
The Economic Contributions of Oregon's Visual Media Industry in Fiscal Year 2023

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Prepared for:

Oregon Film

ECONorthwest
ECONOMICS • FINANCE • PLANNING

KOIN Center
222 SW Columbia Street
Suite 1600
Portland, OR 97201
503.222.6060

Acknowledgments

Robert Whelan prepared this report. ECONorthwest is solely responsible for its content. ECONorthwest specializes in economics, planning, and finance. Established in 1974, ECONorthwest has over three decades of experience helping clients make sound decisions based on rigorous economic, planning, and financial analysis.

For more information about ECONorthwest, visit our website at www.econw.com.

For more information about this report:

Robert Whelan
ECONorthwest
222 SW Columbia Street
Portland, OR 97201
Email: whelan@econw.com

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Executive Summary

Introduction

Oregon Film is an agency of the state of Oregon. Its mission is to promote, support, and advance the film, video, interactive, animation, and creative content industries in Oregon. Oregon Film fosters connections between storytellers, productions, businesses, and the public sector to strengthen and diversify the industry's profile and reputations locally, nationally, and internationally.

Oregon Film engaged ECONorthwest to analyze the economic contributions the visual media industry has had on Oregon in the fiscal year ending June 30, 2023 (FY2023).

The most recent report on the industry by ECONorthwest, published in 2007, focused on the impacts of television, film and video productions, and out-of-state productions. In this report, we expanded the scope to look at the economic contributions of the entire media industry at a statewide level.

Being inherently highly creative, film and video professionals and amateurs alike quickly adopted new technologies. The cost of quality equipment and software has dropped substantially. Add to it high-speed internet and producing content has become much easier and less costly. Technology has also cost effectively broadened the reach of Oregon-produced visual media to new audiences around the world.

Technology triggered growth that two decades ago would have been unimaginable then. And in Oregon, with its high concentration of independent, creative people has benefitted immensely.

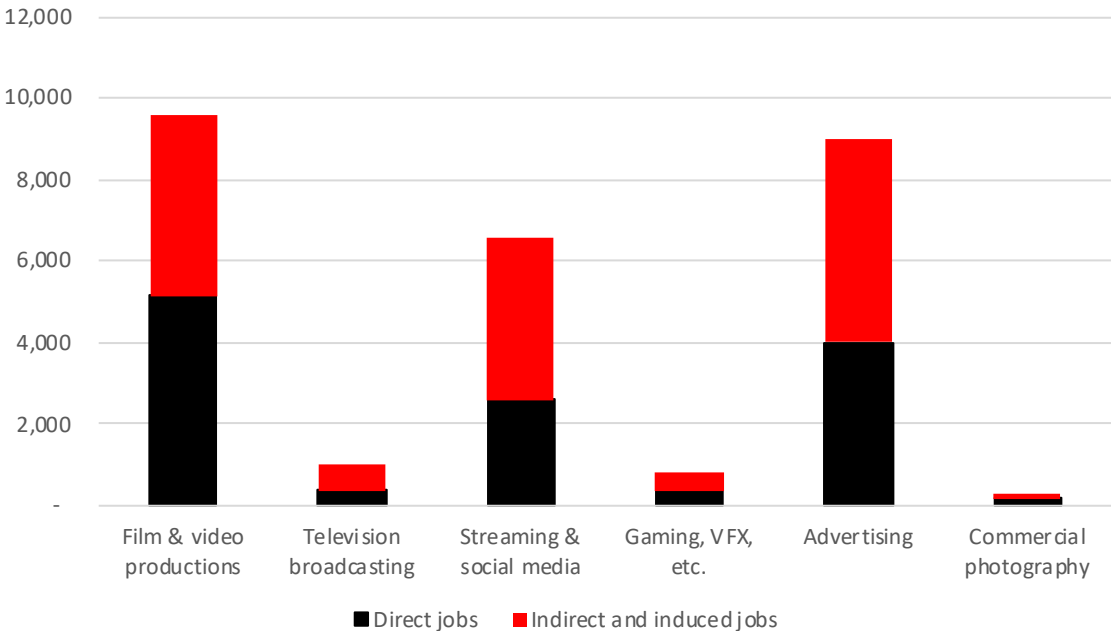
Major Findings

ECONorthwest collected statistics on nearly 4,000 entities and individuals engaged in Oregon’s visual media industry. We also included the employment and spending on productions done in Oregon by entities based outside the state. We divided visual media into six major sectors and calculated their economic contributions to Oregon for FY2023.

