



Assessing the Impacts of Hawai'i's Film Tax Credit in 2024



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STATE OF HAWAI'I

This report was produced by the Research and Economic Analysis Division (READ) of the Department of Business, Economic Development & Tourism (DBEDT). It was prepared by Seth Colby, Ph.D., Chief State Economist, with assistance from Rene Kamita, Ph.D., Economist, and Jacob Vuillemin, Economist.

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Executive Summary

This report assesses the economic impacts of The Motion Picture, Digital Media, and Film Production Income Tax Cut, (“the film tax credit”). Hawai‘i offers a refundable tax credit worth up to \$50 million per year to incentivize filming and production work in the state. Because the credit is fully refundable, the state is in effect subsidizing a portion of the film’s productions costs. This report calculates the tax revenue and economic activity generated by this subsidy.

In 2024, 32 production companies utilized \$38 million of the Hawai‘i film credit and reported expenditures worth \$169 million. Of the total qualified expenditures, 73 percent was spent in-state or paid to residents. Productions hired 7,687 Hawai‘i residents, but many of these hires were for a relatively short duration, and 4,083 were extras.

This report evaluates the film credit according to three criteria: 1) the ability to bring new production spending into the state; 2) the net impact on economic activity and state finances; and 3) the ability to create a sustainable film industry that provides high-paying jobs and fosters economic diversification.

The report finds that the film credit attracts more production spending than would otherwise occur in the absence of the credit. Using the historical pre-credit baseline, an estimated \$101 million of additional production spending was brought in by the credit—60 percent of total production spending.

The film credit resulted in positive economic gains for the state under two scenarios. If it is assumed that 100 percent of production spending is due to the film credit, the credit produced an additional \$77 million of state GDP and \$97 million in earnings, equating to \$2.03 additional GDP for every dollar of credit. If it is assumed that only 60 percent of production spending is due to the credit, then it produced \$29 million of additional GDP and \$49 million of earnings, equating to \$0.77 of extra GDP for every dollar of film credit.

The film credit produces a fiscal loss for the state in both scenarios. If 100 percent of production spending is due to the credit, the net loss to state coffers is \$19 million. If 60 percent of new spending is induced by the credit, the net fiscal loss is \$27 million. The fiscal loss is smaller in Hawai‘i compared to other states due to its unique tax structure.

There is little evidence that the film credit has generated a local film industry that can continue at the same scale without the ongoing support of credits, matching the experience of most states.

I. Report Overview

This report assesses the economic impacts of The Motion Picture, Digital Media, and Film Production Income Tax Cut, (“the film tax credit”). Hawai‘i offers a refundable tax credit to incentivize filming and production work in the state. In 2024, the credit was capped at \$50 million, of which \$38.0 was claimed.¹ Production companies may receive a refundable tax credit worth 22 percent of qualified production costs on O‘ahu and 27 percent of qualified production costs on neighbor islands. There is a per production tax credit cap of \$17 million. If the \$50 million aggregate cap is reached in any given year, productions may claim excess credits in the subsequent year

Because the credit is fully refundable, the company is entitled to the refund amount even if they have no offsetting tax liability. In essence, the State is subsidizing 22 percent of a film’s production costs on O‘ahu and 27 percent of production costs on neighbor islands. This report calculates the tax revenue and economic activity generated by this subsidy.

The film tax credit can be evaluated using three criteria:

- 1) The ability to bring new production spending into the state**
- 2) The net impact on state finances and economic activity**
- 3) The ability to establish a sustainable film industry that provides high-paying jobs and fosters economic diversification.**

This report assesses each criterion using a different metric.

II. Background

- **The film industry represents a small share of Hawai‘i’s economy** at less than 0.3 percent state Gross Domestic Product (GDP).
- **The refundable film tax credit has been repeatedly expanded since 2006**, increasing from 15 percent to up to 22 percent of qualified production costs (with higher rates on neighbor islands).
- **The credit has grown dramatically**, rising from an average of \$0.9 million annually (1999-2006) to \$50.4 million (2017-2023).

The film industry represents a relatively small share of Hawai‘i’s economy. Hawai‘i’s Motion Picture and Sound Recording Industry contributed to 0.3 percent of state GDP, with 0.2 percent estimated to come from Motion Picture and Video.² Although total qualified production spending averaged \$236 million between 2019-2024, 26 percent went directly to

¹ Based on qualified production expenditures in 2024.

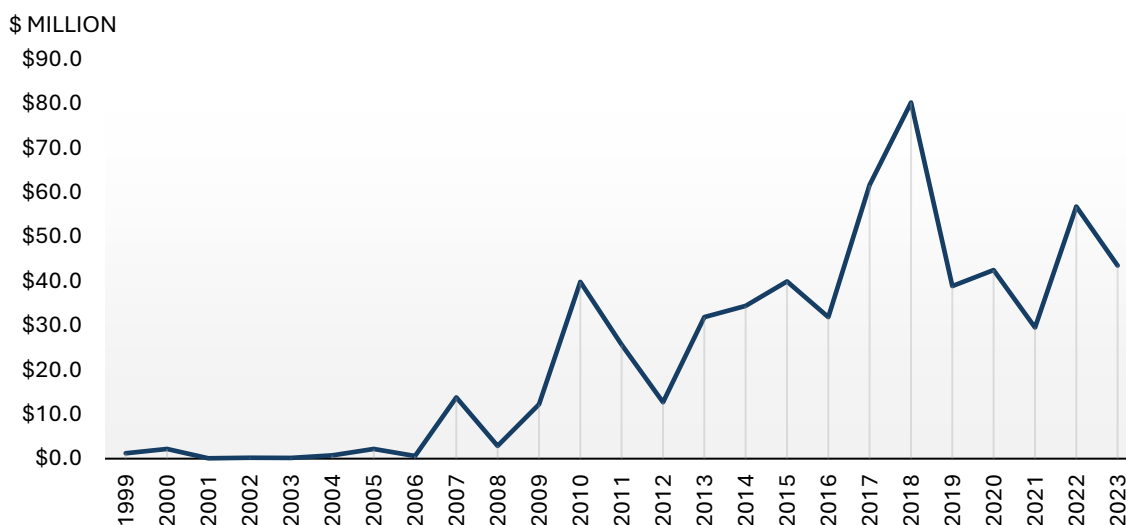
² U.S. Bureau of Economic Analysis, "SAGDP2 Gross domestic product (GDP) by state" (accessed Friday, November 7, 2025). GDP estimate for Motion Picture and Video Production from Lightcast.

non-residents and out-of-state businesses, meaning that only \$174 million spent was spent in the local economy per year. The industry pays below-average wages—the Hawai‘i’s average annual wage in Motion Picture and Video Industries was \$48,508 compared to the state average of \$67,356 in 2024.³

The Legislature created the film tax credit in its current form in 2006 and has increased it several times since. A smaller version existed prior to 2006, designed to offset general excise tax and transient accommodation tax liabilities. The 2006 credit offered a 15 percent refundable credit for qualified production costs on O‘ahu and 20 percent on neighbor islands. In 2013, the Legislature increased the credit to 20 percent on O‘ahu and 25 percent on neighbor islands. In 2017, a \$35 million rolling annual cap was imposed. The cap increased to \$50 million in 2019. In 2023, the Legislature raised the credit to 22 percent on O‘ahu and 27 percent on neighbor islands.

The film credit grew substantially after 2006. The average credit increased from \$0.9 million between 1999-2006 to \$24.5 million between 2007-2016, then to \$50.4 million between 2017-2023.

Figure 1: Film Tax Credits Claimed (1999-2023) in millions of dollars



Source: Hawai‘i Department of Taxation, *Tax Credits Claimed by Hawai‘i Taxpayers*.

³ DBEDT (2025). *2024 Employment and Payrolls in Hawai‘i*.

A Brief History of the Hawai‘i Film Credit

A credit designed to offset taxes

Hawai‘i created tax incentives for motion picture and television film production beginning January 1, 1997. It was a refundable tax credit worth 4 percent of costs incurred in the state during production and 6 percent of expenditures on transient accommodations.⁴ In 1999, the film tax credit increased from 6 percent to 7.25 percent of actual expenditures for transient accommodations.⁵ This iteration of the credit was intended to offset costs imposed by the general excise tax and transient accommodation tax, ensuring production companies were not subject to taxes that did not exist in other states.

Film studios take advantage of Act 221

The Legislature enacted Act 221 in 2001, allowing taxpayers to claim 100 percent of their investment in a high technology firm and loosened the restrictions on the research tax credit. Performing arts companies were some of the largest users of this credit. Between 2002 and 2007 film production companies claimed \$445 million in cash investment.⁶ The media reported that large credits were given to the producers of *Blue Crush* and Warner Brothers.⁷ The Hawai‘i Department of Taxation changed the rules governing Act 221 to disallow one-shot productions.

The credit takes its current form

Several key features were amended in 2006.⁸ The credit increased to 15 percent of the qualified production costs incurred on O‘ahu and 20 percent on the neighbor islands. To qualify, a production needed to have at least \$200,000 in qualified production costs and make reasonable effort to hire local talent and crew. A \$8 million per production credit cap was set. The tax credit was renamed the Motion Picture, Digital Media, and Film Production Income Tax Credit.

The film credit gets larger

In 2013, the credit increased to 20 percent on O‘ahu and 25 percent on neighbor islands.⁹ The per-production cap rose to \$15 million. In 2017, a \$35 million annual spending cap was established, with excess credits carried forward to the subsequent year.¹⁰ Productions claiming costs for products or services acquired outside Hawai‘i became required to provide evidence that reasonable efforts to procure comparable items within the state were unsuccessful.¹¹

In 2019 the Legislature increased the annual cap to \$50 million.¹² Effective January 1, 2023, the tax credit was raised to 22 percent on O‘ahu and 27 percent on the neighbor islands.¹³ The minimum qualified production cost threshold was lowered to \$100,000 and the per production tax credit cap was increased to \$17 million. The sunset date for the tax credit was extended to January 1, 2033.

⁴ See Act 107, Session Laws of Hawai‘i (SLH) 1997.

⁵ See Act 156, SLH 1998.

⁶ Hawai‘i Department of Taxation (2008). *Descriptive Statistics on the Operations of Qualified High Technology Businesses From 2002 Through 2008*.

⁷ La Croix, Sumner, and James Mak (2021) "Understanding the Role of the Hawaii Film/TV/Digital Production Tax Credit in Diversifying the Hawaii Economy." *UHERO Research Brief* 15.

