



The Economic Impacts of Federal Government Contracts Awarded in Hawaii

Fiscal Year 2018 – 2022



Research & Economic Analysis Division

Department of Business, Economic Development & Tourism

STATE OF HAWAII

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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 Rene Kamita, Ph.D., under the direction of Economic Research Administrator Eugene Tian, Ph.D. Valuable comments and recommendations were provided by READ colleagues.

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Executive Summary

Between fiscal years 2018 and 2022, Hawaii was awarded a total of \$14.0 billion in nominal dollars of federal prime contract spending, or an average of \$2.8 billion per year. Approximately 85% of the contract spending was awarded by the Department of Defense, followed by the General Services Administration (7.9%). Over 93% of federal contract spending indicated Honolulu County as the primary place of work performed. Kauai County was listed the second most as the primary place of work performed (3.9%), followed by Hawaii County (1.8%) and Maui County (1.2%). The share of contract spending awarded to recipients located in Hawaii ranged from 55.0% in fiscal year (FY) 2018 to 44.3% in FY 2022.

Altogether, federal prime contract spending is estimated to have generated a total of \$26.2 billion of output in the state, including direct, indirect, and induced impacts. The industries that benefited the most include professional services (18.9%), followed by construction (17.6%) and business services (10.0%). These top three industries accounted for 46.6% of the total output generated. Honolulu County benefited the most from federal contracts, accounting for 89.7% of the total output impact, followed by Kauai County at 3.9%, Hawaii County at 3.7%, and Maui County at 2.6%. Honolulu County had the highest share of federal contract spending and output impacts due to the majority of military facilities being located in Honolulu County. Kauai County had a larger share compared to the other neighbor island counties due to the presence of the Pacific Missile Range Facility in Kauai County.

Federal prime contract spending between fiscal years 2018 and 2022 is estimated to have generated a total of \$10.3 billion in labor earnings and \$1.6 billion in state taxes. The employment generated by federal prime contract spending over these five years has averaged approximately 29,600 jobs per year.

This report assumes that the spending patterns of out-of-state recipients of federal prime contracts performed in Hawaii are similar to the spending patterns of local recipients. Further information regarding the spending and hiring patterns of contractors (e.g., types and amounts of products and services purchased in Hawaii vs. imported from out-of-state; the hiring of in-state and out-of-state workers as well as work arrangements and occupation requirements) and any barriers faced by local contractors in securing federal contracts would allow for a more comprehensive analysis of the economic impact of federal contract spending.

I. Introduction

The federal government has a significant presence and impact in Hawaii. In 2021, approximately 87,000 federal government personnel resided or were stationed in Hawaii, including approximately 52,000 military personnel and 35,000 civilian employees.¹ Based on estimates from the U.S. Department of Defense (DoD) Office of Local Defense Community Cooperation (OLDCC), the DoD spent \$7.7 billion in fiscal year (FY) 2020² in Hawaii, and \$7.9 billion in fiscal year FY 2021, based on payroll and contract spending. This amounted to approximately \$5,339 per resident in FY 2020 and \$5,444 per resident in FY 2021.³ According to OLDCC estimates, Hawaii has consistently ranked second amongst all states in the amount of defense spending it receives as a percentage of state Gross Domestic Product (GDP).⁴

In addition to payroll and contract spending, military personnel are often accompanied by dependents, who contribute to the economic activity in the state.⁵ Many military veterans also reside in the State. In 2022, approximately 107,000 veterans were estimated to reside in Hawaii. Federal expenditures for veterans' compensation, pension, educational and vocational rehabilitation and employment, medical care, etc. totaled \$1.4 billion in FY 2022.⁶

The federal government's overall (military and civilian) contribution to the State's GDP has generally varied between 11% and 13% over the last ten years. See Figure 1.

¹ The State of Hawaii Data Book 2022, [Table 10.05](#). This includes active duty military personnel that are stationed in the state plus the number of military reserve unit members, including the National Guard, whose reserve units meet regularly for training. The personnel counts include full-time and part-time employees.

² The fiscal year for the federal government runs from October 1 to September 30. For example, FY 2020 starts October 1, 2019 and ends September 30, 2020.

³ The FY 2020 and FY 2021 estimates of total defense spending are based on OLDCC's estimates published as part of its [Defense Spending by State, Fiscal Year 2021](#) and [Defense Spending by State, Fiscal Year 2020](#) reports and corresponding report data files. See https://oldcc.gov/sites/default/files/defense-spending-rpts/OLDCC_Spending_by_State_FY2021_Online.xlsx and https://oldcc.gov/sites/default/files/defense-spending-rpts/OLDCC_DSBS_FY2020_OnlineData_20211019_0.xlsx Spending estimates do not include retirement and non-retirement benefits and grants.

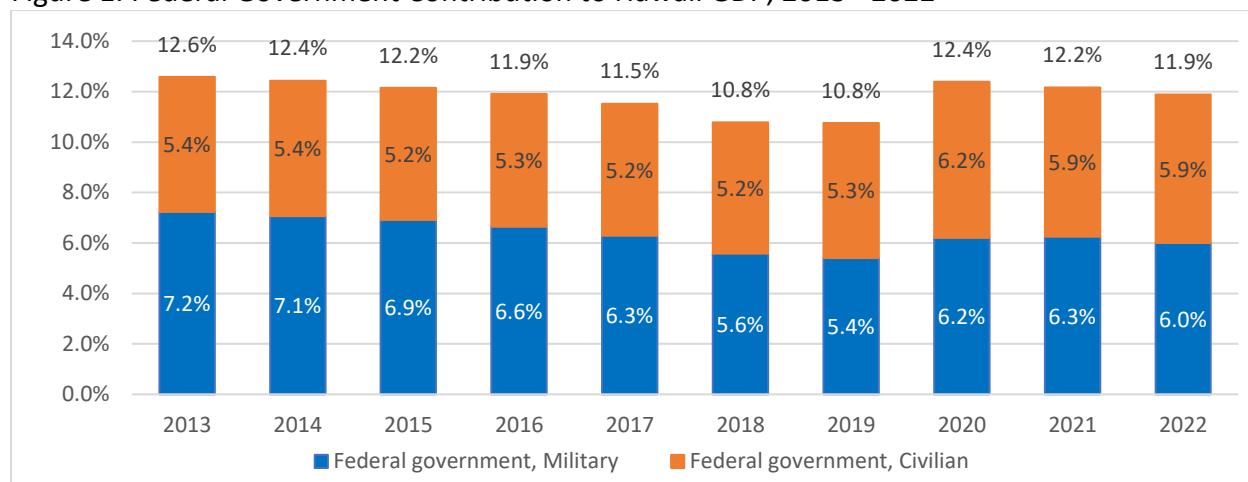
Population estimates are based on estimates of the total number of residents in the state as of July 1, 2020, and as of July 1, 2021 (Vintage 2022). See [Research & Economic Analysis | Population Dashboard \(hawaii.gov\)](#).

⁴ See, for example, the State of Hawaii Data Book 2021, [Table 10.10](#), and [Defense Spending by State, Fiscal Year 2021, Hawaii](#). Virginia ranks #1.

⁵ In 2015, for example, there were 64,119 dependents of active-duty military personnel residing in Hawaii. See the State of Hawaii Data Book 2022, [Table 10.06](#).

⁶ The State of Hawaii Data Book 2022, [Table 10.31](#) and [Table 10.33](#).

Figure 1. Federal Government Contribution to Hawaii GDP, 2013 - 2022



Source: DBEDT READ Economic Data Warehouse.

A 2011 study by the RAND National Defense Institute estimated that the DOD spent an average of \$6.5 billion per year in Hawaii between FY 2007 and 2009 and these expenditures were associated with increases of \$12.2 billion in output, \$3.5 billion in earnings, and 101,533 jobs.⁷ Spending included both personnel expenditures, including benefits paid to military retirees, and defense procurement expenditures. More recently, the [Hawaii Defense Economy](#) website provides interactive tools that analyze defense spending in Hawaii and its economic impacts for the most recent twelve months. The website also allows for the detailed tracking of defense spending by agency, by industry and product and service codes, as well as between prime contractors and subcontractors to the extent that data is available.

This report focuses on the impact of federal prime contracts, including but not limited to defense procurement, awarded in Hawaii between FY 2018 and FY 2022.⁸ Section II provides a general description and overview of federal government contract spending obligations between FY 2018 and FY 2022, including a description of spending by awarding agencies, by counties in which work was performed, and by the types of products and services provided.⁹ Section III presents estimates regarding the impacts federal contract spending has had on output, earnings, state taxes, and employment. Section IV concludes and provides a recommendation for future research.

⁷ [Hosek, James, et al. \(2011\) How Much Does Military Spending Add to Hawaii's Economy, RAND Corporation Technical Report prepared for the Office of the Secretary of Defense](#) (RAND Report). Estimates of spending and impacts on output and earnings are in 2009 dollars. The report also finds that defense spending contributes to 18.4% of 2009 GDP (RAND Report, page 25), however, by assuming that output is equal to GDP, the report overstates the contribution of military spending to GDP.

⁸ Prime contract awards are agreements that the federal government makes with a non-federal entity to provide goods and/or services for a fee. This report does not examine the impacts of personnel expenditures.

