

2020 Colorado Creative Economy Report

with Initial Impacts of the COVID-19 Crisis



Margaret Hunt

Director, Colorado Creative Industries

Prepared by:

Dr. Michael Seman

Colorado State University
LEAP Institute for the Arts
Regional Economic Development Institute



Table of Contents

Executive Summary.....	ii
Introduction.....	1
Creative Industries Employment	1
Regional Trends and Growth	2
Creative Occupations Employment	7
Creative Industries Revenue.....	8
Conclusion	10
Initial Impacts of the COVID-19 Crisis	11
Background	11
Impacts	11
Conclusion.....	12
Acknowledgements.....	14
Appendix: Methodology.....	15
References	21

Executive Summary

Colorado's creative economy is robust and growing. This report examines the scale, scope, and growth of the creative economy statewide offering details regarding employment trends and sales revenue over a nine-year period from 2010 to 2019. Some key data points and observations include the following:

Employment

- Colorado's creative industries support 191,248 jobs and there are 172,884 employed in creative occupations across multiple industries throughout the state. Employment in Colorado's creative industries grew by 25% between 2010 and 2019 with an addition of 38,118 jobs. Employment in creative occupations grew by 25% in the same time period with an addition of 34,485 jobs.
- All three major regions within the state, the Front Range, Western Slope, and Eastern Plains, experienced employment growth in the creative industries between 2010 and 2019.
- Colorado's top five clusters of creative industries by employment in 2019 include Music, Theater, Dance, and Visual Arts (64,961 jobs), Culinary Arts (22,779), Design and Advertising (22,352 jobs), Creative Technology (20,260 jobs), and Architecture and Living Spaces (19,552 jobs).
- Colorado's top five clusters of creative industries with the greatest growth in employment from 2010 to 2019 include Culinary Arts (75%), Music, Theater, Dance, and Visual Arts (35%), Creative Technology (35%), Culture and Heritage (35%), and Architecture and Living Spaces (31%).

Revenue

- Colorado's creative industries produced \$31.6 billion in sales of goods and services (sales revenue) in 2019 which represents 4% of all goods and services sold within the state.
- Colorado's top 3 clusters of creative industries by sales of goods and services (sales revenue) in 2019 include Creative Technology (\$8.1 billion), Culinary Arts (\$6.7 billion), and Film, Television, and Radio (\$4.8 billion).
- All three major regions of the state benefitted financially from creative industries activity with regional sales revenue surpassing the billion-dollar mark in two of the regions: Front Range (\$29.6 billion), Western Slope (\$1.7 billion), Eastern Plains (\$336 million).

Initial Impacts of the COVID-19 Crisis

- Colorado's creative industries will lose an estimated 59,588 jobs and \$2.6 billion in sales revenue between April and July 2020 due to the COVID-19 crisis. This four-month period

of estimated losses will contract the region's creative economy by 31% in terms of employment and 8% in annual sales revenue.

- The Music, Theater, Dance, and Visual Arts industry cluster is responsible for the majority of losses due to the COVID-19 crisis. The cluster is estimated to lose 31,781 jobs and \$823 million in sales revenue between April and July. This represents just over half of all estimated jobs lost and 31% of all estimated sales revenue lost in the state's creative industries during the time period.

Introduction

Colorado and creativity go hand-in-hand. The arts are at the core of this relationship. Colorado ranks in the top ten of all states regarding the number of people performing and creating art; it leads all other states for the number of people attending performing arts events.¹ But creativity in Colorado extends beyond what is traditionally considered as the creation and consumption of the arts. There are brewmasters exploring uncharted culinary territory while experimenting with ingredients in craft beverages; artists welding ultralight materials into bike frames for riders competing at the highest professional levels; architects digitally drafting cutting-edge designs for environmentally sustainable housing.

Creativity in Colorado cuts across artistic disciplines and industries to form a broader, “creative economy.” This economy stretches from the musicians, artists, dancers, filmmakers, and others who create the paintings, films, and performances we enjoy to the designers, chefs, curators, teachers, and more who work both in the arts and in other industries such as education, outdoor recreation, technology, and aerospace. The creative economy in Colorado is vast and this report is designed to offer a brief look into its scale and scope. What follows provides a baseline for the state’s creative economy in terms of employment and revenue while highlighting trends which offer insight into its comparative health statewide. The initial effects of the COVID-19 crisis are also addressed with suggestions for how to mitigate them and move forward.

Creative Industries Employment

Employment in Colorado’s creative industries includes everyone employed in the firms and establishments within the industries whether they are in creative occupations or not, e.g., the receptionist, the in-house graphic designer, and the promoter at a concert promotions company. Additionally, the graphic designer who is self-employed with her own practice is also captured as is the graphic designer who freelances part-time.

