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The Media Industry in Oregon: Incentive and Impact Analysis

2020 Update

NeRC

Northwest Economic Research Center
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The Oregon Governor's Office of Television and Film promotes the development of the film, television, commercial, and interactive industry in Oregon, and works to enhance the industry's revenues, profile, and reputation within Oregon and among the industry internationally.

NERC is based at Portland State University in the College of Urban and Public Affairs. The Center focuses on economic research that supports public-policy decision-making, and relates to issues important to Oregon and the Portland Metropolitan Area. NERC serves the public, nonprofit, and private sector community with high quality, unbiased, and credible economic analysis. Dr. Hiro Ito is the Director of NERC, and also serves as the Chair of the Department of Economics at Portland State University. Dr. Jenny H. Liu is NERC's Assistant Director and Assistant Professor in the Toulan School of Urban Studies and Planning. This report was researched and written by Emma Brophy and Peter Hulseman.

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Cover image: From production of *Shrill* (2019).

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Shooting *The Dark Divide* (2020) Photo Credit: Sean Bagley

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Executive Summary

Oregon's media industries have become increasingly well-known over the last several years, thanks in large part to successful feature length films and television series produced in the state. It is widely known that such productions offer visibility, tourism interest, and a boost to local merchants during their visits. More economically important, but less immediately obvious, are the impacts of a home grown industry of professionals and businesses that thrive in regions able to maintain a reliable stream of production activity. Numerous states now offer incentives to visiting media productions, some focused on big-ticket features and visiting series. In Oregon, the Governor's Office of Film and Television has emphasized support for a local industry that not only interacts with out-of-state productions, but produces its own content, income, and permanent jobs. Indeed, the state's media industry has grown substantially over the last decade, and now supports thousands of resident professionals working in film, television, animation, video games, and multimedia.

Providing such support requires incentives that not only compete with other states hopeful to foster similar outcomes, but with other areas of Oregon's budget. The Film Office has commissioned analyses of the local economic impact of its efforts since at least 2007. This report expands and updates previous work by NERC to measure the costs and economic benefits of Film Office incentives, and adds analysis of survey and other economic data on the impact of the 2020 COVID-19 pandemic in the film and gaming industries.

This analysis examines FY 2016-2017 through FY 2019-2020, and indicates that the production incentive programs offered by OFT have a substantial positive impact in the local economy. By offering special incentives to local production firms and including game companies, the relevant programs create more lasting economic impacts than similar programs that incentivize out-of-state productions equivalently.

Altogether, incentives paid over the analysis period averaged $13.5 million per year for the OPIF program, and $3.9 million per year for the Greenlight program. Incentive funding is generated primarily through a credit auction of state tax credits. Although most incentive funding in terms of dollars goes to large out-of-state production companies, most of the income generated by productions taking part in the incentive programs accrues to Oregon residents, according to a prior detailed analysis of payroll records.[1] This income then is spent within the state in other sectors, generating further employment, income, and output. Incentivized programs directly supported 5,321 full-time equivalent jobs[2] over the four-year analysis period, or an average of approximately 1,680 in FY 2016-2017 and FY 2017-2018, and 980 in the subsequent two years. Indirectly, economic activity related to these directly supported jobs is estimated to support an average of over 1,000 jobs in total per year over the analysis period.

[1] Paruszkiewicz, Mike, et. Al. (2016.) The Media Industry in Oregon: Incentive and Impact Analysis. Northwest Economic Research Center, Portland State university.
[2] See pg. 13 for an explanation of full-time equivalent (FTE) job numbers.

Table A.1 – Direct Income and Employment in Oregon's Media Industry

	2016[3]	2017	2018	2019
Direct Labor Income (OR Residents)	$82,265,408	$87,401,093	$48,332,884	$57,288,541
Direct Employment (OR Residents)	1,657	1,697	940	1,027
Average Wage (overall)[4]	$48,852	$50,446	$50,713	$55,025
Total Industry Employment[5] (QCEW)	2,860	2,849	2,943	2,902

There is a drop in the level of economic activity related to OFT incentive programs in FY 2018-2019. In 2018, the IRS enacted rule changes related to the use of state tax credits at the federal level as part of the 2017 Tax Cuts and Jobs Act, and therefore the credits purchased in the program incentive program. In an effort to increase demand, the minimum bid on tax credits was lowered from $0.95 to $0.90 on the dollar, in Senate Bill 459.[6] In the data, it is clear that there were fewer productions overall in FY 2018-2019 and FY 2019-2020 as well. Another significant factor in lower production spending was the loss of NBC's out-of-state series *Grimm*, which spent an average of $53.2 million per year from 2012 to 2018, while receiving a small percent of their entitled incentives under the OPIF and Greenlight programs (in order to keep the OPIF fund available to other applicants).

The total economic impact of incentive-related economic activity (estimated by IMPLAN, a widely-used economic impact model) included $122-209 million in state Gross Regional Product ("Value Added") over the analysis period (Table A.2). These figures correspond to over $94 million in state and local tax revenues over all four years, or an average of approximately $23.6 million per year.

Table A.2 – Total Economic Impact of Incentivized Media Production in Oregon, 2016-2019

	2016	2017	2018	2019
Employment (OR)	2,917	3,066	1,625	1,793
Labor Income (OR)	$139,764,462	$149,703,396	$145,184,958	$92,453,195
Total Value Added	$191,544,460	$209,643,696	$138,121,769	$122,287,777
Output	$522,215,193	$546,693,889	$292,120,649	$322,195,958

[3] For convenience and consistency with prior reports, 2016 in tables and figures denotes FY 2016-2017, etc.
[4] The average wage in the video games subsector tends to be higher than that of the broader film/TV production industry. This higher wage is accounted for in employment estimates.
[5] Includes all employment in the state's media industry – both incentivized and non-incentivized. Does not include gaming employment, as this falls under the NAICS classification for Software Publishing and both a small percent of that sector, and a small percent of incentivized projects, are games.
[6] S.B 459, 2019 Regular Session. (Oregon 2019)
https://olis.oregonlegislature.gov/liz/2019R1/Downloads/MeasureDocument/SB459/Introduced

From this analysis, it is clear that the amount of state investment on production incentives is significantly outweighed by the economic activity that incentivized media production generates within the state.