Employment

We found that the industry directly employed 12,680 jobs (full year equivalent). And because of the industry’s direct spending and payrolls, it stimulated an additional 14,584 jobs throughout the state for a total of 27,264 jobs. The largest sector contributing to these jobs was film and video production itself. But other media sectors also contributed substantially, as illustrated in the chart below.

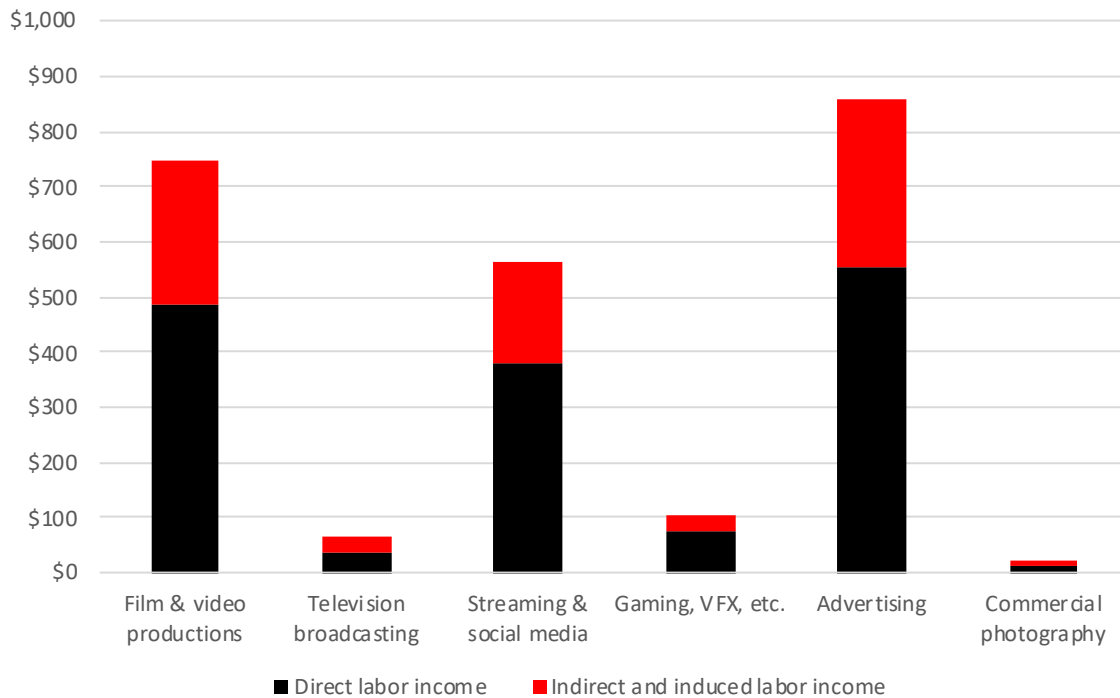
Figure 1: Visual Media Industry’s Contributions to Direct and Total Jobs in Oregon, Full-Year Equivalent Jobs by Sector in FY2023



Pay and Other Labor Income

We found that the direct labor income (the sum of pay, benefits, and self-employment labor earnings) in the visual media industry was \$1,546 million in FY2023. Labor income stimulated elsewhere in Oregon and outside of the media industry totaled \$813 million. The total contribution was \$2,360 million in labor income statewide, as shown on Figure 2: Visual Media Industry’s Contributions to Direct and Total Labor Income in Oregon, Millions of Dollars by Sector in FY2023.