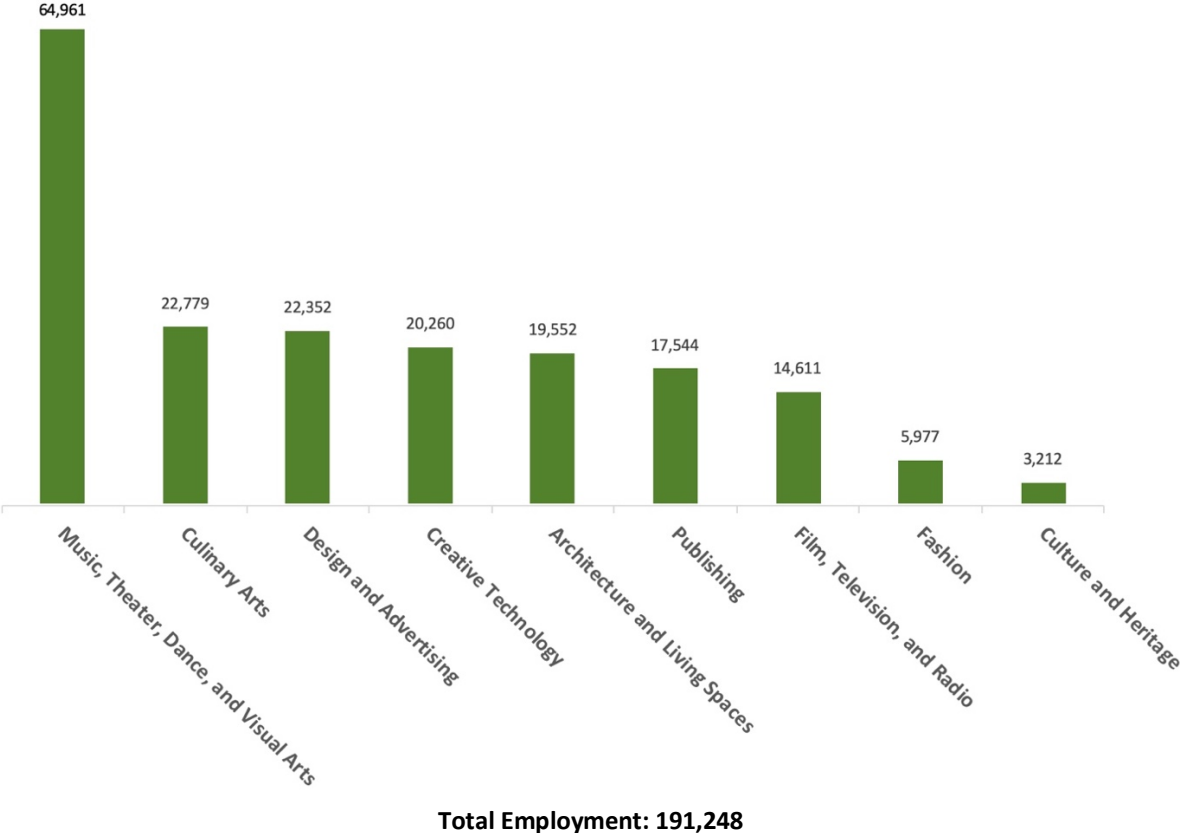
Colorado’s creative industries supported 191,248 jobs in 2019 – a figure representing 5% of the state’s overall jobs that year. When grouped into nine industry clusters, underlying employment dynamics of the state’s creative industries are highlighted (Figure 2). The Music, Theater, Dance, and Visual Arts cluster is by far the largest in terms of employment representing 34% of overall creative industries employment and almost 65,000 jobs dedicated to the creation, management, and promotion of art, music, theater, dance, and other fine and performing arts.¹ The size of this cluster is unsurprising given the robust health of the state’s music industry alone.²

The next four clusters, Culinary Arts, Design and Advertising, Creative Technology, and Architecture and Living Spaces are relatively close in job totals, falling within a range of 19,000 to 23,000 jobs, representing 44% of total employment. These four clusters engage in a wide range

ⁱ Please see the appendix for a full description of how the creative economy is defined.

of creative activities from developing online content and graphic design to furniture making and distilling spirits. The media are strongly represented in the Publishing and Film, Television, and Radio clusters which are still in the process of adapting to a new digital landscape. Despite the challenges faced by many industries within these clusters, they still offer job totals of 17,544 and 14,611 respectively and when combined, are 17% of total overall employment. The last two clusters, Fashion and Culture and Heritage have substantially lower employment totals, yet contain important components of the state’s creative economy like museums, libraries, and the infrastructure for the fashion industry which includes apparel design and manufacturing.

Figure 1. Employment in Colorado’s Creative Industries by Industry Cluster: 2019

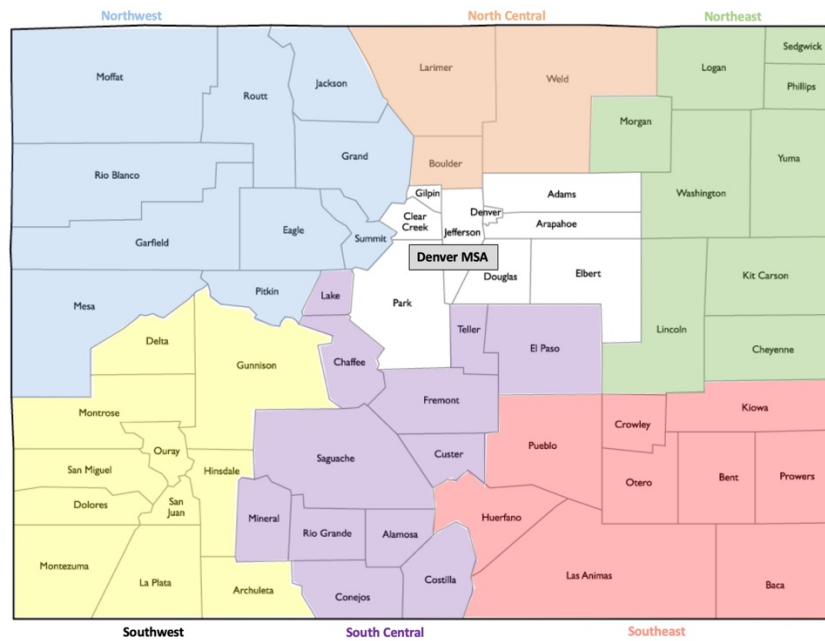


Source: EMSI (via Denver Arts & Venues and Denver Economic Development & Opportunity)

Regional Trends and Growth

Colorado is a state with distinct geographic regions and an assessment of the creative economy within the state should recognize these regions. This report uses a slightly modified version of the Colorado Creative Industries-defined tourism regions as a way to highlight regional differences and offer insight into relative strengths and weaknesses of the creative economy statewide (Figure 1). The “Denver MSA” region was modified to resemble the “Denver-Aurora-Lakewood, CO Metropolitan Statistical Area” as defined by the United States Office of Management and Budget.

Figure 2. The Seven Regions of Colorado Used for Analysis



Source: Colorado Creative Industries, U.S. Office of Management and Budget.

Colorado embraces both its urban and rural regions. The state’s creative industries are no different. From 2010 to 2019, all regions of the state – urban and rural – experienced employment growth in the creative industries adding 38,118 jobs for a growth of 25% statewide (Table 1). Only two regions, the Southeast and Northeast did not register growth in the double digits, however this growth given their comparatively sparse populations is still impressive.