Shrill (2019)

Introduction

The past year has seen the US fall into the first recession in a decade due to the first global pandemic of the modern age, and shifting budget priorities and revenue challenges have rarely been more complex or salient. The generation of economic activity is especially vital in this context, and after an almost complete cessation of most media production activity in the initial pandemic shock, production levels are still below what would have been expected and Oregonians that work in these fields are likely to be eager to make up for lost time and wages (see p. 18 for a look at how COVID-19 has impacted the media industry in Oregon). Incentive programs like those provided by the OFT can encourage in-state production and potentially induce out-of-state companies to choose Oregon over other areas as a production location, creating economic activity not only within the media industry, but in other industries as well.

Numerous US states currently offer incentives for media production, including tax credits, exemptions, cash rebates, and logistic assistance. In Oregon, the Governor's Office of Film and Television (OFT) began offering incentives to larger film and television productions in 2005 through the Oregon Production Investment Fund (OPIF). In 2007 state incentives were expanded through the Greenlight Oregon Labor Rebate, and the Indigenous Oregon Investment Fund (iOPIF) was introduced in 2009 to specifically target Oregon-based productions that primarily hire Oregon residents as employees. This program was later renamed L-OPIF (for "local") when the OFT launched a third OPIF program in FY 2017-2018. This third program, rOPIF (or "regional" OPIF), piggybacks on OPIF or L-OPIF applications and incentivizes production outside of the Portland Metro Area[7] in two ways, depending on the nature of the production. For projects that are produced by a company located within the Portland Metro Area, rOPIF offers reimbursement of costs directly associated with shooting outside the metro area (such as food, lodging, fuel, etc.) up to $200 per day per person, with a $10,000 per day cap. For production companies located outside of the Portland metro, that are filming in Oregon but outside of Portland (according to the definition given previously), rOPIF adds 10% to the total OPIF or L-OPIF rebate. These two categories are mutually exclusive. Total L-

Oregon Production Incentives Summary

Oregon Production Investment Fund (OPIF):
Qualifying productions (directly spend $1 million in Oregon) receive a 20% cash rebate on production-related goods and services, and a 10% cash rebate of wages paid to resident and non-resident workers.

Local Oregon Production Investment Fund (L-OPIF):
Qualifying productions (spend minimum of $75,000, produced by OR resident and with principal cast and crew at least 80% Oregon residents) receive 20% cash rebate (of spending up to $1 million) for goods and services and 10% cash rebate for wages paid to Oregon residents.

***Regional Oregon Production Investment Fund (rOPIF)**:*
Reimburses costs up to $200 per person per day (with a $10,000 cap) for OPIF- and L-OPIF qualifying projects shooting outside of the Portland Metro when the production company is located in same, or 10% of OPIF/L-OPIF funding when the production company is located outside of Portland.

Greenlight Oregon Labor Rebate:
Offers a cash rebate of 6.2% for all Oregon labor to productions spending over $1 million in the state.

[7] Defined as more than 30 miles from the Burnside Bridge.

OPIF funding is capped at 7.5% (raised from 5% in FY2017-18) of the overall OPIF fund, and rOPIF funding is capped to 3% of the same.

Many productions are able to combine incentives – for example, a feature film produced by an out-of-state company (that otherwise meets the aggregate spending threshold of $1 million in total) that spends $1 million on goods and services in Oregon and further spends $1 million on payroll in Oregon would be eligible for a combined rebate of $362,000: 20 percent of its goods and services purchases through OPIF, and 16.2 percent of its Oregon payroll (10 percent through OPIF plus 6.2 percent through the Greenlight Rebate). If this film shot outside of the Portland metro area, an additional 10% of the above OPIF funding would be added as well, for a total rebate of $382,000.

Economic studies analyzing media production in US states have proliferated in recent years alongside incentive programs. These studies vary widely in scope and methodology, sometimes considering activities somewhat removed from actual incentives. This report focuses on activity that is directly linked to Oregon state policy – that is, productions interacting with one or more of Oregon Film's incentive programs. There is a valid argument that the interrelated nature of the production industry's labor and capital markets indirectly tie a larger swath of activity to Oregon's efforts to draw and retain specific productions to the state. However, for economic "impact", "contribution"[8], or cost-benefit analyses, those activities that directly interface with incentive programs comprise the highest quality evidence.

The analysis that follows begins with a summary of the State of Oregon's expenditures on production incentives – the "cost" side of the issue – followed by several measures of the outcomes of incentivized media production activity as they relate to Oregon's economy.

[8] The distinction between economic "contribution" and economic "impact" is an important one, but the two terms are often used interchangeably in policy analyses. Technically speaking, "impact" refers to the results of new activity that stems from changes in policy, business environments, or other traceable factors. "Contribution" refers to the economic "footprint" of existing activity. This report involves both.

Methodology

This study focuses on activity that is strongly connected to Oregon's policy landscape and economy. The following sections thus present statistics that reflect a narrow portion of the state's media industry: only production companies that received incentives are considered, and further, only individual projects for which those incentives were received are considered (rather than all projects by the production company in question). This contrasts substantially with many similar reports on states' incentives programs.

Likewise, the geographic distribution of issues related to cross-border activity is approached with care. In the 2016 edition of this report, NERC used detailed payroll data from incentivized productions provided by the Oregon Film Office to determine employees' place of residence, which allowed the income and employment of Oregon workers to be separated from overall payroll spending. For production companies based in Oregon, it was assumed that all employees were Oregon residents. The hiring data from comparable projects of similar size and type was used to estimate the missing data in a small number of cases. This edition of the report uses the assumption that the rates of in-state vs. out-of-state employment remained consistent between reports, and applies the average percent by project type (Table 2, p. 12) found in the 2016 report to audited payroll numbers submitted to the Film Office by incentivized productions.

Employment in the media sector is highly unique, following patterns very different from typical nine-to-five work. Jobs estimates are approximated using earnings and average wages for the industry, as discussed in more depth in a sidebar later in the report.

All reported production spending occurred within Oregon borders, as required by the incentive programs, and thus represents only a portion of a given project's overall budget.

Economic Impact Analysis

The 2018 IMPLAN model of Oregon's economy was used to generate economic impact estimates (see inset). IMPLAN is an input-output (I-O) model that simulates a given region's economy – a mathematical representation of all of the linkages between firms, households, governments, and other economic entities. Based primarily on detailed data on the historical relationships and behaviors that define an economy, IMPLAN traces the impacts of a given activity through linkages wherein subsequent rounds of spending, earning, investment, and sales take place.

I-O models break out analysis into three types of impacts: direct, indirect, and induced.