⁸ See Act 88, SLH 2006.

⁹ See Act 89, SLH 2013.

¹⁰ See Act 143, SLH 2017.

¹¹ See Section 235-17(d), HRS, for a full list of qualifications.

¹² See Act 275, SLH 2019.

¹³ See Act 217, SLH 2022.

III. Putting Hawai‘i’s Film Credit in Context

- **Film production is highly mobile and competitive**, with 37 states and over 60 countries offering tax credits to attract productions that can easily relocate.
- **Production costs are a primary driver of location decisions**, prompting governments to offer tax credits (typically 25-30 percent of spending) to make their jurisdictions more attractive.
- **Film tax credits risk creating a "race to the bottom"** where jurisdictions compete by offering larger subsidies without expanding the overall industry.

Hawai‘i’s film tax credit should be considered in relation to film tax credits offered by other governments. The success and impacts of the state’s film credit do not just depend on what Hawai‘i offers; they also depend on what other governments offer in comparison to Hawai‘i. Many states and countries compete to attract film production spending to their jurisdictions. At one point, 45 states and more than 60 countries and regional governments offered film tax credits, with some foreign jurisdictions offering up to 50 percent of in-country production costs.

Many governments use tax credits to lure film productions and corresponding spending. Because film is a knowledge-based sector producing intellectual property, many see a local film industry as a way to attract high-paying jobs and promote economic resilience. Technological progress has left the industry less tethered to traditional clusters in Los Angeles and New York City. Governments recognize this mobility and offer tax incentives to attract TV and movie productions and their spending in the local economy.

Production cost is a deciding factor in where productions choose to shoot. While other concerns drive a film’s location—natural scenery, access to skilled labor, and availability of infrastructure—productions frequently cite production costs as one of the most important factors. Governments offer film credits and other benefits to lower costs and increase the likelihood that a production will film in their jurisdiction.

Thirty-seven states currently offer film tax credits, down from a peak of 45 in 2010.¹⁴ The implicit hope is that economic activity generated by production will offset the cost of the tax credit. There is concern, however, that tax credits create a "race to the bottom" where productions move to the jurisdiction providing the largest subsidy without expanding the overall industry. Any state offering a film tax credit (FTC) should carefully weigh costs against benefits. There is a point where the size and generosity of the credit generates more losses than gains for Hawai'i residents. It is important to carefully consider the resources the state can provide to attract film productions while still getting a good deal.

Some states offer film tax credits that are significantly larger than Hawai'i's (see Figure 2). Georgia offers the largest film tax credit of any state, followed by New York and California. When the credit is assessed in per capita terms, Hawai'i ranks sixth (see Figure 3). More information on each state's film credit is available in Annex 1.

Tax credit rates vary by state and range from 10 to 45 percent of production spending, with most offering between 25 and 30 percent.¹⁵ In a typical state, a company with \$1 million in film production expenditure would receive tax credits worth around \$250,000. Most states only offer a tax credit for local spending. Another important feature of FTC programs is whether or not the tax credits are refundable or transferable. Refundable tax credits allow for cash refunds to be issued when their value is greater than the recipient's tax liability. These refunds can be the entirety of face value or some portion of it. Transferable tax credits,

Tax Credits: Best Practices

Governments use tax credits to encourage certain industries and specific economic activities. In some cases, targeted credits have helped emerging industries mature and grow until they can compete without further assistance. In other cases, targeted credits do not fundamentally alter economic competitiveness and simply act as fiscal transfers to selected industries or firms. Tax credits should have sunset provisions and regular evaluation mechanisms to prevent indefinite subsidization of uncompetitive industries.

Economically useful credits should be targeted, time-limited, and require firms or users to bear most of the cost. A tax credit should be structured to target a specific economic outcome rather than be excessively broad, ensuring it meets its original purpose. It should be offered for a limited period so firms do not become dependent on the credit. Generally, businesses should have most of the "skin in the game" when it comes to investment decisions.

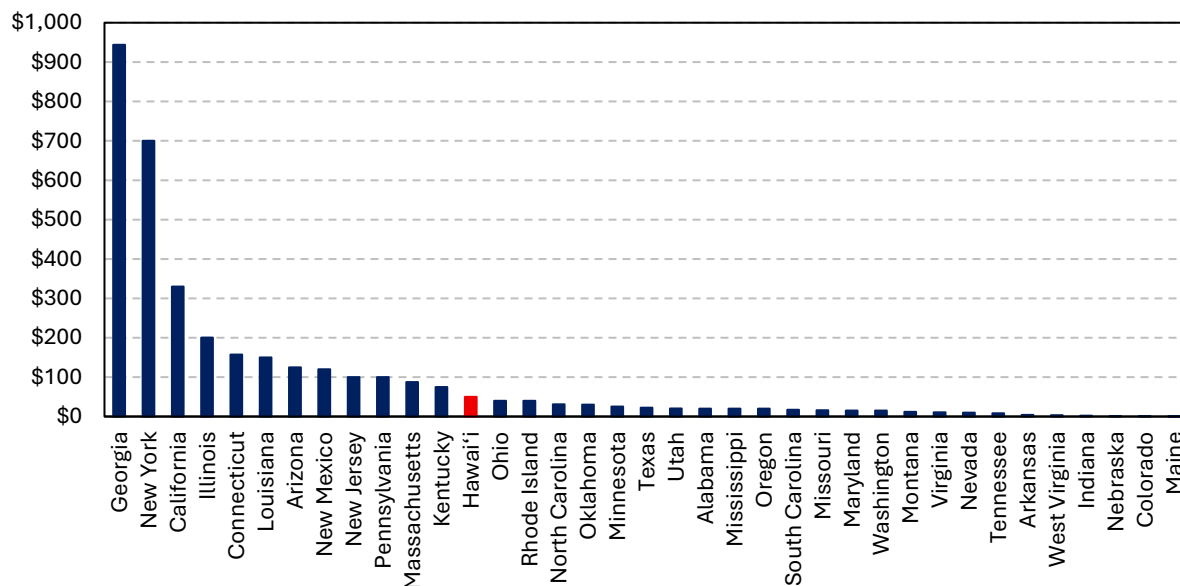
An inherent risk of tax credits is that they create political constituencies that make them hard to discontinue even when they have outlived their economic use. Governments that use tax credits need to develop objective mechanisms to measure their economic value. A standard metric of success is determining whether economic activity persists after the credit expires.

¹⁴ Petek, Gabriel (2023). The 2023-24 Budget: California's Film Tax Credit. Legislative Analyst's Office (LAO).

¹⁵ Patrick, Carlianne, Peter Bluestone, Federico Corredor Carvajal, Nadia Farooq, Kshitiz Shrestha (2023). Tax incentive evaluation: Georgia's film tax credit. *Georgia State University Fiscal Research Center report for Georgia Department of Audits and Accounts.*

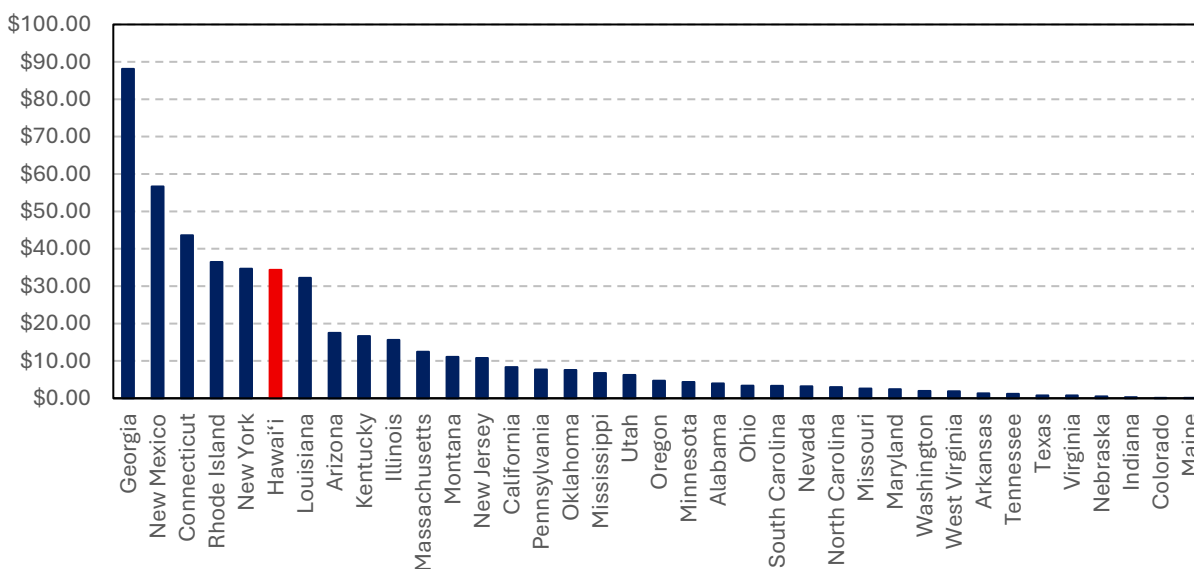
meanwhile, can be sold to other projects or taxpayers to use. Film companies usually have a very small or no tax liability. As such, refundability and transferability are key considerations when the film industry assesses the economics of various production locations.

Figure 2: Film tax credits offered by state *in millions of dollars*



Sources: Georgia State University Fiscal Research Center and respective state departments of taxation.

Figure 3: Film tax credit per capita, by state



Sources: Georgia State University Fiscal Research Center and respective state departments of taxation. U.S. Census Bureau, 2020 Decennial Census (Population).

IV. Does the film credit increase production spending in Hawai‘i?

- **Studies offers some support for film tax credits’ ability to attract production spending**—after Hawai‘i expanded its credit, annual average production expenditures more than doubled from \$115.9 million (1996-2006) to \$257.5 million (2019-2024, except 2020).
- **The tax credit is estimated to have generated \$100.7 million in additional spending in 2024**, assuming 59.7 percent of total production activity would not have occurred without the incentive.
- **This report estimates that approximately 40 percent of film spending (\$68.1 million in 2024) would occur even without a credit**, but this estimate carries significant uncertainty.