Table 1. Employment Growth in Colorado’s Creative Industries by Region: 2010 - 2019

Region	2010 Jobs	2019 Jobs	2010 - 2019 Change	Percentage Change
Front Range				
Denver MSA	81,646	107,324	25,678	31%
North Central	34,982	41,755	6,773	19%
South Central	17,414	19,919	2,505	14%
Western Slope				
Northwest	10,414	12,523	2,109	20%
Southwest	4,970	5,932	962	19%
Eastern Plains				
Southeast	2,953	3,038	85	3%
Northeast	751	757	6	1%
Statewide				
Colorado	153,130	191,248	38,118	25%

Source: EMSI (via Denver Arts & Venues and Denver Economic Development & Opportunity)

Examining the growth by industry cluster helps tell a richer story concerning trends statewide (Table 2). The Culinary Arts cluster outstripped the growth of all others between 2010 and 2019. This growth is largely due to Colorado being a leader nationwide in craft brewing with new breweries coming online and established ones expanding during the time period examined. Craft breweries are innovating and producing creative products, but it is important to note they also employ other people within the creative economy to help design, brand, and market their products, serve as sponsors for local and regional live music events, and often function as community gathering spaces fostering further development of the creative economy.³ The additional impacts a craft brewery can offer a creative economy in a rural region cannot be overstated. Colorado’s Culinary Arts cluster is also benefitting from the emergence of distilleries, wineries, a strong food truck culture, and continued development of the culinary scene writ large in both urban and rural regions.

Table 2. Employment Growth in Colorado’s Creative Industries by Cluster: 2010 - 2019

Industry Cluster	2010 Jobs	2019 Jobs	2010 - 2019 Change	Percentage Change
Culinary Arts	13,008	22,779	9,771	75%
Music, Theater, Dance, and Visual Arts	48,080	64,961	16,881	35%
Creative Technology	15,059	20,260	5,201	35%
Culture and Heritage	2,388	3,212	824	35%
Architecture and Living Spaces	14,612	19,552	4,940	31%
Design and Advertising	18,447	22,352	3,905	21%
Film, Television, and Radio	12,504	14,611	2,107	17%
Fashion	5,299	5,977	678	13%
Publishing	23,733	17,544	-6,189	-26%
Totals	153,130	191,248	38,118	25%

Source: EMSI (via Denver Arts & Venues and Denver Economic Development & Opportunity)

Colorado’s status as a nationwide leader in the production and consumption of the arts is evident in the solid employment growth in the Music, Theater, Dance, and Visual Arts cluster. The state’s robust music industry is driving this cluster with a strong focus on live music events attracting residents and tourists alike.⁴ The Creative Technology cluster also performed well between 2010 and 2019 adding just over 5,200 jobs supporting the development of software and online platforms related to gaming, social media, sports, news, and lifestyle content.

Double-digit employment growth in the clusters, Culture and Heritage, Architecture and Living Spaces, and Design and Advertising speaks to their relative strengths throughout the state. Conversely, the comparatively low employment growth rate of the Film, Television, and Radio cluster may reflect challenges the filmmaking industry within Colorado has faced in the same

time period. Colorado's struggles with attracting and retaining film and television productions are well-documented. Some suggest the root of the problem is the fierce nationwide competition for productions combined with the lucrative incentive programs offered by other states to attract this activity.⁵

Like the Film, Television, and Radio cluster, the Fashion cluster is also one that lags behind in employment growth, in this case, substantially. This presents an opportunity as the state has a robust and growing outdoor recreation industry (which includes the design and production of associated apparel) and Denver Fashion Week continues its ascent onto the national fashion scene.⁶ The only cluster that contracted between 2010 and 2019 is Publishing which lost 6,189 jobs. This is a result of traditional forms of media like newspapers and magazines losing readership and advertising revenue to an ever-increasing array of online options.

Examining industry cluster employment by region highlights the fact that people creating and facilitating the fine and performing arts can be found in significant numbers across the entire state (Table 3). The Music, Theater, Dance, and Visual Arts cluster represents the most jobs in every region. The Culinary Arts cluster is the second strongest in terms of employment in five out of the seven regions of Colorado while the Publishing and Creative Technology clusters rank highly in varying regions.

Table 3. Employment in Colorado’s Creative Industry by Region and Cluster: 2019

Region	Jobs	Region	Jobs	Region	Jobs
Colorado		Denver MSA		North Central	
Music, Theater, Dance, and Visual Arts	64,961	Music, Theater, Dance, and Visual Arts	33,776	Music, Theater, Dance, and Visual Arts	14,459
Culinary Arts	22,779	Design and Advertising	14,072	Culinary Arts	6,318
Design and Advertising	22,352	Architecture and Living Spaces	11,965	Creative Technology	5,612
Creative Technology	20,260	Creative Technology	11,951	Design and Advertising	4,494
Architecture and Living Spaces	19,552	Culinary Arts	10,966	Publishing	4,182
Publishing	17,544	Film, Television, and Radio	10,252	Architecture and Living Spaces	3,658
Film, Television, and Radio	14,611	Publishing	8,925	Film, Television, and Radio	1,564
Fashion	5,977	Fashion	3,028	Fashion	1,402
Culture and Heritage	3,212	Culture and Heritage	2,389	Culture and Heritage	66
Total	191,248	Total	107,324	Total	41,755
South Central		Northwest		Southwest	
Music, Theater, Dance, and Visual Arts	7,786	Music, Theater, Dance, and Visual Arts	4,976	Music, Theater, Dance, and Visual Arts	2,640
Publishing	2,197	Culinary Arts	2,071	Culinary Arts	1,036
Creative Technology	2,189	Architecture and Living Spaces	1,591	Publishing	643
Design and Advertising	1,835	Design and Advertising	1,166	Design and Advertising	539
Architecture and Living Spaces	1,716	Publishing	1,003	Architecture and Living Spaces	306
Culinary Arts	1,697	Film, Television, and Radio	729	Film, Television, and Radio	305
Film, Television, and Radio	1,435	Fashion	490	Fashion	283
Fashion	610	Creative Technology	310	Creative Technology	150
Culture and Heritage	454	Culture and Heritage	187	Culture and Heritage	30
Total	19,919	Total	12,523	Total	5,932
Southeast		Northeast			
Music, Theater, Dance, and Visual Arts	1,088	Music, Theater, Dance, and Visual Arts	236		
Culinary Arts	590	Culinary Arts	101		
Publishing	478	Publishing	116		
Architecture and Living Spaces	250	Film, Television, and Radio	99		
Film, Television, and Radio	227	Design and Advertising	77		
Design and Advertising	169	Architecture and Living Spaces	66		
Fashion	117	Fashion	47		
Culture and Heritage	81	Creative Technology	10		
Creative Technology	38	Culture and Heritage	5		
Total	3,038	Total	757		

Source: EMSI (via Denver Arts & Venues and Denver Economic Development & Opportunity)

Creative Occupations Employment

When focusing only on the core creative occupations that propel the state’s creative economy – e.g., a graphic designer – the employment numbers are slightly lower, yet still substantial with 172,884 jobs in creative occupations across multiple industries within Colorado. This number captures the graphic designer who works in a creative industry, the graphic designer who works in another industry like aerospace or insurance, the graphic designer who is self-employed, and the graphic designer freelancing part-time. The 25% growth in jobs for all creative occupations statewide between 2010 and 2019 mirrors that of the creative industries throughout Colorado in the same time period (Table 4).