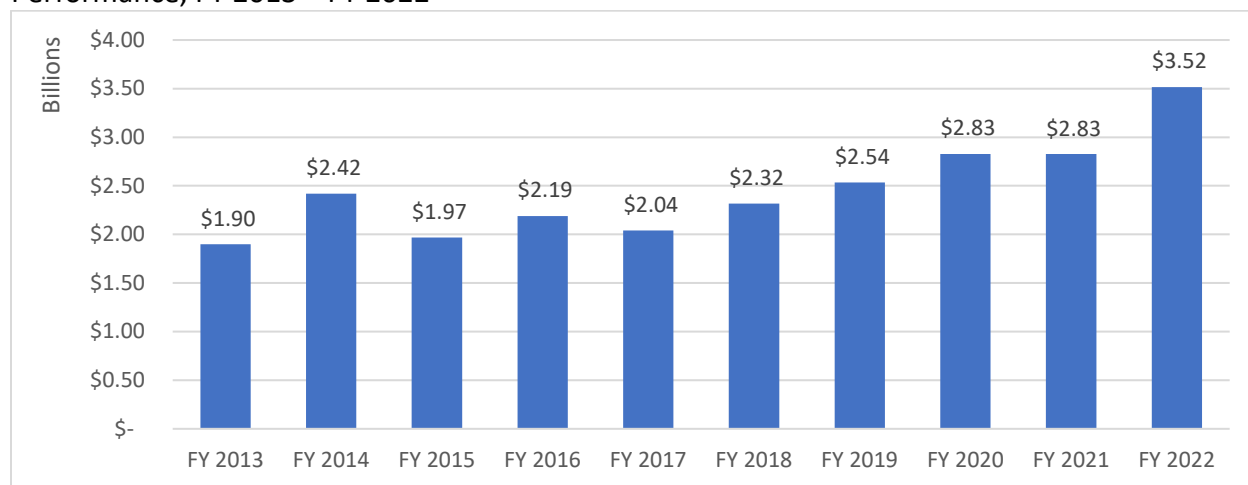
⁹ The federal government enters into a binding agreement called an obligation when it awards funding. For example, an agency incurs an obligation when it places an order, signs a contract, or purchases a service.

The primary data used in this report is from the federal procurement database accessible through the [USAspending.gov](https://www.usaspending.gov) website. The USAspending.gov website is the result of the Digital Accountability and Transparency Act (DATA Act) and serves as the official open data source of federal spending information including federal contracts, grants, and loans.¹⁰ The data used is based on the detailed transactions database downloaded on July 17, 2023.

II. Overview of Federal Government Contracts in Hawaii

Between FY2013 and FY 2022, the federal government awarded a total of \$24.5 billion through contracts where Hawaii was the primary place of performance.¹¹ As shown in Figure 2, the amounts have generally increased over time, from \$1.9 billion in FY 2013 to \$3.5 billion in FY 2022.¹² On average, Hawaii received approximately \$2.5 billion per year in federal contract spending over the last ten years. Spending has been higher in recent years, especially in FY 2020, FY 2021, and FY 2022.

Figure 2. Total Federal Prime Contract Awards Spending, Hawaii as the Primary Place of Performance, FY 2013 – FY 2022



Source: USAspending.gov.

For the purposes of this study, we focus on the most recent five-year period, FY 2018 to FY 2022. During this period, Hawaii was awarded a total of \$14.0 billion in nominal dollars. Approximately 85% of the federal dollars obligated were awarded by the Department of Defense. The DoD awarded \$11.9 billion over this five-year period, or an average of \$2.4 billion per year. The General Services Administration awarded the second highest amount in federal spending, \$1.1 billion total or an average of \$220 million per year. The Departments of Homeland Security, Veterans Affairs, and Transportation followed, each awarding an average of \$30-40 million per year in federal contract spending.

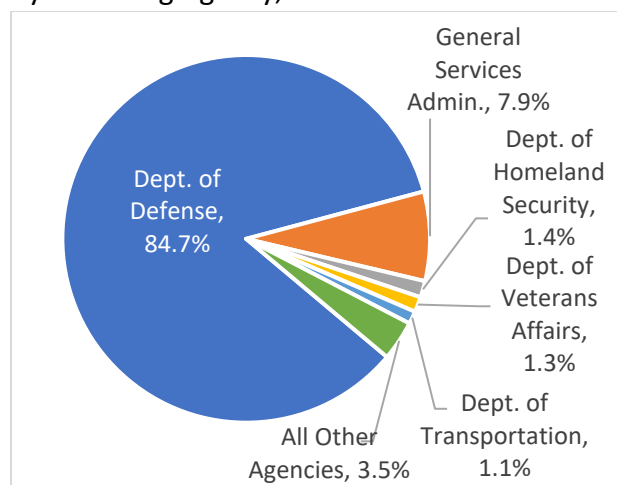
¹⁰ See <https://www.usaspending.gov/>

¹¹ The primary place of performance is considered the principal place of business, where the majority of work is performed.

¹² Totals reflect federal obligation amounts based on prime award transactions for each fiscal year.

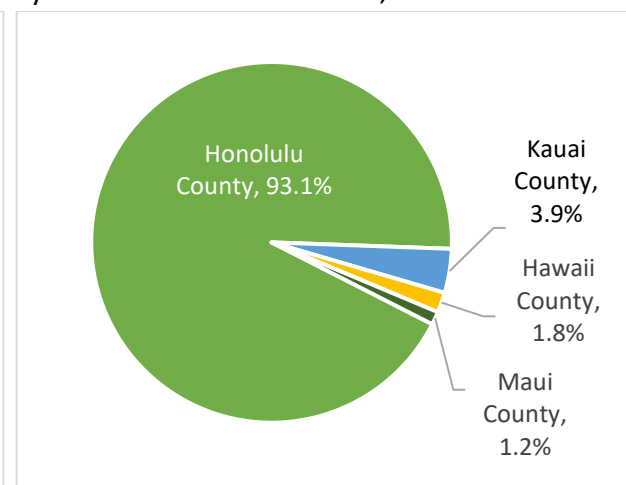
When grouped by primary place of work performed, federal contract spending was highly concentrated in Honolulu County. Ninety-three percent of federal contract spending was designated for work performed in Honolulu County. While this appears relatively high considering that Honolulu County accounted for approximately 69.4% of the State’s population and 74.3% of the state’s GDP in 2021, most of the federal contract spending during the FY 2018 – FY 2022 period was awarded by the Department of Defense and most defense personnel are located in Honolulu County.¹³ Kauai County has the second highest share of federal contract spending by place of work performed, reflecting the presence of the Pacific Missile Range Facility in Kauai County.

Figure 3. Hawaii Federal Contract Spending by Awarding Agency, FY 2018 – FY 2022



Source: USAspending.gov. Calculations by DBEDT.

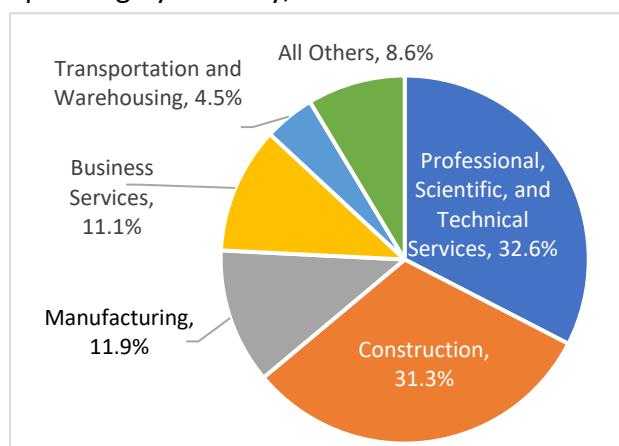
Figure 4. Hawaii Federal Contract Spending, by Place of Work Performed, FY 2018 – FY 2022



Source: USAspending.gov. Calculations by DBEDT.

Each contract is classified under the North American Industry Classification System (NAICS) and by Product or Service Code (PSC). Figure 5 shows federal contract spending by two-digit NAICS or industry code. The industry awarded the largest share of federal contract spending was Professional, Scientific, and Technical Services, which received \$4.6 billion or 32.6% of spending. The next largest was the

Figure 5. Share of Hawaii Federal Contract Spending by Industry, FY 2018 – FY 2022



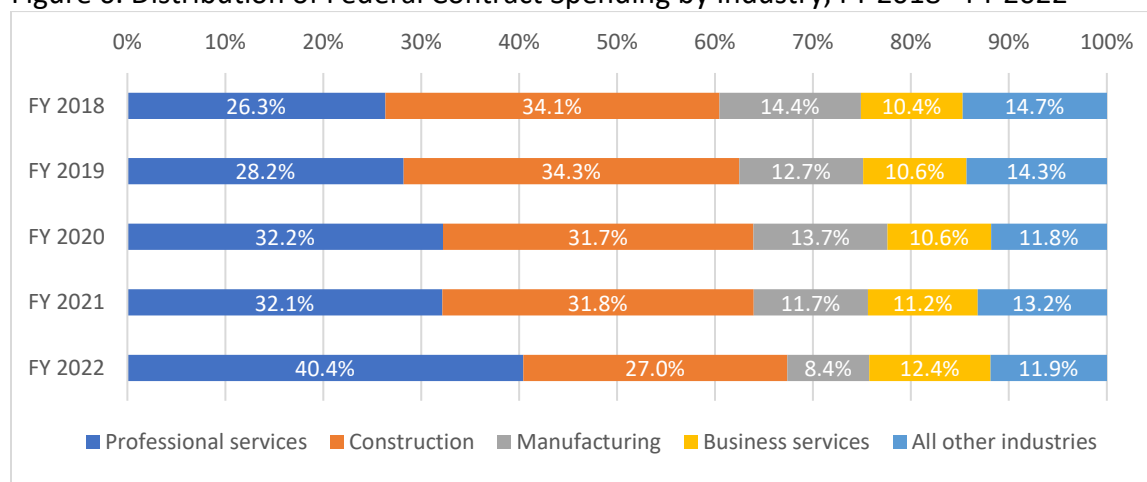
Source: USAspending.gov. Calculations by DBEDT.

