How Well Does Daily Passenger Data Correlate with Monthly Visitor Arrivals Data?

A Historical Comparison: 2013-2023





Research & Economic Analysis Division Department of Business, Economic Development & Tourism STATE OF HAWAI'I

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This brief was prepared by Rene Kamita, Ph.D., Economist and Justin Lu, student, Iolani High School. The brief is based on work completed by Mr. Lu during his volunteer student internship with the Research & Economic Analysis Division between June and August 2023.

I. Introduction

Tourism is and will continue to be a large sector of Hawaii's economy. In 2022, the tourism sector contributed 24.2% to the State's Gross Domestic Product (GDP), with 9.2 million visitors spending \$19.8 million in Hawaii. By 2025, visitor arrivals to Hawaii are projected to exceed 10 million persons with visitor spending expected to reach \$22.9 million.¹

One of the most popular data series on the Department of Business, Economic Development and Tourism's (DBEDT) website is the daily passenger counts.² The daily passenger counts include passengers arriving in Hawaii via trans-Pacific flights (excluding flights from Canada) and are calculated by DBEDT's Research and Economic Analysis Division (READ) based on information provided by the Department of Agriculture and the Department of Transportation (DOT).³ Passenger counts are updated daily, making this the most recent source of available data on arrivals.⁴

Another widely used resource is the monthly visitor statistics, which includes, among other information, visitor arrivals data. Monthly visitor arrivals are estimated by READ based on reports received from the airlines and visitor characteristics data from domestic in-flight and international surveys. The monthly visitor arrivals data is more granular and includes, for example, estimates of visitors from several geographic markets. It is also, however, released with a lag due to the calculations that must be done to properly process and weight the underlying data. Visitor statistics are for visitors from out-of-state, net of returning and intended residents, who stay in Hawaii for at least one night but less than a year.

This brief is intended to examine the empirical relationship between the daily passenger counts and the monthly visitor arrivals data over the period January 2013 through April 2023 to assess the usefulness of the daily passenger data for visitor arrival forecasting. The results indicate that the aggregated daily passenger and monthly visitor arrivals data series are highly correlated for the study period. The correlation coefficients are generally highest for travel to the state as a whole and benefit from adjustments that account for differences in data collection (i.e., that daily passenger count data does not include flights from Canada). The correlation coefficients are lower for data on travel to specific islands, likely because the monthly visitor arrivals data

https://files.hawaii.gov/dbedt/economic/data_reports/gser/gser-2023g3.pdf

¹ Tourism's contribution to GDP is based on direct, indirect, and induced impacts and using relationships reflected in the 2017 State of Hawaii Input-Output model. See DBEDT Research Division, Tourism and Hawaii Economy, October 3, 2023.

https://files.hawaii.gov/dbedt/economic/data_reports/download/Tourism%20and%20Hawaii%20Economy_Oct3_2_023.pdf

Visitor arrivals and spending data and projections are from DBEDT's third quarter 2023 Quarterly Statistical and Economic Report.

² The daily passenger count web page is estimated to account for 15% of the total page views for the DBEDT website.

³ Flights from Canada are excluded because many of the Canadian flights have late arrival schedules and the passengers are precleared by U.S. Customs and Border Protection (CBP).

⁴ Data is updated daily, Monday through Friday.

has been adjusted to reflect visitor travel to multiple islands whereas the passenger counts data has not. While the correlation between the passenger count and visitor arrivals data between January 2013 and April 2023 is very high for travel from Japan to the state, the correlation between passenger counts and visitor arrivals is lower for international travel from countries other than Japan and Canada.

A key feature of the passenger count data is that it is categorized by the origin of the flight (vs. residence of the passenger), while visitor arrivals data may be grouped by the origin of the flight (domestic vs. international) as well as the visitor's country of residence. As a result, when comparing the passenger count and visitor arrivals data it is important to consider not only the visitor's place of residence but how the visitor arrived (via domestic or international flight), especially when significant numbers of international visitors may be traveling on domestic flights. These trends may also change over time depending on market conditions and travel restrictions, as seen during the COVID-19 pandemic.

Finally, this brief focuses on the correlation between the passenger count and visitor arrivals over a ten-year period. As a result, the correlations reported herein reflect the long-run relationship between the passenger count and visitor arrivals data. The correlations between the two data sets may differ if one looks instead at shorter periods of time.

Section II discusses the daily passenger counts and monthly visitor arrivals data, and the methods used to compare the two data sets. Section III describes the results. Section IV concludes.