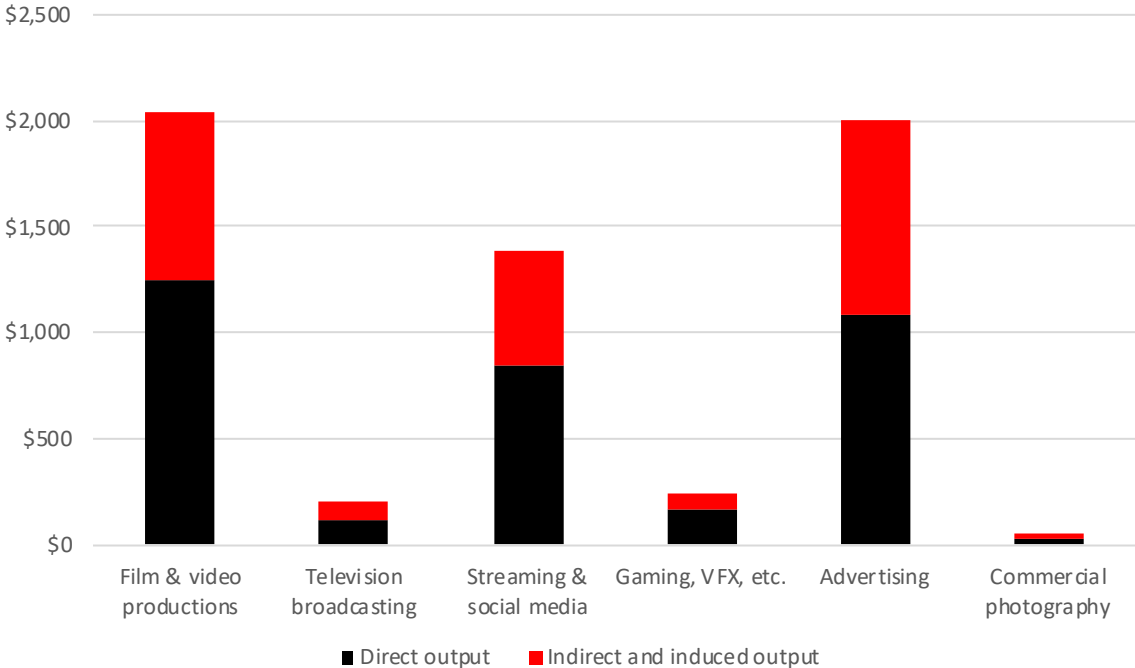
Figure 2: Visual Media Industry’s Contributions to Direct and Total Labor Income in Oregon, Millions of Dollars by Sector in FY2023



Economic Output

The direct total output (approximately equal to the value of production) of visual media in Oregon was nearly \$3,480 million in FY2023. However, the industry’s total economic contribution to the state’s economy was \$5,924 million due to the indirect and induced output effects. Film and video production and advertising were the two largest. However, a new sector—streaming and social media—has emerged as a major economic activity in Oregon. In FY2023, that sector directly contributed \$1,388 million in total economic output to the state’s economy.

Figure 3: Visual Media Industry’s Contributions to Direct and Total Economic Output in Oregon, Millions of Dollars by Sector in FY2023



Approach

Defining the Industry

In the past defining the industry was relatively simple. The industry was largely composed of just the film & video production, including freelancers, and television broadcasting sectors. That has changed. Today, consumers view entertainment, educational, and commercial content through videos, streaming, interactive gaming, virtual reality, as well as traditional film. Add to it the complexity of there being so many more freelancers producing visual media content on top of a multitude of new companies—changes driven by vast improvements in technology.

Visual Media Industry

In this report, we defined the visual media industry as sectors that make visual content for commercial, educational, and entertainment purposes. The sectors capture individuals and entities based in the state of Oregon, but also includes visiting out-of-state production companies filming in Oregon. Not included here are the live performance and music sectors.