¹³ In 2020, approximately 90% of defense personnel were located in Honolulu County. See State of Hawaii Data Book 2021, [Table 10.09](#).

Construction industry (31.3%), followed by Manufacturing (11.9%).¹⁴

The distribution of federal contract spending by industry over time is shown in Figure 6. Although the professional services and construction industries remained the largest recipients of federal funding between FY 2018 and FY 2022, the distribution of spending changed over this five-year period. Spending in the construction industry declined from about 34% of federal spending in Hawaii in FY 2018 and FY 2019 to 27.0 % in FY 2022. Meanwhile, spending on professional services, which comprised 26.3% of federal contract spending in FY 2018, grew to over 40% of spending in FY 2022. The share of spending on manufacturing also fell over time (from 14.4% in FY 2018 to 8.4% in FY 2022) as the share of spending on business services slightly increased (from 10.4% in FY 2018 to 12.4% in FY 2022).

Figure 6. Distribution of Federal Contract Spending by Industry, FY 2018 - FY 2022



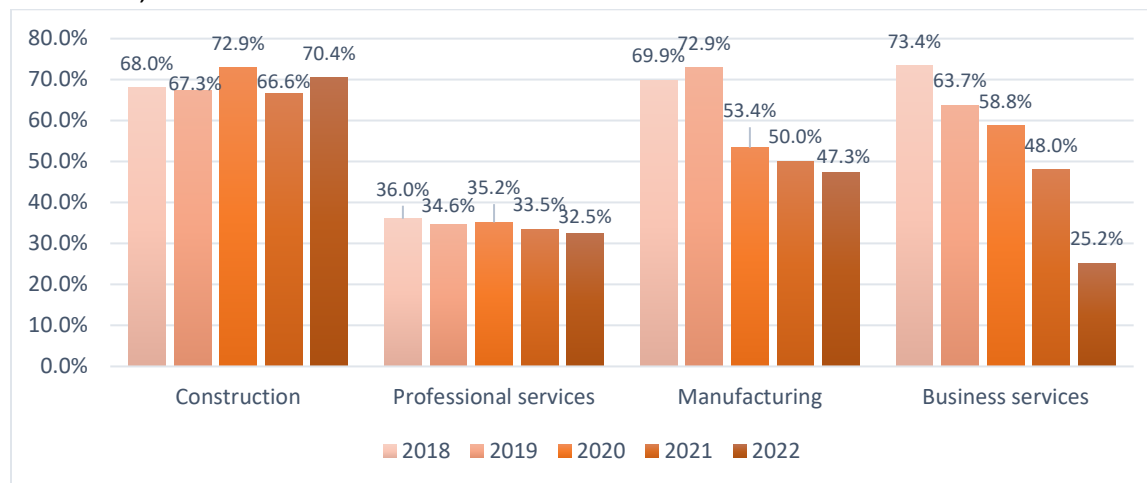
Source: USAspending.gov. Calculations by DBEDT.

The changing distribution of contract spending has implications for the percentage of spending that is awarded to recipients located within the State. As shown in Figure 7, between 66.6% to 72.9% of spending in construction was awarded to recipients located within Hawaii during the FY 2018 – FY 2022 period. In contrast, the shares of spending going to in-state recipients for professional services during this period ranged from 36.0% in FY 2018 to 32.5% in FY 2022, with the share declining slightly over time.¹⁵ Figure 7 also highlights that the share of spending awarded to in-state recipients in the manufacturing and business services industries has been declining over this five-year period.

¹⁴ Construction includes Mining, Quarrying, Oil and Gas Extraction and Construction. Business services includes Administration and Support and Waste Management and Remediation Services and Management of Companies and Enterprises.

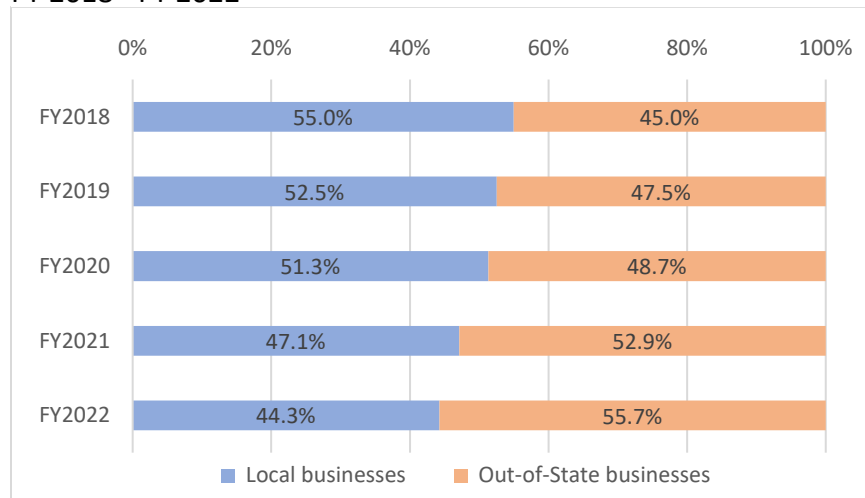
¹⁵ Professional services include but are not limited to services such as engineering services; computer systems design; process, distribution and logistics consulting services; laboratory testing; environmental services and analysis; and research and development.

Figure 7. Share of Total Spending Awarded to Recipients Located in Hawaii for the Top Four Industries, FY 2018 – FY 2022



Source: USAspending.gov. Calculations by DBEDT.

Figure 8. Share of Spending Awarded by Location of Recipient, FY 2018 - FY 2022



Source: USAspending.gov. Calculations by DBEDT.

The proportion of federal contract spending awarded to businesses located in Hawaii compared to businesses located out-of-state is shown in Figure 8.¹⁶ While the overall percentage of funds allocated to businesses located within the state is close to the percentage allocated to out-of-state businesses within the FY 2018 – FY 2022 period (49.5% and 50.5%,

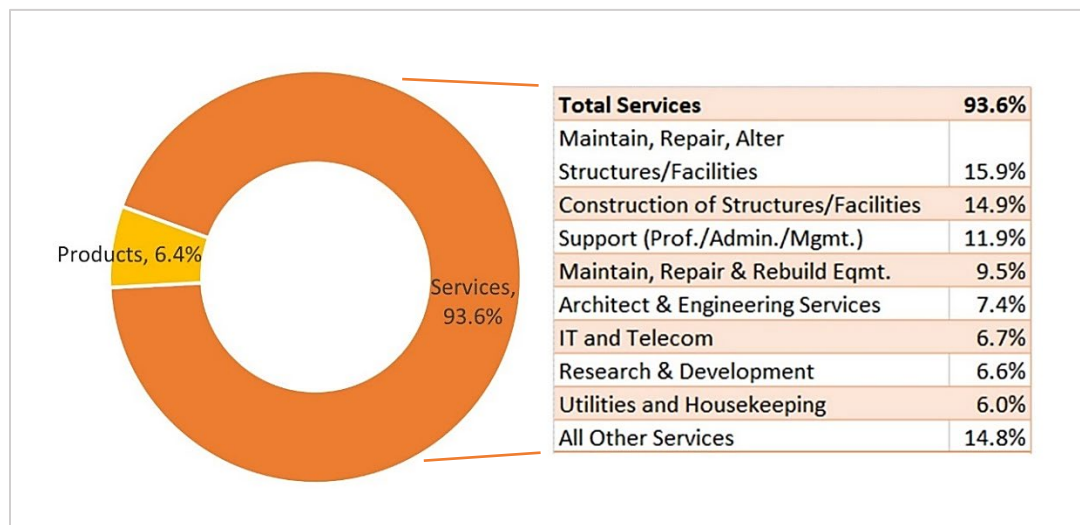
respectively), the percentage of funds awarded to businesses located in Hawaii has decreased over time, from 55.0% in FY 2018 to 44.3% in FY 2022. This is consistent with the trends identified above, where construction, an industry in which a relatively high share of spending is awarded to local recipients, received a smaller share of contract spending over time while spending on professional services, an industry where a large share of spending tends to be awarded to out-of-state recipients, increased over time, particularly in FY 2022.

While the NAICS code identifies the industry associated with the contract, the PSC identifies the type of product or service being purchased. As shown in Figure 9, over 90% of contract

¹⁶ The data set distinguishes between the recipient parent (a company that may have multiple branches or locations in different states), and the recipient who receives the federal contract funding.

spending was awarded for the procurement of services. The top three service areas were the maintenance, repair, or alteration of structures/facilities (\$2.2 billion or \$447 million per year), the construction of structures/facilities (\$2.1 billion or \$418 million per year), and support (professional/administrative/management) (\$1.7 billion or \$333 million per year). Approximately 6.4% was awarded toward the purchase of goods, with the top three products being Meat, Poultry, and Fish (\$107.8 million or \$21.6 million per year), Fruits and Vegetables (\$60.3 million or \$12.1 million per year), and Combat Ships and Landing Vessels (\$52.5 million or \$10.5 million per year).

