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ECONOMICS



ECONOMIC IMPACT OF *NCIS: HAWAII* SEASON TWO

A REPORT FOR THE MOTION
PICTURE ASSOCIATION

APRIL 2024



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EXECUTIVE SUMMARY

NCIS: Hawai'i is a TV series produced by CBS Studios and a spin-off of the *NCIS* franchise. The show covers high-stakes crime investigations under the command of special agent Jane Tennant, in charge of the Naval Criminal Investigative Service (NCIS) in Pearl Harbor.

The filming and production of the second season of the show generated considerable economic activity across the state of Hawai'i, as business spending occurred in each of the four main counties in the state (Honolulu, Hawai'i, Maui, and Kauai counties), with the highest concentration in the county of Honolulu. The show's production also supported activity in a wide range of industries through its procurement, and through local spending of Hawai'i residents employed by the production and its supply chain.

This study, commissioned by the Motion Picture Association (MPA), focuses on the second season of production and analyzes the total economic impacts in Hawai'i in 2022–23. The study also considers the wider impact on boosting the state's economy. Similar production budgets and spending patterns across Hawai'i are likely to produce similar economic impact results as those presented in this study.

Across 2022–23, **production of Season Two of *NCIS: Hawai'i* resulted in total direct spending in the state of approximately \$79.4 million.**¹ Spending on wages and salaries for local production crew and other labor was the main expenditure item, making up 68% of the total expenditure at \$53.7 million. The remaining 32% of spending was on local suppliers of goods and services at \$25.7 million.

Oxford Economics estimates that expenditure by the **production of the second season of *NCIS: Hawai'i* stimulated nearly \$104.7 million in contribution to the state's GDP in 2022–23.** We find that for every \$1 million that the production's own activities contributed to the economy, its expenditure supported a further \$950,000 along its supply chain and through the payment of wages.

We find that the expenditure undertaken by **the show's production stimulated a total of 1,100 full-time and part-time jobs for local residents across Hawai'i in 2022–23.** For every 100 Hawai'i residents directly employed by production, its expenditure stimulated another 59 jobs for local residents across the state. Direct employment does not include nearly 2,000 Hawai'i resident extras employed during production of the show.

Finally, the production of the second season is estimated to have benefitted from \$17.0 million in tax incentives according to CBS Studios. This translates to \$6.2 million in GDP for every \$1 million of tax incentives received by the production.

KEY HIGHLIGHTS

- Season Two of *NCIS: Hawai'i* directly spent \$79.4 million in Hawai'i, on wages for 710 full- and part-time cast and crew **and** with more than 800 local businesses that provided goods and services to the production.
- For every 100 Hawai'i residents directly employed by *NCIS: Hawai'i*, another 59 jobs for local residents were created in the state.
- Spending by *NCIS: Hawai'i* added almost \$104.7 million to the GDP of Hawai'i.
- For every \$1 million in spending by *NCIS: Hawai'i*, another \$950,000 in economic activity was stimulated, along the supply chain and through the payment of wages.

\$104.7m

Total contribution to Hawai'i's GDP supported by the second season of *NCIS: Hawai'i*