The components of this industry are as follows:

- **Film and video production and post-production:** Film and video production is the process of filming and recording. In the post-production process films and video is edited, sound and visual effects are added, and the final product is produced.

The film and video production and post-production sector includes companies with employees as well as self-employed individuals, who produce film and video including animation. Self-employed persons make a large contribution to the sector. These are Oregonians, who work as freelancers on projects for their clients or as subcontractors for other firms.

- **Out-of-state productions:** Typically, these are television, commercial, and film projects brought into the state by companies seeking to take advantage of Oregon's scenery, talent, and working climate. These productions last a few days to several months. Some productions have longer-term benefits to Oregon by stimulating tourism. While past research has demonstrated substantial benefits to Oregon arising from film tourism, this report does not include or attempt to quantify them.

- **Intra-industry film and video production**: Some entities in Oregon have their own film and video production crews. Types that do include manufacturing, marketing, public relations, and schools. We estimate the size of this component using state and national data on film and video editor employment by industry sectors. Note that we exclude film and video production departments of advertising firms because in this report we include advertising as a sector in the visual media industry
- **Television broadcasters**: Broadcasters produce some documentary and entertainment content, and so are included in this report.
- **Streaming media and social networking**: This is a new economic sector. This sector, as shown later in this report, has quickly emerged in Oregon. One important caveat, however, is that only those who earn an income in the sector are counted in this economic contribution analysis. There are many who produce streaming media and social networking content without compensation. Those individuals are not included in this analysis.
- **Gaming, visual effects (VFX), virtual reality (VR), and interactive software publishing**: This is a small, but growing sector engaged in producing visual entertainment and educational content.
- **Advertising**: Some advertising agencies have internal production departments producing commercial video and photography shoots. In this analysis, we included only advertising agencies and so we excluded direct mail, outdoor display, public relations, and media buying firms.
- **Commercial photography**: This includes firms and individuals who produce commercial photographs.

How we addressed the double-counting problem

Producing visual media is a collaborative activity. Often a project led by one business in the sector employs businesses in the same sector. For example, an out-of-state production company may come in and buy the services of a local talent casting agency. Or a local documentary producer might buy the services of a video drone company. Since these purchases are also from businesses in the film and video production sector, they are potential sources of double counting.

We addressed this problem using a method in our modeling software that counteracts double counting. This was done for the film and video, the streaming media, and gaming sectors. We did not do this for advertising, commercial photography, or television broadcasting sectors because they do not substantially buy goods and services from within their sectors.

The data we used

Economic contribution studies always start with measuring the direct labor and output of sectors. The primary source of labor data is the Oregon Employment Department. They gather payroll data from firms. We were provided the firm level data for companies in Oregon's visual media industry.

A second key data source was the U. S. Census. Every five years companies are required to report their revenue, employment, payroll numbers, and other statistics. This data is published at the state level. While the last census is several years old, it does provide us a good comparison between revenue and payroll costs. Using those comparisons, we estimated the revenue of visual media sectors off their latest payroll data from the Oregon Employment Department.

The Internal Revenue Service (IRS) is an important source of data. They report by sector the revenues of self-employed people taken off individual tax filing. The IRS aggregates data from hundreds of tax forms filed by Oregonians. The data cover individuals and some partnerships, which do not have employees.

Oregon Film provided us with the data from in-state and out-of-state film and video production done in Oregon in FY2023. The data include the local (in Oregon) spending, payroll, and jobs.

Oregon Film sent us a list of visual media firms and freelancers based in Oregon. Similarly, we obtained lists from the Oregon Media Production Association (OMPA). The OMPA surveyed its members, many of whom are part of the visual media industry as defined in our analysis.

Combining the Oregon Film, OMPA, and Oregon Employment Department lists, gave us nearly 5,000 entities. We identified and deleted duplicates. We found firms missing from the Oregon Employment Department list. For those, we searched for information from online sources including Dun & Bradstreet to ascertain their employment and sales. We found some firms and freelancers based out-of-state and removed them from our analysis.