II. Data and Methodology

There are distinct differences in the data reflected in the passenger count and visitor arrivals data. While correlation between the two data sets is expected, it is worthwhile to understand how the data sets also differ and to examine, quantitatively and qualitatively, the relationship between the two. Both data sets are available in the Visitor Statistics section of the DBEDT website.⁵ Detailed data on monthly visitor statistics is also available through the Hawaii Tourism Authority (HTA) website.⁶

 Daily passenger counts include returning residents, intended residents, and visitors arriving on domestic and international flights except those who arrive via inter-island flights or who arrive on flights from Canada.⁷ Daily passenger count data is available for passengers arriving via domestic flights to the State of Hawaii as well as to the islands of

⁵ Daily passenger count data is posted to <u>http://dbedt.hawaii.gov/visitor/daily-passenger-counts/</u> Monthly visitor arrivals are available through the Tourism Data Warehouse at <u>https://dbedt.hawaii.gov/visitor/tourismdata/</u> ⁶ While most of the data used in this brief was downloaded from the Tourism Data Warehouse, data on passengers arriving from the U.S. Canada and Japan on domestic vs. international flights was compiled based on the monthly

arriving from the U.S., Canada and Japan on domestic vs. international flights was compiled based on the monthly visitor statistics available at <u>https://www.hawaiitourismauthority.org/research/</u>

⁷ <u>https://dbedt.hawaii.gov/visitor/daily-passenger-counts/</u>

Oahu, Maui, Hawaii, and Kauai, where a domestic flight is defined as a flight originating from the U.S. mainland. Daily passenger count data is also available for international flights arriving to Hawaii from Japan and for international flights arriving to Hawaii from other countries except Japan (and Canada).⁸ Passenger count data is reported based on the origin of the flight (domestic or international) and not by the passenger's place of residence. Daily passenger counts for domestic flights may include U.S. residents and residents of other countries. Similarly, international flight passenger counts may include U.S. residents and those from other countries.

• Monthly visitor arrivals (by air) reflect out-of-state travelers who arrive by air and who stay in Hawaii for at least one night but less than one year. Visitor arrivals by air are calculated by subtracting estimates of in-transit passengers,⁹ returning Hawaii residents, and intended residents from monthly airline passenger counts provided by the airlines on a monthly basis. Visitor arrivals by air are available for visitors from a variety of markets (e.g., U.S. West, U.S. East, Japan, Canada, Europe, Oceania, Other Asia, and Latin America) to Oahu, Maui Island, Kauai, and two airports (Hilo and Kona) on Hawaii Island.¹⁰ Visitor arrivals also do not include inter-island flights, however, the data is adjusted based on survey data regarding the islands visited by travelers. Visitor arrivals are classified by the origin of the flight on which they arrived (domestic or international) and also by their place of residence (major market area or MMA).¹¹ As discussed in Appendix A, while most U.S. residents travel to Hawaii on domestic flights and most international residents travel to Hawaii on international flights, this pattern for international residents may differ by country and was disrupted by travel restrictions that were put in place during the COVID-19 pandemic.

To examine the extent to which the daily passenger counts and monthly visitor arrivals are correlated over time, we first aggregated the daily passenger counts to monthly counts (monthly passenger counts). We then calculated the correlation coefficient¹² for passenger counts and visitor arrivals and graphed the counts and arrivals for the period January 2013 through April 2023. A correlation coefficient of -1 indicates a strong negative relationship

⁸ An international flight to Hawaii is a flight originating from a foreign country or U.S. territory.

⁹ In-transit passengers are those who arrive at an airport but reboard an aircraft destined for another location *without leaving the airport*. Examples include those who arrive from the U.S. mainland and reboard an aircraft destined for a foreign country without leaving the airport, or passengers arriving from a neighbor island to Daniel K. Inouye International Airport (HNL) who reboard an aircraft destined for the U.S. mainland without leaving HNL. For further detail on the definitions of various passenger and visitor terms, see Appendix A, Definitions, of DBEDT's 2022 Annual Visitor Research Report. <u>https://files.hawaii.gov/dbedt/visitor/visitor/research/2022-annual-visitor.pdf</u> ¹⁰ For a complete list of the data available, see <u>https://dbedt.hawaii.gov/visitor/tourismdata/</u>

¹¹ In the Tourism Data Warehouse, "Air total, domestic" reflects the visitors that arrived on a trans-Pacific flight from the U.S. mainland or Alaska and "Air total, int'l" reflects the visitors that arrived on a trans-Pacific flight from a foreign country or U.S. territory.

