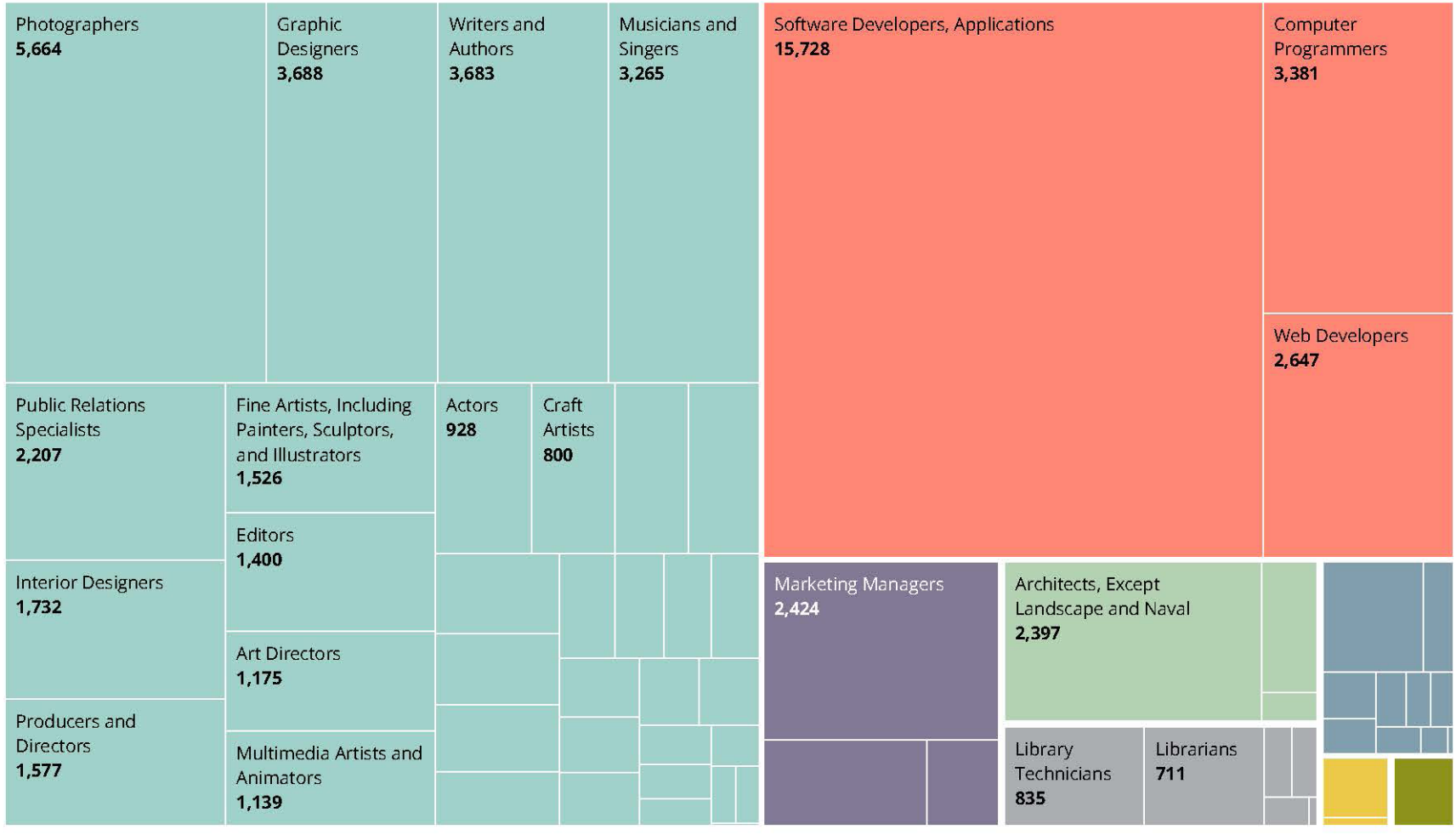
Most creative jobs are in **two job families:** Arts, Design, Entertainment and Media occupations and Computer occupations.

At 35,161 jobs in 2017, the *Arts, Design, Entertainment and Media* job family accounts for more than half (52.2%) of Seattle's 67,350 creative jobs. The largest occupations in the family include *Photographers* (5,664 jobs), *Graphic Designers* (3,688), *Writers and Authors* (3,683), *Musicians and Singers* (3,265), and *Producers and Directors* (1,577).

The three occupations included in the Computer job family account for nearly a third (32.3%) of Seattle's creative jobs. They are *Software Developers, Applications* (15,728 jobs), *Computer Programmers* (3,381), and *Web Developers* (2,647). *Software Developers, Applications* is also the largest individual occupation included in our list of creative occupations.

Jobs in Creative Occupations

City of Seattle, 2017



Source: Emsi 2018.1

Occupational Families

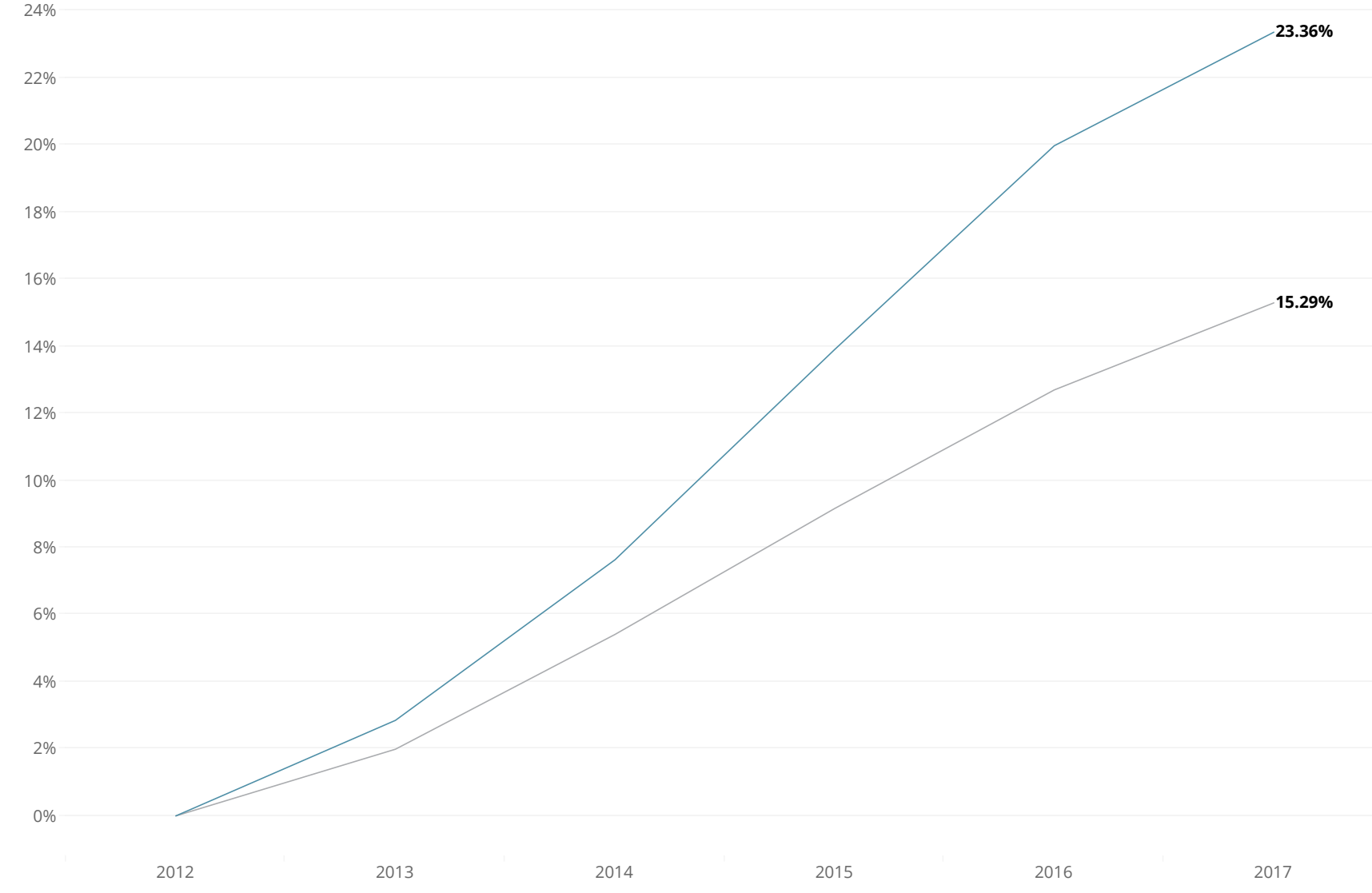
- Architecture and Engineering
- Arts, Design, Entertainment, and Media
- Business and Financial Operations
- Computer
- Construction and Extraction
- Education, Training, and Library
- Management
- Production

Growth in creative occupations has **outpaced** Seattle's overall job growth.

Seattle has experienced rapid job growth over the last several years. From 2012 to 2017, the total number of jobs increased by 15.3%, while the number of creative jobs grew by 23.4%.