Trends in production spending are commonly examined to assess the impact of film tax credits. A variety of factors beyond tax credits influence decisions about where to film and how much to spend. Studies that attempt to take some of these factors into account reach mixed conclusions about tax credits’ impact, with results varying depending on the locality in question, studio characteristics, and the type of media being produced.¹⁶

Nevertheless, there is support for the notion that film tax credits spur production spending in states that adopt them—even though a portion of that spending would likely have occurred regardless of whether or not the tax credit was in place. Georgia, for example, captures between 20 and 40 percent of U.S. film budgets, up from the five percent it held prior to adopting a film tax credit.¹⁷ Similarly, Louisiana’s share of film spending has increased nearly threefold in the time it has offered a tax credit to the motion picture industry.¹⁸ Hawai‘i too has seen film production spending rise after the film tax credit was adopted and later enhanced.

In the ten years prior to any film tax credit (1987-1996), average annual production expenditures in Hawai‘i were \$52.7 million. After the adoption of a modest film tax credit and the enactment of Act 221, average expenditures rose to \$110.0 million per year (1997-2006). Average expenditures increased to \$203.6 million per year in 2007-2016 as the film tax credit

¹⁶ Button, Patrick (2019), Do tax incentives affect business location and economic development? Evidence from state film incentives. *Regional Science and Urban Economics*, 77:315-339; Button, Patrick (2021), Can tax incentives create a local film industry? Evidence from Louisiana and New Mexico. *Journal of Urban Affairs*, 43(5):658-684; Owens, Mark and Adam Rennhoff (2020), Motion picture production incentives and filming location decisions: a discrete choice approach. *Journal of Economic Geography*, 20(3):679-709.

¹⁷ Patrick, Carlianne, Peter Bluestone, Federico Corredor Carvajal, Nadia Farooq, Kshitiz Shrestha (2023). Tax incentive evaluation: Georgia’s film tax credit. *Georgia State University Fiscal Research Center report for Georgia Department of Audits and Accounts*.

¹⁸ Louisiana Economic Advisory Services (2023). Motion Picture Investor Tax Credit.

expanded to cover a larger share of expenditures and continued to increase to \$321.3 million in 2017 and 2018, when the aggregate cap of \$35 million was in place. Average annual expenditures were \$257.5 million per year in 2019-2024 when the aggregate cap was \$50 million (see Table 1).

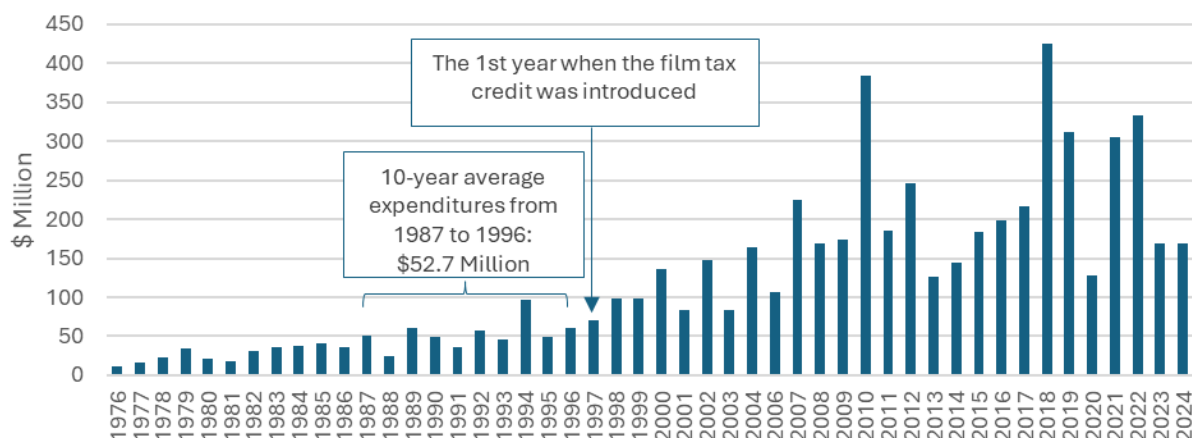
Table 1: Hawai‘i Average Qualified Expenditures

Time Period	Changes to Film Tax Credit	Tax Credit Cap (millions)	Avg. Qualified Expenditure (millions)
1987-1996	No tax credit	N/A	\$52.7
1997-2006	Tax credit to offset GET and TAT taxes*	N/A	\$110.0
2007-2016	Increases in tax credit as a percentage of qualified production costs and per production cap	N/A	\$203.6
2017-2018		\$35 Cap	\$321.3
2019-2024**	Further increases in tax credit as a percentage of qualified production costs and per production cap; lower threshold for productions to qualify for the tax credit	\$50 Cap	\$257.5

*Production companies also use Act 221 between 2002 and 2007.

**The year 2020 was removed to avoid effects of COVID-19.

Figure 4: Hawai‘i qualified expenditures of film production expenditures, 1978 – 2024



Source: DBEDT Hawai‘i State Data Book, Hawai‘i Film Office’s annual reports to the Legislature and Hawai‘i Production Reports.

Comparing the pre-credit production spending levels with post-credit production levels suggests that more film production spending occurred than would otherwise occur without a credit. Production companies filmed in Hawai‘i prior to 1997 when the tax credit was introduced and prior to 2007 when no credit reimbursed film production companies for

a percentage of qualified expenditures. Presumably, some proportion of productions would continue to come to Hawai'i in the absence of the credit to take advantage of its natural beauty and cultural heritage. Nonetheless, qualified production spending increased significantly after adoption of the film credit (see Figure 4).

This report estimates that tax credit attracted \$100 million more in additional qualified production spending. In 2024, film credit is estimated to have brought 59.7 percent of the production spending, or \$100.7 million, to Hawai'i. The estimated benefit of the credit is the difference between the qualified spending that actually occurred compared to amount of qualified spending that we would expect to occur in the absence of the credit.

Some film spending would occur in Hawai'i even without a film credit. To estimate this amount, this report calculated the percentage of production spending that would have occurred without a film credit by dividing the inflation-adjusted average annual spending from 1987-1996—when there was no credit—by the inflation-adjusted average annual spending from 2015-2024—when there was a credit. Data from 2020 was dropped to eliminate biases created by COVID-19. The calculation suggests that 40.3 percent of film spending, or \$68.1 million in 2024, would have occurred without the credit.

The competitive landscape of the film industry has shifted over the last 30 years, so it is not guaranteed that this estimate would apply in today's environment. The impact of the tax credit is therefore overestimated if factors such as natural scenery or cultural endowments are driving recent decisions to film in Hawai'i. Conversely, if the proliferation of film tax credits in other jurisdictions meant that Hawai'i's film tax credit was necessary to maintain spending seen in the base period, then the analysis underestimates the impact of the tax credit.

V. Economic and fiscal impacts of the film credit

- **Film projects spent \$168.8 million in qualified production spending in 2024**, of which 72.7 percent (\$122.8 million) was spent in Hawai'i.
- **Productions made 8,900 hires**, but 53 percent of local hires were extras.
- **The film tax credit resulted in a net positive economic gain**, producing between \$2.03 and \$0.77 of GDP for every \$1.00 of film credit.
- **For every \$1.00 spent on the film credit, the state generates between \$0.50 and \$0.30 of tax revenue**, resulting in a net fiscal loss to the state.
- **Hawai'i's fiscal return on the film credit is higher than other states** due its unique tax structure.

All data in this section is based on the Hawai‘i Production Reports submitted to the Hawai‘i Film Office.¹⁹

Film Production Spending in 2024

In 2024, thirty-two companies submitted claims for \$38.0 million in tax credits based on \$168.8 million in qualified production expenditures. Hawai‘i residents received \$69.8 million in wage and salary payments while spending on goods and services produced in Hawai‘i was \$53.0 million, for a total of \$122.8 million (72.7% of production expenditures). Out-of-state spending totaled \$46.1 million (\$42.3 million to out-of-state workers and \$3.8 million to out-of-state businesses) or 27.3 percent of total spending.

Figure 5: Composition of qualified film production expenditures in 2024

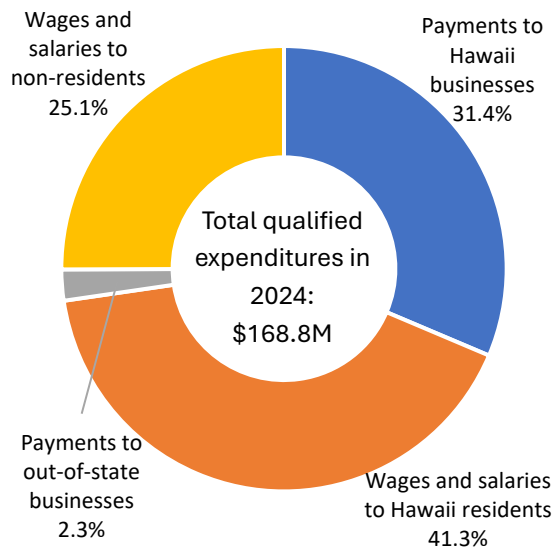


Table 2: Summary of Production Expenditures in 2024 <i>in millions of dollars</i>	
1. Wages & salaries to local workers	\$69.8
2. Wages & salaries to out-of-state workers	\$42.3
3. Spending on goods & services in Hawai'i	\$53.0
Air travel	\$1.3
Construction	\$1.8
Equipment rentals	\$14.1
Purchase of materials	\$4.7
Warehouse/storage	\$4.8
Business/professional service	\$7.6
F&B catering	\$5.2
Hotel/accommodation	\$6.2
Others	\$7.1
4. Spending on out-of-state goods & services	\$3.8
Total qualified production expenditures	\$168.8

The wage and salary payments made to Hawai‘i residents supported 7,687 local hires. In total, production companies reported 8,900 hires, including 1,213 non-resident hires. Jobs ranged from producers, writers, directors, and cast, to many others including transportation workers, grips, medics, stand-ins, and extras.²⁰

Payroll for film productions is categorized into “above-the-line” and “below-the-line” workers. Above-the-line (ATL) workers are directors, producers, writers, and principal cast. Below-the-line (BTL) workers include the

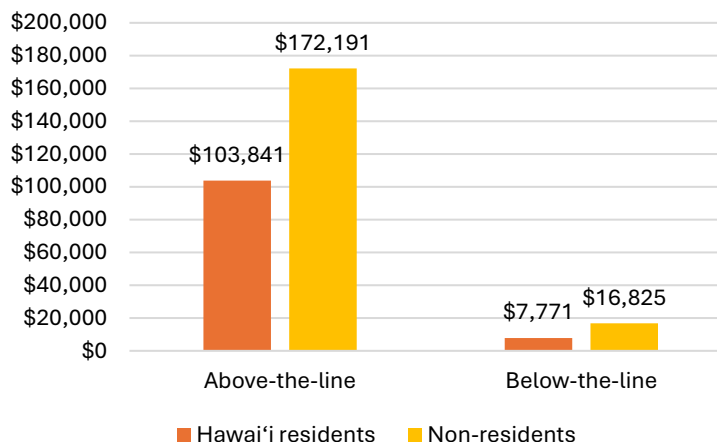
¹⁹ To claim the film tax credit, productions must submit completed Hawai‘i Production Reports after the qualified production costs have been expended. The form reports qualified production costs incurred in the applicable calendar year.