¹² The correlation coefficient is defined as the covariance of the two variables divided by the product of the two variables' standard deviations.

between the two data sources over the study period while a correlation coefficient of 1 indicates a strong positive relationship. A correlation coefficient of zero indicates no relationship.

The categories examined are based on the categories for which daily passenger count data are available and include:

- Total Air Travel to the State (less flights from Canada)
- Travel via Domestic Flights to the State
- Travel via Domestic Flights to Oahu
- Travel via Domestic Flights to Maui
- Travel via Domestic Flights to Hawaii Island
- Travel via Domestic Flights to Kauai
- Travel via International Flights (except from Canada) to the State
- Travel via International Flights from Japan to the State
- Travel via International Flights from Countries Other than Japan (and Canada) to the State

III. Results

A. Total Air Travel to the State (less flights from Canada)

Monthly passenger counts are very highly correlated with monthly visitor arrivals for total air travel to the state during the study period. As shown below, the data series track each other closely over time, with correlation coefficients ranging from 0.9944 if no adjustment is made to the monthly visitor arrivals data to omit Canadian flights (Figure 1) to 0.9978 if the monthly visitors data is adjusted to omit data on Canadian visitor arrivals via international flights (Figure 2). This adjustment was made to approximate that the passenger counts do not include flights from Canada.¹³

Monthly passenger counts are higher than visitor arrivals, consistent with passenger counts including not only visitors but returning and intended residents to the state. With the exception of 2020, both data series exhibit larger "thicker" spikes during the summer that could be attributed to summer break and families vacationing to Hawaii. With the exception of 2020, both data series also appear to exhibit two smaller spikes that correspond to winter and spring. This would be consistent with increased travel during winter and spring breaks. The impact of

¹³ If one instead adjusts the monthly visitors data by removing all visitors from Canada (vs. visitors from Canada who arrive on international flights), the correlation coefficient is 0.9974, which is an improvement relative to making no adjustment (Figure 1) but results in a lower correlation than the adjustment which reflects Canadian visitors arriving on international flights (Figure 2). That omitting visitors from Canada from the visitor arrivals data results in a lower correlation than omitting visitors from Canada on international flights is consistent with the data showing that a significant share of Canadian visitors arrive via domestic flights (rather than flights from Canada) and that this share has varied over time.

the COVID-19 pandemic on both passenger and visitor counts is clear. Travel restrictions and quarantine requirements reduced the demand for travel, leading airlines to make large reductions in their flight schedules and cancel routes. Over time, as travel restrictions lifted, passenger and visitor arrivals have increased, though this has been more pronounced for U.S. than international visitors. (See also Appendix A.)

Figure 1. Total Passengers and Visitor Arrivals to Hawaii (Domestic and International), January 2013 – April 2023



Source: DBEDT Daily Passenger Counts and Tourism Data Warehouse, HTA/DBEDT Monthly and Historical Visitor Statistics.

Figure 2. Passengers to Hawaii and Visitor Arrivals to Hawaii (Domestic and International) Less Visitors from Canada Arriving on International Flights, January 2013 – April 2023 Correlation coefficient: 0.9978



Source: DBEDT Daily Passenger Counts and Tourism Data Warehouse, HTA/DBEDT Monthly and Historical Visitor Statistics.

B. Air Travel via Domestic Flights

The seasonal patterns identified above (large summer peak, smaller peaks corresponding to winter and spring breaks) are apparent in the domestic flight data. When passenger count and visitor arrivals data are restricted to passengers who arrived via domestic flights, the correlation

between the two data sets remains high for the state overall (see Figure 3, correlation coefficient = 0.9946). Correlation coefficients are slightly lower for the counts and arrivals to Oahu and Maui Island (0.9735 and 0.9869, respectively) and lower still for Kauai and Hawaii Island (0.9484 and 0.9374, respectively).¹⁴ While passenger counts exceed visitor arrivals for the state and for Oahu, visitor arrivals exceed passenger counts for Maui Island, Kauai, and Hawaii Island. Oahu has a larger population base (approximately 70% of the state's resident population) and thus a higher percentage of returning residents. In addition, the monthly visitor arrivals data are adjusted, based on responses to the Domestic In-Flight Survey, to reflect the islands visitors visited while in Hawaii. The passenger count data, by comparison, is based solely on the destination of the passenger's trans-Pacific flight.