Table 4. Employment Growth in Colorado’s Creative Economy by Occupation and Industry : 2010 - 2019

	2010 Jobs	2019 Jobs	2010 – 2019 Change	Percentage Change
Employment: Creative Occupations	138,399	172,884	34,485	25%
Employment: Creative Industries	153,130	191,248	38,118	25%

Source: EMSI (via Denver Arts & Venues and Denver Economic Development & Opportunity), U.S. Bureau of Labor Statistics

Examining the top ten creative occupations in Colorado offers more insight into the dynamics of its creative economy. The list is dominated by occupations that engage with the fine and performing arts including photographers, writers, sculptors, musicians, and others. Graphic designers, marketing managers, and those who work in public relations are also represented. Finally, the rapid growth in population and the built environment along the Front Range is reflected with the substantial number of architects and interior designers that are employed. (Table 5).

Table 5. Colorado’s Top Ten Creative Occupations by Employment: 2019

Rank	Occupation	Jobs
1	Photographers	23,616
2	Writers and Authors	12,058
3	Graphic Designers	10,955
4	Musicians and Singers	10,921
5	Public Relations Specialists	6,336
6	Architects, Except Landscape and Naval	6,077
7	Marketing Managers	5,548
8	Fine Artists, including Painters, Sculptors, and Illustrators	5,457
9	Interior Designers	4,882
10	Editors	4,770

Source: EMSI (via Denver Arts & Venues and Denver Economic Development & Opportunity), U.S. Bureau of Labor Statistics

Creative Industries Revenue

Employment growth for the combination of firms, establishments, and the self-employed comprising Colorado's creative industries and in the creative occupations woven throughout the state's entire economy is robust. Equally robust is the sales revenue attributed to the state's creative industries. Colorado's creative industries are responsible for \$31.6 billion in sales of goods and services. This figure represents 4% of all goods and services sold within the state.

The Creative Technology industry cluster leads all others with just over \$8 billion in revenue from software publishing and internet-related broadcasting and publishing, but close behind is the Culinary Arts cluster with its craft breweries, distilleries, specialty foods, and more helping to generate \$6.7 billion in sales revenue in 2019. Coming in third place is the Film, Television, and Radio cluster with \$4.8 billion in revenue, largely the result of the still-lucrative advertising landscape in the television and radio industries and to some extent, the state's film industry (Table 6).

Examining the creative economy regionally throughout the state offers perspective into the relative strengths of the regions. Two of the three regions that loosely comprise the state's Front Range region are led by the Creative Technology cluster – Denver MSA and South Central. This reflects the prominent role the technology industry plays in those regions. However, the third region in Colorado's Front Range, North Central is dominated by the Culinary Arts cluster. This is not surprising as the North Central region is home to Fort Collins and several nationally recognized craft breweries that drive a vibrant brewing ecosystem stretching across the region.

Four of the seven regions forming the state have Culinary Arts as their number one creative economy industry cluster. This is due largely to the emergence of craft brewing and distilleries as viable creative businesses in rural regions of the state; regions that already leverage their considerable agricultural resources in both traditional and creative ways. The strong presence of the Music, Theater, Dance, and Visual Arts cluster in the more rural regions of the state should also be noted. In addition to the rural regions utilizing their agricultural resources as the basis of creative endeavors, artists of all disciplines embrace these regions of Colorado and play leading roles in driving their overall economies.

The metropolitan regions of Colorado's Front Range are a little more varied with several different industry clusters performing well. In addition to Creative Technology and Culinary Arts, the industry clusters Film, Television, and Radio and Music, Theater, Dance, and Visual Arts also contribute billions of dollars in sales revenue. The Denver MSA region's mix of creative industries is especially impressive. The region is often recognized for its concentration of fine and performing arts activity including strong theater, dance, and gallery scenes plus a live music ecosystem that supports a full schedule of concerts at Red Rocks Amphitheatre, several festivals throughout the year, and multiple shows at venues throughout the region every night of the week. Despite this activity, the Music, Theater, Dance, and Visual Arts cluster only ranks fifth amongst the region's creative industry clusters with its \$1.9 billion in sales revenue falling behind even more robust clusters like Design and Advertising and Film, Television, and Radio.

Table 6. Sales of Goods and Services in Colorado by Region and Creative Industry Cluster: 2019

