
Appendix

- A. Passenger and Operations Activity level Projections, October 23, 2011
- B. The Economic Impacts of Kahului Airport, 2010
- C. Description of Temporary Runway, Technical Paper No. 1 (June 2014)



APPENDIX

- A. Passenger and Operations Activity level Projections, October 23, 2011
- B. The Economic Impacts of Kahului Airport, 2010
- C. Description of Temporary Runway, Technical Paper No. 1 (June 2014)



APPENDIX A

**PASSENGER AND
OPERATIONS ACTIVITY
LEVEL PROJECTIONS**

OCTOBER 23, 2011

**PASSENGER AND OPERATIONS ACTIVITY LEVEL
PROJECTIONS
KAHULUI AIRPORT**

**Prepared for:
State of Hawai'i
Department of Transportation
Airports Division**

October 23, 2011

**Martin Associates
941 Wheatland Ave. Suite 203
Lancaster, PA 17603
www.martinssociates**

TABLE OF CONTENTS

ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS	1
POPULATION	1
EMPLOYMENT	2
VISITOR TRENDS	4
MAUI VISITOR PROFILE	5
MAJOR MARKET VISITOR PROFILES.....	7
<i>US Visitors</i>	7
<i>Japanese Visitors</i>	8
<i>Canadian Visitors</i>	9
<i>European Visitors</i>	9
<i>Oceania Visitors</i>	10
<i>Other Asia Visitors</i>	11
<i>Latin American Visitors</i>	11
<i>Other Market Visitors</i>	12
<i>Implications of Visitors Demographics</i>	13
<i>Accommodations</i>	13
<i>Implications</i>	15
AIRPORT OPERATIONS.....	15
KAHULUI DOMESTIC FLIGHTS.....	17
INTERNATIONAL DIRECT FLIGHTS TO KAHULUI	18
AIR CARGO	18
MAIL	20
COMPOSITION OF AIRCRAFT OPERATIONS	21
KAHULUI PASSENGER AND OPERATIONS PROJECTIONS.....	23
PASSENGER ACTIVITY PROJECTIONS	23
AIRCRAFT OPERATIONS PROJECTIONS – COMMERCIAL AIRCRAFT TYPE	26
OPERATIONS PROJECTIONS BY ACTIVITY CATEGORY.....	30
COMPARISON OF PASSENGER AND OPERATIONS FORECASTS WITH FAA AND OFFICIAL STATEMENT.....	34
AIR MAIL PROJECTIONS	37
AIR CARGO PROJECTIONS	40
GA AND MILITARY OPERATIONS PROJECTIONS.....	40
REFERENCES.....	41

List of Figures

FIGURE 1: POPULATION GROWTH – STATE OF HAWAII AND COUNTY OF MAUI.....	1
FIGURE 2: EMPLOYMENT - STATE OF HAWAII.....	2
FIGURE 3: EMPLOYMENT IN MAUI COUNTY.....	3
FIGURE 4: SHARE OF STATEWIDE EMPLOYMENT BY COUNTY.....	3
FIGURE 5: VISITORS TO THE STATE OF HAWAII.....	4
FIGURE 6: ORIGINS OF VISITORS TO HAWAII’I.....	5
FIGURE 7: VISITORS BY AIR TO THE STATE, BY ISLAND.....	6
FIGURE 8: VISITORS TO MAUI.....	6
FIGURE 9: INDEXED GROWTH IN VISITORS – STATE OF HAWAII VS. MAUI (2001 IS BASE YEAR).....	7
FIGURE 10: TOTAL US MAINLAND VISITORS TRAVELING TO MAUI.....	7
FIGURE 11: AVERAGE NUMBER OF DAYS SPENT BY US VISITORS.....	8
FIGURE 12: TOTAL JAPANESE VISITORS TO MAUI.....	8
FIGURE 13: TOTAL CANADIAN VISITORS TO STATE AND MAUI.....	9
FIGURE 14: EUROPEAN VISITORS TO MAUI.....	10
FIGURE 15: OCEANIA VISITORS TO STATE OF HAWAII AND ISLAND OF MAUI.....	10
FIGURE 16: OTHER ASIA VISITORS TO STATE AND MAUI BY AIR.....	11
FIGURE 17: LATIN AMERICAN VISITORS TO THE STATE AND TO MAUI BY AIR.....	12
FIGURE 18: OTHER VISITORS FOR THE STATE OF HAWAII AND MAUI BY AIR.....	12
FIGURE 19: DISTRIBUTION OF VISITORS STATEWIDE BY ACCOMMODATION.....	13
FIGURE 20: SHARE OF MAUI VISITORS BY ACCOMMODATION.....	14
FIGURE 21: HOTEL ROOMS IN MAUI.....	14
FIGURE 22: HONOLULU AND KAHULUI AIR PASSENGERS COMPARED TO STATEWIDE AIR PASSENGERS.....	15
FIGURE 23: OVERSEAS FLIGHTS VS. INTERISLAND FLIGHTS TO KAHULUI.....	16
FIGURE 24: MAUI AIR VISITORS VS MAUI RESIDENT AIR TRAVELERS.....	17
FIGURE 25: DOMESTIC KAHULUI FLIGHT ORIGINS FOR 2009 (PASSENGERS BY DEPARTURE GATEWAY).....	17
FIGURE 26: 2009 INTERNATIONAL DIRECT FLIGHTS TO KAHULUI.....	18
FIGURE 27: AIR CARGO TONNAGE HANDLED - STATEWIDE, HONOLULU INTERNATIONAL AND KAHULUI.....	19
FIGURE 28: AIR CARGO HANDLED AT KAHULUI.....	19
FIGURE 29: AIR MAIL HANDLED STATEWIDE, HONOLULU INTERNATIONAL AIRPORT AND KAHULUI (TONS OF AIR MAIL).....	20
FIGURE 30: AIR MAIL HANDLED AT KAHULUI AIRPORT.....	21
FIGURE 31: HISTORICAL OPERATIONS AT KAHULUI.....	22
FIGURE 32: HISTORICAL PASSENGER LEVELS AT KAHULUI AND MAUI VISITOR LEVELS.....	23
FIGURE 33: PROJECTIONS OF MAUI VISITORS.....	24
FIGURE 35: PROJECTED BASELINE PASSENGER LEVELS AT KAHULUI.....	26
FIGURE 36: ANNUAL SIGNATORY OVERSEAS OPERATIONS (LANDINGS) BY AIRCRAFT TYPE – KAHULUI AIRPORT.....	27
FIGURE 37: ANNUAL INTERISLAND OPERATIONS (LANDINGS) BY AIRCRAFT TYPE – KAHULUI AIRPORT.....	27
FIGURE 38: TOTAL ANNUAL OPERATIONS AT KAHULUI.....	31
FIGURE 39: HISTORICAL OPERATIONS AT KAHULUI.....	31
FIGURE 40: HISTORICAL AND PROJECTED ANNUAL OPERATIONS.....	33
FIGURE 41: HISTORICAL AND PROJECTED OPERATIONS BY TYPE OF ACTIVITY.....	34
FIGURE 42: AIR MAIL HANDLED AT KAHULUI.....	38
FIGURE 43: HISTORICAL TRENDS IN AIR MAIL AT KAHULUI AND MAUI COUNTY POPULATION.....	39
FIGURE 44: PROJECTED AIR MAIL TONNAGE AT KAHULUI AIRPORT.....	39
FIGURE 45: HISTORICAL AIR CARGO HANDLED AT KAHULUI.....	40

PASSENGER AND OPERATIONS ACTIVITY LEVEL PROJECTIONS

KAHULUI AIRPORT

The purpose of this report is to provide an historical overview of the demographic and economic conditions that form the basis of Kahului Airport’s activity forecasts. Section 1 of the report describes the economic and demographic trends in Maui, while Section 2 describes the methodology used to develop the passenger air cargo and activity projections for the Kahului Airport. The projections are also presented in Section 2.