Figure 9. Hawaii Federal Contract Spending by Products and Services to be Purchased FY 2018 – FY 2022



Source: USAspending.gov. Calculations by DBEDT.

As shown in Table 1, the share of spending awarded to local businesses also varies by the product or service purchased. Local businesses received relatively large shares of spending for the Construction of Structures/Facilities (72.4%), the Maintenance, Repair, or Alteration of Structures/Facilities (66.9%), Utilities and Housekeeping (66.0%), and Research & Development (64.1%). Shares of spending awarded to local businesses were relatively low, however, in Support (Professional/Administrative/Management) (7.8%), IT and Telecom (29.5%), and Transportation/Travel/Relocation (32.7%).

Table 1. Spending by Product Service Code and Recipient Location, FY 2018 – FY 2022

Product or Service Code Description	Total Amount FY 2018-2022 (\$ millions)	Avg. amount per year (\$ millions)	Percent to local businesses	Percent to out-of- state businesses
Total	\$ 14,021	\$ 2,804	49.5%	50.5%
Products	\$ 894	\$ 179	55.1%	44.9%
Services	\$ 12,208	\$ 2,442	48.0%	52.0%
Maintain, Repair, Alter Structures/Facilities	\$ 2,234	\$ 447	66.9%	33.1%
Construction of Structures/Facilities	\$ 2,089	\$ 418	72.4%	27.6%
Support (Prof./Admin./Mgmt.)	\$ 1,667	\$ 333	7.8%	92.2%
Maintain, Repair & Rebuild Equipment	\$ 1,330	\$ 266	44.8%	55.2%
Architect & Engineering Services	\$ 1,035	\$ 207	55.8%	44.2%
IT and Telecom	\$ 933	\$ 187	29.5%	70.5%
Research & Development	\$ 919	\$ 184	64.1%	35.9%
Utilities and Housekeeping	\$ 840	\$ 168	66.0%	34.0%
Transportation/Travel/Relocation	\$ 592	\$ 118	32.7%	67.3%
Operation of Structures/Facilities	\$ 511	\$ 102	50.4%	49.6%
Natural Resources Management	\$ 267	\$ 53	46.5%	53.5%
All Other Services	\$ 709	\$ 142	20.9%	79.1%

Source: USAspending.gov. Calculations by DBEDT.

III. The Economic Impacts of Federal Government Contracts Awarded to Hawaii

Federal government contract spending has impacts throughout Hawaii's economy. For example, fulfilling the terms of a government contract may require expenditures to be made on a variety of goods and services, such as hiring labor, purchasing materials, renting equipment, transporting material and equipment, etc. This initial "direct" spending will in turn stimulate so-called "indirect" impacts through the supply chain. When contract recipients spend money to purchase meat and produce, for example, those suppliers will in turn make purchases across the supply chains of the agricultural and food processing industries. Payments to employees also increase personal income and spending, resulting in additional "induced" impacts. For instance, wages paid to a construction worker are spent to purchase food, housing, etc. Those expenditures in turn become wages in another layer of economic activity, where they are spent again.

Total impacts, or the sum of direct, indirect, and induced impacts, are measured by multipliers. The multiplier represents the proportional change of total economic activity generated by an injection of new spending. The multipliers used in this report are from The 2017 Hawaii Inter-

County Input-Output Study.¹⁷ Type II final demand multipliers measure the total impacts. This study focuses on the impacts of increased federal spending on the output, earnings, state taxes, and employment across various industries in each county, and for the state. Output is measured as the sales or revenue generated from production in each county, and in the state.¹⁸ Earnings are the income received by households from the production of goods and services within the county, or state, that are available for spending on goods and services.¹⁹

It is important to note that the multiplier measures additional demand generated by new spending *within* a region. Expenditures made outside the region are considered “leakage” and do not contribute to the multiplier effect. As shown in Figure 8, a significant and growing share of contracts awarded with Hawaii as the primary place of performance have gone to businesses that are located outside of the state. For the purposes of this study, it is assumed that most of the contract spending (85%) occurs within the primary place of performance (e.g., Honolulu County) but that some portion (15%) will be retained by the contract recipient as profit and spent at the contract recipient’s location.²⁰ If the contract recipient is an out-of-state business, the latter amount (15%) represents leakage as it is not spent within the state. If the contract recipient is a local business, it is assumed that the 15% share is spent in the county in which the business is located (e.g., Kauai County).

¹⁷ DBEDT. (2022, March). [The 2017 Hawaii Inter-County Input-Output Study](#). The results are based on the condensed (20 sector) version of the [Inter-County I-O tables](#). These sectors are slightly different than the two-digit NAICS categories described in Figure 5 (e.g., food processing is treated as a separate category apart from other manufacturing). For a description of the mapping from NAICS codes to condensed sectors, refer to Appendix A of the [State of Hawaii Input-Output Study: 2017 Benchmark Report](#), March 2022.

¹⁸ For retail and wholesale trade industries (margin industries), it is measured as the sales or revenue less cost of goods sold.

¹⁹ Earnings = wage and salary income + proprietors’ income + director’s fees + employer contributions to health insurance – personal contributions to social insurance. See the State of Hawaii Input-Output Study: 2017 Benchmark Report, pages 16-17.

²⁰ This is consistent with the gross profit margin for civil construction contractors reported in [The 2019 CLA Civil Construction Benchmark Report](#).

The total amount of estimated leakage for each fiscal year is summarized in Table 2. The amount of leakage is estimated to have increased from \$156.8 million in FY 2018 to \$293.9 million in FY 2022. The increases in leakage over time are due to both increases in the magnitude of federal contract spending and the rising share of spending awarded to recipients who are located out of state. As will be discussed in Section IV, further information on the extent to which award recipients make local purchases or import products and services would improve the accuracy of this estimate.²¹

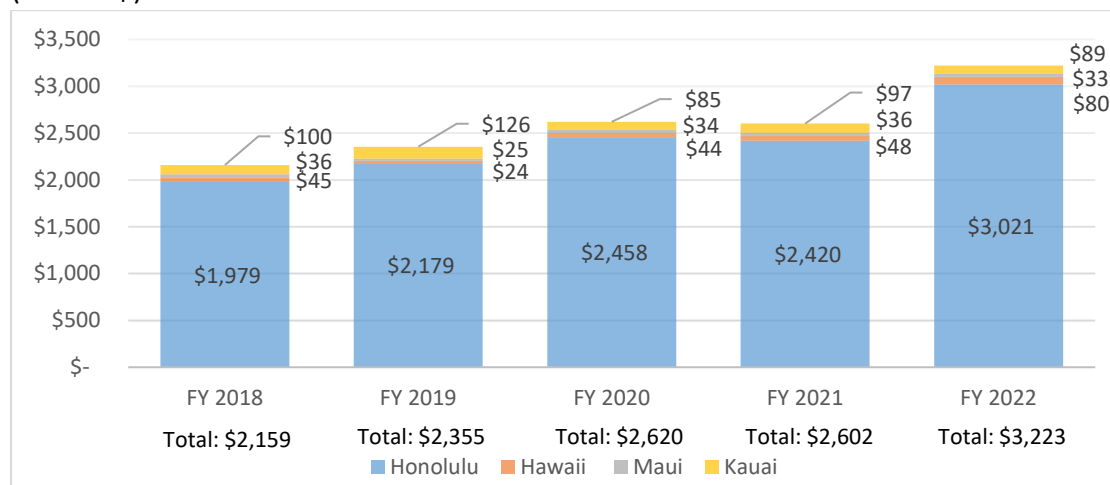
Table 2. Estimated Federal contract Spending Leakage (\$ million)

FY 2018	\$ 156.8
FY 2019	\$ 180.6
FY 2020	\$ 206.4
FY 2021	\$ 224.1
FY 2022	\$ 293.9
Total	\$ 1,061.8

Source: USAspending.gov and calculations by DBEDT.

The estimated amount of spending within Hawaii from federal government contracts ranges from \$2.1 billion in FY 2018 to \$3.2 billion in FY 2022, see Figure 10. The county of Honolulu received over 90% of the estimated in-state spending from federal contracts. This is consistent with the distribution of federal contract spending based on the place of work performed (Figure 4).

Figure 10. Estimated In-State Federal Contract Spending by County, FY 2018 – FY 2022 (million \$)



Source: USAspending.gov. Calculations by DBEDT.

The economic impacts of federal government contract spending on output, earnings, state taxes, and employment are shown in Tables 3 through 7. Not surprisingly, the largest impacts in all categories occur in Honolulu County. The second largest beneficiary in 2018, 2019, and 2021 was Kauai County, with Hawaii County being the second largest beneficiary in 2020 and 2022. Maui County tended to have the least benefits, consistent with the county tending to receive less contract spending.

²¹ The USAspending.gov data has some data on sub-award transactions, however, it is unclear how comprehensive or representative the data is of general subcontracting patterns.