What are economic contributions?

An industry's economic contributions are its effect on total economic activities that are result of the industry's employees and spending.

A simple example might be a film company spends money at a local accounting firm. The accounting firm makes more money. They then employ more workers and buy more from other companies.

But it goes further. The affected other companies hire more people and spend more money in Oregon too. That causes a little more work and spending elsewhere in Oregon. In the end the total economic contribution is all the work and spending tied back to the film company no matter how far removed from the film company it is.

Economic activity measures

A sector's economic activities are measured in terms of employment, labor income, and output. Here is what they mean:

Employment is the number of jobs lasting twelve months in a year. Also called full-year equivalent (FYE) jobs. In the film industry it is common to hire some persons for single projects that last less than a year. Similarly, self-employed persons in other visual media sectors often work less than twelve months a year. Economists reduce jobs numbers down to FYEs when conducting economic impact studies. So, for example, work lasting six months (half a year) is equal to $\frac{1}{2}$ an FYE job. Also, a job can either be a payroll job working for a company or self-employed work as a freelancer.

Labor income is the sum of wages, salaries, employer-paid payroll taxes and benefits, and self-employment earnings. Self-employment earnings are what individuals report on their personal income tax forms minus their estimated business expenses.

Output is the amount of money a business gets for selling what it produces or does. In most cases it is about the same as sales and revenues. For visual media, it gets more complicated because of long lead times. For example, a film done in Oregon last year may not be released until next year, which delays when money comes in for its production. For simplicity, we used the U. S. Census data which aggregates the entire sector and, therefore, largely negates delays in revenue recognition.

Economic impact levels

Economists calculate economic impacts at three levels. The level depends on the source of the impacts being measured. The three levels are:

Direct impacts are the economic activities at the sector itself. The total number of workers, total labor income, and output at the sector are direct impacts.

Indirect impacts are economic activities caused from spending by the sector on purchases of supplies and services. Basically, it is the impact of business-to-business spending.

Induced impacts are economic activities caused by the spending of employees. They get paid and spend some of that money in the economy at other businesses. Workers at those businesses earn a little more and they too spend some of it in the economy. Induced impacts are the effects of labor income spending on the economy.

How we calculated economic contributions.

We used a widely used economic impact model called IMPLAN. We tailored the model for the visual media industry in Oregon. The model traces spending and employment of sectors as money ripple through the state's economy through business spending and worker earnings. Our study used the most current version of IMPLAN available, which is 2021. We then adjusted for inflation so that the results reflect the value of the dollar in FY2023.

The rippling effect does not go on forever. It diminishes. At each transaction some money is taxed, saved, or is spent outside the state. That reduces how much is going to be spent or earned in the next transaction. IMPLAN uses actual business spending and household spending data to estimate how much these impacts diminish.

What is the difference between economic contributions and economic impacts?

Economic contributions are all the jobs, earnings, and output tied to an industry no matter how far removed from that industry. We use contributions to tell people how much of Oregon's economy is tied in some way to the industry.

Economic impacts are different. Impacts measure net changes in the economy because of a change.

We sometimes calculate economic impacts for single projects. For example, if a factory will be built on farmland, we would first calculate the economic contributions of the farmland. Then calculate the economic contributions of the new factory. Subtract the farmland contributions from the factory's contributions and we get the economic impacts of the factory. That is the factory's contributions net of the loss of contributions from the farmland.

For the visual media industry, it is impossible to strictly estimate net economic impacts. For the most part, the visual media industry does not displace other industries from operating in Oregon. But in some cases, it may. But we would be purely speculating. Therefore, we estimate contributions instead.

Visual Media Industry’s Economic Contributions

Direct Impacts

Direct impacts are measured at the sector level. It includes the number of employees plus self-employed persons, total labor income, and economic output of the sectors. These direct impacts trigger job, income, and output increases in other sectors in Oregon.