Percent Increase in Employment

City of Seattle, 2012-2017



Source: Emsi 2018.1

Creative Occupations All Occupations

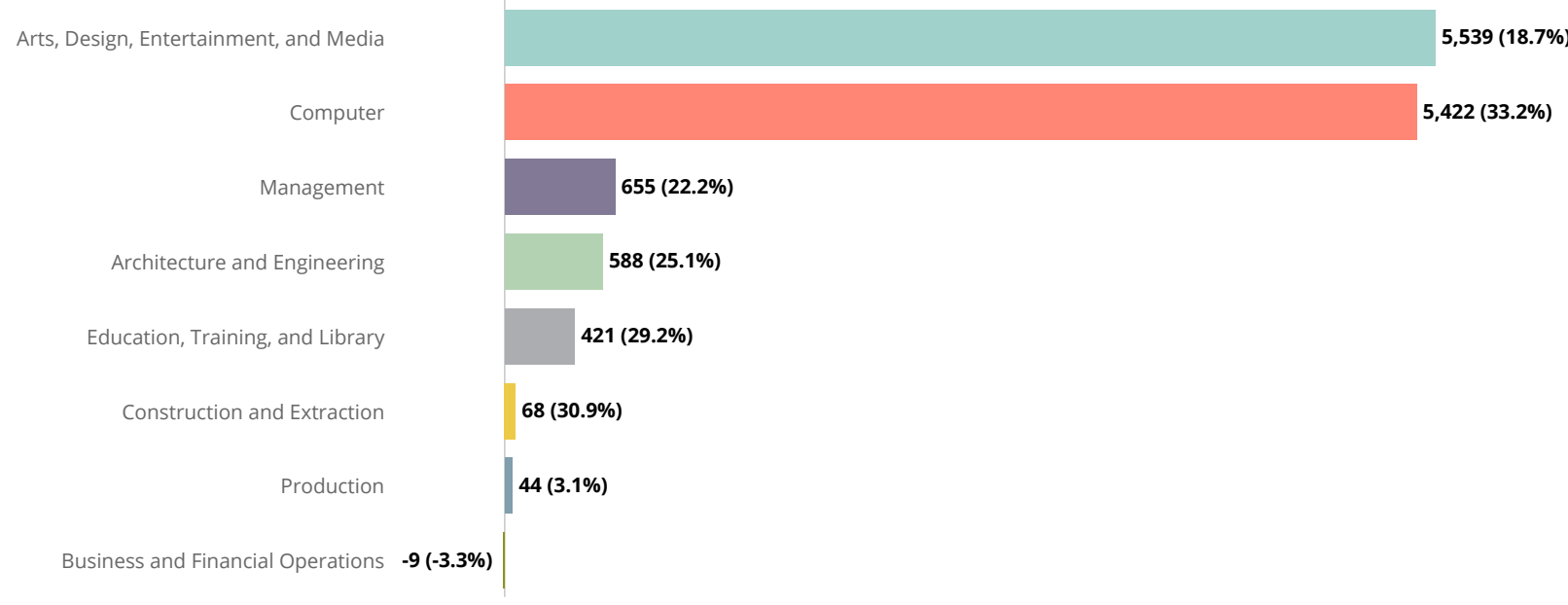
Arts and Computer occupations **lead** job growth.

The Arts, Design, Entertainment, and Media and Computer job families accounted for most of the growth, adding 5,539 and 5,422 jobs respectively, but despite adding nearly the same number of jobs, the Arts, Design, Entertainment, and Media jobs family grew at only half the rate of computer-related jobs.

The fastest-growing individual occupations were *Web Developers* (41.7%), *Software Developers*, *Applications* (37.3%), *Actors* (31.7%), *Library Technicians* (31.1%), and *Writers and Authors* (26.5%). Of course, it is also important to compare the number of jobs in each occupation; there were nearly 16,000 *Software Developers, Application*s in 2017 and just over 900 *Actors*.

Change in Employment by Occupational Family

City of Seattle, 2012-2017



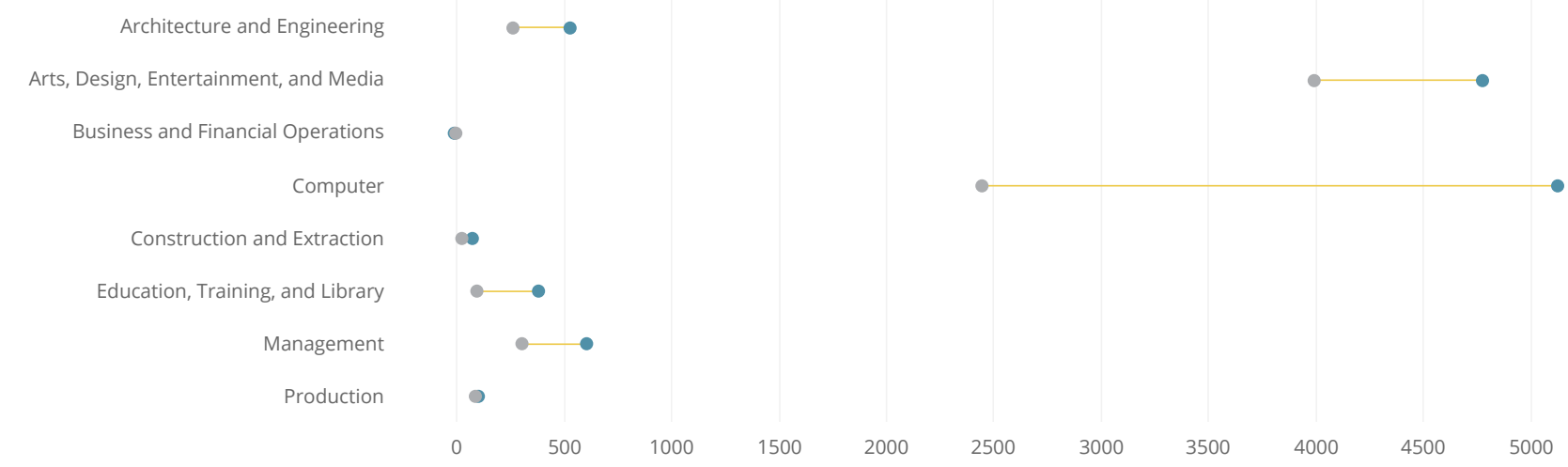
Source: Emsi 2018.1

There's something **special** about Seattle: the competitive effect.

Seattle added 4,373 more creative jobs than would be expected if the city had followed national trends. This conclusion is based on a shift share analysis, which estimates how much local job growth can be attributed to national trends versus local economic conditions. By comparing the actual job change (11,538 jobs actually added) to estimates of expected jobs added or lost if Seattle had followed national trends (7,165 jobs expected to be added), we see that Seattle far exceeded the expected change. This competitive effect was particularly pronounced in the Arts, Design, Entertainment, and Media occupations and Computer occupations.

Expected vs. Actual Employment Change and the Competitive Effect

City of Seattle, 2012-2017



Source: Emsi 2018.1

Expected change: Jobs added as a result of growth in the overall national economy and the national growth in this group of occupations
Competitive Effect: The number of jobs added as a result of Seattle's competitiveness
Actual Change: The number of jobs that were actually added in Seattle

Job Concentration

A location quotient (LQ) analysis allows us to see whether an occupation makes up a larger or smaller share of jobs in Seattle, compared to that occupation's share of total jobs in the U.S. An LQ of 1.0 means that an occupation's share of total jobs in Seattle is the same as the occupation's share of total jobs in the U.S. Higher than 1.0 means that a job is more concentrated in Seattle; lower means it is less concentrated in Seattle.

Looking at the job growth numbers in the previous section, we know both *Software Developers, Applications* and *Actors* added jobs in Seattle, but calculating the change in location quotients over the same time period reveals that *Software Developers, Applications* became more concentrated, while *Actors* became less concentrated. In fact, all creative occupations in the Computer job family increased their LQ, while the LQ of nearly all Arts, Design, Entertainment and Media occupations declined.

According to Emsi, occupations that fall in the upper, right-hand quadrant of the graph are "'standouts' that distinguish the regional economy and are doing so more every year—and they are especially important if they are also large in terms of jobs." They are also likely to see an increase in workforce demand. Occupations in the upper, left-hand quadrant—where most of the Arts, Design, Entertainment and Media occupations appear—are more concentrated in the region, but that concentration is declining. "A large occupation in this quadrant," according to Emsi, "usually indicates that the major industry employing people in that occupation is in decline" (Economic Modeling Specialists, Inc., 2007).

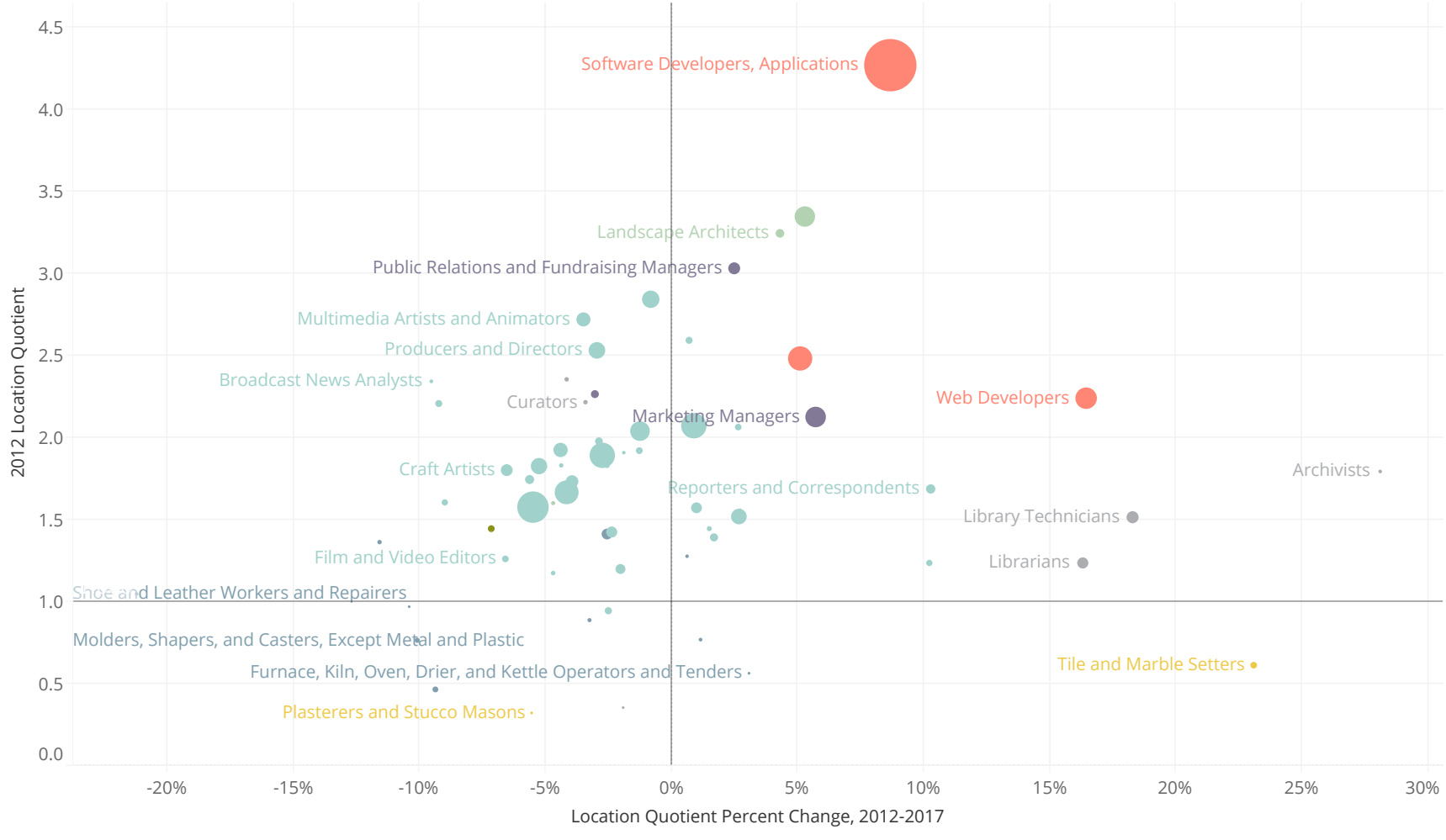
Both cases deserve our attention if we want to bolster the creative economy. Our expanding recognition of the increasing interconnectedness of technology and creativity should lead us to build on our strengths in computer-related creative occupations. These occupations, with their high wages (more on that in subsequent sections) and steady growth, may be avenues for job seekers who wish to use their creative skills while enjoying the high earnings that technology jobs offer.