Region	Sales Revenue	Region	Sales Revenue	Region	Sales Revenue
Colorado		Denver MSA		North Central	
Creative Technology	\$8,149,936,403	Creative Technology	\$4,857,541,790	Culinary Arts	\$2,513,673,414
Culinary Arts	\$6,709,524,001	Film, Television, and Radio	\$4,045,189,193	Creative Technology	\$2,487,350,707
Film, Television, and Radio	\$4,834,812,424	Culinary Arts	\$3,400,681,650	Music, Theater, Dance, and Visual Arts	\$684,185,488
Design and Advertising	\$2,850,224,902	Design and Advertising	\$1,963,772,372	Publishing	\$618,903,919
Music, Theater, Dance, and Visual Arts	\$3,449,190,331	Music, Theater, Dance, and Visual Arts	\$1,936,706,736	Design and Advertising	\$542,480,735
Architecture and Living Spaces	\$2,561,914,733	Architecture and Living Spaces	\$1,721,689,049	Architecture and Living Spaces	\$404,827,327
Publishing	\$2,331,926,669	Publishing	\$1,183,107,587	Film, Television, and Radio	\$334,399,598
Fashion	\$444,609,109	Culture and Heritage	\$270,082,066	Fashion	\$107,679,106
Culture and Heritage	\$346,447,111	Fashion	\$250,248,497	Culture and Heritage	\$5,738,929
Total	\$31,678,585,683	Total	\$19,629,018,939	Total	\$7,699,239,223
Region	Sales Revenue	Region	Sales Revenue	Region	Sales Revenue
South Central		Northwest		Southwest	
Creative Technology	\$692,671,479	Music, Theater, Dance, and Visual Arts	\$304,318,740	Culinary Arts	\$153,484,098
Music, Theater, Dance, and Visual Arts	\$352,729,938	Culinary Arts	\$272,685,081	Music, Theater, Dance, and Visual Arts	\$104,651,058
Publishing	\$343,724,506	Architecture and Living Spaces	\$190,859,147	Publishing	\$57,434,360
Culinary Arts	\$243,826,807	Design and Advertising	\$116,768,921	Architecture and Living Spaces	\$56,529,908
Film, Television, and Radio	\$231,981,286	Film, Television, and Radio	\$138,825,352	Film, Television, and Radio	\$33,633,996
Design and Advertising	\$179,758,049	Publishing	\$89,197,070	Design and Advertising	\$33,198,690
Architecture and Living Spaces	\$164,483,351	Creative Technology	\$78,890,210	Creative Technology	\$28,544,878
Culture and Heritage	\$45,069,004	Fashion	\$31,665,052	Fashion	\$19,462,013
Fashion	\$29,207,353	Culture and Heritage	\$17,248,644	Culture and Heritage	\$2,571,309
Total	\$2,283,451,772	Total	\$1,240,458,216	Total	\$489,510,309
Region	Sales Revenue	Region	Sales Revenue		
Southeast		Northeast			
Culinary Arts	\$115,211,940	Culinary Arts	\$9,961,011		
Music, Theater, Dance, and Visual Arts	\$58,173,520	Film, Television, and Radio	\$8,940,000		
Film, Television, and Radio	\$41,842,999	Music, Theater, Dance, and Visual Arts	\$8,424,853		
Publishing	\$32,637,262	Publishing	\$6,921,965		
Architecture and Living Spaces	\$19,211,570	Architecture and Living Spaces	\$4,314,381		
Design and Advertising	\$10,605,969	Design and Advertising	\$3,640,167		
Culture and Heritage	\$5,630,037	Fashion	\$2,100,004		
Creative Technology	\$4,342,115	Creative Technology	\$595,224		
Fashion	\$4,247,085	Culture and Heritage	\$107,122		
Total	\$291,902,497	Total	\$45,004,727		

Source: EMSI (via Denver Arts & Venues and Denver Economic Development & Opportunity)

Conclusion

This report is a brief glimpse into the scale and scope of Colorado's creative economy and it highlights the fact that creativity is found across the state in both urban and rural regions. The state's creative economy is strong and poised for more growth in the coming decade. The growth of the culinary arts across the state and increasing activity in the fine and performing arts defined the last decade. Looking towards the future, it is important that policymakers, private industry, philanthropic institutions, and the highly skilled workers that drive the creative economy think regionally and statewide while looking for ways to facilitate the intersection of Colorado's creative economy with other industries across the state. Cross-pollenating Colorado's abundance of artists, musicians, chefs, dancers, designers, architects, and more with others in the state pushing boundaries in industries like health care, technology, and outdoor recreation will propel Colorado's creative economy to new heights while helping position the state as a hub of creativity for the entire country.

Initial Impacts of the COVID-19 Crisis

Background

Colorado’s creative economy was poised for further growth before the COVID-19 pandemic sparked the greatest economic crisis in the United States since the Great Depression. This report offers a portrait of Colorado’s creative economy as it appeared immediately before the COVID-19 crisis took hold in the state. It is impossible to detail the exact effects this crisis will have regarding the findings presented in this report as it is still unfolding at the time of writing, but it is important to address its influence. This section presents an estimate of the initial effects the COVID-19 crisis will have on creative industry employment and sales revenue in Colorado.

An economic model was constructed to develop the estimates in this section and employs a time frame beginning on April 1st, 2020 and ending on July 31st, 2020. This model incorporates several assumptions based on an informed perspective. The effects of local and statewide “stay-at-home” and “safer-at-home” orders and the closing of non-essential businesses are considered as well as all live events at full-capacity being prohibited until likely 2021 at the earliest. The model assumes access to federal stimulus funds for firms, establishments, and the self-employed. Additionally, this model incorporates a predicted 24% contraction of the United States’ overall economy taking hold in April and progressing through the second quarter of 2020 and unemployment averaging 14% in the same time period.⁷

Information concerning how the COVID-19 crisis may affect specific industries within the creative economy in the Denver metropolitan region was gained from informal interviews with those in the industries and perspectives published via media outlets, private firms, and government agencies. It is important to note that estimated job losses include those who are laid off and furloughed, plus those who piece together steady employment through a succession of freelance “gigs” and as such may regain employment in the creative economy beyond the time period examined.

Impacts

Colorado’s creative industries will lose an estimated 59,587 jobs and over \$2.6 billion in sales revenue between April and July 2020 (Table 6). To give some perspective on these losses, a sample month for Denver’s creative industries supports an estimated 191,248 jobs and \$2.6 billion in sales revenue. This four-month period of estimated losses will contract Colorado’s creative industries by 31% in terms of employment and 8% in annual sales revenue.

Table 6. Estimated Cumulative Losses for the Creative Industries: April to July 2020

Month	Jobs	Sales Revenue
April	41,873	\$486,802,350
May	62,184	\$1,228,240,480
June	64,430	\$2,009,530,986
July	59,588	\$2,674,413,462

Source: EMSI (via Denver Arts & Venues and Denver Economic Development & Opportunity), Author’s Estimates

For deeper insight into how these losses are structured, an examination of the nine industry clusters within Colorado’s creative industries is helpful. The Music, Theater, Dance, and Visual Arts industry cluster is responsible for the majority of losses due to the COVID-19 crisis. The cluster is estimated to lose 31,781 jobs and \$823 million in sales revenue between April and July. This represents just over half of all estimated jobs lost and 31% of all estimated sales revenue lost in the state’s creative industries during the time period (Table 7). These significant losses are due largely to the state’s music industry coming to a complete stop in addition to other performing arts activities such as theater and dance having to cease all live performances.