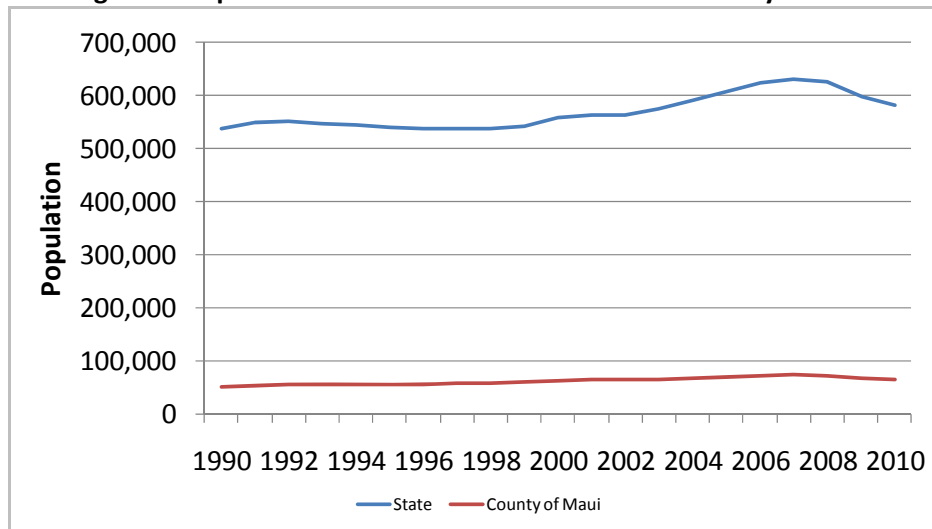
Economic and Demographic Characteristics

Historically, airport activity is driven by the underlying structure of the economy in which an airport operates, including population, economic activity, and visitor activity. Because of the importance of tourism to the State of Hawaii, and to Maui County, factors driving visitors to the State and subsequently to Maui, are critical in explaining and projecting the airport activity at Kahului Airport. Because of these relationships, the first section of the report provides an overall description of the trends in population, economic activity and visitor activity in Maui.

Population

Overall, the State of Hawaii’s population has not experienced significant growth, increasing at a compounded annual growth rate (CAGR) of 0.8% over the past two decades. In comparison, the population of Maui has grown at a 1.9% CAGR, more than twice the Statewide rate. Figure 1 graphically presents the trends in population at the State and Maui County level.

Figure 1: Population Growth – State of Hawaii and County of Maui

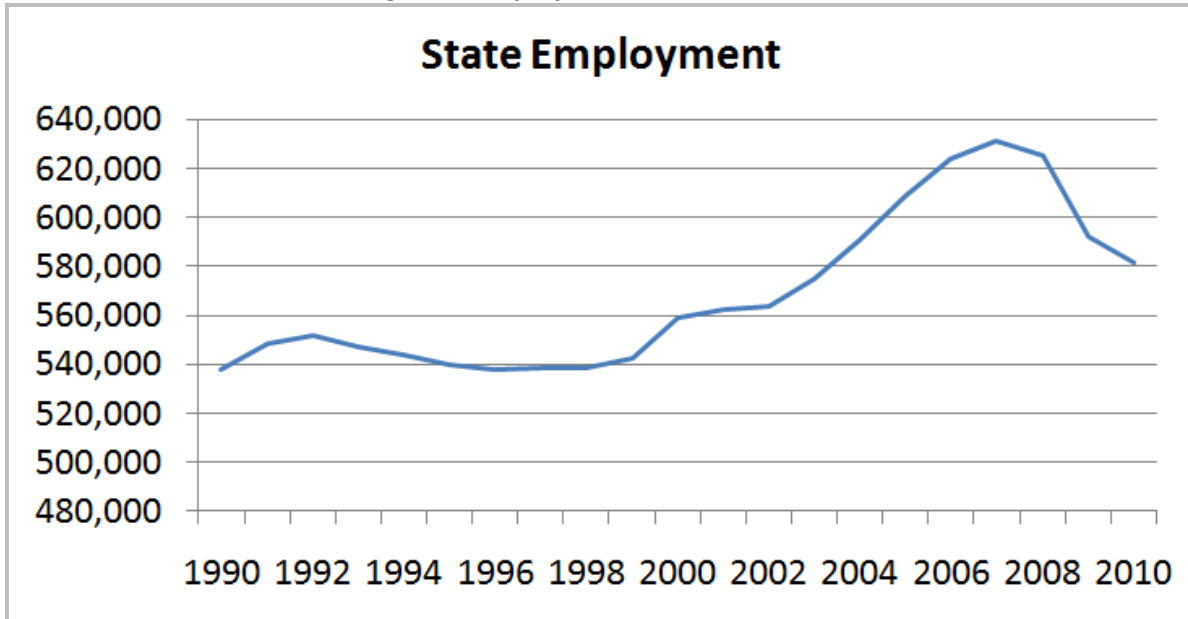


Source: Department of Business, Economic Development and Tourism (DBEDT), State of Hawaii Data Book Time Series, 2010.

Employment

Since 1990, employment throughout the State of Hawaii has experienced a negative growth rate of -0.04% CAGR. The employment levels peaked in 2007 at 631,350, but, as seen in Figure 2, the State experienced an 8% job loss through 2010, where employment reached 581,910.

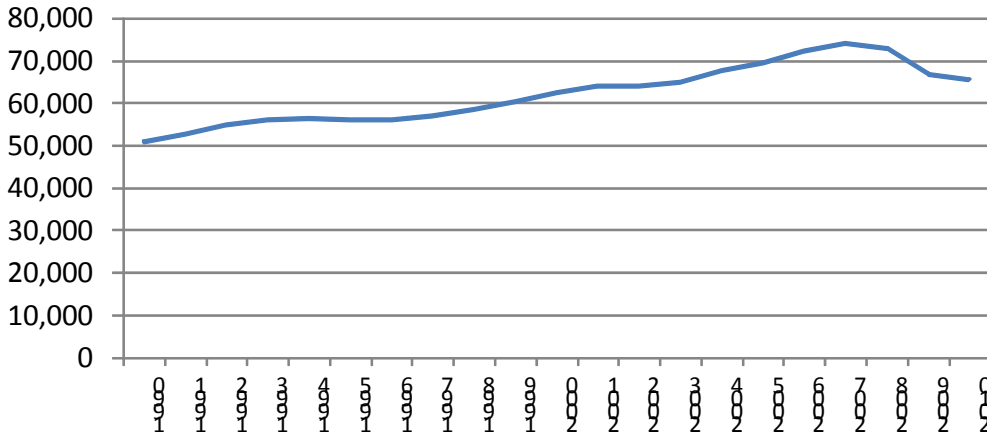
Figure 2: Employment - State of Hawaii



Source: Local Employment Dynamics. Department of Business, Economic Development and Tourism; Hawaii Tourism Association, November, 2010.