²⁰ For a complete breakdown of hiring categories, see Table 11 in Annex 2.

rest of the crew. In 2024, over 98 percent of local hires were for BTL positions. Extras alone constituted 4,083 or 53 percent of local hires.

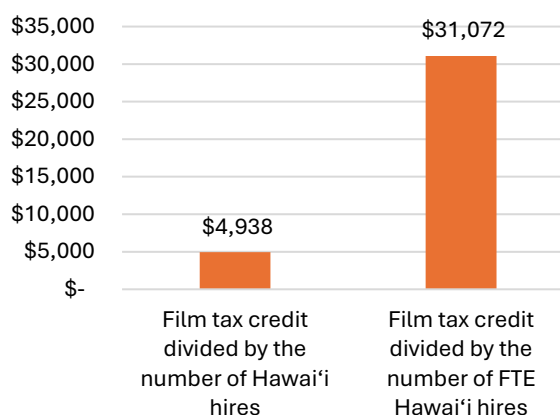
Hawai'i hires earn less on average than out-of-state hires in both the ATL and BTL categories (see Figure 6). Above-the-line average earnings were \$103,841 for local workers. Below-the-line average earnings were \$7,771 for Hawai'i residents. The relatively low average earnings for BTL hires reflect the part-time or temporary nature of many positions. For example, a production extra may work a few days – or even a few hours – on a production. Even if a worker was employed for the entire shooting period, the average number of shoot days in Hawai'i reported by production companies in 2024 was 24.3 days.²¹

Figure 6: Average earnings for Hawai'i resident and non-resident workers by type of position



As a point of comparison, the film tax credit cost \$4,938 per local hire.²² If local hires are converted to full-time equivalent (FTE) jobs - by assuming that all local hires work for the full shoot period – qualifying productions generated 1,222 FTE jobs, resulting in a tax credit cost of \$31,072 per FTE job.²³ This is an approximation. As indicated earlier, many hires work only part of the shoot period, while others work across all stages of production.²⁴

Figure 7: Film tax credit cost per local hire



If some productions and jobs would exist without the tax credit, the cost per incremental job would be higher. For example, if we assume that 40.3 percent of productions and jobs would have occurred without the tax

²¹ When pre-production, shoot days, wrap days, and post-production stages are included, the average reported time per production was 108 days.

²² The film tax credit cost per local hires is equal to \$38 million divided by 7,687 local hires.

²³ FTE local hires are calculated by taking the total number of shoot days worked by local hires divided by 260 work days per year. It is assumed that all local hires work for the entire shoot period.

²⁴ Industry experts say that the downturn in series productions and fewer filming days is due to limited production infrastructure, which makes it harder to attract larger production for longer durations.

credit (as discussed in section IV), the cost per incremental hire would be \$8,276 while the cost per full-time hire would be \$52,077.²⁵

Cost-Benefit Analysis

This section evaluates the economic impact of Hawai'i's film tax credit. Production spending generates economic activity through three channels:

- **Direct spending** on cast, crew, facilities, equipment, and services
- **Indirect impacts** through supply chain purchases (e.g., caterers buying from food suppliers)
- **Induced impacts** from employee spending (e.g., wages spent on housing and food, creating additional economic activity)

Total economic impact is measured using Type II final demand multipliers from The Hawai'i State Input-Output Study: 2022 Benchmark Report, which show the proportional change in total economic activity from new spending as a result of direct, indirect, and induced impacts

The film tax credit offsets 22-27 percent of qualified production costs, making it an important—but not sole—factor in location decisions. Other considerations include studio availability, workforce quality, climate, and scenery. Some productions would likely film in Hawai'i regardless of the credit. To measure the credit's true impact, this study uses two scenarios:

1. **Maximum benefit scenario:** Assumes all productions receiving the credit would not have filmed in Hawai'i without it, treating all expenditures as new spending.
2. **Adjusted scenario:** Subtracts expenditures that would occur even in the absence of the film credit. As explained in section IV of this report, 40.3 percent of production spending is assumed to occur regardless of whether the film credit is in effect. This is based on the production spending trends that occurred before Hawai'i adopted any kind of film credit.

The actual amount of production spending induced by the film credit most likely falls somewhere in between these two scenarios. Both scenarios were used to bracket the potential impacts of the film credit.

This study only considers economic activity that occurred within the state. Expenditures made outside the region are considered a “leakage” and do not contribute to the estimated benefits. Twenty-seven percent of production spending, or \$46.1 million, went to wages for non-residents or out-of-state purchases. This spending is excluded from the estimates of economic benefits accrued to Hawai'i. This means that 27 percent of the credit, or \$10.3 million of the \$38 million in credits issued in 2024, went to spending outside of the

²⁵ \$38 million divided by 40.3 percent x 7,687 local hires.

state. If the assumptions in the adjusted scenario hold, \$15.3 million of the 2024 film tax credit (40.3 percent of the total) was spent on production spending that would have occurred in Hawai'i whether the credit existed or not.

In this report, the costs and benefits of the film tax credit are evaluated by two measures: gross domestic product (GDP) and earnings. Earnings are the sum of wage and salary disbursements, supplements to wages and salaries, and proprietors' income. As earnings are embedded in GDP, these two measures cannot be added; they are different indicators from different perspectives.

Impact on GDP and Earnings

Tables 3 and 4 present a comprehensive cost-benefit analysis of Hawai'i's film tax credit program using two key economic measures—GDP and earnings—to evaluate the program's true economic impact. Both tables employ two distinct assumptions to bracket the likely economic effects: Assumption 1 attributes all film production spending to the tax credit, while Assumption 2 more conservatively assumes that 40.3 percent of production activity (\$68.1 million) would have occurred even without the incentive.

Under Assumption 1, the program generates \$118.5 million in GDP benefits and \$119.2 million in earnings benefits, while under Assumption 2, these figures drop to \$70.8 million and \$71.1 million respectively. The benefits derive from two main sources: the economic effects of wages and spending on goods and services.

The film tax credit is administered through the Hawai'i Film Office situated in DBEDT's Creative Industries Division. Total payroll costs of Film Office employees who manage the film tax credit are estimated to be \$0.18 million. This amount of income increased state GDP by \$0.14 million or earnings by \$0.06 million.

What drives economic impact of the film credit?

The film credit produces more economic gains relative to its costs due to several structural features. First, the credit “crowds-in” private spending. The refundable credit is worth 22 percent on O‘ahu and 27 percent on neighbor islands. In effect, the state provides a subsidy of roughly 25 percent while production companies pay the remaining 75 percent. To maximize the economic impact of the subsidy, the credit wants to find the point where the percentage of production spending is small enough to ensure that the production company is paying for the most of expenses while still being generous enough to attract new spending. If the state increases the percentage too much, then the fiscal costs will outweigh economic gains. If the state lowers the percentage too much, then it will fail to attract new spending. Finding the right balance is crucial.

Another driver of economic impact is the amount of production spending that stays in the state. The more production spending that goes to local companies and residents, the larger the economic impact of the credit.

A third determinant of impact is the amount of new spending that credit induces. Some amount production spending will occur in Hawai'i even in the absence of the credit. The film credit is subsidizing some amount of production spending that would have occurred even if the credit did not exist. In economics, this is known as a “dead weight loss” because the state is paying for something that would have happened anyway. The economic impact of the credit increases when it can induce new spending while minimizing the subsidy going to spending that would have already occurred.

The cost of the film credit to the state was \$41.6 million in foregone GDP and \$22.5 million in lost earnings under both assumptions, representing the economic activity that would have been generated if the \$38.0 million tax credit funds and payroll spent managing the tax credit had instead been allocated to capital improvements. This methodology assumes the state faces a tradeoff: every dollar spent on film tax credits is a dollar not spent on infrastructure or other public investments that would generate their own economic multiplier effects.

The net benefit calculations show very different outcomes: under Assumption 1, net GDP benefits reach \$77.0 million with net earnings of \$96.7 million, while Assumption 2 yields only \$29.2 million in net GDP and \$48.6 million in net earnings. The return per tax credit dollar ranges from \$2.03 (in GDP) or \$2.55 (in earnings) under Assumption 1 to \$0.77 (in GDP) or \$1.28 (in earnings) under Assumption 2.

The implications of Assumption 2 warrant careful consideration. Under this scenario, the state is effectively providing \$15.3 million (40.3 percent of annual tax credit cost) in subsidies for something that would have occurred regardless of the tax credit. This means that for every dollar of tax credit issued, only about 60 cents is actually inducing new economic activity, while 40 cents is simply a transfer payment to production companies for activity they would have undertaken anyway. The problem is endemic to place-based tax incentives and suggests that a significant portion of the program's cost provides no additional economic benefit to Hawai'i.

This estimate does not include the economic impact of film-induced tourism. Major motion pictures are influential in drawing tourists to the locations where they are filmed. One study found that a motion picture increased tourist visits to a particular site by 40 to 50 percent for at least four years following release.²⁶ Another studied over thirty movies and found that the visitor numbers could increase by up to 300 percent after release.²⁷ A study prepared for the State of New Mexico estimated that between 5 to 13 percent of total visitor spending in New Mexico in 2014 was attributed in whole or in part to film induced tourism.²⁸

While Hawai'i-based content promoted through film and television almost certainly increases tourism demand, directly linking the effects of film tax credits issued in any particular year to tourism spending is very difficult. When visitors report on surveys that film is part of the reason for their visit, these impacts are the result of cumulative years of Hawai'i-based television and movies, which may or may not have benefited from the film credit. Charitable contributions and other non-qualified expenses by film producers are not included in the calculations.

²⁶ Riley, Roger, Dwayne Baker, Carlton S. Van Doren (1998). Movie induced tourism. *Annals of Tourism Research*, 25(4): 919-935.