- ***Direct impacts*** are the initial events that spur "upstream" and "downstream" economic activity. The classic example is the construction of a new sports stadium which is expected to generate $1 million in annual sales in the local economy. The $1 million in sales (output), earnings of new stadium employees, return to the stadium's investors, and associated government revenues represent direct impacts.
- ***Indirect impacts*** result from industry-to-industry activity – the upstream effects of an activity. In the stadium example, construction and operation of a new stadium requires building materials, lighting equipment, electricity, accounting services, and countless other inputs from other industries. These industries in turn must hire workers and purchase inputs from other

industries, and the cycle continues to feed each supply chain. The output, jobs, and income of these upstream activities represent the indirect effects of the new stadium.

- ***Induced impacts*** occur "downstream" (economically speaking) of the new stadium's direct and indirect effects: the stadium's workers, as well as the employees of its vendors in other industries, spend much of their income in the local economy. That spending in turn spurs economic activity at grocery stores, restaurants, medical offices, apartment complexes, and perhaps even the sports stadium. Induced effects capture all such iterations of workers' spending in the economy.

Economic impact analysis typically requires multiple assumptions that cannot be easily verified; in general, the most conservative option was chosen for this study. The first assumption involves the scope of the direct impact to be considered. As mentioned, this analysis considers only media production activity directly incentivized by the OPIF, L-OPIF, rOPIF, and Greenlight programs to be direct impacts.

While the labor income of the incentivized industry's employees was known, the output, profits, and taxes paid by the productions in question was not known. Estimates of these figures presented below were generated by IMPLAN.

Finally, strictly in-state productions are of particular focus in this analysis. However, companies and workers based elsewhere clearly play a role in incentivized activity. This study considers the impact of visiting productions and visiting workers conservatively, assuming only a small fraction (10%) of out-of-state workers' incomes are spent in Oregon, and ignoring the revenues earned and taxes paid to other states by out-of-state companies.

Results and Discussion

The next section provides the detailed results of this analysis, accompanied by context and interpretation. Comparison between out-of-state and in-state effects is provided as part of the central discussion relating incentives and industry spending.

State Incentive Funding

OPIF (and thus L-OPIF and rOPIF) funds are raised through biannual tax credit auctions. In FY 2016-17, credits sold for 102.6% of the dollar value, which rose to 104.4% in FY 2017-18. The next year, the minimum bid was lowered to 90% while simultaneously, the IRS restricted the ways in which the tax credits could be used. That year, the auction premium fell to 100.4% (meaning that the credits sold to essentially the fund value), and the following year they sold at 90.77%, or a little over $0.90 on the dollar. Table 1 shows the available funds, funds after auction, and incentive payouts.

Table 1 – State Incentive Funding, FY2016-FY2019

	2016-17	2017-18	2018-19	2019-20
OPIF funds available	$12,000,000	$14,000,000	$14,000,000	$14,000,000
OPIF funds received	$12,315,475	$14,622,131	$14,196,044	$12,707,750
OPIF funds paid	$12,142,355	$15,845,862	$9,141,327	$9,250,601
Greenlight funds paid	$3,845,841	$4,658,426	$2,750,685	$4,319,759

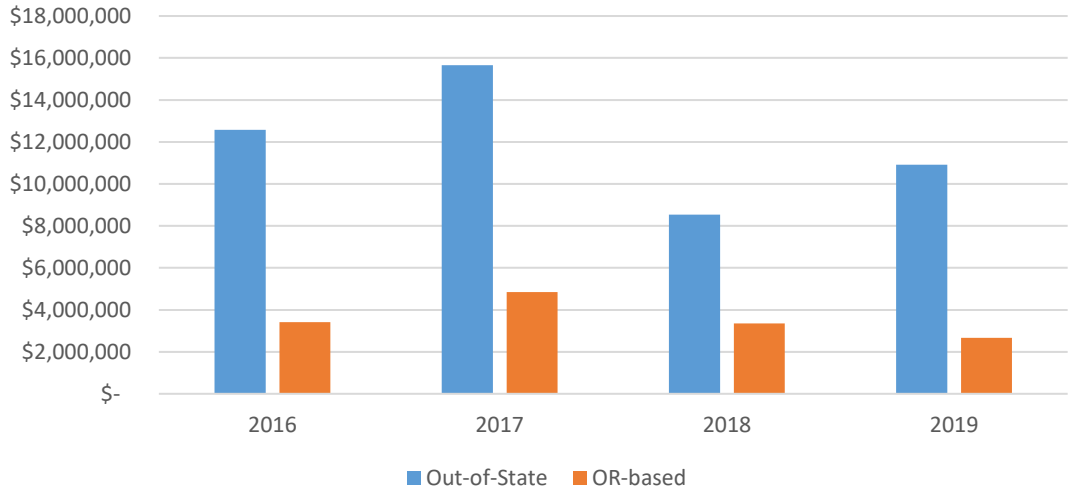
The difference between the total auction amount and the corresponding revenue – referred to as "leakage" – has decreased substantially over the life of the program. In recent years. credit auction prices have converged towards a 1-dollar to 1-dollar ratio. The auction in FY 2017-2018 resulted in a greater amount of revenue than was offered in credits – a *negative* leakage. However, in FY 2018-2019, the aforementioned change to IRS rules and decrease in the minimum bid were accompanied by a return to positive leakage.

The Greenlight Program is not limited to a set level, like the OPIF funds. Over the analysis period, this program paid out between $2.7 million and $4.6 million, for an average of $3.9 million per year, down from an average of $4.6 million in the previous analysis period.

Though numerous Oregon-based television series, feature films, interactive games, and commercials receive incentives each year, the size of those incentives is naturally smaller than the typically-larger out-of-state based projects. This pattern is generally consistent: incentivized Oregon-based projects outnumber out-of-state based productions, but those in the latter broad category outspend (and thus receive more state funding) than their local counterparts (Figure 1). The largest share of incentive payments goes to Out-of-State series—from 50-77% across the analysis period, or 61% in the average year. The next largest share goes to Out-of-State features, but that is notably smaller: 14-31% across the

sample period. This is in keeping with the concept of the incentive program, which seeks primarily to attract business from other areas while boosting local industry as well.