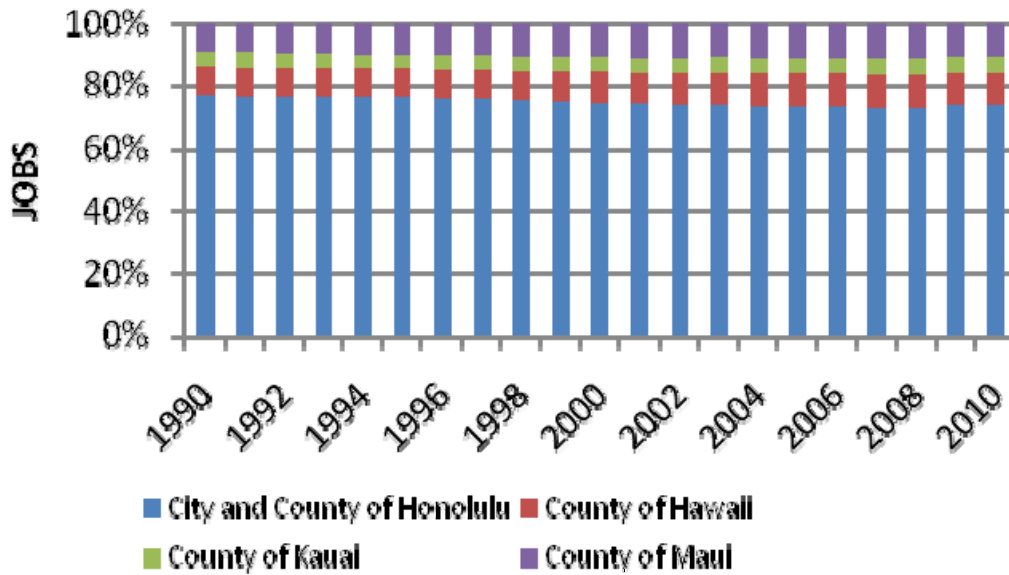
While a Statewide decline in employment is depicted, individual counties were not as severely impacted. Figure 3 shows that Maui experienced a 1.3% CAGR in employment, and has continued to increase its share of employment relative to the other counties in the State as seen in Figure 4. This was followed by the County of Hawaii, with a 1.1% growth, Kauai with 0.5% growth, and the City and County of Honolulu with the slowest growth at 0.17%.

Figure 3: Employment in Maui County
County of Maui



Source: Local Employment Dynamics. Department of Business, Economic Development and Tourism; Hawaii Tourism Association, November, 2010.

Figure 4: Share of Statewide Employment by County

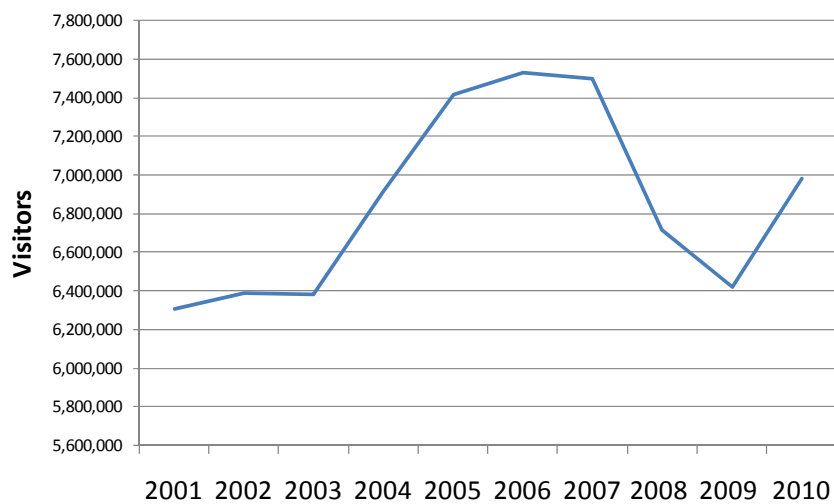


Source: Local Employment Dynamics. Department of Business, Economic Development and Tourism; Hawaii Tourism Association, November, 2010.

Visitor Trends

Total visitor arrivals by air to the State of Hawaii peaked in 2006-2007, but have been impacted by the economic recession that began in 2007. Visitor activity to the State fell by 15% between 2007-2009 and since 2005, the State has experienced a 15% decline in visitors through 2009, with a small increase in activity in 2010. Figure 5 graphically displays the visitor activity for the State of Hawaii. Individual Islands have experienced various visitor growth rates, such as Maui, with an 18% decline in visitors since 2005, as well as the Island of Hawaii, which experienced a loss of 20% over the same period.

Figure 5: Visitors to the State of Hawaii



Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

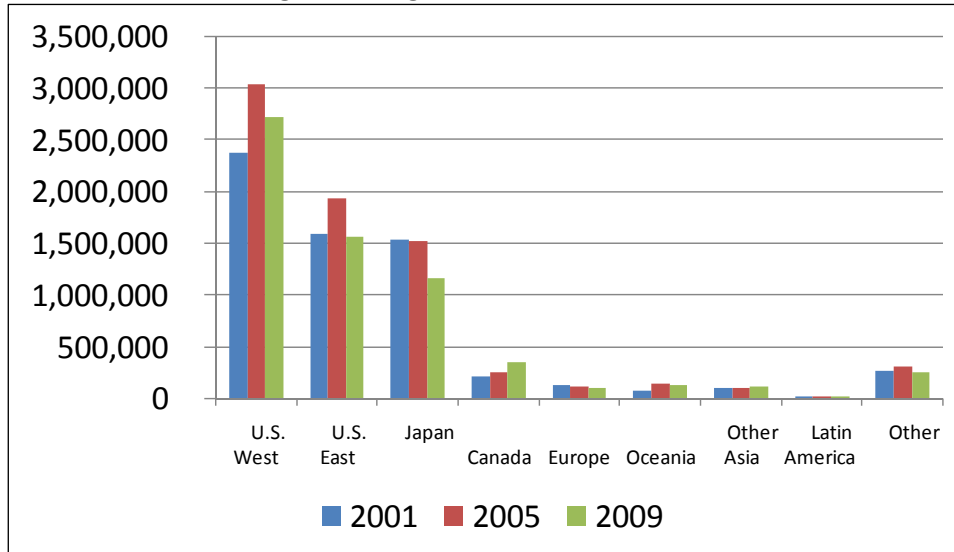
Of the total visitors in the State of Hawaii, the US Mainland visitors are the largest market and account for 68% of the total visitors. The majority of these visitors, 99%, arrive by air. This share of visitors is broken down in Table 1. Figure 6 illustrates that out of the various visitor origins, the three largest markets are the US Mainland, Japan and Canada. The US market has continued to grow since 2001; however, as seen in Figure 6 and 7, the share of Japanese visitors has declined since 2001. In fact in 2009, Japanese visitors to the State of Hawaii were 26% lower than in 2001. Additionally, the volume of tourists from Japan is likely to be even lower in 2011 due to the natural disasters experienced in Japan.