At the same time, we should use the insight gained through the location quotient analysis to increase our attention on Arts, Design, Entertainment, and Media occupations. Those occupations bring tremendous value to our community, from music, sculptures, and murals that lift our spirits and enrich our shared experience of living in Seattle, to the graphic designers and photographers who advertise our businesses. And, if we value the contributions of these occupations to our community, we need to ensure that people in those occupations can live and work here.

Throughout the remainder of this report, as we explore data related to wages, geography, demographics, and hiring demand, we dig deeper into the creative occupations in the Arts, Design, Entertainment, and Media and Computer jobs families.

Location Quotient Analysis

City of Seattle, 2012-2017



Source: Emsi 2018.1

Occupational Families

- Architecture and Engineering
- Arts, Design, Entertainment, and Media
- Business and Financial Operations
- Computer
- Construction and Extraction
- Education, Training, and Library
- Management
- Production

2017 Jobs

6
5,000
10,000
15,728

Earnings

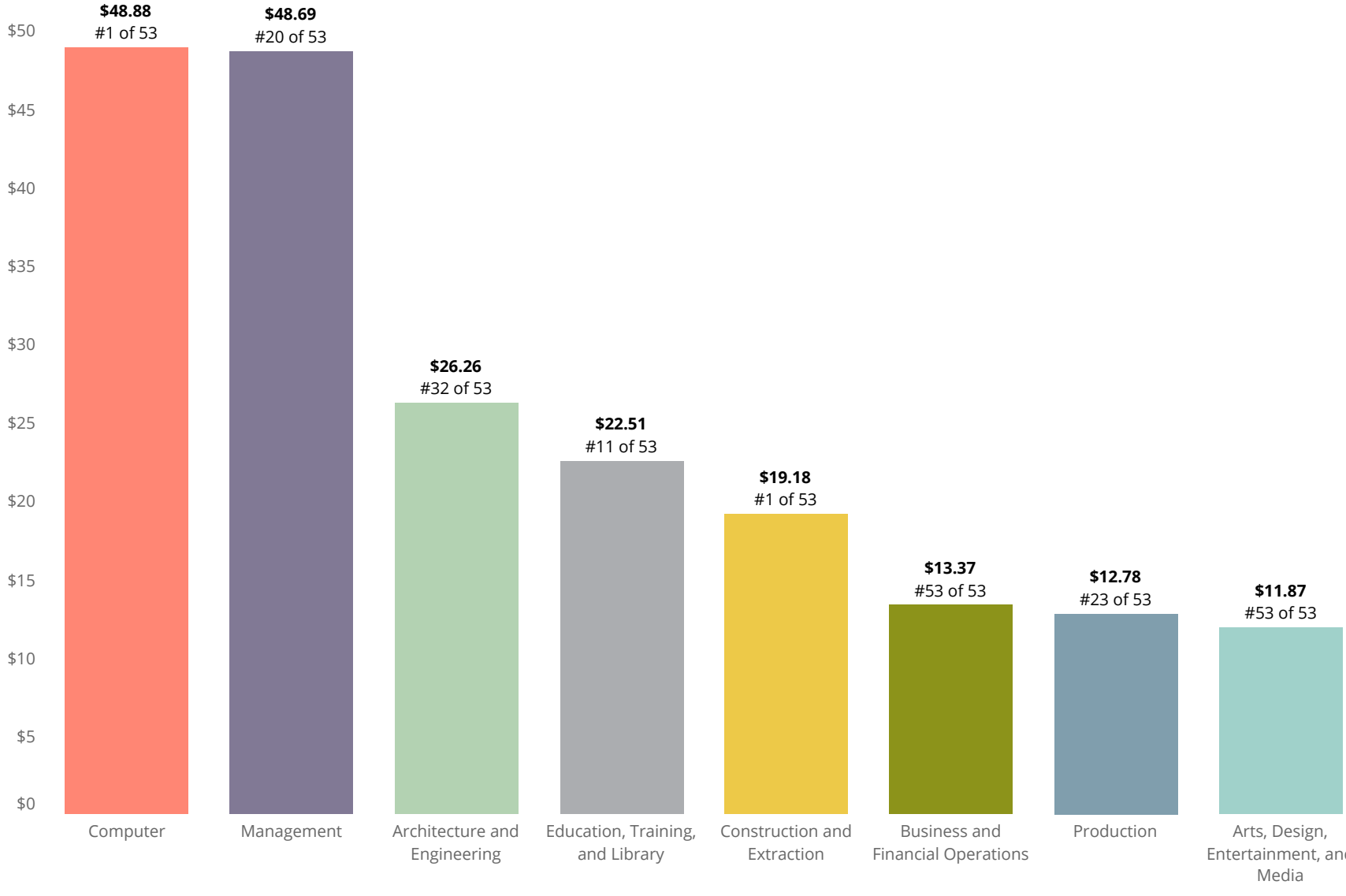
Seattle has the highest paid Computer workers in the nation, lowest paid Arts workers.
It's no secret that workers in Computer occupations are some of Seattle's most highly-paid and workers in Arts, Design, Entertainment, and Media occupations are not. However, the data reveal a striking disparity in Seattle, beyond that of all other large U.S. metros. When we compared cost-of-living-adjusted, median hourly earnings of the 53 U.S. metros with populations over 1 million, we found that the Seattle-Tacoma-Bellevue metro has the highest paid creatives in Computer occupations ($48.88/hr) and the lowest paid creatives in Arts, Design, Entertainment, and Media occupations ($11.87/hr). For comparison, the metro with the highest-paid creatives in Arts, Design, Entertainment, and Media is Nashville-Davidson–Murfreesboro–Franklin, TN, where the median worker earns $20.68 per hour, after adjusting for cost-of-living. The median metro is San Jose-Sunnyview-Santa Clara, CA, where the median Arts, Design, Entertainment, and Media worker earns a cost-of-living-adjusted $14.77 per hour.

A disparity also exists between employed and self-employed creatives in Arts, Design, Entertainment and Media occupations.[4] The median hourly earnings for employed workers ranks 9th out of the 53 metros at $25.08, while the earnings for self-employed workers are the lowest of all metros included in the analysis at $9.93.

[4] *"Self-employed" includes Emsi's Self-Employed and Extended Proprietor datasets.*

Cost-of-Living-Adjusted Median Hourly Earnings and Rank Among 53 Metros with Populations Over 1 million

Seattle-Tacoma-Bellevue, 2017



Source: Emsi 2018.1

Self-Employed Arts, Design, Entertainment, and Media Workers in Seattle

One hypothesis of what could be dragging down earnings in Arts, Design, Entertainment, and Media occupations was that a larger share of those jobs in Seattle fall into the self-employed or extended proprietor categories, but that was quickly proven wrong when we discovered that the self-employed/extended proprietor share of total jobs in Seattle was lower in 2017 than across the 53 large metros used in the earnings analysis. Self-employed/extended proprietor jobs also grew at a slower rate in the Seattle metro than in the other large metros.

Seattle's large disparity between employed and self-employed workers may suggest underutilized talent that is not part of the traditional labor market. If true, some self-employed workers may be able to earn more money by entering the labor market, and employers could access available talent at a reduced cost. Future research should include outreach to self-employed creatives and potential employers to explore reasons for this disparity as well as potential strategies the City could use to help creatives afford to live and work in Seattle.

Suggested research questions include:

- **Why are they self-employed? By preference or (perceived) necessity?**
- **Is creative work a "side hustle?" How much creative work augments or supplements other sources of income?**
- **Do creatives or their customers undervalue their services? Could they be paid more?**
- **Are creatives aware of available employment opportunities? Are employers aware of available talent?**