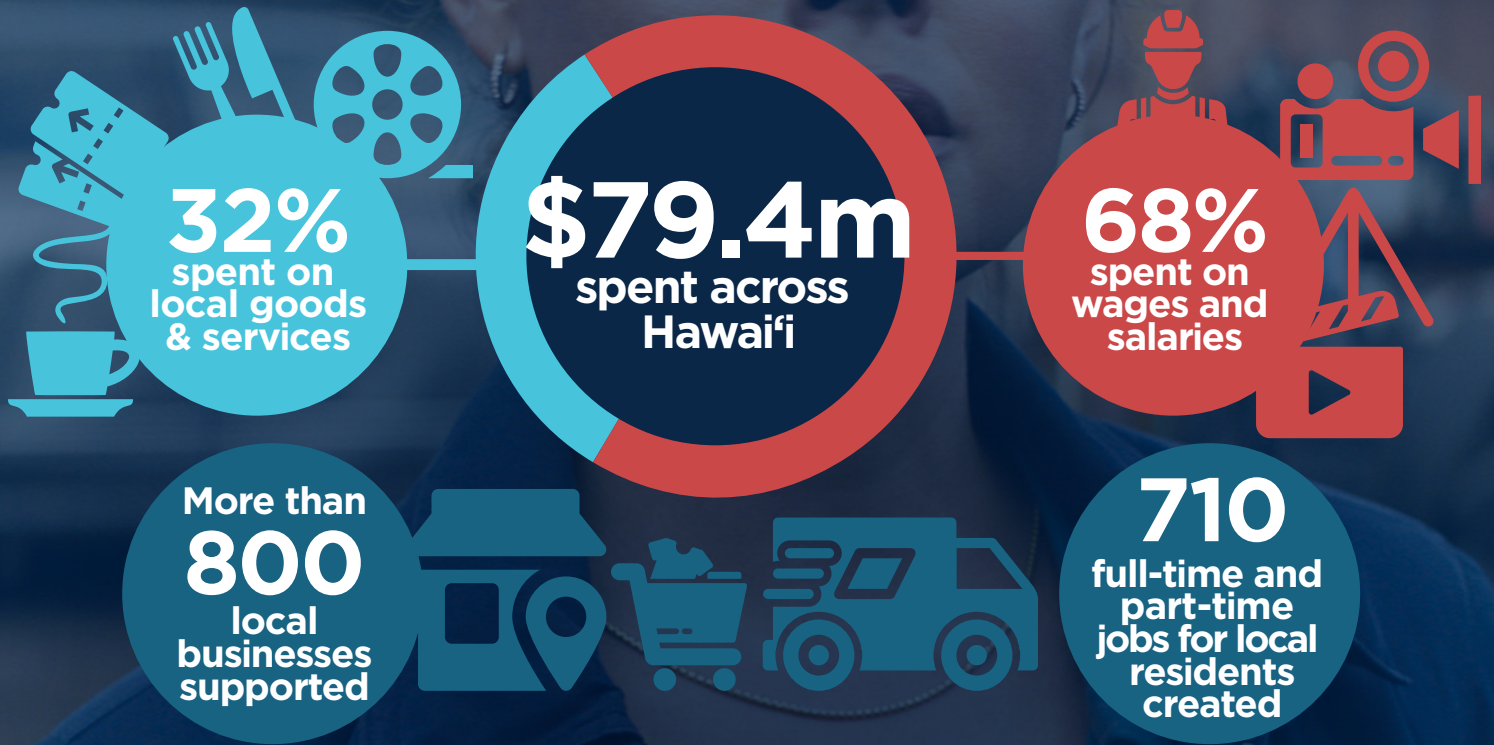
1,100

Full-time and part-time jobs supported for local residents across Hawai'i as a result of the second season of *NCIS: Hawai'i*

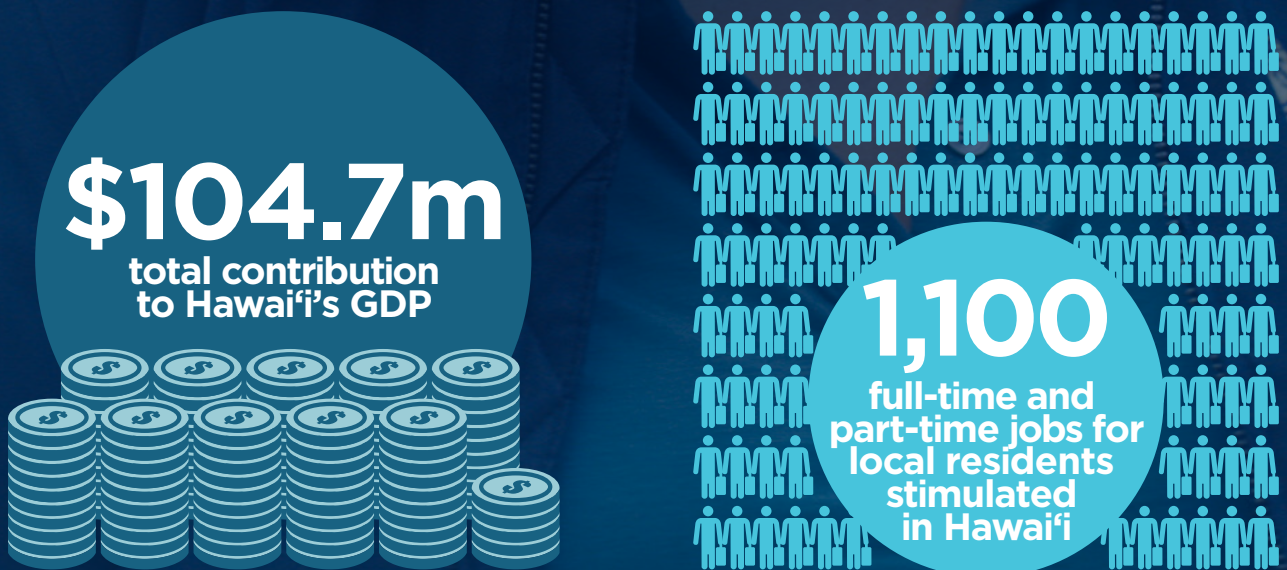
¹ The monetary values presented in this report are in 2023 prices.

THE ECONOMIC IMPACT OF *NCIS: HAWAII* SEASON TWO

DIRECT IMPACT OF PRODUCTION



TOTAL IMPACT OF PRODUCTION



1. INTRODUCTION

NCIS: Hawai'i is a TV series produced by CBS Studios and a spin-off of the *NCIS* series (the fourth in the franchise). The TV series follows high-stakes military and naval crime investigations led by a team of special agents based out of Pearl Harbor. The show premiered in 2021 and has two seasons that have fully aired, with a third season airing in 2024. The second season of *NCIS: Hawai'i* was filmed in 2022 and 2023 across the state of Hawai'i.

Oxford Economics was engaged by the Motion Picture Association to

conduct an independent economic impact assessment of the production of the second season of the show on the state's economy during the production period. For the study, Oxford Economics used spending data provided by CBS Studios to estimate the economic impacts arising from the production of this season.

Similar production budgets and spending patterns across Hawai'i are likely to produce similar economic impact results as those presented in this study.