Table 3. Economic Impact of Federal Prime Contract Spending in Hawaii: FY 2018

County	Output (\$ millions)	Earnings (\$ millions)	State Taxes (\$ millions)	Employment (# jobs)
Honolulu	\$ 3,806	\$ 1,492	\$ 232	22,247
Hawaii	\$ 171	\$ 51	\$ 7	1,137
Maui	\$ 129	\$ 40	\$ 5	832
Kauai	\$ 204	\$ 64	\$ 9	1,317
State Total	\$ 4,310	\$ 1,647	\$ 254	25,533

Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

Table 4. Economic Impact of Federal Prime Contract Spending in Hawaii: FY2019

County	Output (\$ millions)	Earnings (\$ millions)	State Taxes (\$ millions)	Employment (# jobs)
Honolulu	\$ 4,208	\$ 1,664	\$ 259	23,999
Hawaii	\$ 142	\$ 41	\$ 6	903
Maui	\$ 118	\$ 36	\$ 5	737
Kauai	\$ 259	\$ 82	\$ 12	1,555
State Total	\$ 4,727	\$ 1,824	\$ 281	27,194

Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

Table 5. Economic Impact of Federal Prime Contract Spending in Hawaii: FY2020

County	Output (\$ millions)	Earnings (\$ millions)	State Taxes (\$ millions)	Employment (# jobs)
Honolulu	\$ 4,768	\$ 1,910	\$ 297	26,632
Hawaii	\$ 190	\$ 56	\$ 8	1,192
Maui	\$ 140	\$ 43	\$ 6	856
Kauai	\$ 176	\$ 54	\$ 8	1,119
State Total	\$ 5,275	\$ 2,063	\$ 319	29,799

Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

Table 6. Economic Impact of Federal Prime Contract Spending in Hawaii: FY2021

County	Output (\$ millions)	Earnings (\$ millions)	State Taxes (\$ millions)	Employment (# jobs)
Honolulu	\$ 4,740	\$ 1,912	\$ 297	25,811
Hawaii	\$ 194	\$ 56	\$ 8	1,181
Maui	\$ 144	\$ 43	\$ 6	835
Kauai	\$ 198	\$ 61	\$ 9	1,198
State Total	\$ 5,276	\$ 2,072	\$ 320	29,024

Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

Table 7. Economic Impact of Federal Prime Contract Spending in Hawaii: FY2022

County	Output (\$ millions)	Earnings (\$ millions)	State Taxes (\$ millions)	Employment (# jobs)
Honolulu	\$ 6,013	\$ 2,485	\$ 391	32,474
Hawaii	\$ 279	\$ 85	\$ 12	1,745
Maui	\$ 164	\$ 49	\$ 7	912
Kauai	\$ 192	\$ 59	\$ 9	1,138
State Total	\$ 6,648	\$ 2,677	\$ 418	36,268

Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

Table 8 summarizes the overall impacts of federal prime contract spending on output, by industry and by county, for the period FY 2018 – FY 2022. The \$14.0 billion awarded via federal contracts between FY 2018 and FY 2022 generated approximately \$26.2 billion in output, including direct, indirect, and induced impacts. Honolulu County benefited the most from federal prime contract spending in Hawaii, followed by Kauai County, Hawaii County, and Maui County. This is consistent with the majority of military facilities being located in Honolulu County and the presence of the Pacific Missile Range Facility in Kauai County.

As shown in both Table 8 and Figure 11, the industries that benefited the most based on output generated were professional services (18.9%), construction (17.6%), and business services (10.0%). Together these three industries accounted for over 46% of the output generated.

Output generated by industry and county for each year are included in the Appendix as Tables A1 through A5.

Figure 11. Percentage of Output Generated by Federal Prime Contract Spending, by Industry, FY 2018 – FY 2022

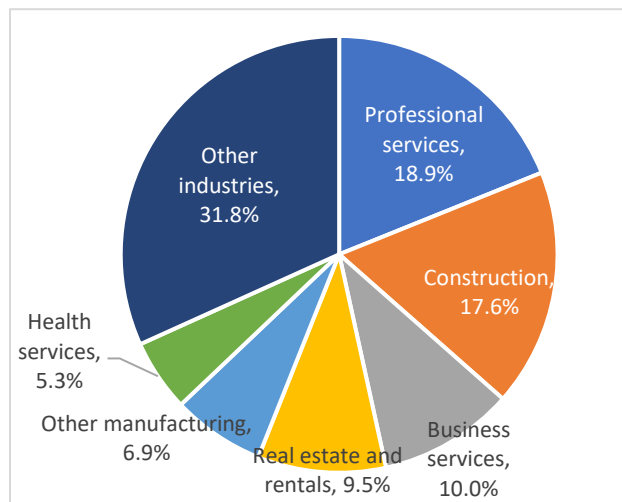


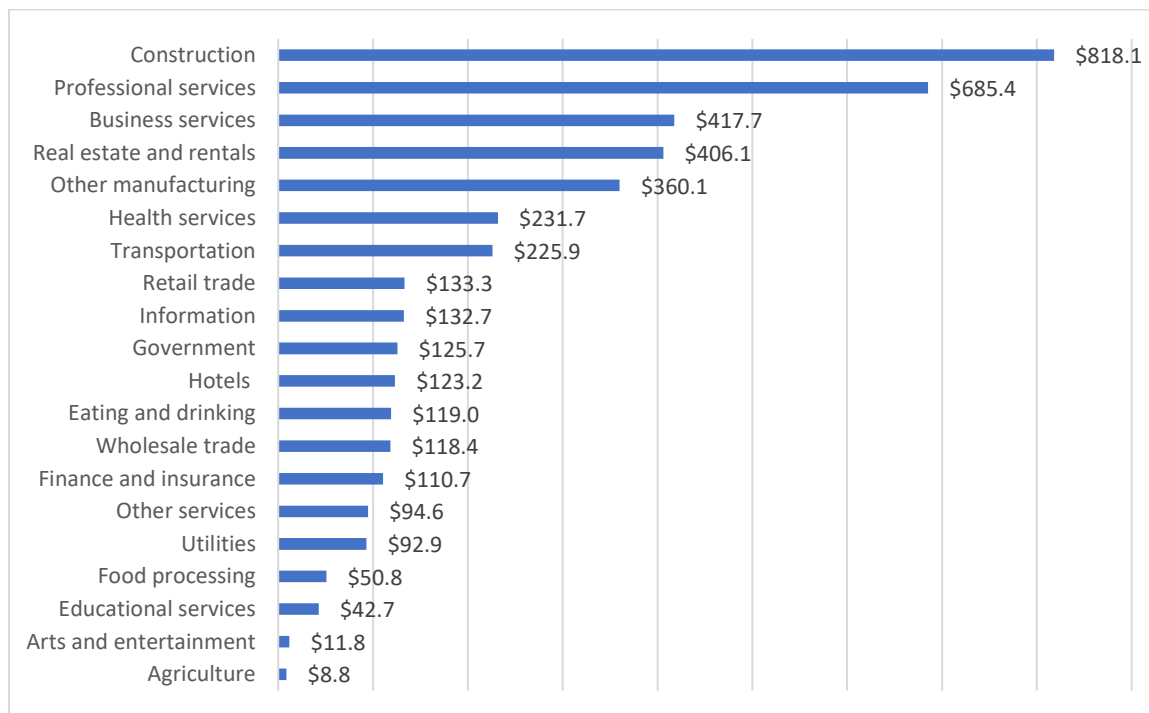
Table 8. Output Generated Federal Prime Contract Spending, by Industry and County, FY 2018 - 2022 (\$ million)

Industry	Honolulu County	Hawaii County	Maui County	Kauai County	State Total
Agriculture	\$ 13.7	\$ 25.1	\$ 7.5	\$ 6.7	\$ 53.0
Construction	\$ 4,380.4	\$ 94.9	\$ 19.3	\$ 125.7	\$ 4,620.2
Food processing	\$ 268.2	\$ 29.7	\$ 12.1	\$ 8.6	\$ 318.6
Other manufacturing	\$ 1,774.3	\$ 9.0	\$ 8.8	\$ 10.1	\$ 1,802.2
Transportation	\$ 1,070.1	\$ 71.5	\$ 30.6	\$ 24.1	\$ 1,196.2
Information	\$ 730.7	\$ 17.3	\$ 23.8	\$ 15.2	\$ 787.1
Utilities	\$ 439.6	\$ 51.6	\$ 25.2	\$ 41.1	\$ 557.5
Wholesale trade	\$ 649.4	\$ 28.4	\$ 22.7	\$ 18.8	\$ 719.4
Retail trade	\$ 716.9	\$ 53.0	\$ 15.0	\$ 15.4	\$ 800.3
Finance and insurance	\$ 571.3	\$ 19.0	\$ 5.4	\$ 61.7	\$ 657.4
Real estate and rentals	\$ 2,000.5	\$ 174.6	\$ 171.0	\$ 143.0	\$ 2,489.2
Professional services	\$ 4,730.1	\$ 72.1	\$ 98.8	\$ 56.9	\$ 4,957.9
Business services	\$ 2,138.9	\$ 102.7	\$ 45.9	\$ 348.0	\$ 2,635.6
Educational services	\$ 245.2	\$ 4.1	\$ 2.3	\$ 4.3	\$ 255.8
Health services	\$ 1,273.9	\$ 49.7	\$ 43.4	\$ 33.0	\$ 1,400.0
Arts and entertainment	\$ 70.3	\$ 9.8	\$ 4.8	\$ 5.4	\$ 90.3
Hotels	\$ 632.4	\$ 48.0	\$ 116.5	\$ 25.8	\$ 822.6
Eating and drinking	\$ 666.1	\$ 17.2	\$ 15.4	\$ 25.9	\$ 724.6
Other services	\$ 462.3	\$ 81.5	\$ 13.6	\$ 34.7	\$ 592.1
Government	\$ 701.2	\$ 16.6	\$ 12.5	\$ 25.2	\$ 755.5
All industries	\$ 23,535.5	\$ 975.9	\$ 694.5	\$ 1,029.6	\$ 26,235.5

Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

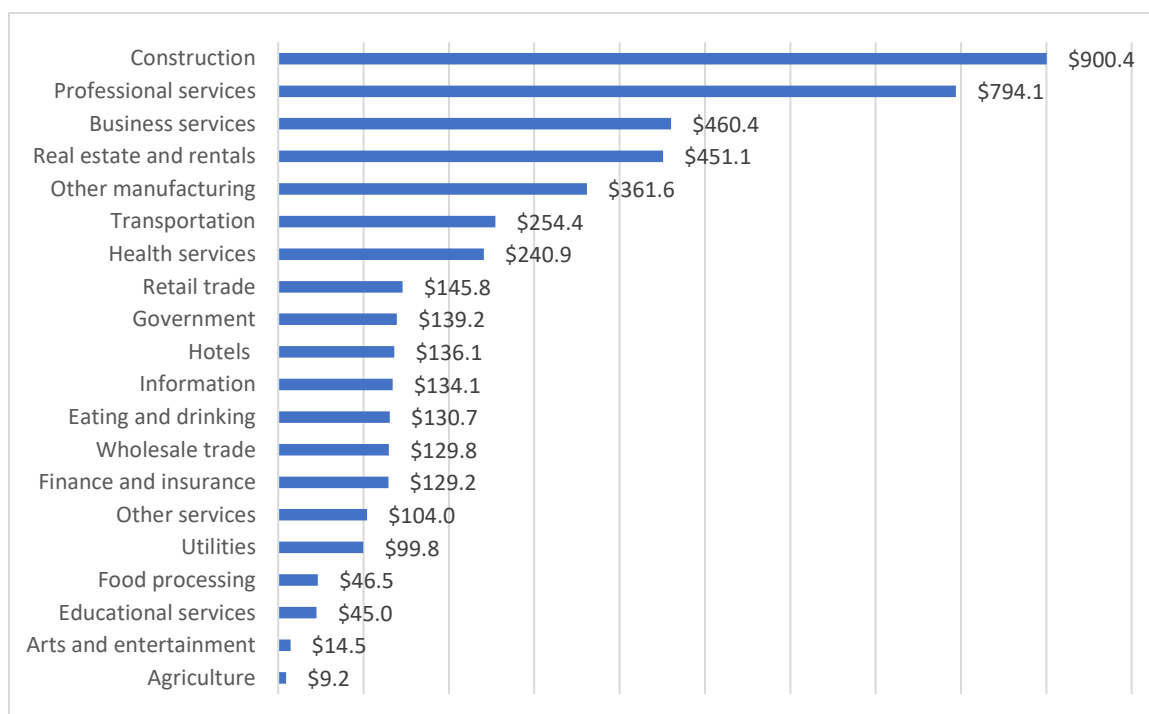
Figures 12 through 16 illustrate the estimated output, by industry, generated from the federal prime contract spending awarded in Hawaii for each fiscal year. Professional services and construction are consistently the top two industries benefiting from federal prime contract spending based on output. Business services and real estate and rentals are also consistently among the top four industries. In FY 2022, output generated was largest for the professional services industry (\$1.5 billion), followed by the construction industry (\$1.0 billion). This is consistent with large shares of funding going toward the construction, maintenance, and repair of structures, facilities, equipment; architectural and engineering services; information technology and telecommunications; and research and development. The industries with the next largest increases in output in FY 2022 were business services (\$708 million); real estate and rentals (\$639 million) and health services (\$362 million).

Figure 12. Output generated by Federal Prime Contract Spending in Hawaii, FY 2018 (\$ million)



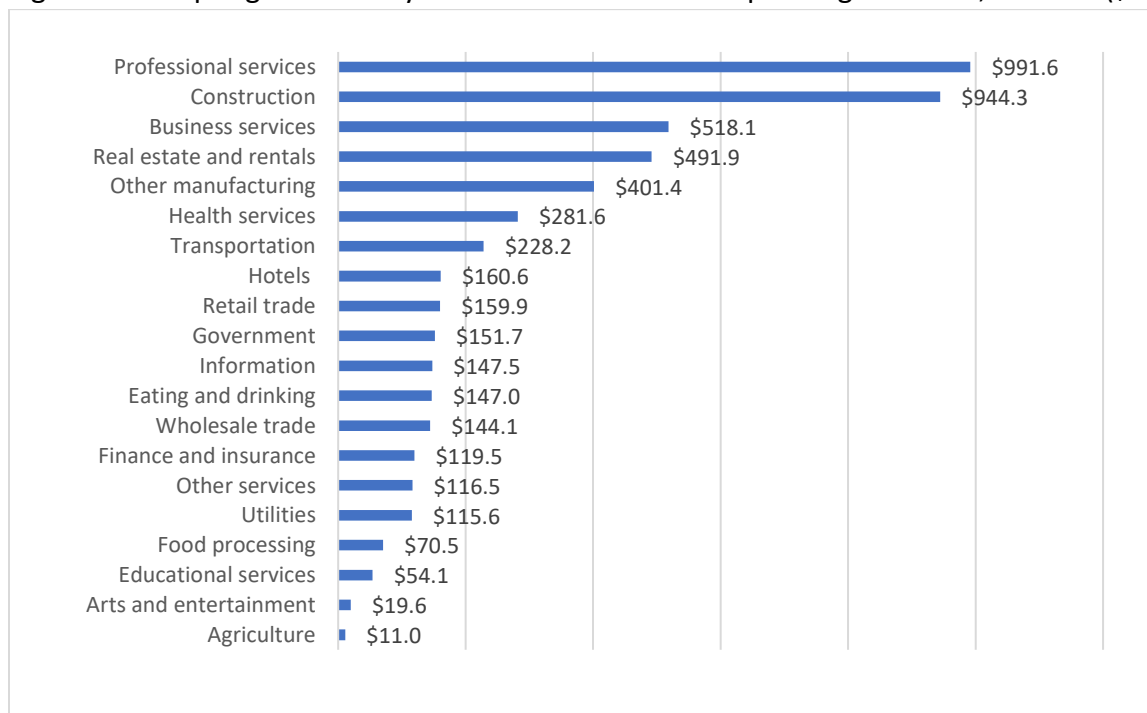
Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

Figure 13. Output generated by Federal Prime Contract Spending in Hawaii, FY 2019 (\$ million)



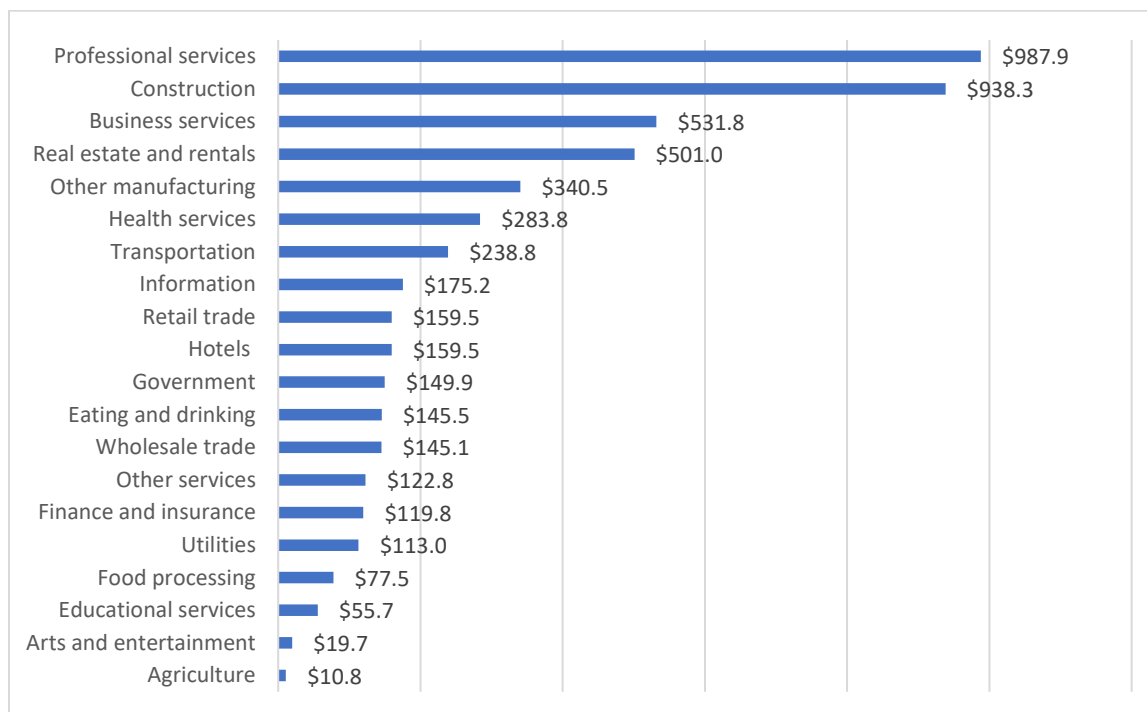
Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

Figure 14. Output generated by Federal Prime Contract Spending in Hawaii, FY 2020 (\$ million)