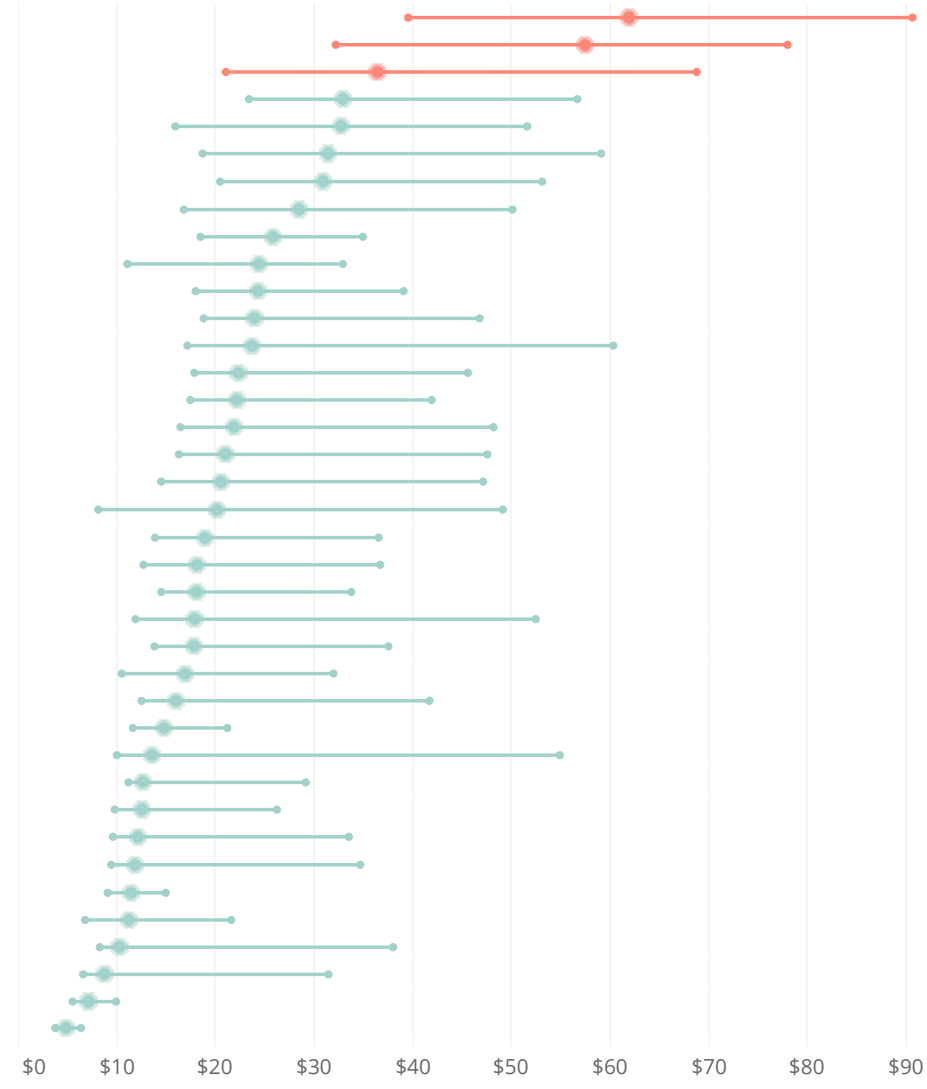
The following table contains earnings data for all individual creative occupations in *Computer* occupations and *Arts, Design, Entertainment and Media* occupations. Note that the metro comparisons include data for the Seattle-Tacoma-Bellevue metro, while the tables are specific to the city of Seattle.

Median Hourly Earnings of Computer and Arts, Design, Entertainment, and Media Occupations

Line ends signify 10th and 90th percentiles.

City of Seattle, 2017

Software Developers, Applications	$61.83
Computer Programmers	$57.37
Web Developers	$36.36
Technical Writers	$32.88
Media and Communication Equipment Workers, All Other	$32.65
Sound Engineering Technicians	$31.37
Public Relations Specialists	$30.80
Producers and Directors	$28.39
Film and Video Editors	$25.75
Radio Operators	$24.32
Camera Operators, Television, Video, and Motion Picture	$24.26
Fashion Designers	$23.89
Broadcast News Analysts	$23.62
Commercial and Industrial Designers	$22.27
Editors	$22.16
Choreographers	$21.78
Designers, All Other	$20.96
Media and Communication Workers, All Other	$20.49
Multimedia Artists and Animators	$20.07
Set and Exhibit Designers	$18.88
Audio and Video Equipment Technicians	$18.05
Interior Designers	$18.02
Radio and Television Announcers	$17.80
Graphic Designers	$17.74
Broadcast Technicians	$16.82
Reporters and Correspondents	$15.93
Entertainers and Performers, Sports and Related Workers, All Oth..	$14.75
Art Directors	$13.48
Dancers	$12.59
Writers and Authors	$12.48
Musicians and Singers	$12.05
Actors	$11.75
Photographers	$11.40
Floral Designers	$11.13
Music Directors and Composers	$10.21
Artists and Related Workers, All Other	$8.70
Fine Artists, Including Painters, Sculptors, and Illustrators	$7.06
Craft Artists	$4.78



Source: Emsi 2018.1

Arts, Design, Entertainment, and Media Computer

Demographics

Women and people of color are underrepresented in many creative occupations. The City of Seattle strives to center race and social justice in our work by identifying and correcting historical and current inequities. Race and gender disparities in the creative economy are well documented (Florida, 2016). People of color and women face barriers to entering creative occupations, including lack of awareness of creative professions and feeling less valued than their white or male colleagues. We also know that decreasing barriers and increasing diversity in the workforce drives more creative and profitable outcomes (Creative Vitality Suite, 2017). To begin to address disparities and barriers, we must first understand who currently participates in our creative occupations, locally.

People of Color in Creative Occupations

When we compare representation of people of color in creative occupations to their representation in the overall King County workforce, we find that people of color are underrepresented in most creative occupations. A few notable exceptions include Photographers, where American Indian or Alaska Native and Hispanic workers have above average representation, Musicians and Singers, where Black of African American workers have above average representation, and the three computer occupations, where Asian workers are highly represented. It should be noted that we were not able to disaggregate sub-groups within the Asian category, which did not allow us to capture the fact that some Asian communities are likely underrepresented in computer occupations.

Women in the Ten Largest Creative Occupations

Women are underrepresented in creative occupations, comprising 46% of the King County workforce, but only 35% of King County creative workers. There is a strong influence from Computer occupations, which employ a large number of workers and an exceptionally low number of women; only 18% of *Software Developers, Applications* are women. Arts, Design, Entertainment and Media occupations are a more mixed group.

The table following table displays the demographics of the top ten occupations in Seattle by number of jobs. These ten occupations account for two-thirds of all creative jobs in Seattle. The demographic percentages are based on King County, the smallest available geographic unit.

Percentage of Jobs Held by People of Color and Women

King County, 2017*

Description	2017 Jobs	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or Other Pacific Islander	Two or More Races	Women
Software Developers, Applications	15,728	0%	46%	1%	3%	0%	2%	18%
Photographers	5,664	3%	8%	0%	10%	0%	0%	40%
Graphic Designers	3,688	0%	14%	1%	5%	0%	2%	57%
Writers and Authors	3,683	0%	6%	2%	3%	0%	2%	62%
Computer Programmers	3,381	0%	28%	2%	3%	0%	2%	19%
Musicians and Singers	3,265	0%	6%	8%	8%	0%	2%	30%
Web Developers	2,647	0%	18%	2%	5%	0%	3%	28%
Marketing Managers	2,424	0%	11%	2%	5%	0%	2%	44%
Architects, Except Landscape and Naval	2,397	0%	13%	1%	5%	0%	2%	29%
Public Relations Specialists	2,207	0%	6%	3%	5%	0%	2%	64%

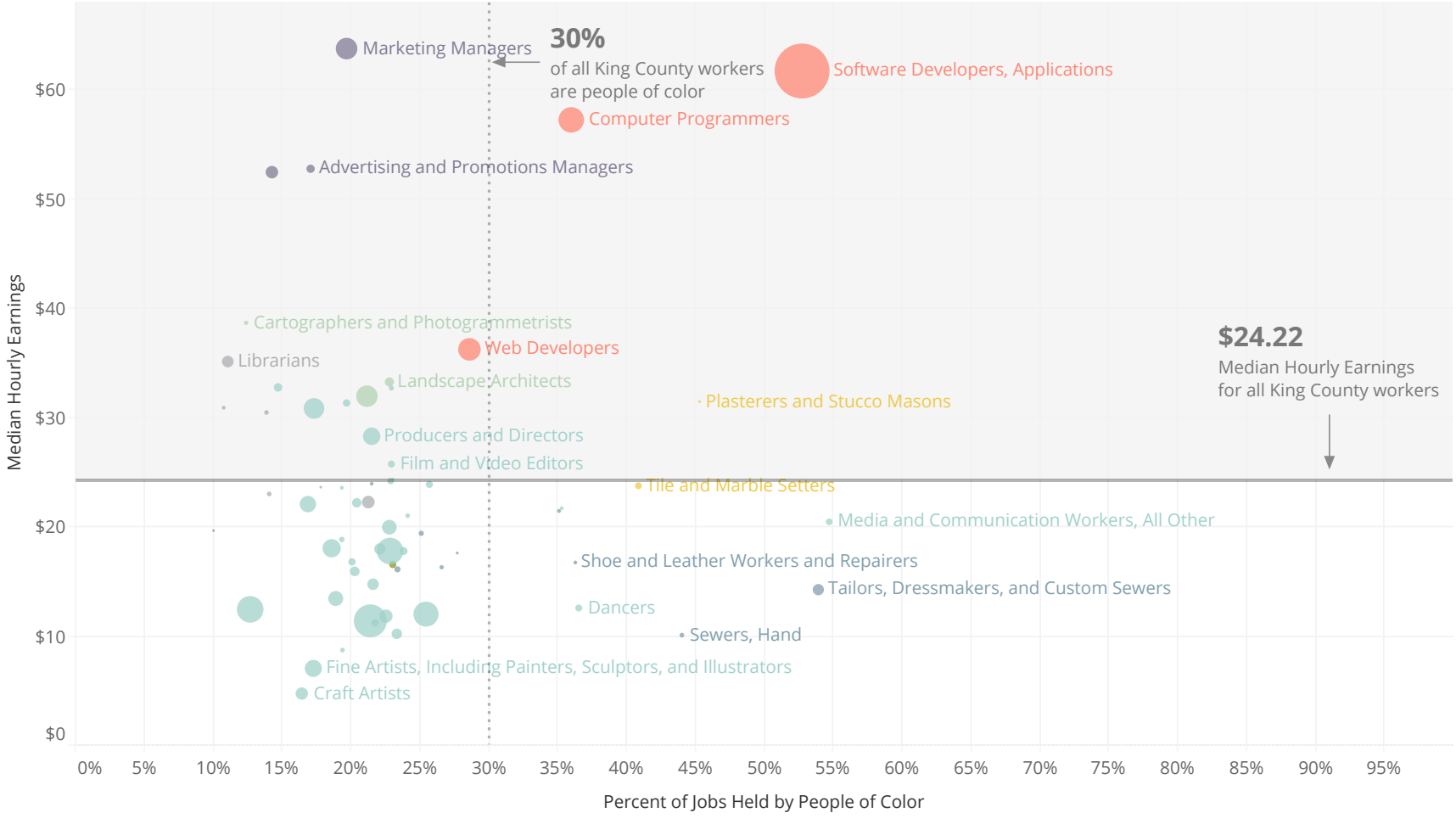
Source: Emsi 2018.1
*Demographic data are for King County. Earnings and job counts are for Seattle.