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2. PRODUCTION SPENDING

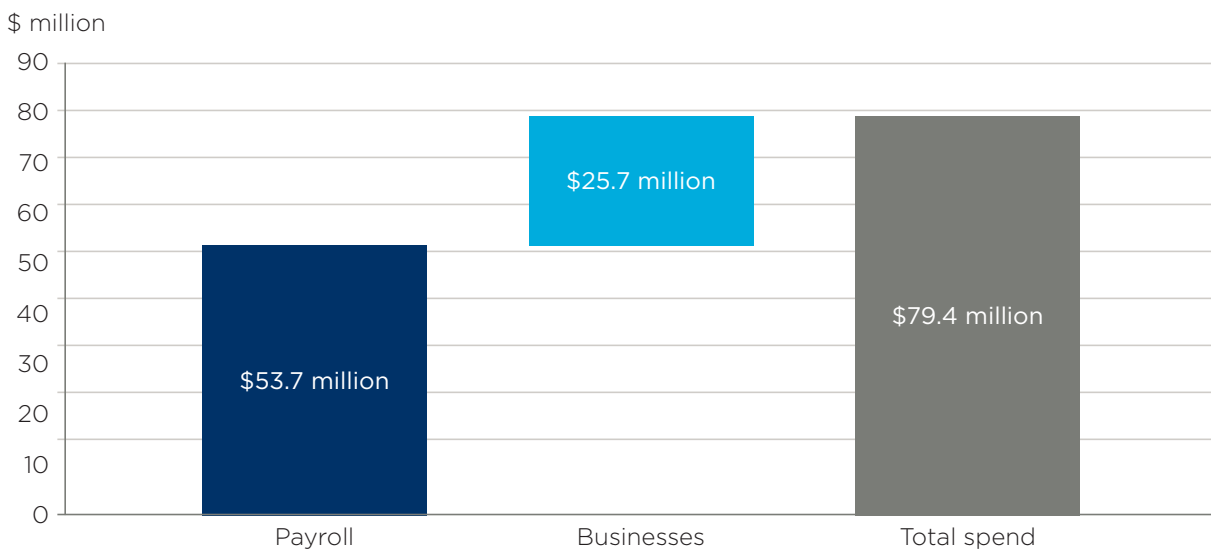
When a TV show shoots on location, it creates jobs, revenue, and related infrastructure development. Physical productions provide an immediate boost to the local economy, fostering job creation and innovation in other industries across the production supply chain. In 2022-23, production of *NCIS: Hawai'i* resulted in **total spending in Hawai'i of approximately \$79.4 million.**

Spending on wages and salaries for local production crew and other labor was the main expenditure item, making up 68% of the total expenditure at \$53.7 million (see Fig. 1). The remaining 32%, or \$25.7 million, was spent with local vendors on goods and services.

\$79.4m
Direct production expenditure in Hawai'i

Spending with local vendors on goods and services was \$25.7 million while spending on production crew and qualifying labor was \$53.7 million.

Fig. 1: Production spending of *NCIS: Hawai'i* in Hawai'i, by type



Source: Oxford Economics, CBS Studios

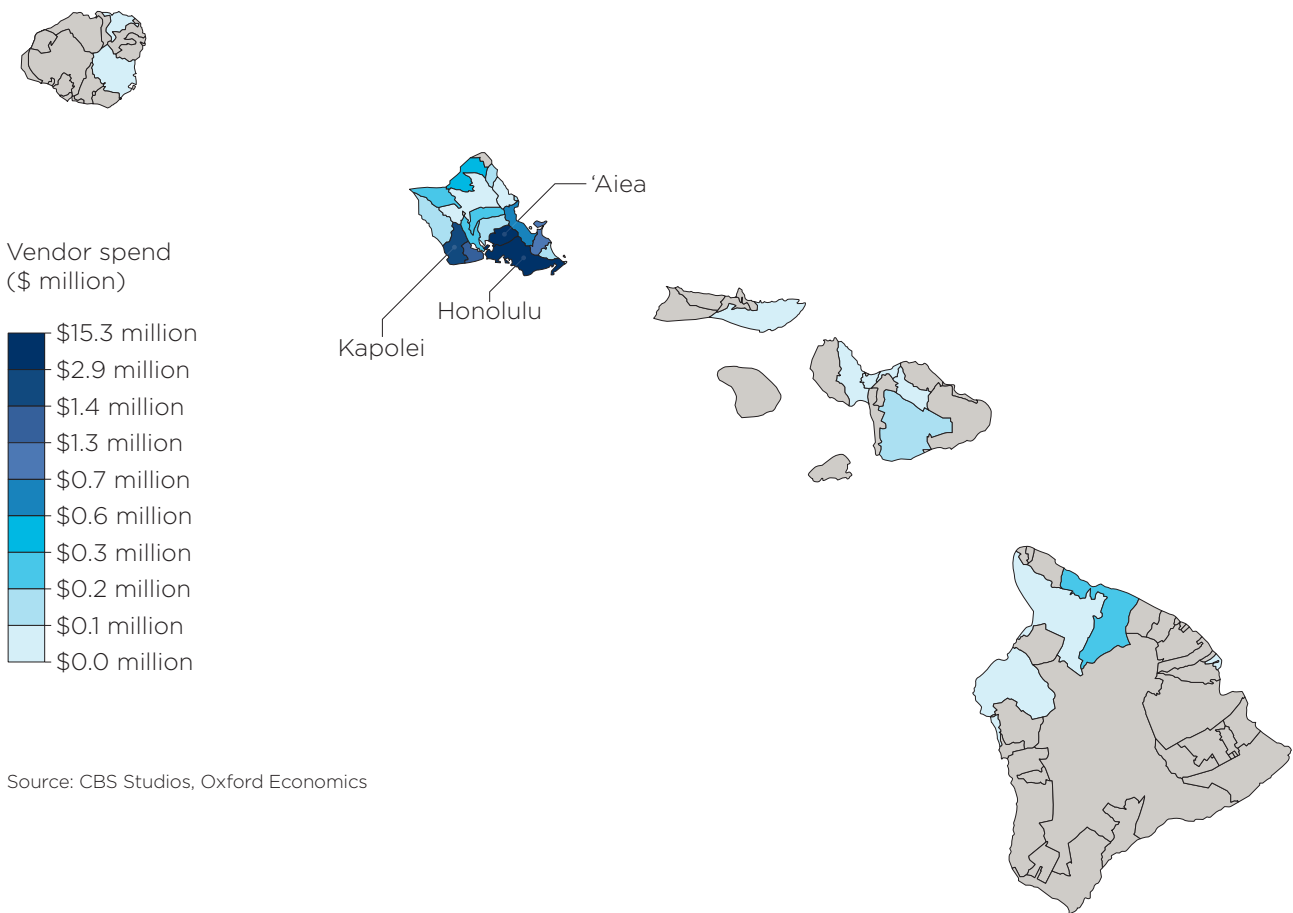
2.1 BUSINESS SPENDING

Production spending engaged over 800 businesses all over Hawai'i. Business spending occurred in each of the four