Table 1
Share of Visitors by Origin

	US	Japan	Canada	Europe	Oceania	Other Asia	Latin America	Other
2001	63%	24%	3%	2%	1%	2%	0.2%	4%
2005	67%	20%	3%	2%	2%	1%	0.2%	4%
2009	68%	18%	5%	2%	2%	2%	0.3%	4%

Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

Figure 6: Origins of Visitors to Hawai'i

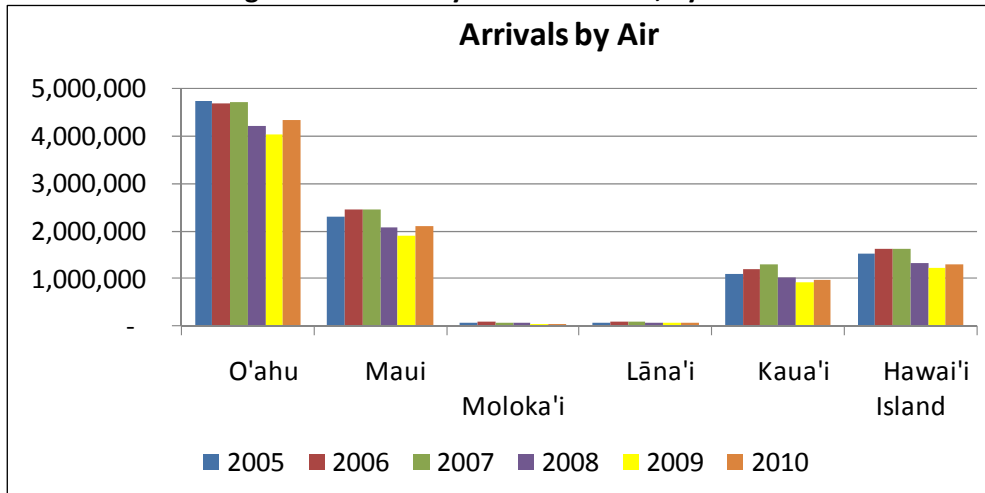


Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

Maui Visitor Profile

Figure 7 shows that of the Islands in the State of Hawaii, Maui follows O'ahu as the second most visited island. For both O'ahu and Maui, visitors slightly grew in 2010, but are well below the levels of 2007.

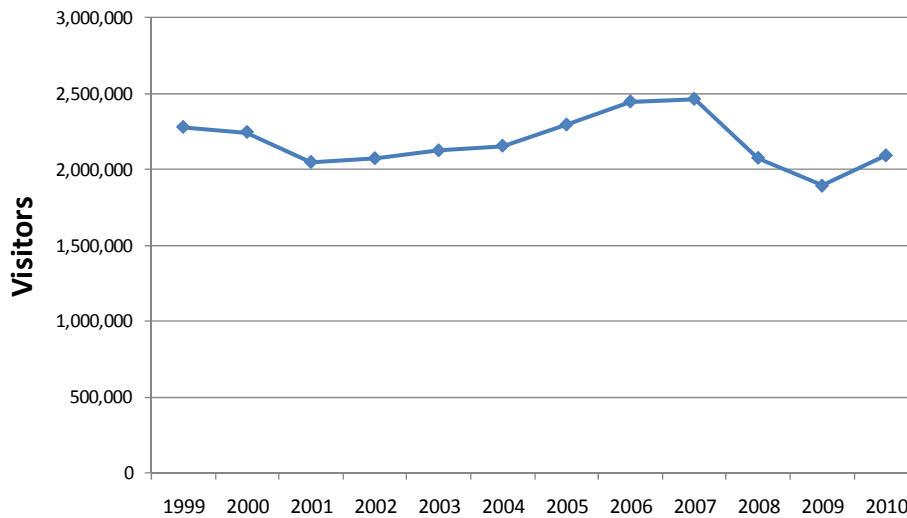
Figure 7: Visitors by Air to the State, by Island



Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

Figure 8 presents the overall trend in visitors to Maui, and as this exhibit demonstrates, Maui has been experiencing a decline in visitors reflecting the economic situation. However, even prior to 2007, visitors to Maui showed limited growth.

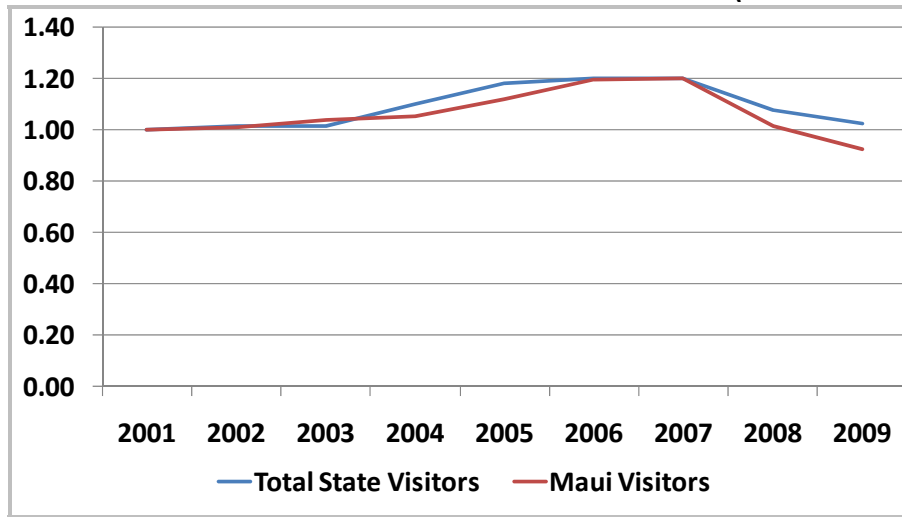
Figure 8: Visitors to Maui



Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

Figure 9 shows that the growth rate in visitors to Maui has historically lagged behind the growth in visitors to the State, and this decline in growth is more pronounced after 2007.

Figure 9: Indexed Growth in Visitors – State of Hawaii vs. Maui (2001 is Base Year)



Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

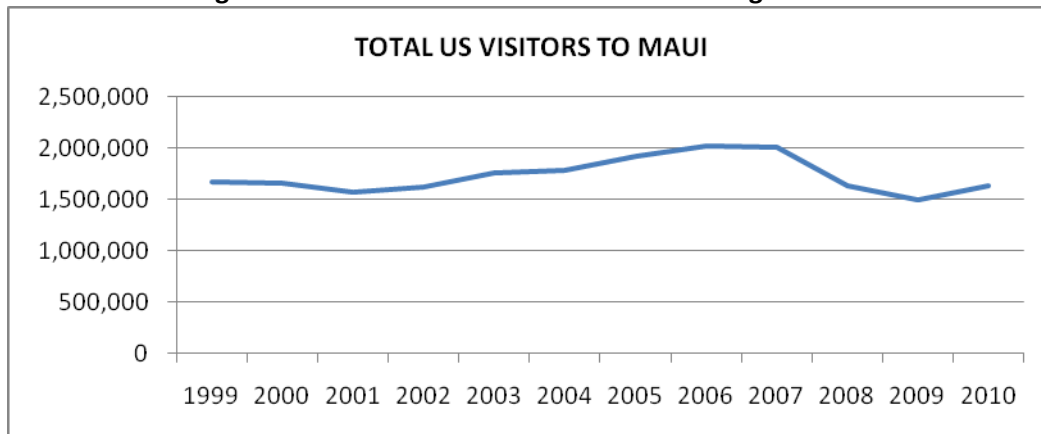
These historical trends suggest that visitor activity in Maui has lagged the growth in Statewide visitors, and this trend appears to have accelerated since 2007.