Table 7. Estimated Cumulative Losses for the Creative Industries by Industry Cluster: April to July 2020

Cluster	Jobs	Sales Revenue
Music, Theater, Dance, and Visual Arts	31,781	\$823,063,643
Culinary Arts	5,513	\$413,115,466
Design and Advertising	4,470	\$225,642,805
Publishing	4,184	\$222,690,502
Architecture and Living Spaces	4,106	\$159,890,951
Creative Technology	4,052	\$339,580,683
Film, Television, and Radio	3,561	\$366,566,395
Fashion	1,439	\$48,799,476
Culture and Heritage	482	\$75,063,541
Totals	59,588	\$2,674,413,462

Source: EMSI (via Denver Arts & Venues and Denver Economic Development & Opportunity), Author’s Estimates

The Culinary Arts cluster ranks second in terms of estimated losses in jobs and sales revenue. This is the result of the temporary closing of restaurants lessening demand for locally-sourced culinary products, the cancellation of events and festivals that incorporate mobile dining options, smaller craft breweries unable to move product, and the effects of a sudden loss of tourists and events like weddings at wineries and distilleries among many other factors. Although the Film, Television, and Radio industry cluster comes in seventh in terms of employment loss, the comparatively higher valuation of its output places it in third for estimated losses in sales revenue. The sizeable losses in that sector are due to film, television, and commercial production largely shutting down with post production work drying up as well. Advertising on television and radio will also suffer as other industries slowdown – a situation that will impact the Design and Advertising cluster in a broader capacity, helping it to shed an estimated 4,470 jobs and \$225 million in sales revenue. Similarly, the Architecture and Living Spaces cluster will feel measurable effects from the COVID-19 crisis as commercial and residential building is disrupted, resulting in an estimated 4,106 jobs lost and \$159 million in lost sales revenue.

Conclusion

These are estimations and subject to influences still unfolding and factors unique to creative economies. How policymakers at all levels of government continue to react to the COVID-19 crisis is dynamic, as is the spread of COVID-19. Multiple variables may be introduced via policy or

through the spread of COVID-19 that could significantly change these estimations. In addition, these estimations are for the creative industries, and include people in creative occupations and other occupations within creative industry firms and establishments, the self-employed, and those working part-time in a freelance capacity. If one considers the entire creative economy and how its dynamics are interwoven with other industries, an even more challenging scenario emerges.

Those who are in creative occupations that drive both the creative industries and the broader creative economy are particularly vulnerable to the economic shock of the COVID-19 crisis as a disproportionate number of them are either self-employed or work freelance in addition to other jobs. For example, 36% of architects, 46% of graphic designers, 71% of fashion designers, and 79% of musicians in Colorado are either self-employed or work freelance with presumably a sizeable portion of these individuals working other jobs for economic security either within or outside of the creative industries. Add to that the number of those working full-time in creative occupations in industries like service, hospitality, travel, or retail – i.e., industries which are also currently experiencing their own challenging COVID-19 crisis scenarios – and the precarious position of Colorado’s entire creative economy emerges.

Although there are many variables still in play at this early stage of the COVID-19 crisis, there will undoubtedly be wide-ranging and long-lasting impacts on Colorado’s creative economy. Regional professional groups, philanthropic organizations, municipal governments, and arts agencies should coordinate efforts swiftly to address the state’s creative economy by taking two steps. The first step is to advocate for local, State, and Federal funding for creative workers, firms, and establishments. This funding will help with immediate needs in the creative economy and prevent it from losing all the momentum it had up until this point.

The second step is to establish a program similar to the New Deal-era’s Federal Art Program in the 1930s and 1940s wherein unemployed workers in creative industries and occupations could be employed on projects in their communities and throughout the state. Teams of creatives could work together across disciplines to solve challenges like how to retrofit performing arts venues so they may safely reopen or reimagine and program open spaces when the COVID-19 crisis has passed. Incorporating representatives from industries like education, technology, and health care as advisors in this program would help create projects that could upgrade participants’ skills, further integrate the creative economy within the broader knowledge economy, and offer potential for innovation in an interdisciplinary setting.

Colorado’s creative economy was healthy and growing before the challenges posed by the COVID-19 crisis and it is positioned for continued grow once the crisis has passed. The next year or two are critical as a new environment can be established to facilitate the return of growth while also preparing creative workers, firms, and establishments to develop the creative economy of the future.

Acknowledgements

About Colorado Creative Industries

Colorado Creative Industries (CCI) strives to support and expand the impact of creative industries, artists and entrepreneurs, connecting communities to advance a thriving and vibrant Colorado. With the support of CCI, non-profit and for-profit creative businesses, artists and creative entrepreneurs will have increased access to financial support, skill development, leadership training and professional networking. Colorado is recognized as a premier creative hub – a home for world-class creative businesses, productions and experiences. Recognizing Colorado’s creative hub, CCI’s efforts support opportunities for arts learning. Creativity skills development will be available to Colorado youth to help them succeed in school and to be better prepared to enter the workforce, and to Colorado adults, in support of lifelong learning. It’s our goal to make sure all Coloradans will have access to creative environments and experiences while preserving and promoting Colorado’s unique cultural heritage.

For more information:

<https://www.coloradocreativeindustries.org>

About the Author

Dr. Michael Seman is an assistant professor of arts management in Colorado State University’s LEAP Institute for the Arts and a research associate in Colorado State University’s Regional Economic Development Institute. He received his doctorate in urban planning and public policy from the University of Texas at Arlington in 2014. Before joining Colorado State University, Michael was Director of Creative Industries Research and Policy at the University of Colorado Denver College of Arts and Media. His co-edited volume concerning the production and consumption of music in the digital age was published by Routledge in 2016 as part of their Contemporary Human Geography Series and Michael recently helped author music strategies for both the City of Denver and the State of Colorado. Michael’s work can also be found in many academic journals including *Cities*, *Regional Science Policy and Practice*, *Applied Research in Economic Development*, *City, Culture and Society*, *Industrial Geographer*, *Artivate: A Journal of Entrepreneurship in the Arts*, and most recently in *Growth and Change*. National Public Radio, *Vice*, *Wired*, *The Washington Post*, and many regional media outlets seek Michael’s insight and he is often invited to speak at professional and civic events across the country.