main counties in Hawai'i (Honolulu, Hawai'i, Maui, and Kauai counties), with the highest concentration in the county of Honolulu. The cities of Honolulu, 'Aiea, and Kapolei

received the largest amounts with over \$19.6 million in spending combined. The distribution of spending across the state is shown in Fig. 2 below.

Fig. 2: Map of spending with locally based businesses by city



Source: CBS Studios, Oxford Economics

The production of TV shows typically relies on a wide range of goods and services, engaging multiple local businesses across numerous industries (see Fig. 3). The largest category of spending (at 21%) was with rental companies that provide support services to TV and film production sites. For example, a portion of this spending went towards renting recording equipment,

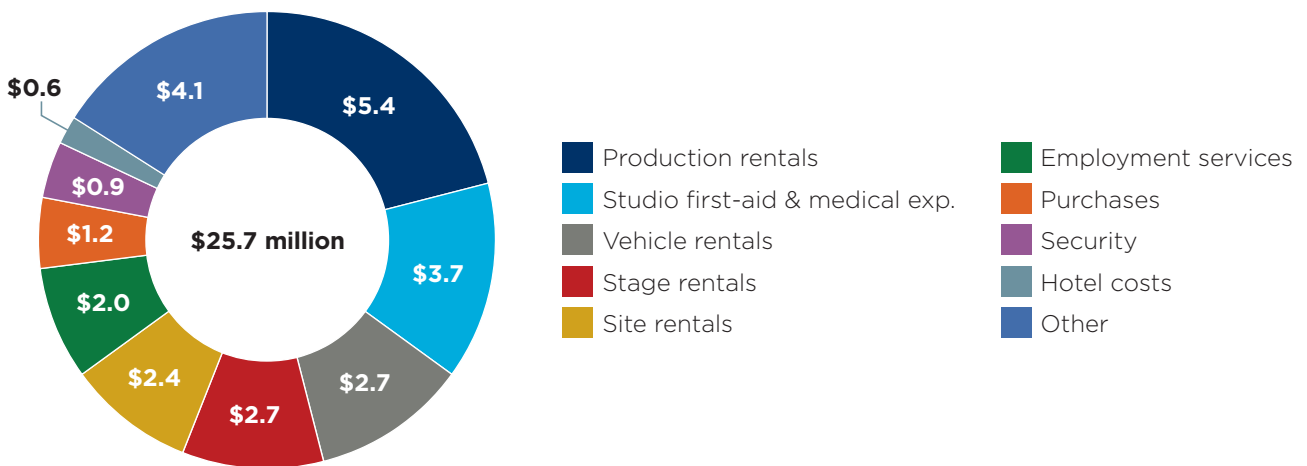
portable restrooms, tents for catering, and other materials necessary for production.

The second largest category of spending, with \$3.7 million, was spent towards providing healthcare related services for cast and crew members. The following three largest categories of spending were all with rental service companies; \$2.7 million went towards vehicle rentals,

another \$2.7 towards stage rentals, and \$2.4 million towards site (or location related) rentals. Finally, another \$2.0 million went towards employment services (or employment agencies) as they sourced and paid extras for the set, \$1.2 million towards production related purchases (props and other equipment), and \$0.9 towards security.