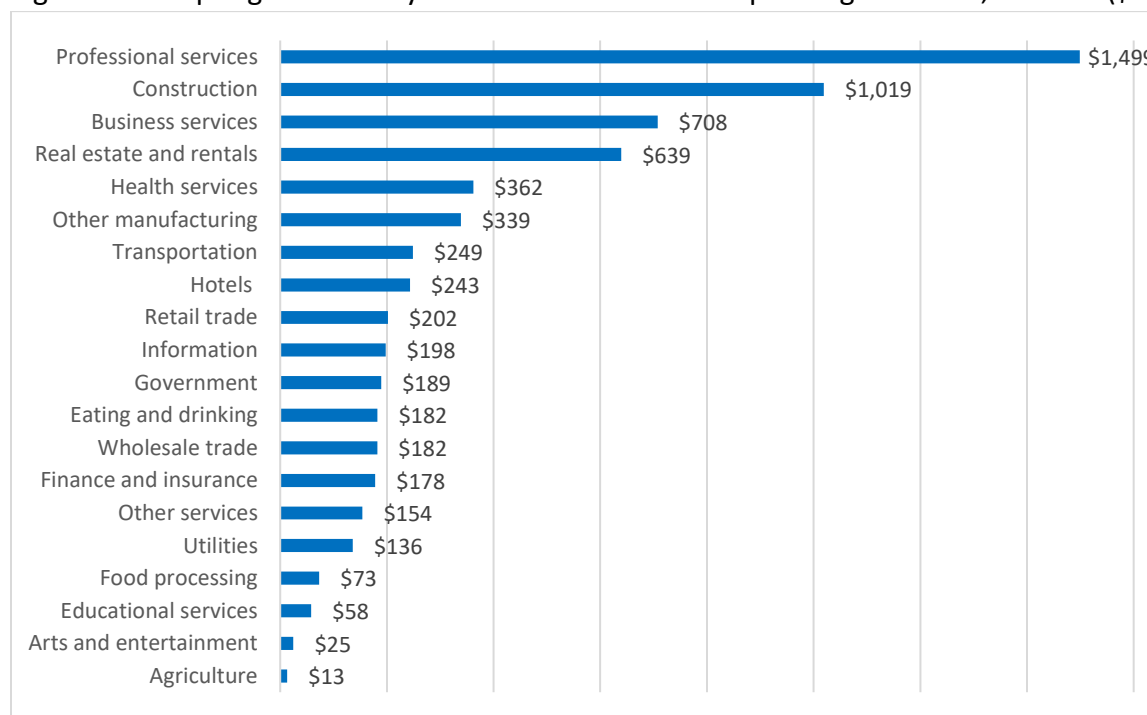
Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

Figure 15. Output generated by Federal Prime Contract Spending in Hawaii, FY 2021 (\$ million)



Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

Figure 16. Output generated by Federal Prime Contract Spending in Hawaii, FY 2022 (\$ million)



Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

IV. Conclusion and Recommendation for Future Study

The federal government plays an important role in Hawaii's economy. This report focuses on the economic impacts of federal prime contract spending awarded to Hawaii between fiscal years 2018 and 2022. During this time, Hawaii was awarded a total of \$14.0 billion in nominal dollars of federal prime contract spending, which is estimated to have generated a total of \$26.2 billion of output within the state, including direct, indirect, and induced impacts. The professional services industry benefited the most, followed by construction and business services. Honolulu County benefited the most from federal contract spending, accounting for 89.7% of the total output impact, followed by Kauai County at 3.9%, Hawaii County at 3.7%, and Maui County at 2.6%. Federal prime contract spending is estimated to have generated a total of \$10.3 billion in labor earnings, \$1.6 billion in state taxes, and an average of 29,600 jobs per year statewide.

The share of spending awarded to local businesses has been declining over time, from 55.0% in FY 2018 to 44.3% in FY 2022. This reflects, in part, the changing distribution of federal contract spending awarded in Hawaii, with smaller shares going to construction and larger shares going to professional services over time. For the purposes of this study, it is assumed that the patterns of spending and hiring for local and out-of-state contract recipients are the same. For example, it is assumed that recipients located outside the state will follow the same spending patterns as firms located in Hawaii in purchasing materials or services and in hiring workers.

A comprehensive study on the economic impact of federal contract spending, however, should collect additional information, including two surveys: (1) a survey of Hawaii-based contractors, which should include samples from all contractors in Hawaii regardless of federal contract award status; and (2) a survey of out-of-state contractors, which should include samples from out-of-state firms awarded federal contracts where the primary place of performance is Hawaii. The objectives of these surveys should include: 1) understanding the extent to which contractors make local purchases or import products and services for each category of spending; 2) identifying any differences in spending patterns between contractors with and without federal contracts; 3) understanding contractor hiring practices regarding in-state (local) and out-of-state hires, remote work arrangements, and occupation requirements; 4) estimating the leakages in spending in Hawaii's economy; 5) understanding the requirements to obtain federal contracts and any barriers faced by Hawaii firms; 6) learning about what contractors might need or require from the state government and business organizations within the state; and 7) estimating the profit margins of contractors. Information obtained from these surveys can be combined with the Hawaii Inter-County Input-Output Model to more accurately estimate the economic impacts of federal contract spending. Due to limited resources, the DBEDT Research and Economic Analysis Division does not have the capacity to conduct these surveys. However, an economic consulting firm or organization could be hired to conduct the surveys and analysis.

It should be noted that federal government spending and its impacts in Hawaii go far beyond prime contract spending. As indicated earlier, the federal government employs approximately 87,000 workers in Hawaii, including military and civilian personnel. Many military personnel bring to Hawaii their dependents, who also work and contribute to the State's economy. The presence of military personnel and their families may attract additional visitors and visitor spending to the islands as their friends and family come to visit. In addition, military veterans living in Hawaii receive federal expenditures in the form of pensions, compensation, and services that also flow through the State's economy.

Appendix

Table A1. Output generated by industry from federal prime contract spending, FY 2018 (\$ million)

Industry	Honolulu County	Hawaii County	Maui County	Kauai County	State Total
Agriculture	\$ 2.3	\$ 4.2	\$ 1.1	\$ 1.2	\$ 8.8
Construction	\$ 748.9	\$ 23.3	\$ 10.8	\$ 35.1	\$ 818.1
Food processing	\$ 43.6	\$ 4.5	\$ 1.9	\$ 0.8	\$ 50.8
Other manufacturing	\$ 353.1	\$ 2.6	\$ 1.9	\$ 2.5	\$ 360.1
Transportation	\$ 202.7	\$ 13.8	\$ 5.2	\$ 4.3	\$ 225.9
Information	\$ 123.6	\$ 2.8	\$ 3.5	\$ 2.8	\$ 132.7
Utilities	\$ 69.1	\$ 10.1	\$ 5.6	\$ 8.1	\$ 92.9
Wholesale trade	\$ 106.5	\$ 4.7	\$ 3.8	\$ 3.4	\$ 118.4
Retail trade	\$ 118.5	\$ 9.1	\$ 2.7	\$ 3.1	\$ 133.3
Finance and insurance	\$ 94.7	\$ 3.1	\$ 1.0	\$ 11.8	\$ 110.7
Real estate and rentals	\$ 316.0	\$ 30.5	\$ 30.8	\$ 28.8	\$ 406.1
Professional services	\$ 652.5	\$ 6.5	\$ 15.0	\$ 11.4	\$ 685.4
Business services	\$ 327.1	\$ 18.1	\$ 10.8	\$ 61.7	\$ 417.7
Educational services	\$ 40.6	\$ 0.8	\$ 0.4	\$ 0.9	\$ 42.7
Health services	\$ 210.0	\$ 8.6	\$ 6.9	\$ 6.2	\$ 231.7
Arts and entertainment	\$ 8.6	\$ 1.6	\$ 0.8	\$ 0.9	\$ 11.8
Hotels	\$ 93.1	\$ 6.9	\$ 19.2	\$ 4.0	\$ 123.2
Eating and drinking	\$ 108.7	\$ 2.9	\$ 2.6	\$ 4.8	\$ 119.0
Other services	\$ 71.6	\$ 13.9	\$ 2.5	\$ 6.7	\$ 94.6
Government	\$ 115.0	\$ 2.9	\$ 2.5	\$ 5.3	\$ 125.7
All industries	\$ 3,806.1	\$ 170.9	\$ 128.9	\$ 203.7	\$ 4,309.6

Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

Table A2. Output generated by industry from federal prime contract spending, FY 2019
(\$ million)