Figure 1: Incentives Received[9], Local vs. Out-of-State



Project Types

Out-of-State Series. *The largest category of projects in terms of spending, out-of-state series are produced in Oregon by companies based outside the state. These include Grimm, Portlandia, and Shrill.*

Out-of-State Feature Films. *Many states' production incentive programs were launched to target large feature films that are typically produced by companies based elsewhere. In Oregon, only three such projects were incentivized from 2012 to 2015, but more have received incentives over the recent analysis period, including Lean on Pete, Timmy Failure, and The Dark Divide*

Local Series. *Several pilots, episodes, and other serial projects destined for television and web presentation have been produced by Oregon-based creators. In recent years, this has been a fairly sparse category, with documentary series Pushing the Limits and fictional miniseries Life After First Failure as notable entries.*

Local Feature Films. *Many independent feature films and documentaries have been produced in Oregon since 2015, including Phoenix, OR; Clementine, and Lorelei—set to premiere at Tribeca Film Festival, which was unfortunately cancelled due to COVID-19. Laika Studios renowned animation features fall into this category as well, including Kubo and the Two Strings (2016) and Missing Link (2019). Additionally, LA-based studio ShadowMachine has recently opened a second office in Portland, which at the time of writing is locally producing a large-scale animated feature directed by Guillermo Del Toro.*

Games/Interactive Media. *Recently incorporated into OR Film's purview, Oregon's small but growing video game industry includes a cluster of companies based in Eugene, Oregon City, and the Portland region. Oregon developers were involved with Tacoma, Floppy Knights, and psychological horror hit Cat Lady. Pipeworks Studios in Eugene is an especially prolific incentive recipient.*

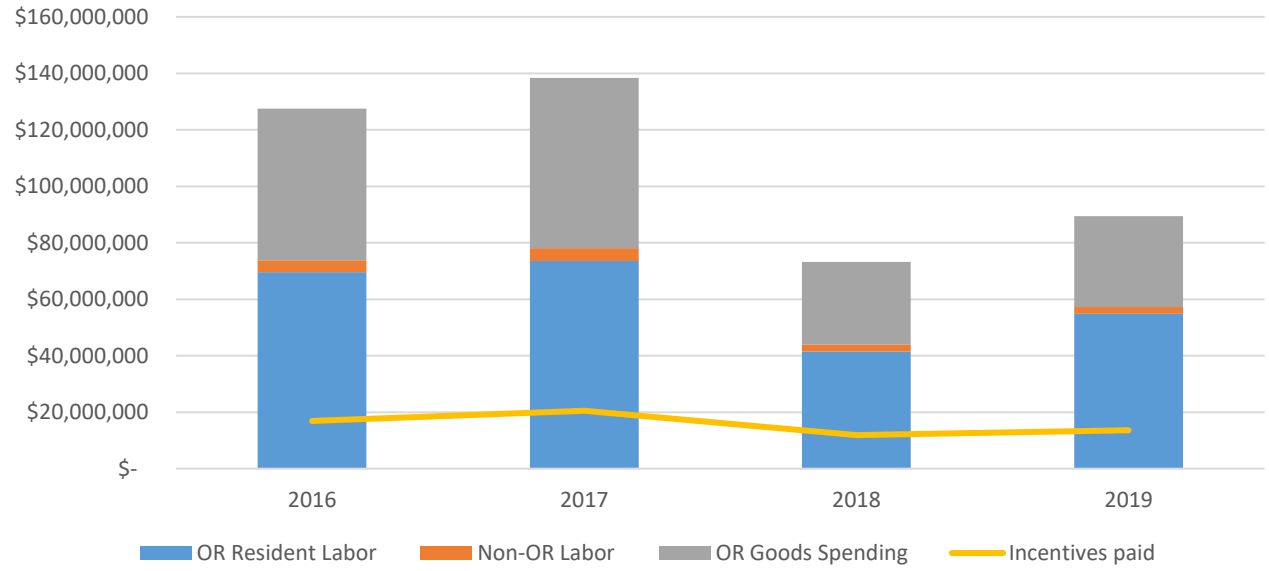
Commercials. *Oregon commercial production houses serve the local, regional, and national market. Larger-budget productions (>$1 Million) qualify for Greenlight incentives through the OR Film office.*

[9] Due to benign timing issues, agency fiscal year reporting and incentivized projects' audits do not precisely match up in a given year.

Production Spending

Media productions spend far more in production than they receive in incentive payments, which totaled 13-16% of total spending by production companies in the fiscal years shown in Figure 2, below. (Figure 2). Altogether, incentivized projects spent more than $550 million in Oregon between FY2015-16 and FY2019-20, with an annual average of $138 million. The largest share of spending (53% to 61% per year, or $66 million per year on average) was received by employees that reside within the state. Goods and services from Oregon vendors made up the majority of the remainder in production spending, and by the assumptions based on the 2016 report, 3% of production spending accrued to people working out of state.

Figure 2 – Production Spending vs. Incentives Received



As this analysis is focused on impacts within the state of Oregon, it is important to consider only the portion of payroll spending that can be reasonably assumed to change hands within the state. Most productions hire out-of-state workers as well, and this report uses averages from the previous report to estimate the degree of Oregon employment vs. out-of-state employment on the basis of project type. See Table 2 for the values used to estimate payroll accrued by Oregon residents. An estimated 82 percent of payroll expenditures across all project types accrue to Oregon residents, essentially identical to the 83% found in the previous analysis.[10]

[10] As discussed above and below, positions in the media industry tend to pay above-average wages. This is particularly true for "above the line" personnel that travel to out-of-state locations. Thus, the distribution of *payroll dollars* accruing to Oregon-based workers likely understates the distribution of *jobs* to Oregon workers.

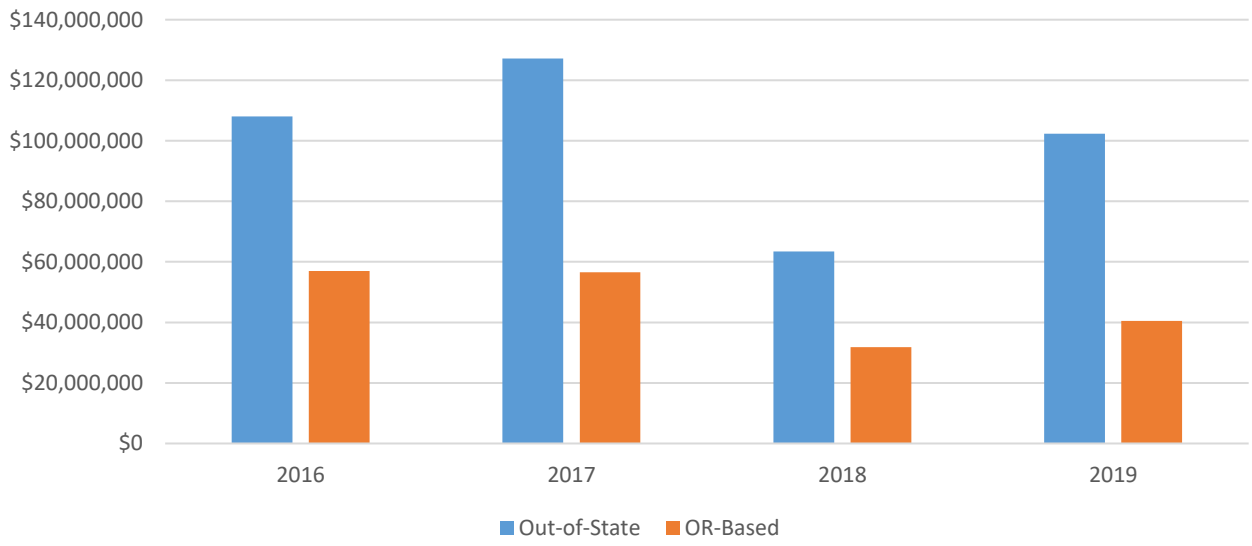
Table 2 – Oregon Residents' Share of Payroll, Series and Features[11]