Fig. 3: Spending on goods and services in Hawai'i, by industry

\$ million



Source: CBS Studios, Oxford Economics



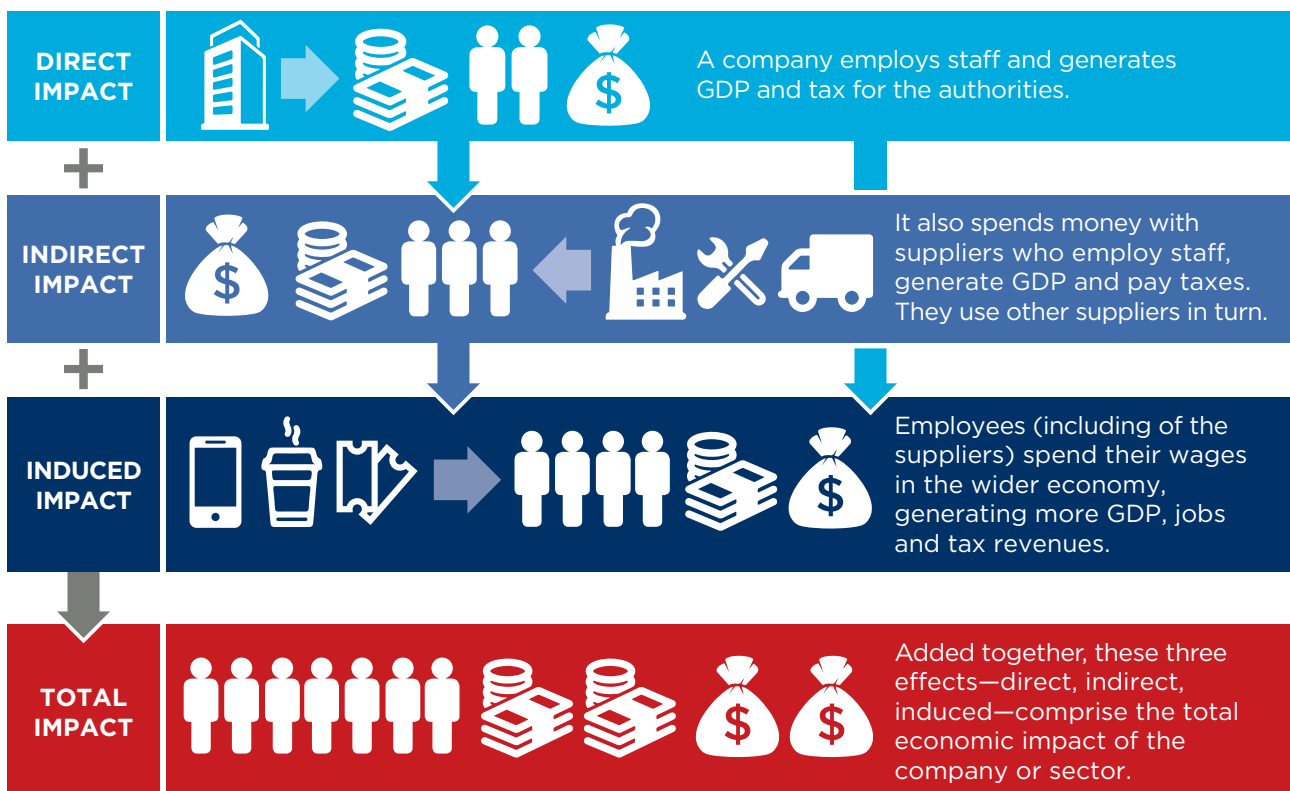
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3. ECONOMIC IMPACTS

3.1 CHANNELS OF IMPACT

The impact of filming the second season of *NCIS: Hawai'i* on the state's economy is calculated using an economic impact assessment. This

involves quantifying the production's economic contribution on a state level across three channels of expenditure, where the total impact is the sum of the three channels.



Source: Oxford Economics

\$104.7m

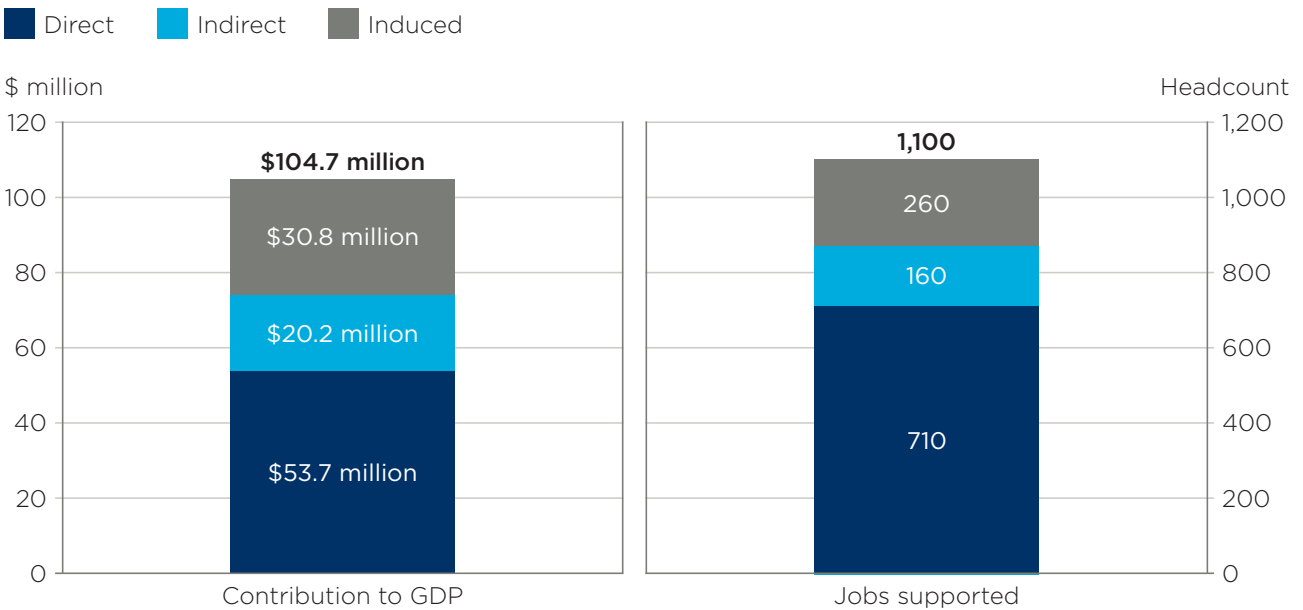
Total contribution to Hawai'i's GDP supported by *NCIS: Hawai'i* Season Two

3.2 TOTAL IMPACT

Combining all channels of impact, we find that *NCIS: Hawai'i* supported almost \$104.7 million towards the state's GDP during the production period. Approximately \$53.7 million, or 51%, of this was generated by the production itself (direct). The local spending on goods

and services supported another \$20.2 million along the supply chain (indirect), which represented 19% of the total.² The payment of wages to Hawai'i residents by the production studios and local vendors in the show's supply chain (induced) stimulated a \$30.8 million contribution to GDP, or 29% (Fig. 4).³

Fig. 4: The total GDP and employment contribution supported by *NCIS: Hawai'i* Season Two in Hawai'i by channel of impact



Source: Oxford Economics
Totals may not sum due to rounding.

² While production spending with Hawai'i based vendors totals approximately \$25.7 million, these local vendors may spend some part of this with companies outside of Hawai'i, resulting in an estimated impact of \$20.2 million.