Direct jobs

Our analysis found there were 12,680 direct jobs (FYE) in Oregon’s visual media industry during FY2023. Film and video production and post-production sectors accounted for 5,143 of these. Out-of-state production employed 4,325 Oregonians, but we estimate they worked the equivalent of 1,731 FYEs, as most productions take less than a full year to complete.

From the data we collected and reviewed, we estimate 4,503 self-employed Oregonians worked in the visual media industry during FY2023. Most worked intermittently. When adjusted for length of employment, we estimate self-employment equaled 1,242 FYE jobs while payroll employment totaled 11,438, as shown in Table 1.

Table 1. Oregon visual media direct jobs, FY2023

Industry Code and Sector	Jobs			Total Direct Jobs (FYE)
	Payroll employees (FYE)	Self employed (persons)	Self employed (FYE jobs)	
5121 Film & video production and post-production	2,448	1,966	513	2,961
5121 Out-of-state productions filmed in Oregon	1,731*	in above	in above	1,731
5121 Intra-industry film & video production	451	in above	in above	451
Subtotal film & video	4,630	1,966	513	5,143
51612 Television broadcasters	382	-	-	382
51621 Streaming media and social networking	2,404	902	213	2,617
51321 Gaming, VFX, VR, interactive software	366	23	4	370
54181 Advertising agencies	3,490	1,594	506	3,996
541922 Commercial photography	166	18	6	172
Media Industry Total	11,438	4,503	1,242	12,680

* Out-of-state productions done in Oregon hired 4,325 Oregonians who worked the equivalent of 1,731 FYEs. Source: ECONorthwest, Oregon Employment Department, IRS, OMPA, Oregon Film.

Direct labor income and output

Table 2 is a list of direct labor income and direct output for the visual media industry and its sectors. For the film and video sector, direct labor income was over \$487.4 million. Industry output was about \$1,249.9 million.

Table 2. Oregon visual media direct labor income and output, FY2023

Industry Code and Sector	Labor Income				Output
	Employee wages & salaries	Employee benefits & payroll taxes	Self employment labor income	Total Direct labor income	Direct Economic Output
5121 Film & video production and post-production	\$198,447,077	\$59,534,123	\$41,557,000	\$299,538,200	\$904,219,717
5121 Out-of-state productions filmed in Oregon	115,048,494	25,254,548	in above	140,303,042	207,916,319
5121 Intra-industry film & video production	36,554,085	10,966,226	in above	47,520,311	137,718,180
Subtotal film & video	\$350,049,657	\$95,754,896	\$41,557,000	\$487,361,553	\$1,249,854,215
51612 Television broadcasters	29,533,319	8,859,996	-	38,393,315	109,509,000
51621 Streaming media and social networking	272,516,816	81,755,045	24,175,680	378,447,541	840,792,000
51321 Gaming, VFX, VR, interactive software	58,373,149	17,511,945	708,784	76,593,878	162,002,094
54181 Advertising agencies	382,021,075	114,606,323	55,353,190	551,980,588	1,089,136,000
541922 Commercial photography	9,995,469	2,998,641	354,203	13,348,313	28,251,589
Media Industry Total	\$1,102,489,485	\$321,486,845	\$122,148,858	\$1,546,125,187	\$3,479,544,898

Source: ECONorthwest, Oregon Employment Department, IRS, OMPA, Oregon Film.

The amount of output from out-of-state projects is low compared to labor income because much of that sector’s output gets attributed to projects’ home state or countries. Still, the total direct output of \$207.9 million from out-of-state productions was substantial.

Streaming media and social networking generated \$840.8 million in direct output and \$378.4 million in labor income. Advertising agencies produced \$1,089.1 million in output with labor income of nearly \$552.0 million.

Total Economic Contributions by Sector

Direct impacts trigger jobs, income, and output elsewhere in the state economy. The combined totals are the economic contributions a sector has on Oregon.

Film & video sector

Based on the analysis, we calculated that 9,578 FYE jobs in Oregon during FY2023 were supported by the film and video sector. Those jobs earned Oregonians \$745.8 million in labor income, while businesses in Oregon saw \$2,014.9 million in output. These are net outcomes after deducting double counting.