For example, consider a visitor who arrives via a domestic flight to Oahu, takes an inter-island flight to Maui that day, and stays in Maui for the remainder of their visit. This visitor would be reflected as a domestic flight passenger to Oahu in the passenger count data but would be a domestic air visitor arrival to Maui in the visitor arrivals data. As another example, consider a visitor that arrives via domestic flight to Oahu, stays for a few days, and then spends one night in Maui and one night in Kauai. That visitor would be counted as a domestic flight passenger to Oahu in the passenger count data but would be counted as a domestic flight passenger to Oahu in the passenger count data but would be counted as a domestic flight passenger to Oahu in the passenger count data but would be counted as a domestic air visitor to Oahu, Maui, and Kauai in the visitor arrivals data to the extent that this is reflected in their responses to the Domestic In-Flight Survey.

As such, passenger counts and visitor arrivals are most highly correlated at the state level, which reflects all passengers and visitors to the state regardless of the island(s) visited. Passenger counts and visitor arrivals are less highly correlated at the island level, where the visitor arrivals data draws on responses from the Domestic In-Flight Survey to estimate the number of visitor arrivals on each island.

¹⁴ No adjustment for Canadian flights is necessary as these data are for domestic flights only.

Figure 3. Passengers on Domestic Flights and Visitor Arrivals on Domestic Flights, State of Hawaii, January 2013 – April 2023 Correlation coefficient: 0.9946



Source: DBEDT Daily Passenger Counts and Tourism Data Warehouse, HTA/DBEDT Monthly and Historical Visitor Statistics.

Figure 4. Passengers on Domestic Flights and Visitor Arrivals on Domestic Flights, Oahu, January 2013 – April 2023 Correlation coefficient: 0.9735



Source: DBEDT Daily Passenger Counts and Tourism Data Warehouse, HTA/DBEDT Monthly and Historical Visitor Statistics.

Figure 5. Passengers on Domestic Flights and Visitor Arrivals on Domestic Flights, Maui Island, January 2013 – April 2023 Correlation coefficient: 0.9869



Source: DBEDT Daily Passenger Counts and Tourism Data Warehouse, HTA/DBEDT Monthly and Historical Visitor Statistics.

Figure 6 Passenger on Domestic Flights and Visitor Arrivals on Domestic Flights, Kauai, January 2013 – April 2023 Correlation coefficient: 0.9484



Source: DBEDT Daily Passenger Counts and Tourism Data Warehouse, HTA/DBEDT Monthly and Historical Visitor Statistics.

Figure 7 Passengers on Domestic Flights and Visitor Arrivals on Domestic Flights, Hawaii Island, January 2013 – April 2023 Correlation coefficient: 0.9374



Source: DBEDT Daily Passenger Counts and Tourism Data Warehouse, HTA/DBEDT Monthly and Historical Visitor Statistics.

C. Air Travel via International Flights

The daily passenger counts data reports three categories of data for international flights: total passengers on international flights to the state (except flights from Canada), passengers on flights from Japan to the state, and passengers on other international flights except flights from Japan (and Canada).

As shown below, while the correlation between monthly passengers arriving on international flights and visitor arrivals on international flights during the study period is relatively high without adjusting the arrivals data for flights from Canada (0.9861), the correlation coefficient improves when the arrivals data is adjusted to remove visitor arrivals from Canada via international flights. The improvement is visible when comparing the data over time (Figures 8 and 9), with visitor arrivals in Figure 9 appearing to reflect a much better fit to the passenger count trends.

Figure 8. Passengers on International Flights and Visitor Arrivals on International Flights, State of Hawaii, January 2013 – April 2023 Correlation coefficient: 0.9861



Source: DBEDT Daily Passenger Counts and Tourism Data Warehouse, HTA/DBEDT Monthly and Historical Visitor Statistics.

Figure 9. Passengers on International Flights and Visitor Arrivals on International Flights Less Visitors from Canada Arriving on International Flights, State of Hawaii, January 2013 – April 2023



Correlation coefficient: 0.9967

Source: DBEDT Daily Passenger Counts and Tourism Data Warehouse, HTA/DBEDT Monthly and Historical Visitor Statistics.

Figures 10 and 11 examine the correlation between passenger counts on international flights from Japan, monthly visitor arrivals from Japan, and monthly visitor arrivals from Japan via international flights. As shown below, for visitors from Japan, it makes little difference whether the passenger count data is compared to the number of visitor arrivals from Japan or the number of visitor arrivals from Japan on international flights. The correlation coefficients for both are very high and essentially the same (0.9941) over the study period. This is because virtually all visitors from Japan arrive via international flights for much of the study period (see Figures A.7 and A.8 in Appendix A). Visitors from Japan arriving on domestic flights increased

between March 2020 through November 2020, consistent with travel restrictions during this time, but the number of visitors arriving was very low.