³ Total percentages do not add to 100% due to rounding.

For *NCIS: Hawai'i*, for every \$1 million in direct GDP generated by the production's own activities, its expenditure supported a further \$950,000 across Hawai'i.⁴

The production of the second season of the show also had a significant impact on employment in the state. In 2022-23, *NCIS: Hawai'i* supported over 1,100 full-time and part-time local workers across the state. The TV series production directly employed 710 full-time and part-time Hawai'i workers, or 63% of the total 1,100 jobs for local residents supported across the state. The local spending on goods and services supported another 160 local workers along the supply chain, or 14% of the total. A further 260 local workers, or 23% of the total, were supported by the spending of wages across the state by local production crews and by employees of the show's suppliers.

For every 100 Hawai'i residents directly employed by production, a further 59 jobs for local residents were

supported across the state through secondary effects.⁵

According to CBS Studios, *NCIS: Hawai'i* Season Two is estimated to have benefitted from \$17.0 million in tax incentives. These incentives are estimated to have produced \$6.2 million in GDP for every \$1 million of tax incentives received by the production.

The remainder of this section describes the three channels of impact in more detail.

3.3 DIRECT IMPACT

During the production period, *NCIS: Hawai'i* Season Two directly employed an estimated 710 full-time and part-time Hawai'i workers across the state.⁶

We estimate that the production of the second season of *NCIS: Hawai'i* made a \$53.7 million direct contribution to the state's GDP in 2022, which came from the payment of employee compensation to locally based staff.⁷

1,100

Full-time and part-time jobs for local residents supported across Hawai'i as a result of *NCIS: Hawai'i* Season Two

⁴ This GDP multiplier effect is calculated by dividing the total impact (\$104.7 million) by the direct impact (\$53.7 million) and subtracting 1.

⁵ This employment multiplier effect is calculated by dividing the total employment impact (1,134) by the direct employment impact (713) and subtracting 1. While the employment figures presented in this report are rounded, all calculations are based on the actual figures.

⁶ Direct employment does not include nearly 2,000 Hawai'i resident extras employed during production of the show.

⁷ The contribution to GDP generated by a company or a project can be calculated as the sum of its surplus (profits) and employee compensation. This approach, known as the income approach, is consistent with the principles of national accounting. For the purposes of this study, we take a conservative approach to this calculation and focus on the employee compensation of local workers, excluding the profits associated with the production in our calculation of direct contribution to Hawai'i's GDP.

3.4 INDIRECT IMPACT

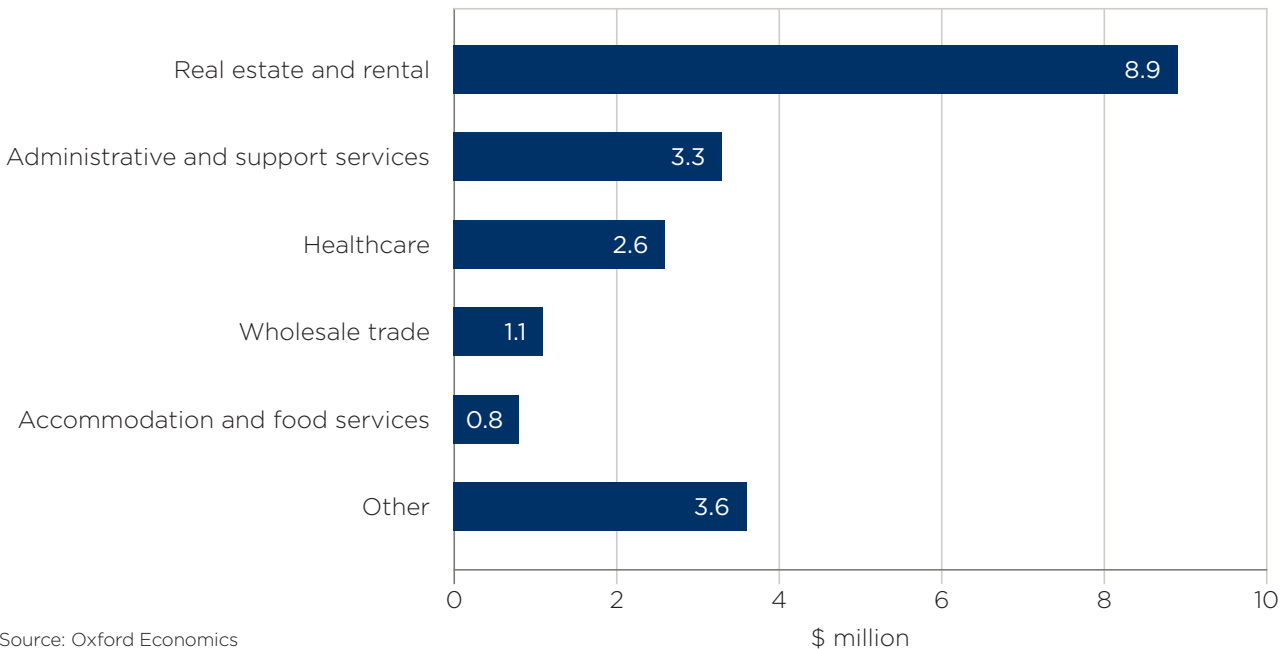
The production's positive contribution to the state's economy, however, extends past the contribution it makes directly through its own operations. This is related to the purchases of goods and services made from other firms in order to produce the show. This spending stimulates additional economic activity along the supply chain. This is referred to as the *indirect* impact.