Blue: Higher than average representation in "All Occupations"
Red: Lower than average representation in "All Occupations"

This visualization shows the share of each creative occupation which is held by people of color and the median hourly earnings of each occupation. The size denotes the number of jobs in each occupation.

People of Color in Creative Occupations

King County, 2017*



Source: Emsi 2018.1
*Demographic data are for King County. Earnings and job counts are for Seattle.

Occupational Families

- Architecture and Engineering
- Arts, Design, Entertainment, and Media
- Business and Financial Operations
- Computer
- Construction and Extraction
- Education, Training, and Library
- Management
- Production

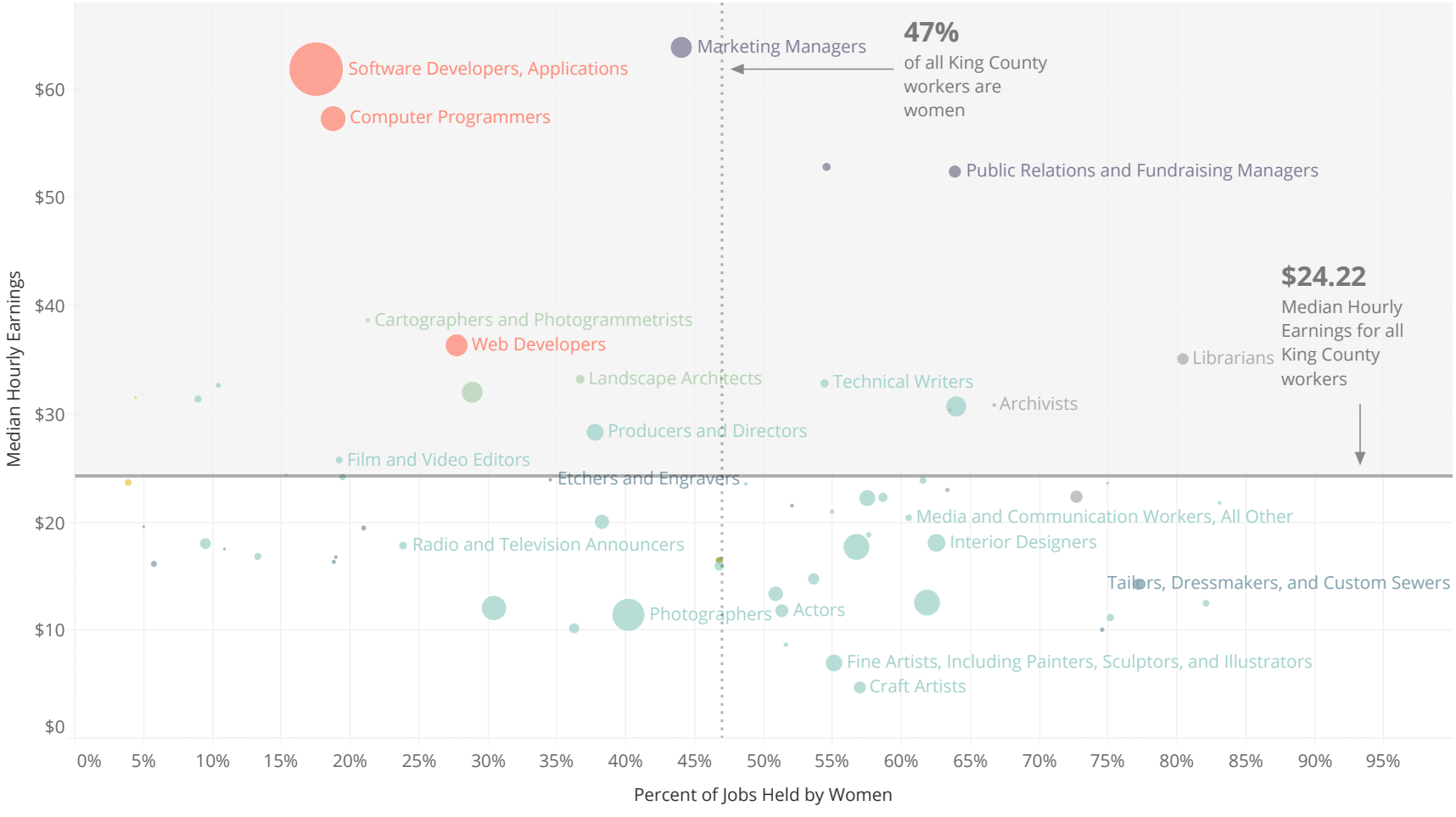
2017 Jobs

6
5,000
10,000
15,728

This visualization shows the share of each creative occupation which is held by women and the median hourly earnings of each occupation. The size denotes the number of jobs in each occupation.

Women in Creative Occupations

King County, 2017*



Source: Emsi 2018.1
*Demographic data are for King County. Earnings and job counts are for Seattle.

Occupational Families

- Architecture and Engineering
- Arts, Design, Entertainment, and Media
- Business and Financial Operations
- Computer
- Construction and Extraction
- Education, Training, and Library
- Management
- Production

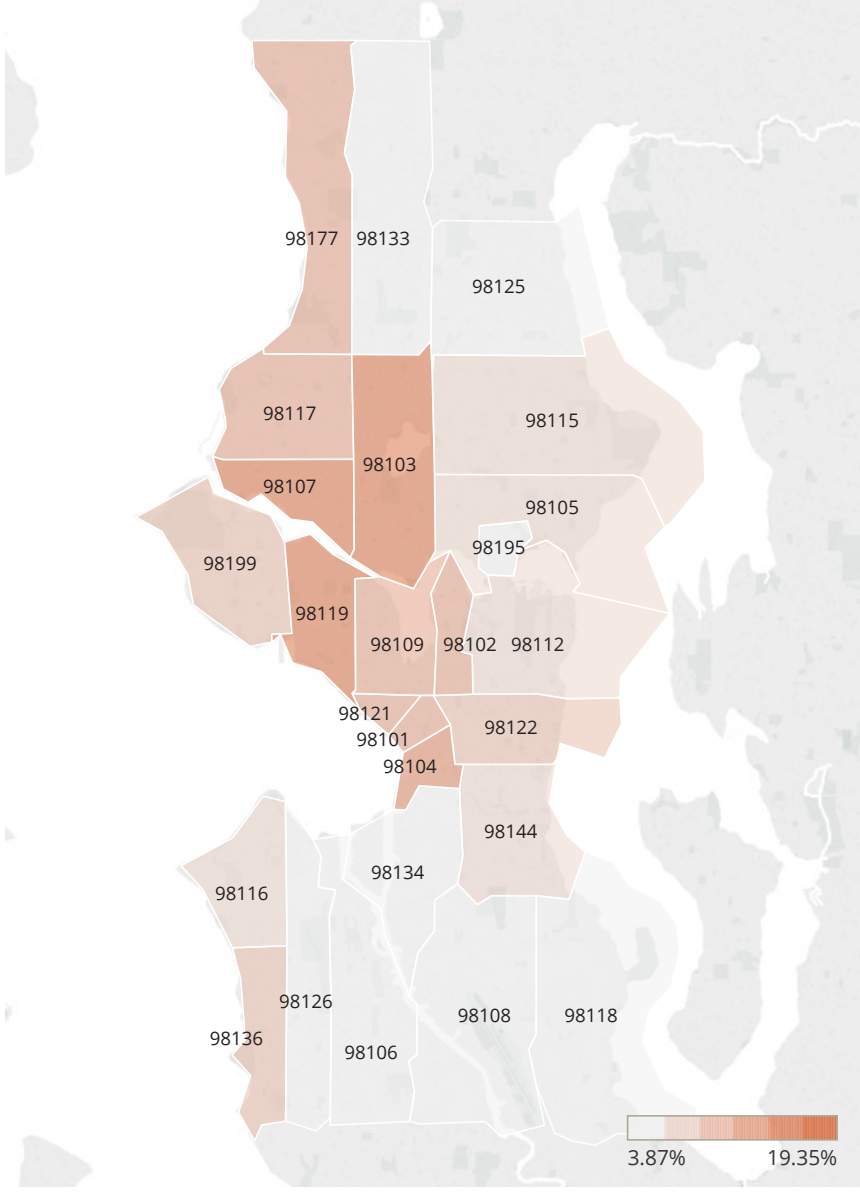
2017 Jobs

- 6
- 5,000
- 10,000
- 15,728

Creative jobs are concentrated in zip codes that include Downtown, South Lake Union, and Northeast Seattle. This map displays creative jobs as a percentage of all jobs in each zip code.

Creative Jobs as a Percentage of Total Zip Code Employment

City of Seattle, 2017



Source: Emsi 2018.1

ZIP	Creative Jobs as a Percentage of Total Zip Code Employment	2017 Creative Jobs	2017 Arts, Design, Entertainment, and Media Jobs	2017 Computer Jobs
98119	19.35%	4,946	2,117	2,327
98103	18.29%	6,094	2,181	3,256
98107	17.20%	3,221	2,453	387
98104	14.32%	7,379	3,190	3,017
98177	14.07%	524	421	45
98121	13.98%	5,396	2,603	2,104
98101	13.01%	11,569	5,160	4,384
98117	12.48%	939	731	92
98109	12.41%	5,998	3,057	1,913
98102	12.29%	1,681	1,039	427
98199	10.51%	990	666	121
98122	9.21%	2,466	1,753	404
98136	9.06%	341	246	52
98115	8.92%	1,342	849	332
98116	8.81%	745	521	117
98112	8.23%	826	585	123
98144	8.17%	1,246	885	153
98105	6.79%	1,774	1,080	467
98118	6.08%	660	486	65
98134	5.89%	2,177	1,270	395
98126	5.57%	380	304	31
98108	4.95%	1,767	1,027	375
98106	4.86%	408	247	64
98195	4.58%	1,653	583	476
98125	4.42%	647	400	99
98133	3.87%	1,001	622	173