Figure 10. Passengers on International Flights from Japan and Visitor Arrivals from Japan, January 2013 – April 2023

Correlation coefficient: 0.9941



Source: DBEDT Daily Passenger Counts and Tourism Data Warehouse, HTA/DBEDT Monthly and Historical Visitor Statistics.

Figure 11. Passengers on International Flights from Japan and Visitor Arrivals from Japan Arriving on International Flights, January 2013 – April 2023 Correlation coefficient: 0.9941



Source: DBEDT Daily Passenger Counts and Tourism Data Warehouse, HTA/DBEDT Monthly and Historical Visitor Statistics.

In addition to calculating passenger counts on flights from Japan, DBEDT also compiles passenger counts for international flights from countries other than Japan (and Canada) to Hawaii. Figure 12 compares passenger counts on international flights from countries other than Japan and Canada to visitor arrivals on international flights less visitors from Japan and Canada. As shown, there is general correlation between the two series over the study period (correlation coefficient = 0.9472), however, there are periods where the two series do not track each other well. Figure 13 shows that the correlation improves when the visitor arrivals data is further filtered to omit visitors from Japan and Canada who arrived international flights (correlation coefficient = 0.9706). This is expected given that the passenger counts are based on the origin of

the flight. There are still periods, however, where the two data series appear less correlated (e.g., spring/summer 2018).

Figure 12. Passengers on International Flights from Countries Other than Japan and Canada and Visitor Arrivals on International Flights less Visitors from Japan and Canada, January 2013 – April 2023



passengers - intl flights outside of Japan, Canada
visitor arrivals on intl flights less Japan, Canada visitors
Source: DBEDT Daily Passenger Counts and Tourism Data Warehouse, HTA/DBEDT Monthly and Historical

Visitor Statistics.

Figure 13. Passengers on International Flights from Countries Other than Japan and Canada and Visitor Arrivals on International Flights less Visitors from Japan and Canada on International Flights, January 2013 – April 2023



Source: DBEDT Daily Passenger Counts and Tourism Data Warehouse, HTA/DBEDT Monthly and Historical Visitor Statistics.

Correlation coefficient: 0.9472

IV. Conclusion

The aggregated daily passenger counts and monthly visitor arrivals data are highly correlated over time for the period January 2013 – April 2023. The correlations are strongest for total, domestic, and international travel to the state as a whole and for travel to the state from Japan. The correlations are less strong for domestic travel to the islands of Oahu, Maui, Kauai and Hawaii. This is due to the adjustments that are made to the visitor arrivals data to incorporate survey information regarding the islands visited by visitors. The correlations are also less strong for international travel to Hawaii from countries other than Japan and Canada.

The correlation analysis indicates that short-term visitor arrival forecasts using the daily passenger counts may be best in the categories of total statewide visitors, statewide domestic visitors, statewide international visitors, and statewide Japanese visitors. Visitor arrival forecasts at the county level using passenger counts are comparatively less accurate but might be better than using other variables. It is noteworthy that this analysis was conducted for a ten-year period and not for shorter periods of time. If there are events that impact the proportion of visitors traveling on domestic vs. international flights or other travel restrictions, such conditions may impact the correlation between the daily passenger counts and visitor arrivals data. Further examining conditions during periods of high correlation and periods of lower correlation could be a topic for additional research.

Appendix A. U.S. and Foreign Resident Travel on Domestic and International Flights

Most U.S. visitors travel to Hawaii on domestic flights. As shown in Figures A.1 and A.2, a relatively small percentage of domestic visitors arrived in Hawaii via international flights between 2013 and April 2023, with 2 to 5% of domestic visitors traveling to Hawaii on international flights in most months before the COVID-19 pandemic. This percentage dropped to less than one percent in May 2020 and has remained low. The initial drop in domestic visitors arriving on international flights is consistent with travel restrictions imposed by many countries, including the U.S., during the COVID-19 pandemic in 2020 and 2021.¹⁵ COVID-related travel requirements on U.S. citizens entering the U.S. on international flights were lifted in June 2022¹⁶, however the percentage of domestic visitors arriving on international flights continues to be low relative to pre-pandemic levels.