²⁷ This is the case with *Braveheart* filmed in Scotland. Hudson, Simon and J.R. Brent Ritchie (2006). Promoting destinations via film tourism: an empirical identification of supporting marketing initiatives. *Journal of Travel Research*, 44(4): 387-396.

²⁸ MNP, LLP (2016). New Mexico film production tax incentive study, Phase III report.

Table 3: A cost-benefit analysis of film tax credit (measure: GDP) (\$ Millions)

	Assumption 1: Film credit causes all production spending	Assumption 2: Film credit causes most production spending ^{1/}
Benefits		
A. GDP generated (A1+A2+A3)	118.51	70.77
A1. GDP generated from wages and salaries paid to local workers		
Total wage payments to local workers	66.64	39.76
GDP generated by local workers ^{2/}	53.73	32.06
A2. GDP generated from production spending on goods and services in Hawai'i		
Air travel	1.51	0.90
Construction	2.11	1.26
Equipment rentals	16.92	10.06
Purchase of materials	5.63	3.36
Warehouse/storage	6.35	3.79
Business/professional service	10.23	6.11
F&B/catering	6.19	3.70
Hotel/accommodations	7.46	4.45
Others	8.22	4.90
GDP generated	64.63	38.56
A3. GDP generated from Film Office spending on managing the film tax credit		
Total payroll costs of film office employees who manage the tax credit	0.18	0.18
GDP generated by the spending of Film Office employees	0.14	0.14
Costs (opportunity costs)		
B. GDP lost (B1+B2)	41.56	41.56
B1. GDP lost from tax credit ^{3/}		
Amount of total tax credit less fees collected	37.88	37.88
GDP lost	41.37	41.37
B2. GDP lost from managing the tax credit ^{3/}		
Total spending on Film Office employees who manage the tax credit	0.18	0.18
GDP lost	0.19	0.19
Net benefits = A – B	77.0	29.20
Net GDP generated by \$1 of tax credit	\$2.03	\$0.77

1/ Subtracts a portion of film production expenditures assumed to occur without the tax credit from the impact calculation. This portion is estimated to be 40.3 percent or \$68.1 million.

2/ Assuming 80 percent of local workers' income derived from working in film production were spent based on the estimate in the 2022 Hawai'i State Input-Output model.

3/ Assuming the money spent on the tax credit would be spent on CIP projects.

Shaded areas indicate the components of benefits/costs.

Table 4: A cost-benefit analysis of film tax credit (measure: earnings) (\$ Million)

	Assumption 1: Film credit causes all production spending	Assumption 2: Film credit causes most production spending ^{1/}
Benefits		
A. Earnings generated (A1+A2+A3)	119.17	71.13
A1. Earnings generated from wages and salaries paid to local workers		
Total wage payments to local workers	66.64	39.76
Earnings generated by local workers' spending ^{2/}	22.01	13.13
A3. Earnings generated from production spending on goods and services in Hawai'i		
Air travel	0.59	0.35
Construction	1.14	0.68
Equipment rentals	6.36	3.79
Purchase of materials	2.19	1.30
Warehouse/storage	3.58	2.13
Business/professional service	6.49	3.87
F&B/catering	3.49	2.08
Hotel/accommodations	3.42	2.04
Others	3.22	1.92
Earnings generated	30.46	18.18
A4. Earnings generated from Film Office spending on managing the film tax credit		
Total payroll costs of film office employees who manage the tax credit	0.18	0.18
Earnings generated by the spending of Film Office employees	0.06	0.06
Costs (opportunity costs)		
B. Earnings lost (B1+B2)	22.52	22.52
B1. Earnings lost from tax credit ^{3/}		
Amount of total tax credit less fees collected	37.88	37.88
Earnings lost	37.88	37.88
B2. Earnings lost from managing the tax credit ^{3/}		
Total spending on Film Office employees who manage the tax credit	0.18	0.18
Earnings lost	0.10	0.10
Net benefits = A - B	96.65	48.61
Net Earnings generated by \$1 of tax credit	\$2.55	\$1.28

1/ Subtracts a portion of film production expenditures assumed to occur without the tax credit from the impact calculation. This portion is estimated to be 40.3 percent or \$68.1 million.

2/ Assuming 80 percent of local workers' income derived from working in film production were spent based on the estimate in the 2022 Hawai'i State Input-Output model.

3/ Assuming the money spent on the tax credit would otherwise be spent on CIP projects.

Shaded areas indicate the components of benefits/costs.

Impact on Public Revenues

Film productions not only generate additional state GDP and earnings, but they also create tax revenue for the state government. This report considers the tax revenue generated from the general excise tax (GET), the transient accommodation tax (TAT), and the individual income tax (IIT). It uses the tax multipliers from the I-O report to estimate the magnitude of collections. It assumes that wages paid to residents are subject to the individual income tax while wages paid to non-residents are not taxed.

Even under optimistic assumptions, the film tax credit results in a fiscal loss for the state. A cost benefit analysis finds that the state receives \$0.50 of tax revenue for every \$1.00 it issues in film tax credits if it is assumed that all production spending is caused by the film credit. The film credit resulted in a net loss of \$19.0 million under this scenario. If it is assumed that only 59.7 percent of production spending is induced by the film credit, then the state collects only \$0.30 for every \$1.00 of film credit (see Table 5). In this scenario, the film credit resulted in a net loss of \$26.7 million for the state.

Film production wage and salary payments for local and out-of-state workers are often administered by payroll companies, and in some cases, also go through loan-out companies.²⁹ These transactions generate GET revenues for the state. Under Assumption 1, \$5.9 million in GET revenues was generated from payroll transactions (section A1).

Wage and salary payments to local workers amounted to \$66.6 million. The revenues generated from income and consumption taxes was \$5.9 million (section A2). Production spending on all goods and services in Hawai'i resulted in \$7.3 million. The \$3.8 million of out-of-state spending generated \$0.02 million of tax revenues. The \$0.18 million of total payroll costs of Film Office employees who manage the film tax credit also generated state tax revenues, which are estimated to be \$0.01 million. Total state tax revenues generated by film productions amounted to \$19.1 million.

Under Assumption 2, \$3.5 million in GET revenues were generated from payroll transactions, with an additional \$3.5 million generated in income and consumption taxes from local earnings. Tax revenues from production spending on all goods and services in Hawai'i was \$4.4 million and taxes on out-of-state spending were \$0.01 million. Taxes generated from the payroll costs of Film Office employees were estimated at \$0.01 million. Under Assumption 2, the incremental tax revenue generated by film productions was \$11.4 million.

²⁹ Prior analyses did not incorporate the role of payroll and loan-out companies administering wage and salary payments. It is assumed that all payroll is handled by payroll companies. Data on payments made to loan-out companies is based on Film Office records.

Table 5: A fiscal impact analysis of the film tax credit (\$ Million)

	Assumption 1: Film credit causes all production spending	Assumption 2: Film credit causes most production spending ^{1/}
A. State tax revenues generated (A1+A2+A3+A4+A5)	19.07	11.38
A1. General Excise Tax (GET) assessed on production payroll		
Total payroll (local and out-of-state workers)	112.04	66.85
GET revenues from payroll company transactions	5.04	3.01
GET revenues from loan out company transactions	0.87	0.52
Total GET revenues from payroll transactions	5.91	3.53
A2. State taxes generated from wages and salaries paid to local workers		
Total wage and salary payments to local workers	66.64	39.76
State tax revenues generated by local workers' income and spending ^{2/}	5.86	3.49
A3. State taxes generated from production spending on goods and services in Hawai'i		
Air travel	0.10	0.06
Construction	0.25	0.15
Equipment rentals	1.70	1.02
Purchase of materials	1.09	0.65
Warehouse/storage	0.69	0.41
Business/professional service	1.04	0.62
F&B/catering	0.62	0.37
Hotel/accommodations	1.08	0.65
Others	0.71	0.42
State tax revenues generated	7.28	4.35
A4. State taxes generated from production spending on out-of-state goods and services		
Spending on out-of-state goods and services	3.80	2.27
State tax revenues generated	0.02	0.01
A5. Film Office spending on managing the film tax credit		
Spending on Film Office employees who manage the tax credit	0.18	0.18
State tax revenues generated	0.01	0.01
State government spending (B+C)	38.06	38.06
B. State expenditures on tax credit		
Amount of total tax credit less fees collected	37.88	37.88
C. State expenditures on Film Office		
Spending on Film Office employees who manage the tax credit	0.18	0.18
Net state tax revenues/spending = A – B – C	-18.99	-26.68
State revenues generated by \$1 of tax credit	\$0.50	\$0.30

1/ Subtracts a portion of film production expenditures assumed to occur without the tax credit from the impact calculation. This portion is estimated to be 40.3 percent or \$68.1 million.

2/ Assuming 80 percent of local workers' income derived from working in film production was spent based on the estimate in the 2022 Hawai'i State Input-Output model.

Shaded areas indicate the components of benefits/costs.

The fiscal returns on the film credit, while still negative, are much higher than other states (see Table 6). This is due to the existence of the general excise tax, which is imposed on services as well as goods. Most states use a sales tax where services are not taxed. Thus, many of the production expenditures are not subject to taxation in other states. The structure of the Hawai‘i film tax also favor stronger revenue collections because the definition of a qualified production expense is one that is subject to GET or income tax.

Table 6: Fiscal Impacts of Film Tax Credit by State

State	Period covered	Generated revenue	Forgone revenue	Net revenue	Fiscal ROI
Connecticut	2010-2019 average	\$14,482,430	\$72,993,034	-\$58,510,604	-80%
Florida	2017-19 average	\$716,667	\$10,630,000	-\$9,913,333	-93%
Georgia	2022	\$179,800,000	\$1,274,149,350	-\$1,094,349,350	-86%
Hawai‘i	2024	\$19,070,000	\$37,880,000	-\$19,000,000	-50%
Louisiana	2022	\$10,000,000	\$156,100,000	-\$8,173,493	-94%
Massachusetts	2017	\$10,000,000	\$87,400,000	-\$77,400,000	-89%
Rhode Island	2019-21 average	\$984,522	\$10,696,826	-\$9,712,304	-91%

Sources: Connecticut Department of Economic and Community Development (2019), Annual Report; Florida Office of Economic and Demographic Research (2021), Return on Investment for the Entertainment Industry Incentive Programs; Patrick, C. et al. (2023), Tax incentive evaluation: Georgia’s film tax credit, Georgia State University Fiscal Research Center report for Georgia Department of Audits and Accounts; Louisiana Department of Revenue (2023), 2023 Return on Investment Analysis for Selected Louisiana Tax Incentive Programs; Massachusetts Department of Revenue (2022), Report on the impact of Massachusetts film industry incentives through calendar year 2017; Rhode Island Department of Revenue, Office of Revenue Analysis (2024), Economic Development Tax Incentives Evaluation Act: Evaluation of “Motion Picture Production Tax Credits” (RI Gen. Laws § 44-31.2-5) Tax Years 2019 through 2021.