For more information:

<https://leap.colostate.edu>

<https://redi.colostate.edu>

Appendix: Methodology

Two approaches are taken in this report to examine Colorado’s creative economy – industrial and occupational. First, the creative economy is measured by the scale and scope of distinct creative industry clusters. This offers insight into the total number of jobs (whether in creative occupations or not) and the overall sales of goods and services that can be attributed to these industry clusters. For example, using this approach captures everyone employed in a music promotion firm, from the receptionist to the graphic designer on staff to the promoter booking the concerts. This approach also captures the graphic designer who is self-employed with her own practice, plus the graphic designer who freelances part-time. With an industrial approach, sales of goods and services from all firms, establishments, the self-employed, and freelancers are captured as well. An occupational approach is taken to consider just the employment of the creative individuals who drive this activity in firms and establishments, are employed by firms in a different industry, are self-employed, or are freelancing part-time. This approach isolates a region’s core creative workforce and allows for closer analysis of creative employment throughout the broader economy.

Whether taking an industrial or occupation approach to measuring a creative economy in a region, parameters are needed to describe it and then access to data in order to measure it. There is no general consensus as to which industries definitively comprise the creative economy.⁸ As such, the first step for this report was selecting which industries as defined by the Office of Management and Budget’s (OMB) North American Industrial Classification System (NAICS) might be considered as part of Colorado’s creative economy. After reviewing similar studies, academic research papers, and methodologies offered by national arts associations, a list of potential industries was created. A similar method was used to identify which occupations as defined by the OMB’s Standard Occupational Classification (SOC) system should be included in this report. These lists were then presented to representatives of both the City of Denver Arts & Venues and Colorado Creative Industries for their input on what industries and occupations would best represent the creative economy regionally and statewide. These lists were then refined according to the input provided and formally used to gather data for both creative industries (Table A1) and creative occupations (Table A2).

The City of Denver Arts & Venues and Denver Economic Development & Opportunity provided the data via Economic Modeling Specialists International (EMSI), an industry-standard economic analyst tool. EMSI gathers data provided by the Bureau of Labor Statistics, Bureau of Economic Analysis, U.S. Census, and other city, state and federal organizations. This report used data from EMSI’s “Q4 2019 Data Set.” In some cases, the data sets provided had to be augmented by data gathered from the Bureau of Labor Statistics. EMSI data sets are valuable for creative economy analysis as they capture employment at firms and establishments, those who are self-employed as solo practitioners, and those who earn second incomes from their work in the creative economy. This is important as a substantial amount of work in the creative economy is completed by those who are self-employed or work in a freelance capacity.

Table A1: Creative Industries Included in Colorado’s Creative Economy

NAICS Code	Industry	NAICS Code	Industry
311340	Non-chocolate confectionery manufacturing	322230	Stationery product manufacturing
311423	Dried and dehydrated food manufacturing	323111	Commercial printing (except screen and books)
311612	Meat processed from carcasses	323113	Commercial screen printing
311710	Seafood product preparation and packaging	323117	Books printing
311830	Tortilla manufacturing	323120	Support activities for printing
311920	Coffee and tea manufacturing	327110	Pottery, ceramics, and plumbing fixture manufacturing
311930	Flavoring syrup and concentrate manufacturing	327212	Other pressed and blown glass and glassware manufacturing
311941	Mayonnaise, dressing, and other prepared sauce manufacturing	332323	Ornamental and architectural metal work manufacturing
311942	Spice and extract manufacturing	337121	Upholstered Household Furniture Manufacturing
312120	Breweries	337122	Nonupholstered Wood Household Furniture Manufacturing
312130	Wineries	337125	Metal Household Furniture Manufacturing
312140	Distilleries	337125	Household Furniture (Except Wood and Metal) Manufacturing
313210	Broadwoven Fabric Mill	337212	Custom architectural woodwork and millwork manufacturing
313220	Narrow Fabric Mills	339910	Jewelry and silverware manufacturing
313310	Textile & Fabric Finishing Mills	339992	Musical instrument manufacturing
313320	Fabric Coating Mills	423410	Photographic equipment and supplies merchant wholesalers
314910	Textile bag and canvas mills	423940	Jewelry, watch, precious stone, and precious metal merchant wholesalers
314999	All other Misc. Textile Mills	424920	Book, periodical, and newspaper merchant wholesalers
315190	Other apparel knitting mills	445210	Meat markets
315210	Cut and Sew Apparel Contractors	445220	Fish and seafood markets
315220	Men's and boy's cut and sew apparel manufacturing	445230	Fruit and vegetable markets
315240	Women's, girl's, and infant's cut and sew apparel manufacturing	315990	Apparel accessories and other apparel manufacturing
315280	Other cut and sew apparel manufacturing	448310	Jewelry stores
315990	Apparel accessories and other apparel manufacturing	451130	Sewing, needlework, and piece goods stores
316210	Footwear Manufacturing	451140	Musical instrument and supplies stores
316992	Women's handbag and purse manufacturing	451211	Book stores

Table A1: Creative Industries Included in Colorado’s Creative Economy (Continued)

NAICS Code	Industry	NAICS Code	Industry
451212	News dealers and newsstands	541320	Landscape architectural services
453110	Florists	541340	Drafting services
453920	Art dealers	541410	Interior design services
511110	Newspaper publishers	541420	Industrial design services
511120	Periodical publishers	541430	Graphic design services
511130	Book publishers	541490	Other specialized design services
511191	Greeting card publishers	541810	Advertising agencies
511199	All other publishers	541820	Public relations agencies
511210	Software publishers	541830	Media buying agencies
512110	Motion picture and video production	541840	Media representatives
512120	Motion picture and video distribution	541850	Outdoor Advertising
512131	Motion picture theaters (except drive-ins)	541860	Direct mail advertising
512132	Drive-in motion picture theaters	541870	Advertising Material Distribution Services
512191	Teleproduction and other postproduction services	541890	Other services related to advertising
512199	Other motion picture and video industries	541921	Photography studios, portrait
512230	Music publishers	541922	Commercial photography
512240	Sound recording studios	611610	Fine arts schools (private)
512250	Record Production and Distribution	711110	Theater companies and dinner theaters
512290	Other sound recording industries	711120	Dance companies
515111	Radio networks	711130	Musical groups and artists
515112	Radio stations	711190	Other performing arts companies
515120	Television broadcasting	711310	Promoters of performing arts, sports, and similar events with facilities
515210	Cable and other subscription programming	711320	Promoters of performing arts, sports, and similar events without facilities
519110	News syndicates	711410	Agents and managers for artists, athletes, entertainers, and other public figures
519120	Libraries and archives	711510	Independent artists, writers, and performers
519130	Internet publishing and broadcasting and web search portals	712110	Museums
541310	Architectural services	712120	Historical sites