Project Type	Oregon Residents' Share of Payroll Spending (average)
Out-of-State Features	40%
OR Features	76%
Out-of-State Series	61%
OR Series	95%

It should be noted that the payroll share assumptions may be low. The Hulu series *Shrill (2019-present)*, which has filmed two seasons in Oregon so far, hired more than 80% of its workers locally, in contrast to the 61% assumption used above. *Shrill* is a large out of state series, and in fact, the third highest-ranking series in terms of production spending across the analysis period. The authors have chosen to err on the conservative side with the estimates in this report in order to avoid overstating impacts.

Local projects outnumbered out-of-state projects in every year in the analysis period, but out-of-state projects outspent in Oregon, comparatively. See Figure 3, below.

Figure 3 – In-state Production Spending[12], Local vs. Out-of-State



[11] All commercials and games were produced by companies local to Oregon, and the previous report found that essentially 100% of payroll in these project types goes to Oregon residents. Animation in this report was categorized into series and features for purposes of this analysis, and the corresponding rates applied.
[12] Includes payroll for OR residents only

As noted above, the successful out-of-state-based television series produced in Oregon comprise the largest portion of the state's incentivized industry in terms of spending. Considering payroll spent in Oregon alone, these series collectively spent an average of $43 million per year between 2016 and 2019 for a four-year total of approximately $173 million.

Feature-length animation projects, completed by the Oregon-based *Laika* studio, would alone comprise the largest category of in-state spending, by a large margin. *Laika*'s in-state spending is so significant that its qualified incentive payments would exhaust much of the available OPIF/L-OPIF funding each year. Rather than submit the entirety of its expenses, the company works with the Oregon Film Office to arrive at a rebate amount that incentivizes local production while leaving state funds available to other projects.

"Jobs" in a Gig Industry

In the realm of economic development and policy, it is common to focus on job counts as an overall indicator of utility – the economic bottom line. Certainly, the employment associated with any activity is a convenient, if narrow, way to measure development or policy outcomes. Unfortunately, for the media production industry, counting jobs and comparing those figures with others presents a unique challenge.

In the TV/Film business, what does a total jobs figure refer to? For other industries, such as in a manufacturing plant, its meaning is roughly equivalent to the sum of all the workers on the plant's payroll in a given year. If a given plant worker only stayed on the job for 6 months, her position might count as one half (0.5) of a job.

But what of jobs on largely ad hoc television or film shoots? A camera operator may earn her annual salary by working for one week for a commercial shoot, six months for a TV series, and two weeks each on two more small projects. Her days on set may have been twice (or half) as long as those of a typical nine-to-five worker, and she may take off several weeks or months between periods of employment. Did she work just one "job" - Camera Operator - four jobs, or something in between?

Fortunately, there is a way of counting jobs that results in a standardized and intuitive figure for the related industries at hand. Returning to the half-year manufacturing employee example, official public employment data such as the QCEW might arrive at a 0.5 job estimate by dividing the number of months worked by the employee by the average months per year worked by employees at the plant. If this was a plant that was open year round, we would conclude that the half year employee represents one-half of a job. If the plant were open only nine months, the half-year employee would count as 0.66 jobs, and so on.

This analysis (and many economic models such as IMPLAN, described below) use a near-equivalent means to estimate jobs that serves well for industries where employees' work patterns are highly variable. Rather than the average number of months a "typical" camera operator works in a year, average wages and salaries can be used, essentially substituting money for time. Given the rich payroll data available through the Oregon Film Office's incentive programs, it is possible to convert reported wages to an estimated number of jobs that is familiar and comparable to other sources.

For example, say the average worker in TV and film production in Oregon earned about $45,000 per year. If a camera operator earns $15,000 in a year, we thus estimate 0.33 jobs without resorting to the complicated details of her yearly work schedule.

Since 2013, games have been included in the L-OPIF program. Over the analysis years, game developers participating in the incentive program spent $8.3 million on labor, down from $10.5 million in the previous analysis period but still exceeding payroll spending by locally-produced series' $2.4 million).

Table 3 (below) summarizes the estimated employment and income directly associated with incentivized production activity in Oregon from 2016 to 2019. Employment in the media production world differs in many ways from typical nine-to-five work (see above sidebar); the estimated job counts in Table 3 are based on the average annual income of workers in the television, film, and interactive games production industries for the sake of comparability to public employment data sources such as the Bureau of Labor Statistics and Oregon Employment Department.

Table 3 – Direct Income and Employment in Oregon's Media Industry

	2016	2017	2018	2019
Direct Labor Income (OR Residents)	$82,265,408	$87,401,093	$48,332,884	$57,288,541
Direct Employment (OR Residents)	1,657	1,697	940	1,027
Average Wage (overall)[13]	$48,852	$50,446	$50,713	$55,025
Total Industry Employment[14] (QCEW)	2,860	2,849	2,943	2,902

Productions that worked with the Oregon Film Office filled a total of 3,504 FTE positions over the analysis period, with an average of 826 per year, although as shown throughout this analysis, the activity level peaked in 2017 and fell off significantly in 2018 into 2019. Comparing the estimated job counts from incentivized productions to QCEW industry-wide counts provided by the Oregon Employment Department[15] suggests that an average of 46% of media production jobs are directly associated with productions that work with the Oregon Film Office for incentives over the four year period, with a high of 60% in 2017 and a low of 32% in 2018.