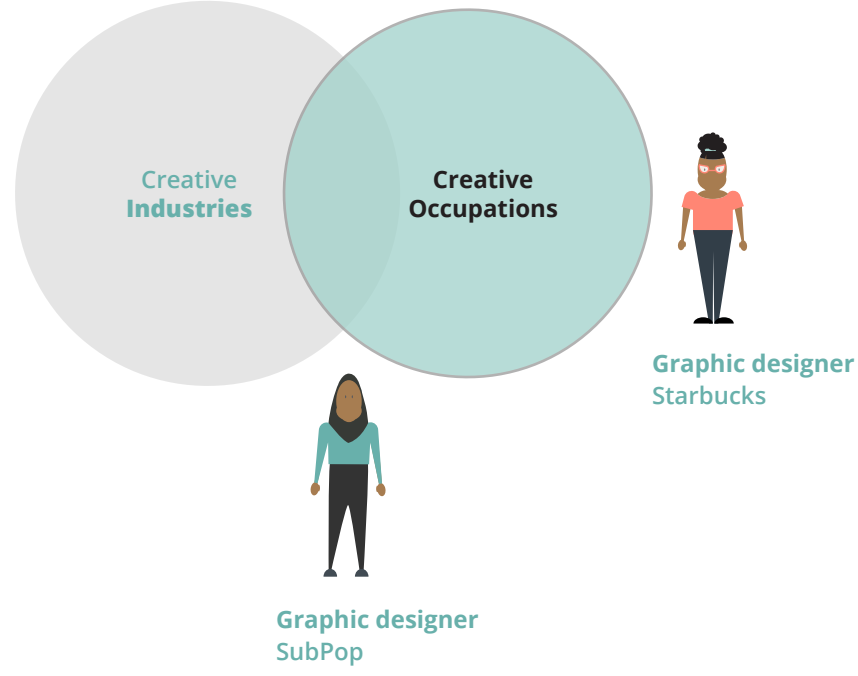
Industries Employing Creative Workers

Creative workers – those in creative occupations – may work in any industry, regardless of whether the industry is considered creative. Recall the previous figure that differentiates between non-creative occupations in creative industries (left side), creative occupations in non-creative industries (right side), and creative workers in creative industries (middle). The following section focuses on the middle and right side of the diagram and reveals which industries, regardless of their designation as creative, employ the largest number of creative workers.

Independent Artists, Writers, and Performers and *Software Publishers* are the two industries with the largest number of workers in creative occupations.[5] 84% of jobs in the *Independent Artists, Writers, and Performers* industry and 45% of jobs in the *Software Publishers* industry are in creative occupations.[6]

These numbers are heavily influenced by the Arts, Design, Entertainment, and Media and Computer occupations, the two largest occupational families, so it is worth disaggregating the two.

Breaking out Arts, Design, Entertainment and Media occupations reveals large numbers of those workers in the following industries: *All Other Professional, Scientific and Technical Services* (3,336), *Graphic Design Services* (2,148), *Interior Design Services* (1,289), and *Internet Publishing and Broadcasting* and *Web Search Portals* (1,273).



[5] *The title of this industry can be confusing. It is, in fact, an industry, not an occupation.*

[6] *The other 16% of workers in the* Independent Artists, Writers, and Performers *industry who are not in creative occupations are spread throughout a mix of other occupations, including* Managers, Laborers, Animal Trainers, Event Planners*, and more.*

Industries Employing Creative Workers

Top 10

City of Seattle, 2017

Industry	Jobs in Creative Occupations	% of Total Jobs in Industry
Independent Artists, Writers, and Performers	8,608	84.3%
Software Publishers	6,417	44.9%
Internet Publishing and Broadcasting and Web Search Portals	4,957	44.5%
All Other Professional, Scientific, and Technical Services	3,416	58.4%
Computer Systems Design Services	2,855	35.4%
Architectural Services	2,299	45.6%
Graphic Design Services	2,227	78.9%
Custom Computer Programming Services	2,144	36.0%
Electronic Shopping and Mail-Order Houses	2,117	9.8%
Colleges, Universities, and Professional Schools (State Government)	1,878	4.6%

Breaking out Arts, Design, Entertainment, and Media occupations reveals large numbers of those workers in the following industries:

- *Independent Artists, Writers, and Performers* (8,463)
- *All Other Professional, Scientific and Technical Services* (3,336)
- *Graphic Design Services* (2,148)
- *Interior Design Services* (1,289)
- *Internet Publishing and Broadcasting and Web Search Portals (1,273)*

Industries Employing Arts, Design, Entertainment, and Media Occupations

Top 10

City of Seattle, 2017

Industry	Jobs in Arts, Design, Entertainment, and Media Occupations	% of Total Jobs in Industry
Independent Artists, Writers, and Performers	8,463	83%
All Other Professional, Scientific, and Technical Services	3,336	57%
Graphic Design Services	2,148	76%
Interior Design Services	1,289	79%
Internet Publishing and Broadcasting and Web Search Portals	1,273	11%
Musical Groups and Artists	873	75%
Electronic Shopping and Mail-Order Houses	839	4%
Theater Companies and Dinner Theaters	828	48%
Photography Studios, Portrait	760	63%
Motion Picture and Video Production	709	70%

Source: Emsi 2018.1

A look at Computer occupations reveals large numbers of creative workers in the following industries:

- *Software Publishers* (5,629)
- *Internet Publishing and Broadcasting and Web Search Portals* (2,964)
- *Computer Systems Design* (2,639)
- *Custom Computer Programming Services* (1,979)
- *Electronic Shopping and Mail-Order Houses* (951)

Industries Employing Computer Workers

Top 10

City of Seattle, 2017

Industry	Jobs in Computer Occupations	% of Total Jobs in Industry
Software Publishers	5,629	39%
Internet Publishing and Broadcasting and Web Search Portals	2,964	27%
Computer Systems Design Services	2,639	33%
Custom Computer Programming Services	1,979	33%
Electronic Shopping and Mail-Order Houses	951	4%
Corporate, Subsidiary, and Regional Managing Offices	856	4%
Data Processing, Hosting, and Related Services	828	18%
Colleges, Universities, and Professional Schools (State Government)	536	1%
Other Computer Related Services	524	33%
Administrative Management and General Management Consulting Services	338	3%

Source: Emsi 2018.1

In-Demand Skills

Job seekers, policy makers, students, and educators need to know what it takes to get into creative jobs, and there is no better source of data than employers themselves. Using software to "read" job postings, we can see exactly what skills employers desire in their employees. Comparing the top technical and common skills in Arts, Design, Entertainment and Media and Computer occupations reveals that while the two job families have very different requirements for technical skills, they share requirements for many common skills. In fact, five out of the top ten most prevalent common skills listed in online job postings are the same.

The Creative Careers Interdepartmental Team (ARTS, Office of Economic Development and Office of Film and Music) is actively collaborating with schools, community organizations, and employers on programs that connect arts education and creative skill building with career exploration in creative fields. Not only is this a sound investment in workforce development, it is also driven by feedback from students themselves – they want more opportunities to make connections between arts, technology, and careers.

These collaborative efforts tie in with the work of Mayor Jenny Durkan's Future of Work subcabinet, made up of representatives from several City of Seattle departments tasked with anticipating workforce trends, preparing the next generation of workers and employers for new economic realities, and ensuring that the City as an employer is itself pursuing innovative solutions to cultivating a skilled workforce.

Arts, Design, Entertainment Media Occupations	% of Postings Listing Skill
Management	**34%**
Communications	**33%**
Writing	22%
Innovation	**18%**
Presentations	16%
Editing	16%
Research	14%
Leadership	**13%**
Sales	11%
Problem Solving	8%

Computer Occupations	% of Postings Listing Skill
Architecture	26%
Management	**26%**
Communications	**19%**
Innovation	**19%**
Computer Sciences	18%
Infrastructure	16%
Operations	14%
Problem Solving	13%
Leadership	**12%**
Integration	11%

Source: Emsi 2018.1

As a city, we should increase our efforts to **connect employers, educators, and young people** to co-design curriculum for learning and creative career exploration that aligns with industry demands.

The Creative Advantage, an initiative to restore access to the arts for all Seattle Public Schools students by 2020, provides structure for connecting what young people are learning in the classroom with the expertise and perspective of professionals in creative jobs. This connection gives young people a chance to make informed choices about potential career paths, while also giving creative employers a chance to influence curriculum so that students learn the most relevant content and strategies and are properly prepared to enter into creative occupations.

Tactics have included:

Career Days: half-day events that bring youth ages 16-24 together with working professionals in various creative disciplines.

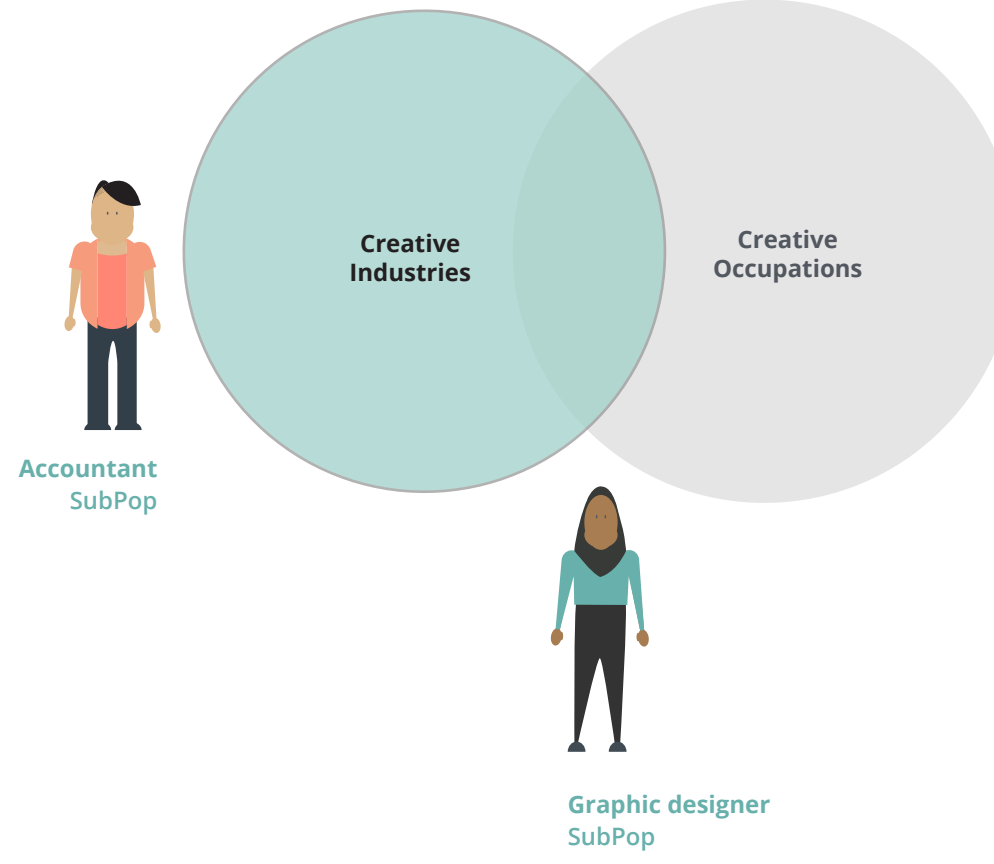
Media Arts Try-a-Trade event (Feb. 2018): brought Seattle high schoolers to Seattle Central College to learn from students in the Visual Media program at SCC's Creative Academy.