VI. Has a self-sustaining industry emerged?

- **The film credit is unlikely to have created a competitive film industry that can exist in its current size without government subsidies.**
- **Some percent of film productions require tax credits to make their investment viable,** meaning subsidies must be provided in perpetuity for filming to continue at the same scale.
- **Hawai'i's film industry would likely shrink without the tax credit.**

An often-cited goal of the film tax credit is to facilitate the growth of a new industry that provides a source of well-paying jobs and promotes diversification. The idea is that if the government provides enough support, the industry will eventually be able to operate and compete in the absence of a subsidy or tax credit as specialized skills and equipment are accumulated. This would represent the formation of an industry cluster, leading to network effects that can lower costs and increase competitiveness.³⁰ When this happens, one would expect employment, wages, and/or the number of business establishments in an area to rise. In economics, this is known as the infant industry hypothesis—a government can help an underdeveloped industry mature and compete using temporary measures that either protect the industry from competition and/or provide subsidies until the industry can operate without direct government support.

Most studies examining whether film tax credits are able to promote the kind of economic development described above find their impact to be underwhelming,³¹ with any gains in filming not reliably matched by increasing employment, wages, or business establishments. Without the industry cluster evidenced by growth in these variables, the film tax credit itself may be the only thing keeping the industry in a locality, meaning it may have to be maintained in perpetuity, or even increased, to capture the same amount of filming activity.³² Even New York and California, states with well established, mature industries, now provide subsidies in an effort to retain filming.

³⁰ Christopherson, Susan and Ned Rightor (2010). The creative economy as big business: evaluating state strategies to lure film makers. *Journal of Planning Education and Research*.

³¹ Button, Patrick (2019), Do tax incentives affect business location and economic development? Evidence from state film incentives. *Regional Science and Urban Economics*, 77: 315-339; Button, Patrick (2021), Can tax incentives create a local film industry? Evidence from Louisiana and New Mexico. *Journal of Urban Affairs*, 43(5): 658-684; Thom, Michael (2019), Do state corporate tax-incentives create jobs? Quasi-experimental evidence from the entertainment industry. *State and Local Government Review*, 51(2): 92-103.

³² Tannenwald, Robert (2010). State film subsidies: not much bang for too many bucks. Center on Budget and Policy Priorities Report.

The evidence is limited and anecdotal, but we could find no examples of states that offer film credits, even ones much larger and more generous than Hawai'i's, that have created an industry that was able to persist at the same scale when subsidies were withdrawn. The industry is footloose and has repeatedly sought out new, lower cost jurisdictions. Even a state like Georgia that offers one of the most generous credits in the country, has built studio infrastructure, and invested heavily to develop local talent has seen its share of production decline recently as films move to lower cost alternatives that also offer large subsidies. If a state like Georgia is encountering headwinds, the likelihood that Hawai'i will be able to further encourage film production without continued subsidization is low.

If Hawai'i's film tax credit were removed, the industry would likely contract. The magnitude of the decline is uncertain, but it is unlikely that the industry would entirely disappear. Movie and television productions filmed in Hawai'i prior to the credit. It is reasonable to expect some production spending would continue.

The market conditions that existed before the introduction of Hawai'i's film credit have dramatically changed. For this reason, it is unlikely that production spending would revert to the levels that existed in the 1990s prior to the credit's introduction. However, the pre-credit productions spending levels do provide a helpful reference point. If production spending fell to pre-credit levels, that would represent a 59.7 percent contraction of the industry. This implies a loss production spending worth \$100.7 in production spending and 4,589 fewer annual hires. While the magnitude is uncertain, Hawai'i may experience a significant decline in production spending if the credit were discontinued, which suggests that the film credit has not fostered the development of a competitive film industry that can stand on its own two feet.

VII. Conclusion

This report evaluates Hawai'i's Motion Picture, Digital Media, and Film Production Income Tax Credit using three criteria: its ability to attract production spending, its net economic and fiscal impact, and its success in establishing a sustainable film industry. The analysis examines data from 2024, when \$38.0 million in credits were claimed against the \$50 million cap.

The credit has likely increased production activity in Hawai'i. Qualified production expenditures rose from an average of \$115.9 million annually in 1996-2006 to \$257.5 million in 2019-2024. In 2024, the credit is estimated to have generated \$100.7 million in additional

production spending, representing 59.7 percent of total activity. The remaining 40.3 percent of spending, or \$68.1 million, is assumed to have occurred without the credit due to Hawai'i's natural scenery and cultural attractions.

The economic impact analysis produces different results depending on assumptions about baseline production activity. Under the maximum benefit scenario, which attributes all production spending to the credit, the program generates \$2.03 in GDP for every dollar spent. Under the adjusted scenario, which subtracts spending that would occur without the credit, the return falls to \$0.77 per dollar. The fiscal analysis shows the program generates between \$0.50 and \$0.30 in tax revenue for every dollar of credit issued, resulting in net losses of \$19.0 million to \$26.7 million annually. Hawai'i's fiscal return on the film credit is higher than other states due to the general excise tax, which applies to services as well as goods.

Film productions in 2024 generated 8,900 hires, with 86.4 percent going to Hawai'i residents. However, 60 percent of local positions were supporting cast and extras, and most jobs were temporary. Non-residents received 37.7 percent of total wage payments and 67.7 percent of above-the-line compensation. Average earnings for local workers in above-the-line positions were \$103,841 compared to \$172,191 for non-residents.

Over three quarters of productions that qualified for the tax credit in 2024 filmed their projects completely in Hawai'i. However, most post-production work occurs outside Hawai'i, with only 24 percent of reporting productions doing any post-production in the state.

If the credit were eliminated and production spending reverted to pre-credit levels, spending would decline by approximately 59.7 percent, or \$100.7 million. Evidence suggests that the film industry in many states depends on ongoing subsidies and would see reduced production without them. Hawai'i may be similarly affected.

Annex 1: Film Tax Credits by State

State	Refundable*	Transferable	Tax credit rate	Funding**	Population	Per capita funding
Alabama	Yes	No	25-35%	\$20,000,000	5,024,279	\$3.98
Arizona	Yes	No	15-22.5%	\$125,000,000	7,151,502	\$17.48
Arkansas	Yes	Yes	20-30%	\$4,000,000	3,011,524	\$1.33
California	No	No	20-30%	\$330,000,000	39,538,223	\$8.35
Colorado	Yes	No	20%	\$750,000	5,773,714	\$0.13
Connecticut	No	Yes	10-30%	\$157,303,414	3,605,944	\$43.62
Georgia	No	Yes	20-30%	\$944,000,000	10,711,908	\$88.13
Hawai'i	Yes	No	22-27%	\$50,000,000	1,455,271	\$34.36
Illinois	No	Yes	30-45%	\$200,250,000	12,812,508	\$15.63
Indiana	No	No	<=30%	\$2,000,000	6,785,528	\$0.29
Kentucky	Yes	No	30-40%	\$75,000,000	4,505,836	\$16.65
Louisiana	Yes	No	25-40%	\$150,000,000	4,657,757	\$32.20
Maine	Yes	No	5-12%	\$160,229	1,362,359	\$0.12
Maryland	Yes	No	28-30%	\$15,000,000	6,177,224	\$2.43
Massachusetts	Yes	Yes	25%	\$87,400,000	7,029,917	\$12.43
Minnesota	Yes	Yes	20-25%	\$25,425,000	5,706,494	\$4.37
Mississippi	Yes	No	25-30%	\$20,000,000	2,961,279	\$6.75
Missouri	No	Yes	20%	\$16,000,000	6,154,913	\$2.60
Montana	No	Yes	15-25%	\$12,000,000	1,084,225	\$11.07
Nebraska	Yes	No	20%	\$1,000,000	1,961,504	\$0.51
Nevada	No	Yes	12-25%	\$10,000,000	3,104,614	\$3.22
New Jersey	No	Yes	30-37%	\$100,000,000	9,288,994	\$10.77
New Mexico	Yes	No	15-25%	\$120,000,000	2,117,522	\$56.67
New York	Yes	No	30-40%	\$700,000,000	20,201,249	\$34.65
North Carolina	Yes	No	25%	\$31,000,000	10,439,388	\$2.97
Ohio	Yes	No	30%	\$40,000,000	11,799,448	\$3.39
Oklahoma	Yes	No	20-30%	\$30,000,000	3,959,353	\$7.58
Oregon	Yes	No	20-26.2%	\$20,000,000	4,237,256	\$4.72
Pennsylvania	No	Yes	25%	\$100,000,000	13,002,700	\$7.69
Rhode Island	No	Yes	30%	\$40,000,000	1,097,379	\$36.45
South Carolina	Yes	No	20-30%	\$17,000,000	5,118,425	\$3.32
Tennessee	Yes	No	25%	\$8,142,760	6,910,840	\$1.18
Texas	Yes	No	5-20%	\$22,500,000	29,145,505	\$0.77
Utah	Yes	No	20%	\$20,393,700	3,271,616	\$6.23
Virginia	Yes	No	15%	\$10,650,000	8,631,393	\$0.75
Washington	Yes	No	15-30%	\$15,000,000	7,705,281	\$1.95
West Virginia	No	Yes	27%	\$3,325,010	1,793,716	\$1.85

*In whole or in part, includes rebates and grants.

**For states with a cap, the cap is used. For states without a cap, actual expenditure is used from the latest pre-covid year (2016 to 2019).

Sources: Georgia State University Fiscal Research Center and respective state departments of taxation.

Annex 2: Detailed Production Spending Statistics

Expenditures and Wages

Film projects spent \$168.8 million in qualified production spending in 2024, of which 72.7 percent (\$122.8 million) was spent in Hawai'i (see Table 7). The amount was in line with the 2023 expenditures (\$168.7 million). Thirty-two productions had qualified expenditures in 2024 compared to 25 in 2023. The increase was mainly due to internet projects. Tax credit claims for the 2024 production year were \$38.0 compared to \$37.3 million in 2023.