[13] The average wage in the video games subsector tends to be higher than that of the broader film/TV production industry. This higher wage is accounted for in employment estimates.
[14] Includes all employment in the state's media industry – both incentivized and non-incentivized. Does not include gaming employment, as this falls under the NAICS classification for Software Publishing and both a small percent of that sector, and a small percent of incentivized projects, are games.
[15] OED provided custom aggregations of various subsectors that comprise the film/video production industry as well as the video games industry in Oregon, which straddles several industries in official data sources.

IMPLAN Impacts

The impact summary results are given in terms of employment, labor income, total value added, and output:

***Employment** represents the number of annual average jobs in a given industry. These job estimates are derived from industry wage averages.*

***Labor Income** is made up of total employee compensation (wages and benefits) as well as proprietor income. Proprietor income is profits earned by self-employed individuals.*

***Total Value Added** is made up of labor income, property type income, and indirect business taxes collected on behalf of local government. This measure is comparable to familiar net measurements of output like gross domestic product.*

***Output** is a gross measure of production. It includes the value of both intermediate and final goods. Because of this, some double counting will occur. Output is presented as a gross measure because IMPLAN is capable of analyzing custom economic zones. Producers may be creating goods that would be considered intermediate from the perspective of the greater national economy, but may leave the custom economic zone, making them a local final* good.

Economic and Fiscal Impacts

The incentivized spending of media productions in Oregon, like all economic activity, has impacts beyond the direct hiring of employees and purchases from local vendors. These impacts, sometimes referred to as "multiplier effects", arise when the industry's workers spend their incomes on housing, food, and other consumption goods, and the vendors providing goods and services to productions pay their own employees and purchase inputs from other businesses (each of which spurs additional rounds of activity). Multiplier effects are a common way to capture the net economic impacts of a policy or industry change on a given economy, and are estimated using sophisticated mathematical models and detailed data. NERC used a proprietary IMPLAN model of the Oregon economy (see *Methodology*, above) to trace the additional impacts of media production spending throughout the state's economy. The estimated combined impacts of incentivized industry activity are summarized next.

Utilizing the spending data provided by the Oregon Film Office as inputs for the IMPLAN model is fairly straightforward: the estimated payroll accruing to Oregon resident employees is added to the simulated state economy as labor income, and the in-state spending of production companies is spread according to the appropriate industry's specified supply chain. One exception, however, requires further attention. By and large, IMPLAN (and similar impact models) assume that most of a worker's income is spent in the geographic region that defines the economy in question. While this is almost certainly accurate for our purposes in the case of television and film industry personnel living in Oregon, it is less clear how much of non-residents' income is spent in the state. Film and television productions are unique in that visiting workers often spend long periods in the state, during which they presumably spend some substantial portion of their paycheck. Other studies of states' film and television industries have made wide-ranging assumptions regarding visiting workers' spending, but hard data on such patterns is not readily available. To maintain a conservative set of estimates, this study assumes that 10% of an out-of-state resident's income is spent in Oregon. Ultimately, the inclusion adds a little over $11 million in non-resident income over the four year period, or an average of $2.8 million per year, alongside that of Oregon resident workers.

Economic Impacts

Table 4 summarizes the overall economic contribution of the media production activities incentivized by the Oregon Film Office. Total impacts indicated add indirect and induced effects, based on the direct inputs (outlined in Table 3 above), to said direct impacts. As noted, job counts are based on average wages, and in Table 4 refer only to Oregon residents, based on the payroll assumed to have accrued exclusively to the state. Labor income is as reported to OFT by incentivized productions, and subsequently adjusted down to apply strictly to Oregon residents in Table 4. The output (industry sales) associated with the activity in question is a sum of three parts: an estimate of direct output for in-state activity based on labor income generated by IMPLAN (the "direct effect"); the reported in-state spending of local and out-of-state productions (the "indirect effect"); and the output purchased by workers in the media industry and their counterparts in every other affected industry (the "induced effect"). In other words, from Oregon's perspective, the economic output attributable to visiting productions stems simply from their spending on in-state goods, services, and labor (rather than the sales that they eventually achieve through box offices and media outlets elsewhere). The output of Oregon-based businesses, just like businesses in other industries, includes both their own gross revenues and the upstream and downstream activity they spur.

Table 4 – Total Economic Impacts of Incentivized Media Production in Oregon

	2016	2017	2018	2019
Employment (OR Residents)	2,917	3,066	1,625	1,793
Labor Income (OR Residents)	$139,764,462	$149,703,396	$145,184,958	$92,453,195
Total Value Added	$191,544,460	$209,643,696	$138,121,769	$122,287,777
Output	$522,215,193	$546,693,889	$292,120,649	$322,195,958

In addition to an estimated annual average of 1,330 jobs per year provided directly by the businesses in question, the indirect and induced impacts of industry activity support an average of 1,000 jobs per year[16] elsewhere in the Oregon economy. Likewise, the resulting income paid to Oregon workers averaged $132 million per year — $68.8.5 million directly paid by media productions, and another $63 million supported indirectly by industry activity and consumer purchases. Total value added[17] by the industry within the Oregon economy, including multiplier effects, averaged $165.3 million per year.

Fiscal Impacts

Oregon's production incentives are funded through state taxes, with costs incurred during revenue collection (i.e. the "leakage" of tax credit auctions) as well as expenditure. Naturally, the relevant question of costs and benefits to the state includes the extent to which revenue dedicated to incentives is recouped through the broad economic activity associated with their use. Local workers pay taxes to

[16] Note that the indirect and induced employment effects are based on spending, and are thus not influenced by the estimated direct employment figures.
[17] A local near-equivalent of GDP

the state, and many out-of-state workers pay "work state" taxes, which further add to Oregon's revenue. (The latter are not included in this model.) Table 5 summarizes the fiscal impacts associated with incentivized production.

Table 5 – Total Fiscal Impacts of Incentivized Productions in Oregon, FY 2016-2017 – FY 2019-2020

State	2016	2017	2018	2019
State Personal and Corporate Income Taxes	$8,874,023	$10,655,555	$4,987,857	$5,450,484
Other State Taxes, Fees, and Licenses	$5,358,755	$6,571,758	$3,020,806	$3,300,439
Total State	$14,232,778	$17,227,313	$8,008,662	$8,750,923
Local	**2016**	**2017**	**2018**	**2019**
Property Taxes	$11,140,270	$13,717,126	$6,283,217	$6,864,678
Other Local Taxes, Fees, and Licenses	$2,416,520	$2,971,524	$1,362,645	$1,488,847
Total Local	$13,556,790	$16,688,650	$7,645,862	$8,353,525
Federal	**2016**	**2017**	**2018**	**2019**
Federal Personal and Corporate Income Taxes	$18,905,709	$22,692,759	$10,625,626	$11,611,367
Social Insurance and Excise Taxes	$25,409,732	$30,669,861	$14,294,631	$15,619,553
Total Federal	$44,315,441	$53,362,620	$24,920,257	$27,230,920

Overall, the state of Oregon collected an average of $12 million in revenue per year between FY 2016-2017 and FY 2019-2020 –just slightly lower than the funding for the OPIF program in entirety. These estimates are broadly comparable to previous studies of Oregon's film incentive programs[18] with a few notable qualifications. First and most important is this study's limited consideration of direct impacts (i.e. exclusively incentivized productions), and thus of fiscal impact. Second is the addition of video game projects to the list of incentive recipients in 2013; as locally-generated activity has a higher dollar-for-dollar economic impact than visiting productions, these Oregon-based firms have relatively high state and local fiscal impacts.