Media Arts Skills Center (launched June 2017): with support from the Paul Allen Foundation, and as a part of the Creative Advantage programming, Seattle Public Schools introduced a new skills center for high schoolers pursuing Career & Technical Education.

> I have **no clue** if media is a stable or reliable field to consider a career in. However, an internship in technology that relates to some sort of **graphic production** sounds interesting. I also am very interested in photography, which is something that I put a lot of effort into outside of school as well as in. I think **photography** would be my current first choice in a career path, but again, I'm not too certain on it's **reliability**.
>
> –High School Student
> (Nguyen-Akbar & Reyes, 2018)

The Economic Impact of Creative Industries

The remainder of the report shifts from creative occupations (what people do) to creative industries (what firms do) and uses a set of traditional economic measures to quantify their impact. Here we examine the contributions of firms in creative industries—those for which creativity is an essential input—to the local economy. It should be noted that this section necessarily includes contributions of all the various occupations needed to run a business, both creative and non-creative.



Gross Regional Product
Nearly 18% of Seattle's gross regional product comes from creative industries.
For comparison, creative industries account for only 4.4% of the U.S. gross domestic product.

Creative Industries' Contribution to Gross Regional Product

City of Seattle vs. U.S., 2017

Source: Emsi 2018.1

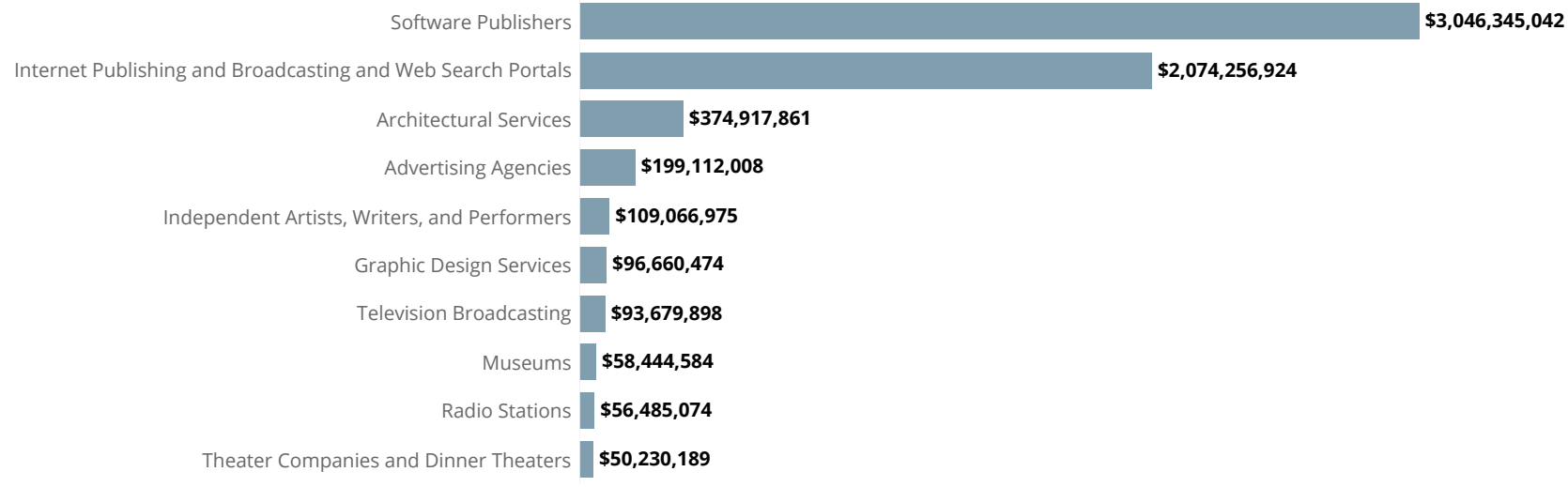
Creative Industries All Other Industries

Workers in Seattle's creative industries earned $6.75 billion in 2017, and since most of that money goes into the pockets of workers, much of it can be put back into the local economy. *Software Publishers* and *Internet Publishing and Broadcasting and Web Portals* contributed a combined $5.1 billion to local earnings. Other top contributing industries include *Architectural Services* ($375 million), *Advertising Agencies* ($199 million), and *Independent Artists, Writers and Performers* ($109 million).

Creative Industry Earnings

Top 10

City of Seattle, 2017



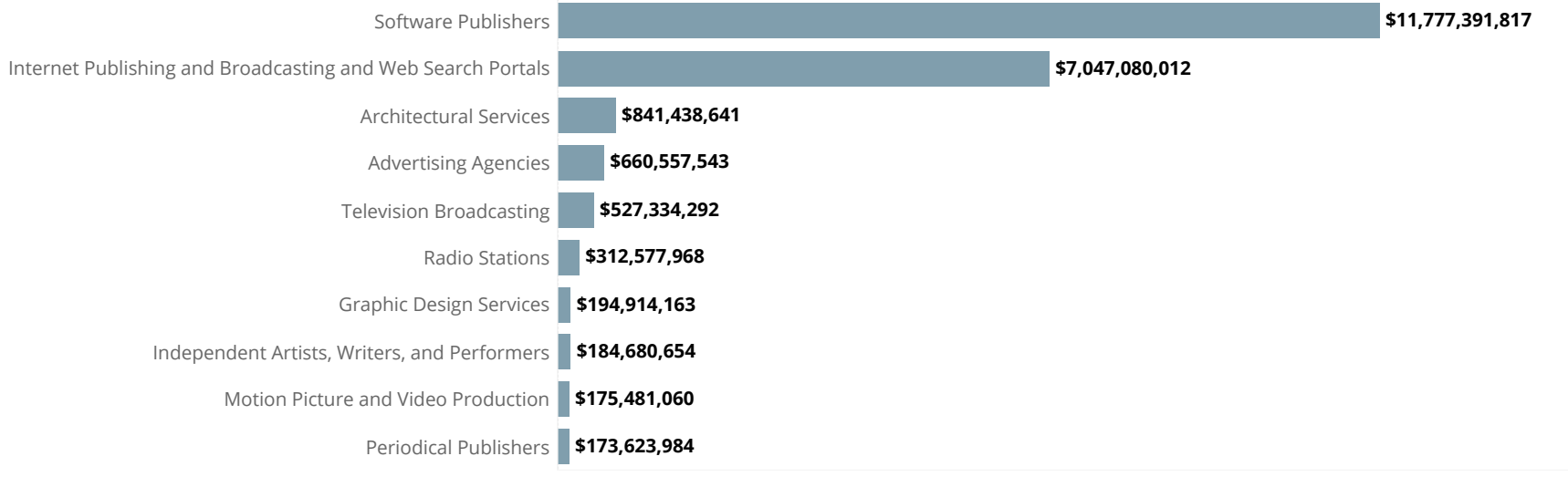
Source: Emsi 2018.1

Creative industries sold $24 billion worth of goods and services in 2017. 78% of those sales came from *Software Publishers* and *Internet Publishing and Broadcasting* and *Web Search Portals*.

Creative Industry Sales

Top 10

City of Seattle, 2017



Source: Emsi 2018.1

Industries that export their goods and services outside the city and those that bring outside money into the city through tourism are essential to economic growth. By selling software or jewelry to customers outside Seattle, export-oriented industries inject new dollars into the city's economy. Similarly, when tourists and visitors spend money at the Paramount or MoPOP, they add new dollars to our economy. In total, creative industries exported $18.7 billion in goods and services, or 78% of their total sales.

Export-Oriented Creative Industries

Top 10 by Percent of Total Sales Exported

City of Seattle, 2017

	Exported Sales	% of Total Sales
Software Publishers	$10,195,183,356	87%
Dance Companies	$41,061,554	86%
Internet Publishing and Broadcasting and Web Search Por..	$6,052,628,633	86%
Jewelry and Silverware Manufacturing	$10,695,261	85%
Architectural Services	$689,932,045	82%
Theater Companies and Dinner Theaters	$133,380,364	79%
Museums	$124,206,038	79%
Zoos and Botanical Gardens	$41,358,188	77%
Industrial Design Services	$64,252,983	76%
Musical Instrument Manufacturing	$7,968,573	72%

Source: Emsi 2018.1

Three Jobs for the Price of One: The Multiplier Effect

Every time Seattle adds a new creative industry job, two additional jobs are added to the local economy. This is known as the multiplier effect. Money spent and jobs created in one sector create demand for additional goods and services, and therefore jobs, in other areas of the economy. There are three levels of this ripple effect captured in the multiplier after the initial job is counted. Below is a simplified explanation of what the multiplier measures. Multipliers can also be calculated for earnings and sales.

Direct	Primary industries purchase from secondary industries.
Indirect	Secondary industries purchase from tertiary industries.
Induced	Workers spend their paychecks in the local economy, businesses grow and make new investments, government spends to support the growth.

For example, the *Motion Picture and Video Production* industry in Seattle spent nearly $1 million to purchase goods and services from the *Teleproduction and Other Postproduction* industry in 2016, and nearly 100% of those purchases were made in Seattle (direct effect). The *Teleproduction and Other Postproduction* industry spent money in other industries, such as *Lawyers, Advertising Agencies, Motion Picture Theaters*, and *Television Broadcasting* (indirect).