Major Market Visitor Profiles

US Visitors

US Mainland visitors have been the largest group of visitors arriving in Maui. However, as seen in Figure 10, the number of visitors has decreased since 2007 and has reached its lowest number of visitors since before 1999.

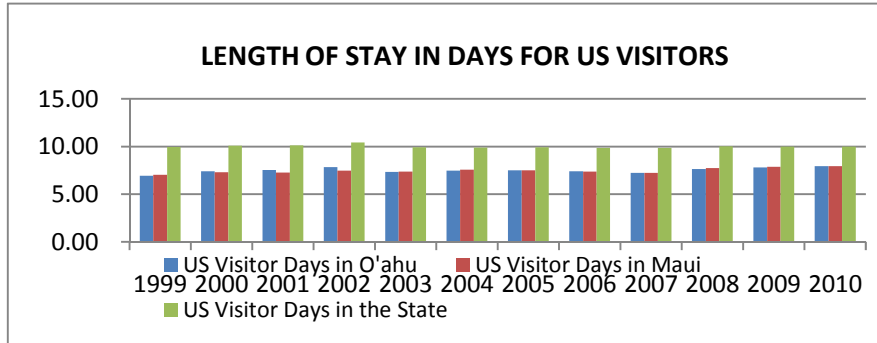
Figure 10: Total US Mainland Visitors Traveling to Maui



Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

The average party size for US visitors is three or more people. Most visitors spend around 10 days in the State of Hawaii. On average, 7 days are spent in both O’ahu and Maui; however the number of days spent in Maui has experienced a slight increase. These visitor characteristics of US mainland visitors to Hawaii are shown in Figure 11.

Figure 11: Average Number of Days Spent by US Visitors



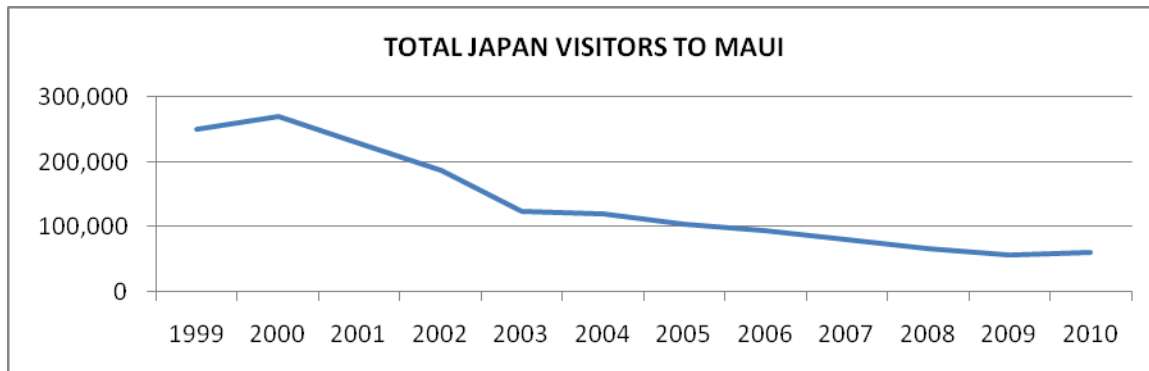
Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

Japanese Visitors

The number of Japanese visitors arriving in the State has continually dropped from 1.8 million in 1999, to 1.24 million in 2010. As previously mentioned and as illustrated in Figure 12, Maui experienced a significant loss of Japanese visitors. While the average party size for these visitors has historically been three or more people, parties of two are becoming more prevalent. Of the Major Market Area visitors, the Japanese visitors stay in the State of Hawaii for the shortest amount of time. The average length of stay for these visitors is six days in the State, and they primarily remain in O’ahu for their entire stay. Only three days are normally spent in Maui, the shortest length of stay of all visitors for the Island of Maui.

Figure 12: Total Japanese Visitors to Maui

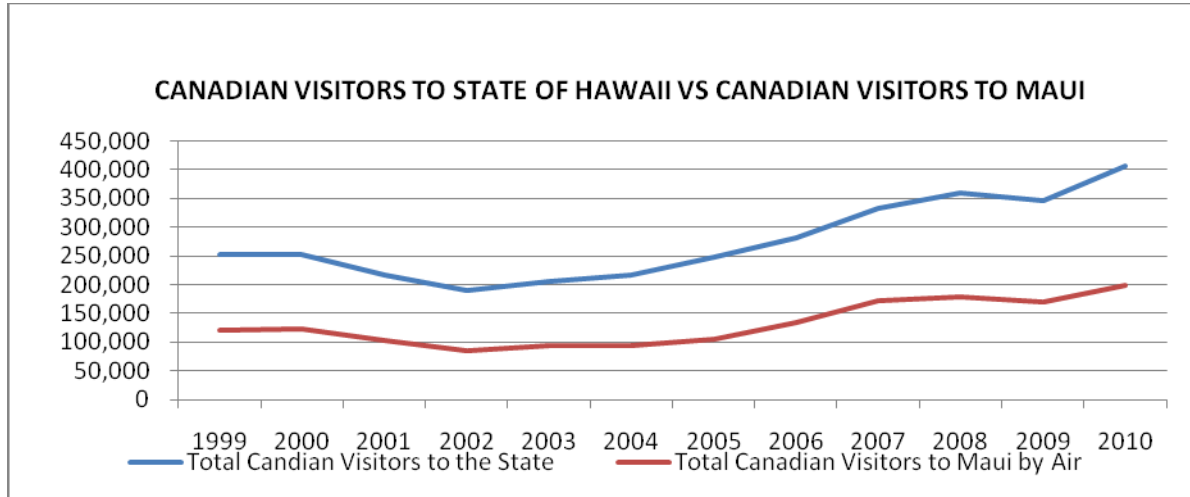
Source: Annual Visitor Research Reports 1999-2010 Table 20. DBEDT and HTA



Canadian Visitors

The number of Canadian visitors in the State of Hawaii has increased over the past 10 years; however, these visitors account for a much smaller share of the total visitors. Figure 13 shows the increase from 253,000 visitors in 2001 to 406,452 visitors in 2010. Of these visitors, around 50% travel to Maui.

Figure 13: Total Canadian Visitors to State and Maui



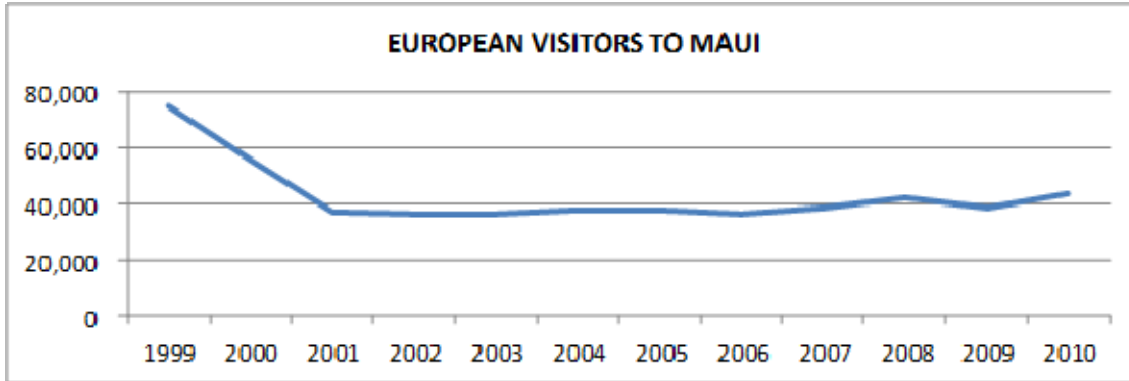
Source: Annual Visitor Research Reports 1999-2010, Table 22. DBEDT and HTA

The average party size for Canadian visitors is two people and these visitors stay in the State of Hawaii for around two weeks. This is longer than most other visitors. An average of 10 days in both O’ahu and Maui is the normal length of time for Canadian visitors. However, since 2007, there has been an increase in the amount of days spent by Canadians in Maui in comparison to O’ahu.