[18] See for examples analyses by ECONorthwest from 2005 and 2007, and NERC from 2012.

Impact of COVID-19

While many jobs associated with entertainment production can be done remotely, the industries in this report nonetheless suffered heavy losses due to the 2020 COVID-10 pandemic and resulting economic shutdowns. Nationally, television production ceased entirely from March into the summer—Georgia was the first state to outline safety protocols for the resumption of shooting on May 22nd, with the Oregon Media Production Association (OMPA) following suit that same month and issuing guidelines that completed review on July 31st. Hollywood authorizing resumption starting June 12th, but precautionary measures continue to limit the usual pace of shooting all over the nation.

The OMPA issued three surveys to track the felt impact of the pandemic—the first two were conducted online from a link accessible from the OMPA website from March 17 through May 8 of 2020. One (Survey 1) focused on the impact of COVID-19 on local companies, while the second more broadly addressed the industry in general (Survey 2). The second survey offered a $250 financial incentive for participating. At the time of writing, the former has 351 responses, and the latter has 319 responses. (On both surveys not all respondents answered all questions.) The third survey was directed at the specific impacts of the pandemic, and was issued in in the same fashion in October of 2020 (denoted as Survey 3, below). This survey received 42 responses between October 9th and November 5th. Given the small sample sizes and voluntary nature of response, these results should be considered illustrative rather than analytical, but they provide some window into the ways in which COVD-19 has impacted the television, film, and gaming industries in Oregon.

In the first two surveys, the immediate impact is clear. Out of 351 responses, 97.4% of respondents to Survey 1 indicated that their work had been impacted by coronavirus. The vast majority of short answer responses indicated that cancelled projects were the reason for impacted work. Revenue losses were expected by 51% of respondents to total $10,000-100,000, with another 27% expecting losses lower than $10,000 and 9% expecting losses greater than $100,000. Demand for government support was clear—95.4% of respondents indicated that the government should implement measures to financially support freelancers and small businesses who had been negatively affected by COVID-19. Survey 2 covered more ground not relevant to the impact of the virus specifically, but out of 309 responses, 30% indicated that they were not working (due to a business shot down or otherwise) and another 12% indicated that they had been temporarily laid off or furloughed. Thirty percent were working at home, and 9% had found themselves able to conform to social distancing measures in order to continue work. As these two surveys took place at the outset of the pandemic, questions are speculative in nature—out of 304 respondents to a question in Survey 2, 47% believed that they would be able to weather the downturn, while 36% indicated that they were exploring other career options and 10% stated that “it’s not looking good.”

Survey 3 was designed (with guidance from NERC) to be slightly more quantitative in nature, as it is meant to serve this report. The number of responses (41) is quite small, in part due to the fact that no financial incentive was offered. There might also be a lack of engagement with OMPA’s site, due to lower activity in related industries, but that is speculative. Results are discussed in brief below.

Out of the total 41 respondents, 35 indicated that they had lost revenue due to COVID-19. The reported percent of revenue lost is indicated in Figure 4. Eleven respondents indicated that they had gained

revenue as well—eight of these responses were removed as the respondent also indicated that they had lost revenue, and subsequent questions pointed towards a net loss. The remaining three respondents estimated gains of 20-50%. The number of responses by cancelled projects is shown in Figure 5; the number of responses by postponed projects was essentially identical. Around half of respondents indicated that 1-5 projects had been lost or postponed (across all subsectors of the industry), with the next largest group reporting that more than 21 projects had been lost or postponed (most of these respondents were in the commercial sector). According to the subsequent question, respondents indicate that 58% of the lost or postponed projects would have taken place entirely in Oregon.

Figure 4: Estimated Percent of Revenue Lost Due to COVID-19

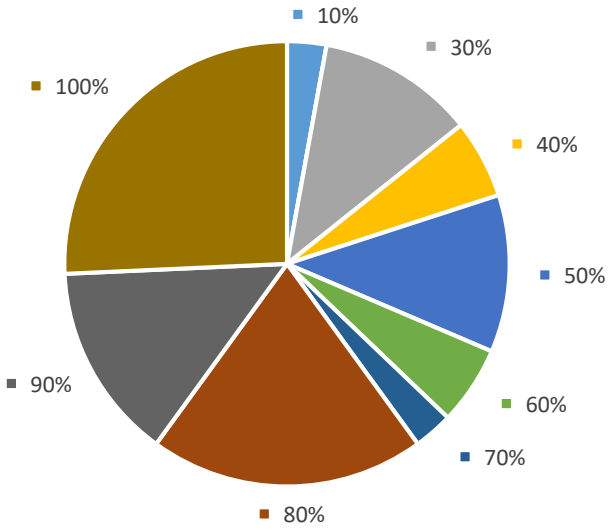
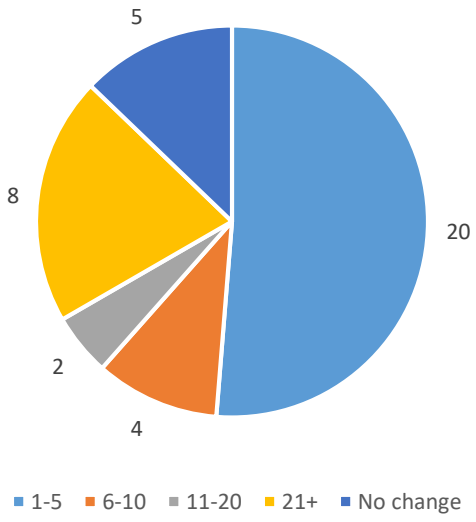
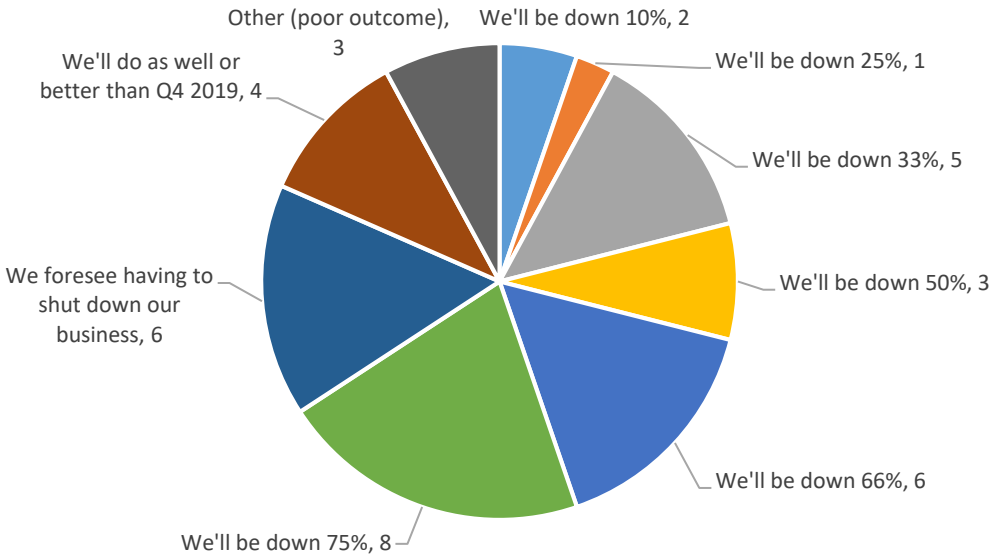