	3.16	1.74	1.67
	Jobs Multiplier	Earnings Multiplier	Sales Multiplier
Multiplier Type	**Jobs**	**Earnings**	**Sales**
Initial	1.00	1.00	1.00
Direct	0.67	0.30	0.24
Indirect	0.27	0.09	0.07
Induced	1.22	0.35	0.35

Creative Industries with the Highest Jobs Multipliers
City of Seattle

NAICS	Description	2017 Jobs Multiplier[7]
515210	Cable and Other Subscription Programming	3.90
511210	Software Publishers	3.31
519130	Internet Publishing and Broadcasting and Web Search Portals	3.02
515120	Television Broadcasting	2.65
515111	Radio Networks	2.37
423410	Photographic Equipment and Supplies Merchant Wholesalers	2.31
515112	Radio Stations	2.27
711120	Dance Companies	2.14
512250	Record Production and Distribution	2.01
541810	Advertising Agencies	2.00

[7] *The jobs multiplier includes the initial job plus the additional jobs created. A multiplier of 3 includes the initial job plus two additional jobs created in the local economy.*

Appendix

Appendix 1

Creative Occupations
and Selected Statistics

SOC	Description	2012 Jobs	2017 Jobs	2017 Location Quotient	Median Hourly Earnings
11-2011	Advertising and Promotions Managers	306	362	2.20	$52.86
11-2021	Marketing Managers	1,945	2,424	2.24	$63.83
11-2031	Public Relations and Fundraising Managers	698	818	3.11	$52.49
13-1011	Agents and Business Managers of Artists, Performers, and Athletes	275	266	1.34	$16.49
15-1131	Computer Programmers	3,008	3,381	2.61	$57.37
15-1132	Software Developers, Applications	11,458	15,728	4.65	$61.83
15-1134	Web Developers	1,868	2,647	2.61	$36.36
17-1011	Architects, Except Landscape and Naval	1,910	2,397	3.52	$31.98
17-1012	Landscape Architects	350	429	3.39	$33.29
17-1021	Cartographers and Photogrammetrists	76	98	1.53	$38.65
25-4011	Archivists	48	75	2.30	$30.91
25-4012	Curators	85	111	2.14	$30.41
25-4013	Museum Technicians and Conservators	91	113	2.26	$22.98
25-4021	Librarians	565	711	1.44	$35.18
25-4031	Library Technicians	637	835	1.80	$22.27
25-9011	Audio-Visual and Multimedia Collections Specialists	13	14	0.35	$23.61
27-1011	Art Directors	962	1,175	1.84	$13.48
27-1012	Craft Artists	667	800	1.69	$4.78
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	1,276	1,526	1.73	$7.06
27-1014	Multimedia Artists and Animators	908	1,139	2.63	$20.07

Occupational Families

- Architecture and Engineering
- Arts, Design, Entertainment, and Media
- Business and Financial Operations
- Computer
- Construction and Extraction
- Education, Training, and Library
- Management
- Production

Appendix 1 cont'd.

Creative Occupations
and Selected Statistics

SOC	Description	2012 Jobs	2017 Jobs	2017 Location Quotient	Median Hourly Earnings
27-1019	Artists and Related Workers, All Other	94	115	1.11	$8.70
27-1021	Commercial and Industrial Designers	390	467	1.65	$22.27
27-1022	Fashion Designers	219	263	1.89	$23.89
27-1023	Floral Designers	284	296	0.92	$11.13
27-1024	Graphic Designers	3,082	3,688	2.09	$17.74
27-1025	Interior Designers	1,477	1,732	2.82	$18.02
27-1027	Set and Exhibit Designers	137	159	1.78	$18.88
27-1029	Designers, All Other	91	108	1.75	$20.96
27-2011	Actors	704	928	1.66	$11.75
27-2012	Producers and Directors	1,397	1,577	2.46	$28.39
27-2031	Dancers	239	245	2.12	$12.59
27-2032	Choreographers	68	73	1.87	$21.78
27-2041	Music Directors and Composers	504	567	1.17	$10.21
27-2042	Musicians and Singers	2,806	3,265	1.59	$12.05
27-2099	Entertainers and Performers, Sports and Related Workers, All Other	622	701	1.39	$14.75
27-3011	Radio and Television Announcers	343	338	1.92	$17.80
27-3021	Broadcast News Analysts	82	81	2.12	$23.62
27-3022	Reporters and Correspondents	451	499	1.86	$15.93
27-3031	Public Relations Specialists	1,908	2,207	2.01	$30.80
27-3041	Editors	1,138	1,400	1.56	$22.16
27-3042	Technical Writers	321	378	1.42	$32.88
27-3043	Writers and Authors	2,912	3,683	1.84	$12.48
27-3099	Media and Communication Workers, All Other	197	227	1.36	$20.49
27-4011	Audio and Video Equipment Technicians	551	670	1.59	$18.05
27-4012	Broadcast Technicians	284	282	2.00	$16.82

Occupational Families

- Architecture and Engineering
- Arts, Design, Entertainment, and Media
- Business and Financial Operations
- Computer
- Construction and Extraction
- Education, Training, and Library
- Management
- Production

Appendix 1 cont'd.

Creative Occupations
and Selected Statistics

SOC	Description	2012 Jobs	2017 Jobs	2017 Location Quotient	Median Hourly Earnings
27-4013	Radio Operators	<10	<10	1.60	Insf. Data
27-4014	Sound Engineering Technicians	237	282	2.61	$31.37
27-4021	Photographers	4,732	5,664	1.49	$11.40
27-4031	Camera Operators, Television, Video, and Motion Picture	207	227	1.47	$24.26
27-4032	Film and Video Editors	205	255	1.18	$25.75
27-4099	Media and Communication Equipment Workers, All Other	122	138	1.47	$32.65
47-2044	Tile and Marble Setters	186	249	0.76	$23.69
47-2161	Plasterers and Stucco Masons	33	38	0.30	$31.51
51-6041	Shoe and Leather Workers and Repairers	90	76	0.83	$16.82
51-6051	Sewers, Hand	128	112	1.20	$10.02
51-6052	Tailors, Dressmakers, and Custom Sewers	626	662	1.38	$14.33
51-7011	Cabinetmakers and Bench Carpenters	177	195	0.42	$16.20
51-7021	Furniture Finishers	99	96	0.86	$16.34
51-7031	Model Makers, Wood	<10	<10	0.87	Insf. Data
51-9051	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	38	44	0.58	$17.61
51-9151	Photographic Process Workers and Processing Machine Operators	82	81	0.78	$21.55
51-9194	Etchers and Engravers	49	72	1.29	$23.94
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	151	145	0.68	$19.42

Occupational Families

- Architecture and Engineering
- Arts, Design, Entertainment, and Media
- Business and Financial Operations
- Computer
- Construction and Extraction
- Education, Training, and Library
- Management
- Production

Appendix 2
Creative Industries and Selected Statistics

NAICS	Description	2012 Jobs	2017 Jobs	2017 Jobs Multiplier
332323	Ornamental and Architectural Metal Work Manufacturing	112	99	1.58
334614	Software and Other Prerecorded Compact Disc, Tape, and Record Reproducing	19	16	1.15
337212	Custom Architectural Woodwork and Millwork Manufacturing	12	<10	1.43
339910	Jewelry and Silverware Manufacturing	106	100	1.18
339992	Musical Instrument Manufacturing	76	110	1.23
423410	Photographic Equipment and Supplies Merchant Wholesalers	59	23	2.31
424920	Book, Periodical, and Newspaper Merchant Wholesalers	133	105	1.46
451140	Musical Instrument and Supplies Stores	133	137	1.29
451211	Book Stores	678	614	1.29
453920	Art Dealers	555	575	1.21
511110	Newspaper Publishers	1,176	929	1.42
511120	Periodical Publishers	730	713	1.69
511130	Book Publishers	650	544	1.52
511191	Greeting Card Publishers	54	56	1.38
511199	All Other Publishers	66	72	1.52
511210	Software Publishers	12,520	14,295	3.31
512110	Motion Picture and Video Production	959	1,010	1.54
512120	Motion Picture and Video Distribution	42	13	1.50
512131	Motion Picture Theaters (except Drive-Ins)	337	419	1.28
512132	Drive-In Motion Picture Theaters	<10	<10	1.31
512191	Teleproduction and Other Postproduction Services	81	167	1.66
512199	Other Motion Picture and Video Industries	15	27	1.43
512230	Music Publishers	29	61	1.55
512240	Sound Recording Studios	201	194	1.54
512250	Record Production and Distribution	115	131	2.01
512290	Other Sound Recording Industries	12	15	1.47
515111	Radio Networks	408	338	2.37

NAICS	Description	2012 Jobs	2017 Jobs	2017 Jobs Multiplier
515112	Radio Stations	781	769	2.27
515120	Television Broadcasting	1,036	1,009	2.65
515210	Cable and Other Subscription Programming	109	54	3.90
519110	News Syndicates	171	96	1.38
519120	Libraries and Archives	227	132	1.30
519130	Internet Publishing and Broadcasting and Web Search Portals	5,132	11,150	3.02
532282	Video Tape and Disc Rental	257	74	1.44
541310	Architectural Services	4,175	5,037	1.69
541320	Landscape Architectural Services	472	559	1.48
541410	Interior Design Services	1,268	1,640	1.18
541420	Industrial Design Services	374	491	1.59
541430	Graphic Design Services	2,557	2,824	1.23
541490	Other Specialized Design Services	241	219	1.18
541810	Advertising Agencies	2,535	2,524	2.00
541921	Photography Studios, Portrait	971	1,214	1.17
541922	Commercial Photography	780	921	1.17
611610	Fine Arts Schools	1,057	1,571	1.10
711110	Theater Companies and Dinner Theaters	1,402	1,741	1.92
711120	Dance Companies	363	397	2.14
711130	Musical Groups and Artists	891	1,164	1.91
711190	Other Performing Arts Companies	0	0	0.00
711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities	1,084	1,867	1.62
711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities	503	522	1.94
711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	378	417	1.77
711510	Independent Artists, Writers, and Performers	8,748	10,212	1.09
712110	Museums	1,303	1,496	1.42
712120	Historical Sites	<10	<10	1.34
712130	Zoos and Botanical Gardens	424	412	1.52

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