Table A1: Creative Industries Included in Colorado’s Creative Economy (Continued)

NAICS Code	Industry
712130	Zoos and botanical gardens
722320	Caterers
722330	Mobile food services
811420	Reupholstery and furniture repair
812921	Photofinishing laboratories (except one-hour)

Table A2: Creative Occupations Included in Colorado’s Creative Economy

SOC Code	Occupation	SOC Code	Occupation
11-2011	Advertising and Promotions Managers	27-1029	Designers, All Other
27-2041	Music Directors and Composers	27-2011	Actors
11-2021.	Marketing Managers	27-2012	Producers and Directors
11-2031.	Public Relations Managers	27-2031	Dancers
13-1011	Agents and Business Managers of Artists, Performers, and Athletes	27-2032	Choreographers
17-1011	Architects, Except Landscape and Naval	27-2042	Musicians and Singers
17-1012	Landscape Architects	27-2099	Entertainers, Performers, Sports and Related Workers, All Other
17-3011	Architectural and Civil Drafters	27-3011	Radio and Television Announcers
25-1031	Architecture Teachers, Postsecondary	27-3012	Public Address System and Other Announcers
25-1082	Library Science Teachers, Postsecondary	27-3021	Broadcast News Analysts
25-1121	Art, Drama, and Music Teachers, Postsecondary	27-3022	Reporters and Correspondents
25-4011	Archivists	27-3031	Public Relations Specialists
25-4012	Curators	27-3041	Editors
25-4013	Museum Technicians and Conservators	27-3042	Technical Writers
25-4021	Librarians	27-3043	Writers and Authors
25-4031	Library Technicians	27-3099	Media and Communication Workers, All Other
25-9011	Audio-Visual Collections Specialists	27-4011	Audio and Video Equipment Technicians
27-1011	Art Directors	27-4012	Broadcast Technicians
27-1012	Craft Artists	27-4013	Radio Operators
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	27-4014	Sound Engineering Technicians
27-1014	Special Effects Artists and Animators (formerly Multimedia Artists)	27-4021	Photographers
27-1019	Artists and Related Workers, All Other	27-4031	Camera Operators, Television, Video, and Motion Picture
27-1021	Commercial and Industrial Designers	27-4032	Film and Video Editors
27-1022	Fashion Designers	27-4099	Media and Communication Equipment Workers, All Other
27-1023	Floral Designers	35-1011	Chefs and Head Cooks
27-1024	Graphic Designers	35-2013	Cooks, Private Household
27-1025	Interior Designers	39-3021	Motion Picture Projectionists
27-1026	Merchandise Displayers and Window Trimmers	39-3092	Costume Attendants
27-1027	Set and Exhibit Designers	39-5091	Makeup Artists, Theatrical and Performance

Table A2: Creative Occupations Included in Colorado’s Creative Economy (Continued)

SOC Code	Occupation
41-3011	Advertising Sales Agents
41-9012	Models
43-4121	Library Assistants, Clerical
43-9031	Desktop Publishers
49-9061	Camera and Photographic Equipment Repairers
49-9063	Musical Instrument Repairers and Tuners
51-3011	Bakers
51-5113	Print Binding and Finishing Workers
51-6052	Tailors, Dressmakers, and Custom Sewers
51-6093	Upholsterers
51-7010	Cabinetmakers and Bench Carpenters
51-7021	Furniture Finishers
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders
51-9071	Jewelers and Precious Stone and Metal Workers
51-9151	Photographic Process Workers and Processing Machine Operators

References

- ¹ National Endowment for the Arts and United States Bureau of the Census (2020). *Arts Basic Survey, United States, 2018*. Inter-university Consortium for Political and Social Research [distributor].
- ² Seman, M. (2018). *Colorado's Music Industry: An Analysis and Look Forward*. Prepared for Colorado Creative Industries and the Bohemian Foundation. University of Colorado Denver College of Arts & Media.
- ³ Reid, N. and Gatrell, J. D. (2017) "Creativity, community, & growth: A social geography of urban craft beer." *REGION*, 4(1): 31–49; Morrison, J. (2017, September 7). "Are craft breweries the next coffeehouses?" *Smithsonian Magazine*. Accessed from: <https://www.smithsonianmag.com/arts-culture/are-craft-breweries-next-coffeehouses-180964739/>
- ⁴ Seman, M. (2018). *Colorado's Music Industry: An Analysis and Look Forward*. Prepared for Colorado Creative Industries and the Bohemian Foundation. University of Colorado Denver College of Arts & Media.
- ⁵ Wolf, S. (2020, March 2). "Can this bill save Colorado's film industry from the brink after decades of movie studio neglect?" Colorado Public Radio. Accessed from: <https://www.cpr.org/2020/03/02/can-this-bill-save-colorados-film-industry-from-the-brink-after-decades-of-movie-studio-neglect/>
- ⁶ Kohler, J. (2019, January 25). "Colorado's outdoor recreation economy grows to \$62.5 billion, new report says." *The Denver Post*. Accessed from: <https://tinyurl.com/r95ljdw>; Rabimov, S. (2020, January 22). "Denver Fashion Week helps American designers to succeed." *Forbes*. Accessed from: <https://www.forbes.com/sites/stephanrabimov/2020/01/22/denver-fashion-week-helps-american-designers-to-succeed/#542ab5f23bae>
- ⁷ Goldman Sachs: Economic Research. (2020, March 20). "US Daily: A sudden stop for the US economy." The Goldman Sachs Group, Inc. New York, NY. Accessed from: <https://www.goldmansachs.com/insights/pages/gs-research/us-daily-20-mar-2020/report.pdf>; Swagel, P. (2020, April 2). "CBO's current projections of output, employment, and interest rates and a preliminary look at federal deficits for 2020 and 2021." Congressional Budget Office. Washington, D.C. Accessed from: <https://www.cbo.gov/publication/56335>.
- ⁸ Markusen, A., Wassall, G. H., DeNatale, D., and Cohen, R. (2008). "Defining the creative economy: Industry and occupational approaches." *Economic Development Quarterly*, 22(1): 24–45.