We estimate that the procurement associated with the second season of *NCIS: Hawai'i* stimulated a \$20.2 million contribution to the state's GDP along the domestic supply chain.

Almost 44% of this indirect impact was in real estate & rental, that includes companies such as vehicle and site rental service companies, where the show's supply chain stimulated a GDP contribution of \$8.9 million

(Fig. 5). Approximately 16% of the indirect impact went towards other administrative and support services, which primarily included companies that provided security services and other support services, like hiring extras for production, and waste management. 13% of the impact was in the healthcare industry, primarily composed of testing laboratories and medical protective equipment suppliers.

Fig. 5: GDP contribution stimulated by the procurement of goods and services from local suppliers, by industry



Source: Oxford Economics

The show’s expenditure on inputs of goods and services from locally based suppliers also stimulated 160 full-time and part-time jobs for local residents across Hawai’i.

3.5 INDUCED IMPACT

During the production period, local labor was paid \$53.7 million in gross wages and salaries. In addition to this, the people whose jobs are stimulated by local spending on goods and services were also paid additional wages and salaries.

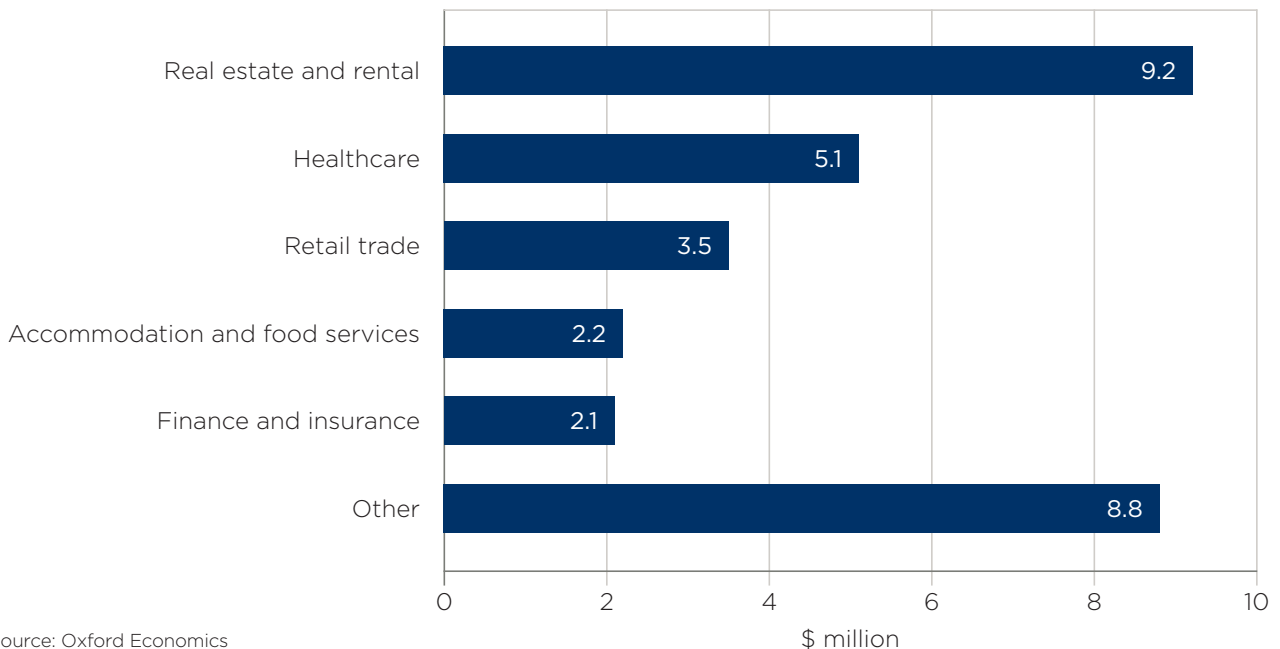
Production crews, and workers employed throughout the supply chain spend a proportion of their wages at retail, leisure, and other outlets across the state. This stimulates economic activity and employment at these firms, but also along their supply chains. This is referred to as the show’s *induced* impact.

We estimate the wage-financed spending of local production crews and workers at locally based suppliers stimulated

\$30.8 million toward Hawai’i’s GDP during the production period. Many of the business that benefited from the induced channel of impact were part of the real estate & rental, healthcare, and retail industries (Fig. 6).

We estimate the wage financed consumer spending of local production crews and workers within the show’s supply chain supported 260 full-time and part-time jobs for local residents across Hawai’i in 2022-23.

Fig. 6: GDP contribution stimulated by the payment of wages to locally based workers, by industry



Source: Oxford Economics

4. WIDER IMPACTS

The filming and production of the second season of *NCIS: Hawai'i* brought many benefits to the local economy outside of those quantified in this report. While the production of the TV series directly impacted employment and business activity for local vendors, additional benefits include wage-induced spending by non-resident cast and crew members, film induced tourism, investment in local production infrastructure, the development of talent, and unique opportunities for cultural exchange.

TV productions typically bring non-resident workers to a region or a city. While these are not counted as part of the economic footprint of the show, it is important to acknowledge that their presence could support further economic impacts. For instance, non-resident workers may spend part of their compensation locally to visit local attractions or leisure outlets in their spare time. They may even receive visits from friends and relatives while in the region, thereby supporting further economic activity.

TV series also encourage tourism related activity by attracting fans and by promoting local attractions

and customs long after the show has completed production, and Hawai'i is no exception. A 2023 study revealed Hawai'i as the top US destination for film-induced tourism, driven by the Jurassic Park franchise.⁸ Visiting the actual sites that serve as a backdrop for many popular TV series or films allows fans to immerse themselves in these locations as they experience the scenery, food, and other local attractions, providing economic benefits to businesses in the area.