Source: <u>Final Monthly Visitor Statistics</u> (2013 – 2022) and <u>Monthly Visitor Statistics</u> (2023), accessed from the Hawaii Tourism Authority website. <u>https://www.hawaiitourismauthority.org/research/</u>

¹⁵ See, for example, the discussion of flight cancellations and travel restrictions that occurred due to the COVID-19 pandemic in the <u>2020 Hawaii Tourism Authority Annual Visitor Research Report</u> and <u>2021 DBEDT Annual Visitor</u> <u>Research Report</u>.

¹⁶ As of June 2022, U.S. citizens arriving on international flights were no longer required to have a negative COVID pre-travel test regardless of vaccination status. Foreign visitors on international flights were still required to show proof of vaccination. <u>2022 DBEDT Annual Visitor Research Report</u>. As of May 2023, non-citizen non-immigrant visitors to the U.S. no longer need to show proof of being fully vaccinated against COVID-19. https://www.usa.gov/covid-international-travel





Most foreign residents travel to Hawaii on international flights. Prior to the pandemic, approximately 15 to 20% of foreign residents arrived in Hawaii via domestic flights in most months. In the months following the pandemic, the percentage of foreign residents arriving in Hawaii on domestic flights increased sharply, consistent with restrictions on international travel. This percentage has recently begun to fall, in line with the relaxation of travel restrictions and the restoration over time of international direct flights to Hawaii.





Source: <u>Final Monthly Visitor Statistics</u> (2013 – 2022) and <u>Monthly Visitor Statistics</u> (2023), accessed from the Hawaii Tourism Authority website. <u>https://www.hawaiitourismauthority.org/research/</u>

Source: Data from Hawaii Tourism Authority website, calculations by DBEDT. <u>https://www.hawaiitourismauthority.org/research/</u>





Source: Data from Hawaii Tourism Authority website, calculations by DBEDT. <u>https://www.hawaiitourismauthority.org/research/</u>

Since the daily passenger data does not include flights from Canada, we also examined the extent to which visitors from Canada tend to arrive on international vs. domestic flights. Overall, visitor arrivals from Canada tend to peak between November and March, with considerably smaller peak during the summer. As shown in Figure A.5 and A.6, the majority of visitors from Canada arrive on international flights for most months in the study period. Between April and November 2020, however the few Canadian visitors arrived in Hawaii did so via domestic flights.¹⁷ A high proportion of Canadian visitors arriving between March and July 2021 also arrived via U.S. domestic flights. The number of visitors, however, was very low.



Figure A.5 Visitors from Canada who Arrive by Air via Domestic, International Flights January 2013 – April 2023

Source: <u>Final Monthly Visitor Statistics</u> (2013 – 2022) and <u>Monthly Visitor Statistics</u> (2023), accessed from the Hawaii Tourism Authority website. <u>https://www.hawaiitourismauthority.org/research/</u>

¹⁷ In addition to the U.S. travel restrictions discussed earlier, the Canadian government also put in place restrictions and prohibitions on discretionary travel. <u>https://www.canada.ca/en/public-safety-</u> canada/news/2020/11/government-of-canada-announces-extension-of-travel-restrictions.html



Figure A.6 Percent of Visitors from Canada who Arrive by Air via U.S. Domestic Flights January 2013 – April 2023

Figures A.7 and A.8 illustrate the visitors from Japan to Hawaii who arrived by international and domestic flights. As shown in Figure A.7, prior to the COVID-19 pandemic, virtually all visitors from Japan arrived on international flights. The share of visitors arriving on domestic flights increased between March 2020 through November 2020, but the number of visitors was very low. As air capacity from Japan increased in 2022, the percentage of visitors who arrived via international flights has increased and the percentage of visitors arriving via domestic flights has decreased.



Figure A.7 Visitors from Japan who Arrive by Air via Domestic, International Flights January 2013 – April 2023

Source: Data from Hawaii Tourism Authority website, calculations by DBEDT. https://www.hawaiitourismauthority.org/research/

Source: <u>Final Monthly Visitor Statistics</u> (2013 – 2022) and <u>Monthly Visitor Statistics</u> (2023), accessed from the Hawaii Tourism Authority website. <u>https://www.hawaiitourismauthority.org/research/</u>

Figure A.8 Percentage of Visitors from Japan who Arrive by Air via U.S. Domestic Flights January 2013 – April 2023



Source: Data from Hawaii Tourism Authority website, calculations by DBEDT. <u>https://www.hawaiitourismauthority.org/research/</u>