Table 3. Economic contributions in Oregon from the film & video sector, FY2023

Impact	Labor		
	Employment (FYE)	Income (millions)	Output (millions)
Direct	5,143	\$487.4	\$1,249.9
Indirect	1,821	\$99.3	\$329.4
Induced	2,613	\$159.1	\$462.6
Total	9,578	\$745.8	\$2,041.9

Source: ECONorthwest analysis using the current IMPLAN model for Oregon with double counting removed.

Television broadcasting sector

Television broadcasting employed 382 FyEs in FY2023, but through the sectors spending on local goods and service plus spending by employee households, the total contribution statewide was 1,009 FyEs, as shown on Table 4. Those jobs earned \$67.7 million in pay and benefits. In total, \$202.4 million in economic output in Oregon can be traced back to the spending by local television broadcasters.

Table 4. Economic contributions in Oregon from the television broadcasting sector, FY2023

Impact	Employment (FyEs)	Labor	
		Income (millions)	Output (millions)
Direct	382	\$38.4	\$109.5
Indirect	390	\$14.9	\$50.8
Induced	237	\$14.5	\$42.1
Total	1,009	\$67.7	\$202.4

Source: ECONorthwest analysis using the current IMPLAN model for Oregon.

Streaming media and social networking sector

Government agencies, which collect economic data, only recently started reporting statistics for the streaming media and social networking sector. This sector's size in Oregon is quite substantial and its economic contributions are large. This is in large part because of the high compensation rates and the ability of Oregonians to work in the sector remotely, selling their output to viewers around the world. As seen in Table 5, 6,565 FyEs in Oregon were linked to the sector. So too was \$562.6 million in labor income and \$1,387.8 million in economic output.

Table 5. Economic contributions in Oregon from the streaming media and social networking sector, FY2023

Impact	Employment (FyEs)	Labor	
		Income (millions)	Output (millions)
Direct	2,617	\$378.4	\$840.8
Indirect	1,979	\$64.2	\$198.2
Induced	1,969	\$119.9	\$348.8
Total	6,565	\$562.6	\$1,387.8

Source: ECONorthwest analysis using the current IMPLAN model for Oregon with double counting removed.

Gaming, VFX, VR, interactive software sector

This sector was modified by us to exclude commonplace forms of software publishing, such as accounting, sales, and spreadsheet software. We went through the entire list of firms in the software publishing sector and only selected those that produced visual effects (VFX), virtual and/or artificial reality (VR), and interactive entertainment and gaming software. This refined sector produces visual media that actively interacts with viewers, as opposed to passive viewership, such as online movies.

This sector is small, but those working in it are well compensated. As a result, they stimulate considerable induced economic output in Oregon. In FY2023, the gaming, VFX, VR, and interactive software sector supported 807 FYE jobs in Oregon earning \$103.8 million off \$239.3 million in total economic output in FY2023.

Table 6. Economic contributions in Oregon from the Gaming, VFX, VR, and interactive software sector, FY2023

Impact	Employment (FYE)	Labor Income (millions)	Output (millions)
Direct	370	\$76.6	\$162.0
Indirect	78	\$5.5	\$14.3
Induced	359	\$21.6	\$63.1
Total	807	\$103.8	\$239.3

Source: ECONorthwest analysis using the current IMPLAN model for Oregon with double counting removed.

Advertising agency sector

Oregon Film asked us to include advertising agencies because many agencies produce visual media, and the sector has been growing rapidly. Employment at advertising agencies rose 128 percent in the last 20 years compared to 27 percent statewide.¹ The high growth rate is due to concentration of creative talent in Oregon and technological changes that have made proximity to talent more important than proximity to clients.

As shown in Table 7, the total contributions of the advertising agency sector on Oregon’s economy in FY2023 was 9,021 FYE jobs, \$859.2 million in labor income, and \$2,003.8 million in economic output.