Figure 5: Responses by Estimated Number of Cancelled Projects



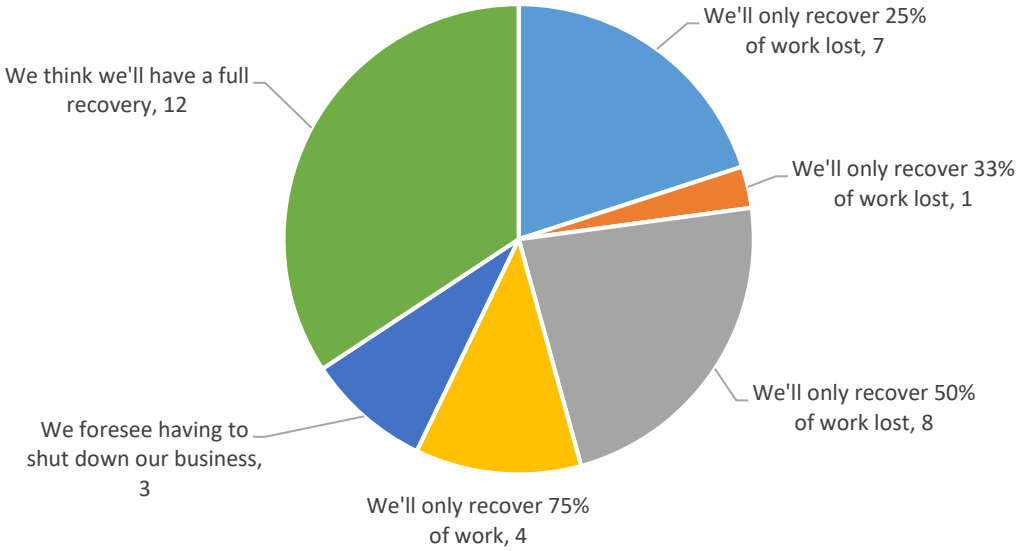
When asked how they expected 2020Q4 to compare to 2019Q4, nearly three-quarters of respondents expected that revenues would be down more than 50%, and a sizeable proportion anticipated closing up shop entirely. (Recall the small sample size and administration of the survey, and note that this is a crude estimation of the local, and not national, production climate at the time of writing).

Figure 6: Responses to "How do you anticipate 2020Q4 will compare to 2019Q4?"



However, thinking further down the road, the majority of respondents were optimistic about the future, anticipating recovering some of the projects lost once restrictions are lowered. The largest group anticipated a full recovery.

Figure 7: Responses to "Assuming the coronavirus pandemic is no longer a factor, how do you anticipate 2021Q4 will compare to 2019Q4?"



On a separate note, one consequence of COVID-19 has been the cancellation of events that involve large crowds, such as those that take place in large concert venues, and the subsequent loss of income related to those venues. After the industry began to film again in the early summer of 2020, out-of-state series and features rented the Moda Center and Portland Expo Center for set-building and productions, bringing some use and activity to otherwise-dormant sites and economic activity to the downtown area in the form of hotel and other amenity use. As no other use was possible at this time, this constituted a positive economic impact.

Conclusion

This analysis agrees with previous economic impact studies that while incentive programs do not pay for themselves entirely via state tax collections, they do leverage incentive dollars to a high degree. On an average annual basis over the four years considered, $19.6 million in incentives per year directly support about 1,330 jobs and $69 million of income for Oregon residents, and indirectly support another 1,000 FTE positions per year earning an aggregate $63 million.

Although most state incentive funding is given to productions that are not based in Oregon, the majority of income generated accrues directly to Oregon workers and businesses. In turn, that income stimulates additional employment, income, and economic output in the state. Economic activity related to locally-based workers and firms generally has larger impacts on the state economy, as more of its generated income, spending, and tax revenue stays inside the state. While many states' incentives have been traditionally aimed at attracting out-of-state productions, Oregon's incentive programs are designed to provide greater support to numerous local projects, an economically important distinction.

The 2020 COVID-19 pandemic has impacted the local and global economy dramatically. Surveys conducted by the OMPA document the felt impact in the local production industry, and more than half indicated that they had lost 80-100% of their revenue due to COVID. However, while many felt negatively about the present in terms of lost revenue, there remains plenty of hope for a rebound in the coming year.

Ultimately, the measures of costs and benefits presented in this analysis should be viewed with an appropriate eye towards their limitations. The explicit costs of incentive programs – the amount of tax revenue granted to productions – are straightforward, but say nothing of the relative opportunity costs of foregone funding for other state priorities. Similarly, the explicit employment benefits of incentivized productions, even when appropriately scaled up to account for multiplier effects, do not capture a notable economic development aspect of public support. Oregonian workers and businesses operating in television, film, or interactive game production indirectly benefit from a stable source of opportunities offered by out-of-state productions and the growing presence of a local ecosystem of complementary businesses that provide goods and services to the industry.