European Visitors

Visitor arrivals from Europe have been declining since 1999. European visitors totaled 114,568 in 2009. Europeans that visited Maui declined sharply in 1999 from 75,418 to 40,000 in 2001, reflecting the terrorist attacks on September 11, 2001, but have maintained these numbers through the past several years (Figure 14). The average party size for these visitors is two people and other party sizes are almost nonexistent. The length of stay for these visitors is similar to the Canadians. Europeans’ stays average around 13 days in the State, around 10 days for Maui and nine days for O’ahu.

Figure 14: European Visitors to Maui

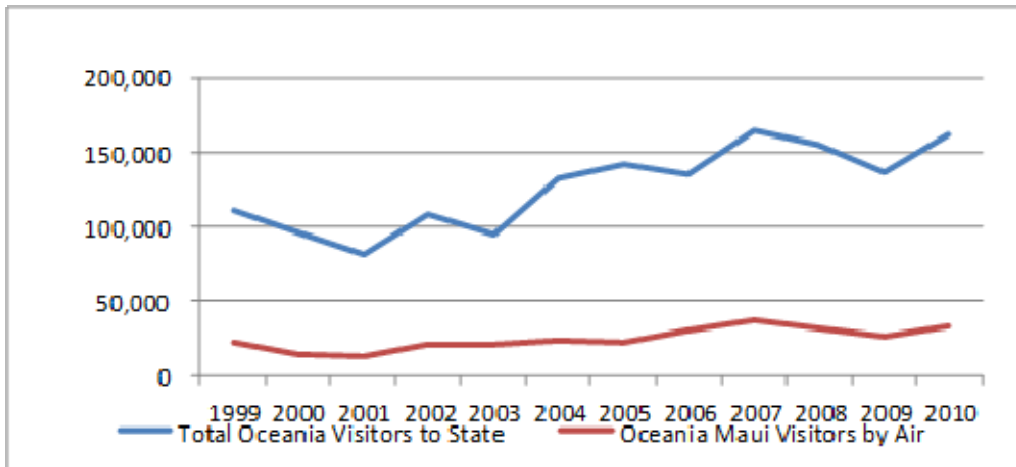


Source: Annual Visitor Research Reports 1999-2010, Table 23. DBEDT and HTA

Oceania Visitors

Visitors from Oceania, while a smaller market, have been growing since 2001. Oceania visitors peaked in 2007 for the State of Hawaii as well as the island of Maui, with 164,151 visitors and 37,591 visitors respectively. However, Maui visitors have declined to 32,675 in 2009. As seen in Figure 15, the number of Oceania visitors in 2010 still remains higher than the visitor numbers in 1999, demonstrating an overall growth in this market. The average party size is two people and the average length of stay in the State is nine days. Most Oceania visitors spend seven days on average in O’ahu and five days in Maui. The number of days spent in O’ahu has been increasing since 2001, while the number of days spent in Maui has been decreasing.

Figure 15: Oceania Visitors to State of Hawaii and Island of Maui

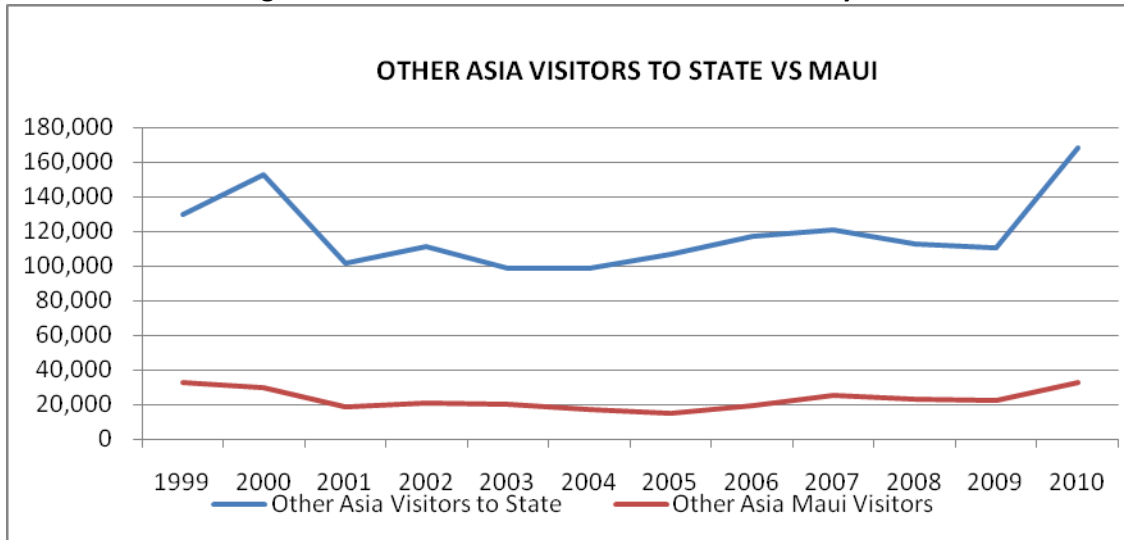


Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

Other Asia Visitors

Air visitors from other Asian markets have remained at a steady number of around 110,000 as seen in Figure 16. This stable visitation is similar for Maui; however, these visitors only amount to 25,000 visitors. The average party size is three or more people, but parties of two are becoming more prevalent. In 2010, the average length of stay for these visitors in the State was around seven and a half days. This peaked at 10 days in 2007, and has been slowly growing since 2008. These visitors spend more days in O’ahu than in Maui, with seven days in O’ahu and only three and a half days in Maui.