Table 7: Production Expenditures, Number of Productions and Tax Credits Claimed, 2023 and 2024

	2023	2024
Total Qualified Production Expenditures	\$168.7 million	\$168.8 million
Production Expenditures Spent in Hawai'i	\$122.8 million	\$115.4
Number of Productions	25	32
Tax Credits Claimed	\$37.3 million	\$38.0 million

Television productions spent \$121.1 million or 71.7 percent of total production spending, resulting in \$27.3 million in tax credits claimed. Feature films followed with \$43.8 million in spending and \$9.7 million in tax credits. Commercials spent \$2.4 million and claimed \$0.6 million in tax credits while internet productions spent \$1.5 million and claimed \$0.3 in credits (see Figure 8).

Figure 8: Qualified Expenditures and Tax Credits by Production Type in millions of dollars

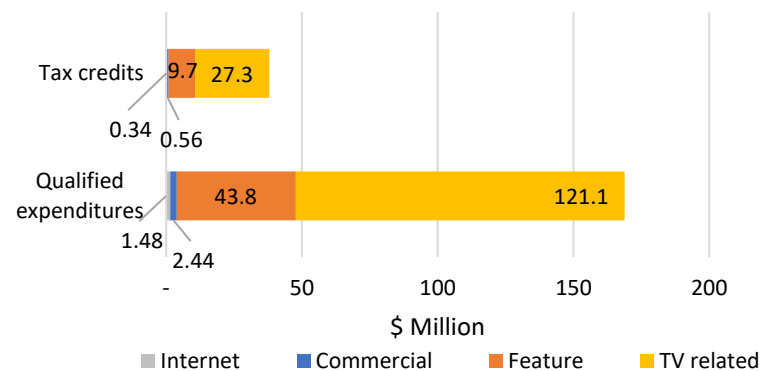
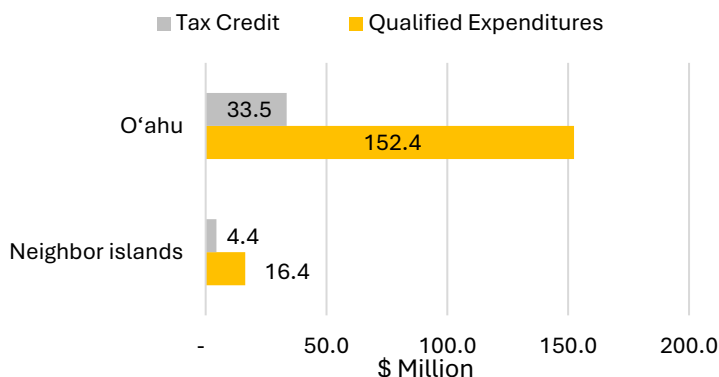


Table 8: Qualified Expenditures and Tax Credit by Production Type

	Qualified expenditures (\$ Million)	Tax credits (\$ Million)	Ratio of tax credits to qualified expenditures	Count
Internet	1.48	0.3	23.2%	5
Commercial	2.44	0.6	23.2%	8
Feature Film	43.8	9.7	22.2%	8
TV related	121.1	27.3	22.6%	11
All productions	168.8	38.0	22.5%	32

Productions were concentrated on O‘ahu. About 90 percent of production expenditures (\$152.4 million) and almost 90 percent (\$33.5 million) of tax credits claimed are for productions that filmed on O‘ahu. In contrast, productions on the neighbor islands spent \$16.4 million and claimed \$4.4 million in tax credits (see Figure 9).

Figure 9: Total Hawai‘i qualified expenditures and claimed tax credits by island, 2024

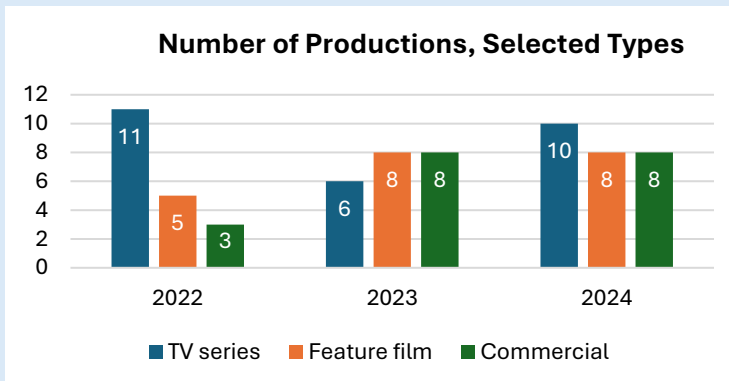


Qualified film production expenditures consist of in-state and out-of-state spending. All expenditures are eligible as long as they are subject to Hawai‘i income or general excise tax and are directly associated with a Hawai‘i-based production. However, out-of-state spending has essentially zero impact on the local economy while in-state spending does.

Most spending on goods and services (over 93.3%) was incurred locally. See Table 9. The two categories with the lowest ratios of Hawai‘i in-state purchases were air travel (76.6 percent) and material purchases (87.4 percent). Substitutes for certain equipment or materials may be more difficult to source locally and may have had to be imported.

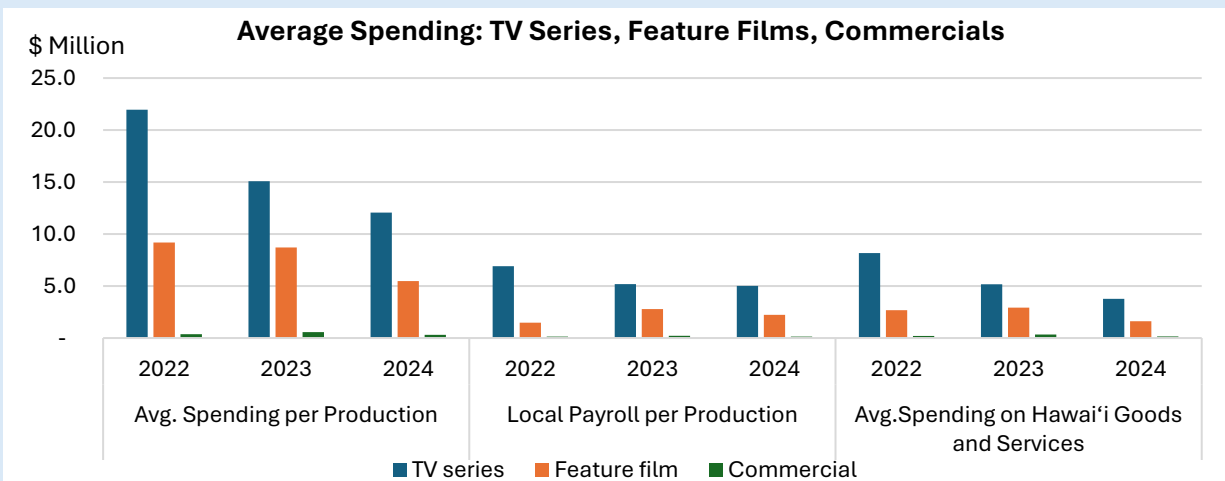
The Impacts of Television Series in Hawai‘i

On average, television series spent more per production and on local payroll. This is largely because Hawai‘i-based television series film longer in the state, hire more local workers and purchase more goods and services. The impact of television series relative to feature film and commercial productions is shown below.



In recent years, Hawai‘i hosted several television series including *Hawai‘i Five-0*, *Magnum PI*, *NCIS Hawai‘i*, *Doogie Kamealoha MD*, and *Rescue HI-Surf*. In 2022, television series productions, including but not limited to series primarily shot in Hawai‘i, outnumbered feature film and commercial productions.³³ However, *Doogie Kamealoha MD* and *Magnum*

PI were cancelled in 2023, followed by *NCIS Hawai‘i* in 2024. Although the number of television series productions rebounded in 2024, many were smaller in scale, with fewer episodes filmed in Hawai‘i or based on a reality format.



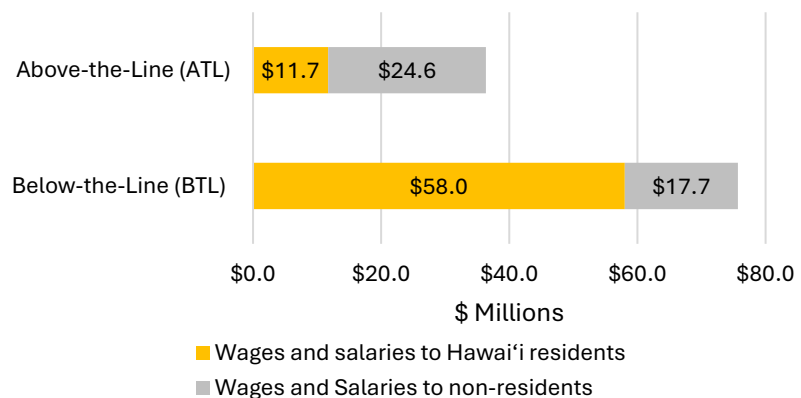
³³ A television series may be counted as two productions if two separate seasons are filmed in the same calendar year.

Table 9: Production expenditures on goods and services by category, 2024

Category	Hawai'i businesses		Out-of-state business		Total		Ratio of Hawai'i purchases to total purchases
	\$ 000	Percent of total	\$ 000	Percent of total	\$ 000	Percent of total	
Air Travel	1,349	2.5%	413	10.9%	1,762	3.1%	76.6%
Construction	1,819	3.4%	69	1.8%	1,887	3.3%	96.4%
Equipment Rentals	14,096	26.6%	1,713	45.1%	15,809	27.8%	89.2%
Purchase of Materials	4,734	8.9%	682	17.9%	5,416	9.5%	87.4%
Warehouse / Storage	4,812	9.1%	1	0.0%	4,813	8.5%	100.0%
Business/Professional Service	7,638	14.4%	690	18.2%	8,328	14.7%	91.7%
F&B / Catering	5,205	9.8%	23	0.6%	5,228	9.2%	99.6%
Hotel/Accommodations	6,168	11.6%	8	0.2%	6,176	10.9%	99.9%
Other	7,147	13.5%	204	5.4%	7,351	12.9%	97.2%
Total Paid Out:	52,969	100.0%	3,801	100.0%	56,770	100.0%	93.3%

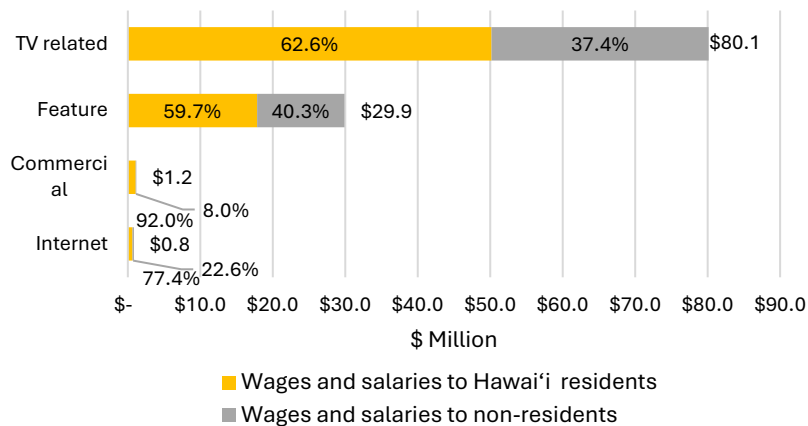
Production companies paid \$112.0 million in wages, of which 62.3 percent went to residents and 37.7 percent went to non-residents. Above-the-line (ATL) workers include directors, producers, writers, and principal cast and are generally more highly compensated. Below-the-line (BTL) workers refer to the rest of the crew, which receive lower levels of compensation on average. In 2024, wages and salaries paid to Hawai'i resident cast and crew were \$69.8 million.