Industry	Honolulu County	Hawaii County	Maui County	Kauai County	State Total
Agriculture	\$ 2.4	\$ 4.2	\$ 1.2	\$ 1.4	\$ 9.2
Construction	\$ 821.4	\$ 14.3	\$ 4.1	\$ 60.6	\$ 900.4
Food processing	\$ 40.1	\$ 3.7	\$ 1.6	\$ 1.0	\$ 46.5
Other manufacturing	\$ 357.1	\$ 1.0	\$ 1.7	\$ 1.7	\$ 361.6
Transportation	\$ 232.2	\$ 11.7	\$ 5.0	\$ 5.6	\$ 254.4
Information	\$ 124.4	\$ 2.5	\$ 3.7	\$ 3.5	\$ 134.1
Utilities	\$ 77.2	\$ 8.5	\$ 3.0	\$ 11.0	\$ 99.8
Wholesale trade	\$ 116.9	\$ 4.9	\$ 4.0	\$ 4.0	\$ 129.8
Retail trade	\$ 130.2	\$ 9.1	\$ 2.6	\$ 3.9	\$ 145.8
Finance and insurance	\$ 111.1	\$ 3.0	\$ 0.9	\$ 14.2	\$ 129.2
Real estate and rentals	\$ 356.3	\$ 26.9	\$ 29.6	\$ 38.2	\$ 451.1
Professional services	\$ 759.0	\$ 6.4	\$ 19.6	\$ 9.2	\$ 794.1
Business services	\$ 374.9	\$ 11.4	\$ 5.7	\$ 68.4	\$ 460.4
Educational services	\$ 42.8	\$ 0.7	\$ 0.4	\$ 1.2	\$ 45.0
Health services	\$ 218.4	\$ 7.7	\$ 7.0	\$ 7.8	\$ 240.9
Arts and entertainment	\$ 10.9	\$ 1.7	\$ 0.9	\$ 1.0	\$ 14.5
Hotels	\$ 104.7	\$ 6.6	\$ 20.0	\$ 4.9	\$ 136.1
Eating and drinking	\$ 119.4	\$ 2.7	\$ 2.7	\$ 6.0	\$ 130.7
Other services	\$ 81.0	\$ 12.3	\$ 2.4	\$ 8.3	\$ 104.0
Government	\$ 127.4	\$ 2.4	\$ 2.1	\$ 7.2	\$ 139.2
All industries	\$ 4,207.7	\$ 141.7	\$ 118.1	\$ 259.2	\$ 4,726.8

Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

Table A3. Output generated by industry from federal prime contract spending, FY 2020
(\$ million)

Industry	Honolulu County	Hawaii County	Maui County	Kauai County	State Total
Agriculture	\$ 2.8	\$ 5.1	\$ 1.8	\$ 1.3	\$ 11.0
Construction	\$ 911.7	\$ 23.0	\$ 1.3	\$ 8.3	\$ 944.3
Food processing	\$ 58.9	\$ 6.2	\$ 2.2	\$ 3.3	\$ 70.5
Other manufacturing	\$ 396.4	\$ 1.5	\$ 1.6	\$ 1.9	\$ 401.4
Transportation	\$ 204.2	\$ 13.5	\$ 6.2	\$ 4.3	\$ 228.2
Information	\$ 137.7	\$ 3.1	\$ 4.0	\$ 2.7	\$ 147.5
Utilities	\$ 93.0	\$ 10.1	\$ 5.5	\$ 7.0	\$ 115.6
Wholesale trade	\$ 130.3	\$ 5.7	\$ 4.6	\$ 3.5	\$ 144.1
Retail trade	\$ 143.6	\$ 10.7	\$ 3.0	\$ 2.6	\$ 159.9
Finance and insurance	\$ 103.6	\$ 3.7	\$ 1.1	\$ 11.1	\$ 119.5
Real estate and rentals	\$ 399.8	\$ 34.6	\$ 34.1	\$ 23.4	\$ 491.9
Professional services	\$ 948.1	\$ 7.0	\$ 24.1	\$ 12.4	\$ 991.6
Business services	\$ 422.5	\$ 20.9	\$ 7.6	\$ 67.1	\$ 518.1
Educational services	\$ 52.2	\$ 0.8	\$ 0.4	\$ 0.7	\$ 54.1
Health services	\$ 257.3	\$ 9.7	\$ 9.1	\$ 5.4	\$ 281.6
Arts and entertainment	\$ 15.6	\$ 2.0	\$ 1.0	\$ 1.1	\$ 19.6
Hotels	\$ 120.8	\$ 10.3	\$ 24.3	\$ 5.2	\$ 160.6
Eating and drinking	\$ 135.5	\$ 3.5	\$ 3.1	\$ 5.0	\$ 147.0
Other services	\$ 91.8	\$ 15.9	\$ 2.7	\$ 6.1	\$ 116.5
Government	\$ 141.9	\$ 3.3	\$ 2.5	\$ 3.9	\$ 151.7
All industries	\$ 4,768.0	\$ 190.4	\$ 140.0	\$ 176.3	\$ 5,274.7

Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

Table A4. Output generated by industry from federal prime contract spending, FY 2021
(\$ million)

Industry	Honolulu County	Hawaii County	Maui County	Kauai County	State Total
Agriculture	\$ 2.9	\$ 5.2	\$ 1.4	\$ 1.3	\$ 10.8
Construction	\$ 907.0	\$ 15.0	\$ 1.3	\$ 14.9	\$ 938.3
Food processing	\$ 64.1	\$ 7.7	\$ 3.6	\$ 2.1	\$ 77.5
Other manufacturing	\$ 335.0	\$ 2.0	\$ 1.4	\$ 2.1	\$ 340.5
Transportation	\$ 212.6	\$ 14.5	\$ 6.2	\$ 5.5	\$ 238.8
Information	\$ 162.3	\$ 3.5	\$ 6.4	\$ 3.0	\$ 175.2
Utilities	\$ 87.5	\$ 11.7	\$ 6.3	\$ 7.5	\$ 113.0
Wholesale trade	\$ 130.9	\$ 5.7	\$ 4.6	\$ 3.8	\$ 145.1
Retail trade	\$ 142.9	\$ 10.7	\$ 3.0	\$ 2.9	\$ 159.5
Finance and insurance	\$ 102.8	\$ 3.7	\$ 1.1	\$ 12.1	\$ 119.8
Real estate and rentals	\$ 406.3	\$ 33.9	\$ 34.4	\$ 26.5	\$ 501.0
Professional services	\$ 949.6	\$ 8.8	\$ 17.9	\$ 11.5	\$ 987.9
Business services	\$ 424.1	\$ 22.2	\$ 11.9	\$ 73.6	\$ 531.8
Educational services	\$ 53.7	\$ 0.8	\$ 0.5	\$ 0.8	\$ 55.7
Health services	\$ 258.2	\$ 9.8	\$ 9.1	\$ 6.7	\$ 283.8
Arts and entertainment	\$ 15.6	\$ 2.0	\$ 1.0	\$ 1.1	\$ 19.7
Hotels	\$ 114.6	\$ 13.5	\$ 24.7	\$ 6.6	\$ 159.5
Eating and drinking	\$ 133.8	\$ 3.5	\$ 3.1	\$ 5.1	\$ 145.5
Other services	\$ 97.0	\$ 16.3	\$ 2.7	\$ 6.8	\$ 122.8
Government	\$ 139.5	\$ 3.3	\$ 2.6	\$ 4.6	\$ 149.9
All Industries	\$ 4,740.4	\$ 193.9	\$ 143.5	\$ 198.3	\$ 5,276.1

Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.

Table A5. Output generated by industry from federal prime contract spending, FY 2022
(\$ million)

Industry	Honolulu County	Hawaii County	Maui County	Kauai County	State Total
Agriculture	\$ 3.3	\$ 6.3	\$ 1.9	\$ 1.6	\$ 13.2
Construction	\$ 991.3	\$ 19.3	\$ 1.7	\$ 6.8	\$ 1,019.1
Food processing	\$ 61.5	\$ 7.6	\$ 2.8	\$ 1.3	\$ 73.2
Other manufacturing	\$ 332.7	\$ 1.9	\$ 2.2	\$ 1.8	\$ 338.6
Transportation	\$ 218.3	\$ 17.9	\$ 8.1	\$ 4.4	\$ 248.8
Information	\$ 182.8	\$ 5.4	\$ 6.2	\$ 3.3	\$ 197.6
Utilities	\$ 112.7	\$ 11.2	\$ 4.7	\$ 7.5	\$ 136.2
Wholesale trade	\$ 164.8	\$ 7.4	\$ 5.7	\$ 4.1	\$ 182.0
Retail trade	\$ 181.7	\$ 13.4	\$ 3.8	\$ 2.8	\$ 201.8
Finance and insurance	\$ 158.9	\$ 5.5	\$ 1.3	\$ 12.6	\$ 178.2
Real estate and rentals	\$ 522.2	\$ 48.8	\$ 42.0	\$ 26.1	\$ 639.1
Professional services	\$ 1,420.9	\$ 43.5	\$ 22.2	\$ 12.3	\$ 1,499.0
Business services	\$ 590.3	\$ 30.2	\$ 9.9	\$ 77.1	\$ 707.6
Educational services	\$ 55.9	\$ 1.1	\$ 0.6	\$ 0.7	\$ 58.3
Health services	\$ 330.0	\$ 13.9	\$ 11.3	\$ 6.9	\$ 362.1
Arts and entertainment	\$ 19.6	\$ 2.6	\$ 1.2	\$ 1.3	\$ 24.7
Hotels	\$ 199.2	\$ 10.7	\$ 28.3	\$ 5.0	\$ 243.2
Eating and drinking	\$ 168.8	\$ 4.6	\$ 3.8	\$ 5.1	\$ 182.3
Other services	\$ 121.0	\$ 23.0	\$ 3.2	\$ 6.9	\$ 154.1
Government	\$ 177.3	\$ 4.7	\$ 2.9	\$ 4.3	\$ 189.1
All industries	\$ 6,013.3	\$ 279.1	\$ 163.9	\$ 192.0	\$ 6,648.3

Source: DBEDT calculations based on 2017 inter-county type II final demand multipliers.