Figure 16: Other Asia Visitors to State and Maui by Air

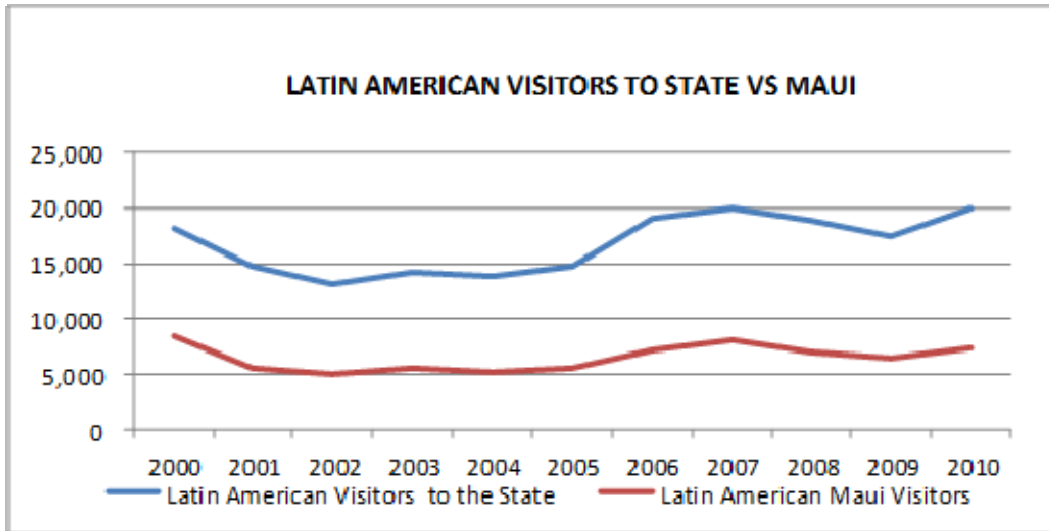


Source: Annual Visitor Research Reports 1999-2010, Table 29. DBEDT and HTA

Latin American Visitors

With only 20,000 visitors in 2010, Latin Americans are a small market for the State of Hawaii. Figure 17 shows that the number of visitors has remained around 110,000 visitors, but has reached its largest number of visitors in 2010. The total Latin American Maui visitors by air has actually reached the same number of visitors in 2010 that it experienced in 1999. The average party size for this market is two people. The average length of stay in the State has increased from around 10 days in 2000, peaked at 13 days in 2008, and dropped to 12 days in 2010. The number of days spent in O’ahu has continuously grown from seven to nine days, while the number of days that are spent in Maui has decreased from 10 to seven days between 2008 and 2009.

Figure 17: Latin American Visitors to the State and to Maui by Air

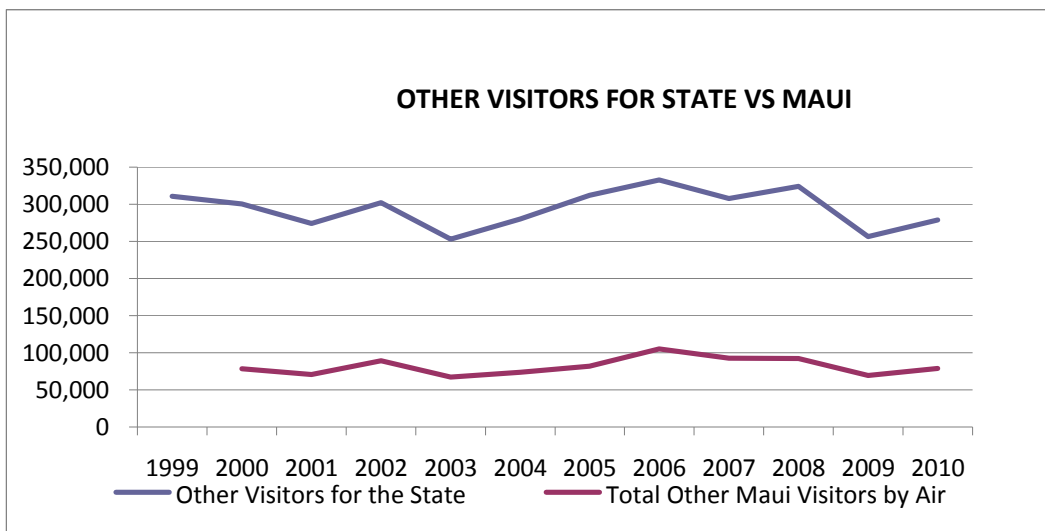


Source: Annual Visitor Research Reports 1999-2010, Table 32. DBEDT and HTA

Other Market Visitors

The number of visitors for this market has remained steady, and while experiencing a decline in 2009, the visitor numbers are on the rise as seen in Figure 18. These visitors that travelled to Maui also declined from 2006, but are also experiencing an increase in visitors. The average party sizes are either two people, or three or more people. These visitors stay for around 12 days in the State, 10 days in O’ahu, and eight days in Maui. Both O’ahu and Maui have experienced an increase of days spent by this party since 1999.

Figure 18: Other Visitors for the State of Hawaii and Maui by Air



Source: Annual Visitor Research Reports 1999-2010, Table 33. DBEDT and HTA

Implications of Visitors Demographics

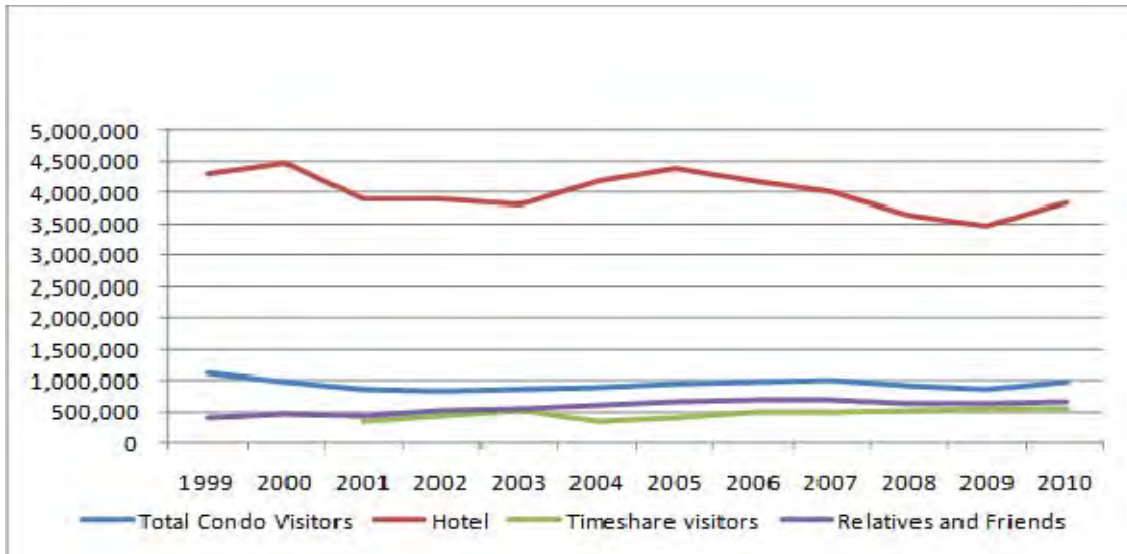
Overall, visitors to Maui have grown very little over time, and there have been significant shifts in the sources of visitors to Maui. Air visitors from the US Mainland account for about 77% of visitors to Maui, which reached a peak in 2005 when US Mainland visitors to Maui accounted for almost 85% of air visitors to Maui. Japanese visitors to Maui have fallen by 75% since 2001, and the share of visitors to Maui from Japan has fallen from 11% in 2001 to 3% in 2009. Visitors from Canada represent an increasing growth market for Maui, as the share of Canadian visitors to Maui has grown from 5% in 2001 to nearly 10% in 2010. Visitors from Oceania and Other Asia are also key growth markets, albeit relatively small in volume.

One factor that may result in the slow growth in visitors to Maui is the supply of available units for visitors. This is the subject of the following section.

Accommodations

As seen in Figure 19, hotels are the most common accommodation for visitors to the State, followed by condominiums, and the use of condominiums by visitors is a growing trend.