While Hawai'i is known to attract the film and TV industry for its unique beauty and culture, whether as an actual or referenced backdrop, local policymakers have been facilitating the growth of the industry through investments and tax credits. The attraction of large-scale projects such as *NCIS: Hawai'i*, helps to further develop the already growing film industry in the state. Local filmmakers, actors, and other industry workers find themselves with opportunities to work alongside experienced professionals, while investment in the industry also encourages further advancement opportunities for local talent.

An example of this investment lies in a recent announcement

of the University of Hawai'i (UH), which in collaboration with the Island Film Group and other partners plans to build a state-of-the-art film studio. The studio will feature modern sound stages and other support facilities and be surrounded by a public-serving town square with multiple commercial and business spaces for studio employees and the UH West O'ahu (UHWO) community.⁹ As local infrastructure that supports the TV and film industry is developed through similar investments, this not only leads to increased economic activity but also signals growth of the sector in a broader sense, attracting further productions to the region.

The state government and local organizations continue to support Hawai'i's film industry through education and promotion initiatives as well. For example, the Hawai'i Department of Business, Economic Development and Tourism has a Creative Industries Division that is providing an online animation course in conjunction with former Pixar executives. The course focuses on visual storytelling and provides students with an opportunity to grow their

⁸ Max Woolf, "Why Film Tourism Is in Vogue," 2023.

⁹ University of Hawai'i, "Developer selected for UH West O'ahu film studio project that'll transform campus," Feb 6, 2024.

existing portfolio.¹⁰ Ohina Labs is another local effort that supports Hawai'i-based filmmakers through education and development while also facilitating the exhibition of their work.¹¹ International and local film festivals also promote locally produced content with a wider audience. Film festivals such as the Hawai'i International Film

Festival, the Maui Film Festival, and the Made in Hawai'i Film Festival provide a platform for the exchange of both content and culture.¹²

The production of *NCIS: Hawai'i* was truly a local production. Aside from the influx of jobs and economic activity brought upon by the TV series and the various

benefits for local workers, businesses, and the broader film industry, local customs were also incorporated onto the production set. Hawaiian culture was honored and a blessing ceremony was held on the first day of Season Two filming, attended by cast and crew members.¹³



Photo still from *NCIS: Hawai'i* - Courtesy of CBS Studios © 2022/23. All Rights Reserved.

¹⁰Honolulu Civil Beat, "Hawai'i's Local Film Industry Has Long Taken A Back Seat To Hollywood. New Money Might Help," May 21, 2023.

¹¹ Check Ohina website for more information.

¹²Hawai'i Tourism Authority, "Go Hawai'i: Hawai'ian culture and film," n.d.

¹³TV insider, "NCIS: Hawai'i Season 2 Begins Production: See the Cast at Blessing Ceremony," June 28, 2022.



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APPENDIX: METHODOLOGY

The impact of the filming of *NCIS: Hawai'i* on Hawai'i's economy is calculated using an economic impact assessment. This involves quantifying the production's economic contribution to the state across three channels of expenditure. The channels of impact are:

- **Direct impact** relates to the employment and economic activity generated at the filming locations across Hawai'i.
- **Indirect impact** captures the economic activity stimulated by the procurement of inputs of goods and services from the locally based supply chain.
- **Induced impact** comprises the wider economic benefits that arise from the payment of wages by the television series, and the firms in its local supply chains, to staff who spend a proportion of this income in local retail, leisure, and other outlets.

The total impact is the sum of the three channels. This enables us to build a picture of the series' overall contribution to the country across two key metrics:

- The gross value-added contribution to Hawai'i's GDP.¹⁴
- Employment, measured on a headcount basis.

The results are presented on a gross basis, ignoring any displacement of activity from other firms or activities. The results do not consider what the resources currently used by the show's production, or stimulated by its expenditure, could alternatively produce in their second most productive usage. Additionally, the results also exclude economic activity generated outside Hawai'i, employment of Hawai'i nonresidents, and spending with suppliers located outside the state.

Data on the direct impact of *NCIS: Hawai'i*—including the show's contribution to GDP and jobs created—were provided directly by CBS Studios. Direct GDP contribution in the state is taken to be equal to local employee compensation.

Indirect and induced impacts were calculated using the IMPLAN economic impact software. IMPLAN is an industry-standard tool that collates government economic data from a variety of sources and streamlines economic impact calculations across different geographies in the United States. While the state of Hawai'i has published a standard input-output model to reflect inter-industry spending across the state's economy as of 2017, we use IMPLAN to ensure analyses are consistent across markets.

IMPLAN allows for adjustable assumptions of supply-chain connections and leakages from survey input data and improved accuracy of assumptions. IMPLAN is widely used and recognized by government organizations, non-profits, economic development organizations, workforce planners, education institutions, and consultants across the US and Canada.

To estimate the indirect impact, we used vendor-level information on the amount spent and type of goods and services purchased from businesses based in Hawai'i over the course of the show's production. Induced impact, takes the wages paid to workers, as provided by CBS Studios, and then allocates those to the sectors where they would have spent those wages in line with the proportions in the regional input-output matrices constructed by IMPLAN. We then used those figures to show how many dollars of GDP the show's production supported in Hawai'i's economy for every \$1 of direct GDP contribution, and how many jobs for local residents were stimulated across the state for each 100 Hawai'i residents directly employed by production.

¹⁴Where GDP is the main indicator of economic activity in Hawai'i. It is used to measure the rate of growth or decline of the economy, and when it enters a recession.

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April 2024

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