Hawai'i residents received about 32.3 percent (\$11.7 million) of total above-the-line wage payments. Above-the-line positions are usually highly skilled and can be difficult to source locally.

Figure 10: Wage and salary payments for above-the-line and below the line positions *in millions of dollars*

Television productions have a higher percentage of resident wages. Ratios of wages and salaries paid to Hawai'i residents and to non-residents vary significantly across production types. For feature films, 59.7 percent of total wage payments went to Hawai'i residents; for television-related programs, 62.6 percent of payments went to residents. For other types of productions, including commercials, short films, music videos, etc., 92.0 percent of wage payments were paid to Hawai'i residents.

Figure 11: Wage and salary payments by category and production type in millions of dollars



Hiring and Production Length

Film productions resulted in 8,900 hires in 2024, the majority of which went to Hawai'i residents. These hires represent mostly seasonal work. Without knowing the hours worked, job count gains tend to overstate job creation. For example, 4,612, or 60 percent, of local jobs were supporting cast and production extras, whose impact on state employment is probably relatively insignificant (see Table 10). If one assumes that all local hires for a given production work all reported shoot days, there would be 1,222 full time hires vs. the 7,687 reported.³⁴ Residents filled 43.3 percent of above-the-line jobs, 67.3 percent of department heads and keys, 80.4 percent of crew, and 94.5 percent of supporting cast and extras.

Table 10: Positions filled by residents and non-residents

	Hawai'i residents		Non-residents		Hawai'i ratio
Above-the-line (directors, producers, writers, principal cast):	116	1.5%	152	12.5%	43.3%
Talent (supporting cast and extras only):	4,612	60.0%	268	22.1%	94.5%
Department heads and keys:	280	3.6%	136	11.2%	67.3%
Below-the-line crew (excluding dept. heads and keys):	2,622	34.1%	641	52.8%	80.4%
Other	57	0.7%	16	1.3%	78.1%
Total	7,687	100.0%	1,213	100.0%	86.4%

³⁴ This calculation assumes that all local hires, including supporting cast and extras, work for the full number of shoot days reported for each production. The number of full time local hires is equal to the total number of shoot days worked by local hires divided by 260 work days per year.

Table 11 breaks down the number of local and out-of-state hires by department. Jobs with the smallest ratio of Hawai'i residents were in storyboard artist and animator/digital artist (0.0% of jobs held by Hawai'i residents), followed by post-production (2.0% of jobs held by Hawai'i residents). At the other end, jobs filled 90 percent or more by Hawai'i residents were in medic, stand-ins, extras, grip, electric, and locations. Most jobs with a higher ratio of Hawai'i residents tend to be lower paying jobs while higher paying jobs go more to non-residents.

Table 11. Number of Hawai'i resident and non-resident hires by department, 2024

	Hawai'i residents	Non- residents	Hawai'i ratio		Hawai'i residents	Non- residents	Hawai'i ratio
Storyboard Artist	-	10	0.0%	Medic	78	0	100.0%
Animator/Digital Artist	-	2	0.0%	Stand-Ins	43	1	97.7%
Post-Production	1	49	2.0%	Extras	4,083	120	97.1%
Producers, Directors, Writers	35	112	23.8%	Grip	227	15	93.8%
Visual Effects	11	15	42.3%	Electric	189	19	90.9%
Accounting	30	28	51.7%	Locations	101	11	90.2%
Sound	58	42	58.0%	Set Decoration	135	16	89.4%
Animals	4	2	66.7%	Transportation	335	41	89.1%
Art	98	46	68.1%	Stunts	243	38	86.5%
Principal Cast	90	38	70.3%	Hair/Make-Up Script Supervisor	158	26	85.9%
Special Effects	43	18	70.5%	Casting	11	2	84.6%
Property	55	23	70.5%	Construction	40	8	83.3%
Supporting Cast	313	129	70.8%	Costume Assistant	123	31	79.9%
Camera	213	87	71.0%	Directors	150	40	78.9%
Catering & Craft Service	76	26	74.5%	Greens	61	17	78.2%
Other	90	30	75.0%		50	14	78.1%
Production	543	157	77.6%				
TOTAL					7,687	1,213	86.4%

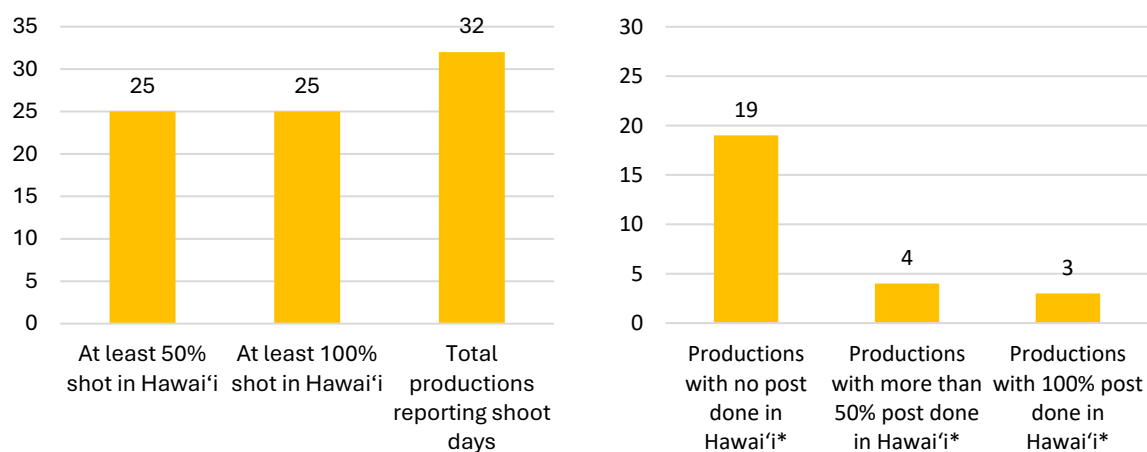
Information about duration of production offers a glimpse into the features of production jobs in Hawai'i. The average duration for productions that qualified for the film tax credit, including all stages of production, in 2024 was 108.1 days, while the average shoot period lasted 24.3 days.

Table 12: Production Duration by Stage, 2024

	Total	Average*	Shortest	Longest
Pre-Production Days	1,013	33.8	0	199
Shoot Days	778	24.3	0	172
Wrap Days	401	13.4	0	86
Post Days	1,268	57.6	0	302
Entire Duration	3,460	108.1		

*Of the 32 productions that qualified for the tax credit in 2024, 30 reported on pre-production days, 32 reported on shoot days, 30 reported on wrap days, and 25 reported on percentage of post-production or post-production days.

Out of 32 productions that qualified for the tax credit in 2024, 25 productions reported filming their projects completely in Hawai'i. In contrast, only four productions had more than 50 percent of post-production in Hawai'i; three of the four productions completed 100 percent their post-production in Hawai'i. Of the 25 productions reporting post-production days, 19 productions did post-production completely outside of Hawai'i. On average, productions filmed 86.2 percent of their work in Hawai'i but only 6 of the 25 productions reporting post days (24.0 percent) did any post-production work in Hawai'i.

Figure 12: Productions that filmed or completed post-production in Hawai'i

* Of the 25 productions reporting post days.

Average wages are higher for non-residents because non-residents tend to fill higher paying roles. Average earnings are calculated as the ratio of total wage and salary payments to the number of jobs for each category. Average earnings of local above-the-line jobs were \$103,841, lower than the average earnings of non-resident above-the-line jobs at \$172,191. Average earnings of below-the-line jobs were much lower, at only \$16,825 for non-residents and \$7,771 for Hawai'i residents.

As noted above, on average, each production ran 108.1 days and the filming period only lasted for 24.3 days (Table 12). The majority of below-the-line jobs are short-term or temporary jobs, which do not last throughout the entire production duration; for example, 54.7 percent of local below-the-line jobs are extras, which may be on-site for a few days, if not hours. If employment is measured on a job-count basis regardless of the number of hours worked, the actual impact on employment is likely to be overstated and the estimate of average earnings will tend to be biased significantly downward.

Table 13: Average earnings by residency in 2024

	Hawai'i Residents			Non-residents		
	Jobs	Wages (\$ million)	Average earnings (\$)	Jobs	Wages (\$ million)	Average earnings (\$)
Above-the-line	113	11.7	103,841	143	24.6	172,191
Below-the-line	7,466	58.0	7,771	1,050	17.7	16,825
Total	7,579	69.8	9,204	1,193	42.3	35,448

Average earnings is based on data from productions that provided information on both payroll and jobs. One production reported jobs but no payroll.

The film tax credit cost per local hire is calculated by dividing the film tax credits claimed (\$38 million) by the number of resident hires reported by the production companies. In 2024, the film tax credit cost \$4,938 per local hire. If we instead use the estimate of full-time equivalent hires, the tax credit cost \$31,072 per full-time job.³⁵

Table 14. Film tax credit cost per Hawai'i hire, 2024

	Number of hires	Cost per hire
Total Hawai'i hires	7,687	\$4,938
Full-time equivalent Hawai'i hires	1,222	\$31,072

Includes all reported hires.

³⁵ The full-time local hires estimate assumes that all local workers are employed for the entire shoot period. The total number of shoot days worked by local hires is then divided by 260 workdays per year.