¹ From the Oregon Employment Department covered employment and payroll database.

Table 7. Economic contributions in Oregon from the advertising agency sector, FY2023

Impact	Employment (FYE)	Labor	
		Income (millions)	Output (millions)
Direct	3,996	\$552.0	\$1,089.1
Indirect	2,006	\$123.4	\$379.5
Induced	3,019	\$183.8	\$535.1
Total	9,021	\$859.2	\$2,003.8

Source: ECONorthwest analysis using the current IMPLAN model for Oregon.

Commercial photography sector

Although commercial photography is a small sector compared to the other sectors of the visual media industry, it stimulates considerable indirect and induced impacts for its size. Commercial photography also stimulates tourism impacts for Oregon, although those are not examined in this analysis. From Table 8, we see commercial photography supported 284 FYE jobs with \$20.5 million in labor income and \$48.6 million in economic output for Oregon in FY2023.

Table 8. Economic contributions in Oregon from the commercial photography sector, FY2023

Impact	Employment (FYE)	Labor	
		Income (millions)	Output (millions)
Direct	172	\$13.3	\$28.3
Indirect	41	\$2.7	\$7.6
Induced	72	\$4.4	\$12.7
Total	284	\$20.5	\$48.6

Source: ECONorthwest analysis using the current IMPLAN model for Oregon.

Conclusions

We conclude the visual media industry is become much larger due to state and local government assistance and Oregon’s natural appeal to creative talent. Facilitating this has been the widespread availability and eager adoption by new, inexpensive, and convenient technologies by Oregonians. This has made the production and distribution of visual media content more affordable, as well as making it more accessible worldwide.

Total contributions of the visual media industry in Oregon

Because the visual media industry pays relatively high wages compared to the state’s economy, the induced impacts are substantial. When combined with the indirect impacts on businesses, we found there were 27,264 FYE jobs in Oregon that can be traced back to the industry. The total contribution to total labor income was \$2,359.6 million. And visual media’s contribution to state economic output in FY2023 was \$5,923.7 million.

Table 9. Economic contributions in Oregon from the commercial photography sector, FY2023

Impact	Employment (FYE)	Labor	
		Income (millions)	Output (millions)
Direct	12,680	\$1,546.1	\$3,479.5
Indirect	6,315	\$310.1	\$979.7
Induced	8,269	\$503.4	\$1,464.4
Total	27,264	\$2,359.6	\$5,923.7

Source: ECONorthwest analysis using the current IMPLAN model for Oregon.

Estimated one-year state income tax ROI arising from film and video incentives

In FY2023, Oregon Film provided \$22.47 million in incentives that attracted productions to Oregon. Because of these incentives, Oregon attracted about \$208 million in direct production spending of which \$140 million was spent on payrolls for Oregonians. We estimated the total economic contributions from these productions and from those, the personal and business income taxes received in FY2023 by the state of Oregon. We estimated from this that Oregon state government got back 177 percent of every dollar state government spent on film and video production incentives.

Film and video sector growth since 2002

The growth of the film and video sector in Oregon has been nothing but explosive. In 2004, we wrote an economic impact report of Oregon’s film and video sector. We found that in 2002, the sector’s direct output was \$177.7 million, and its total contribution was \$357.1 million. Compare that to what we calculated in this report for FY2023—\$1,249.9 million in direct and \$2,041.9 million in total contributions. (Table 3). Therefore, in 20 years, the sector’s direct output rose 603 percent and its total contribution rose 472 percent. These are extraordinary increases. And they far outpaced the whole economy of Oregon, which grew about 158 percent over that time.²

² As measured by the gross domestic product (GDP) of Oregon, as reported by the U.S. Bureau of Economic Analysis. ECONorthwest estimated the state GDP for FY2023 based on partial year data. All output figures are in current dollars, so some of the increases are caused by inflation. According to the Federal Reserve, the U. S. GDP inflation between calendar year 2002 to FY2023 was 60 percent.