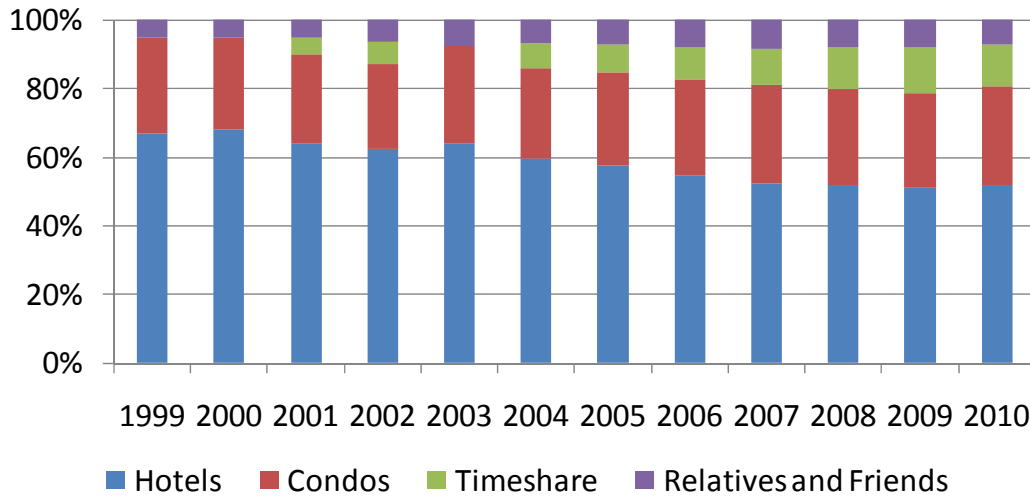
Figure 19: Distribution of Visitors Statewide by Accommodation



Source: Annual Visitor Research Reports 1999-2010, Tables 39, 40, 41, 42. DBEDT and HTA

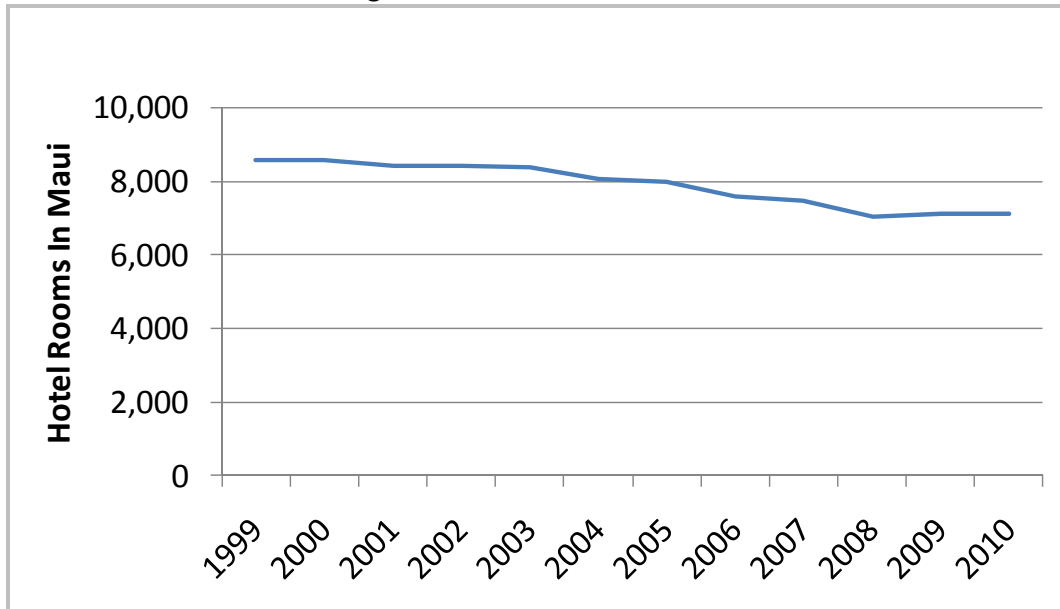
With respect to Maui, the share of visitors using hotels has also been falling, as a greater share of visitors are staying in condominiums (Figure 20). This reflects the decline in hotel rooms in Maui over time, as shown in Figure 21.

Figure 20: Share of Maui Visitors by Accommodation



Source: Annual Visitor Research Reports 1999-2010, Tables 39, 40, 41, 42. DBEDT and HTA

Figure 21: Hotel Rooms in Maui



Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

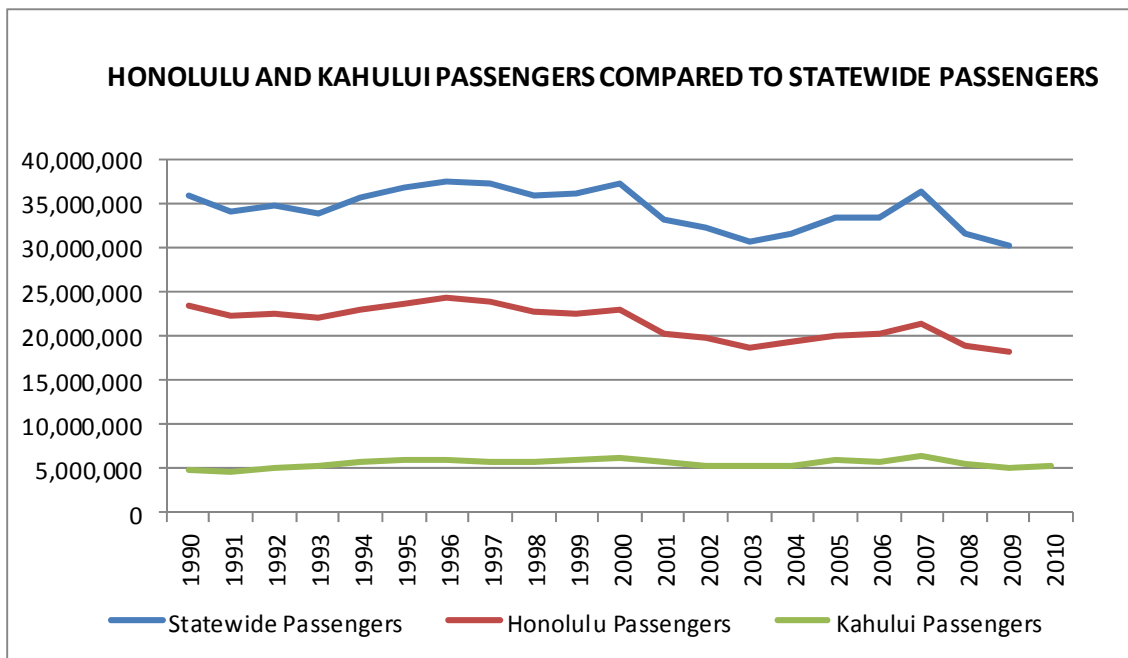
Implications

The relatively slow growth in visitors to Maui reflects the decline in hotel rooms over time, and this may likely be the result of a strict policy towards the development of additional tourism accommodations in Maui. Furthermore, the historical performance of the visitor industry in Maui will most likely have resulted in a low growth or airport activity at Kahului, and the future direction of the visitor industry and tourism in Maui will subsequently impact the future projections of airport activity levels at Kahului.

Airport Operations

There has been an overall 0.8% decline of Statewide passengers of the past 20 years. Honolulu passengers have experienced a 1.3% decline and Kahului passengers have experienced a 0.2% decline. These declines are shown in Figure 22. Despite the differences in annual growth rates, Figure 22 indicates that the passenger activity at Kahului has shown similar trends to the Statewide levels as well as the levels of activity at Honolulu International Airport.

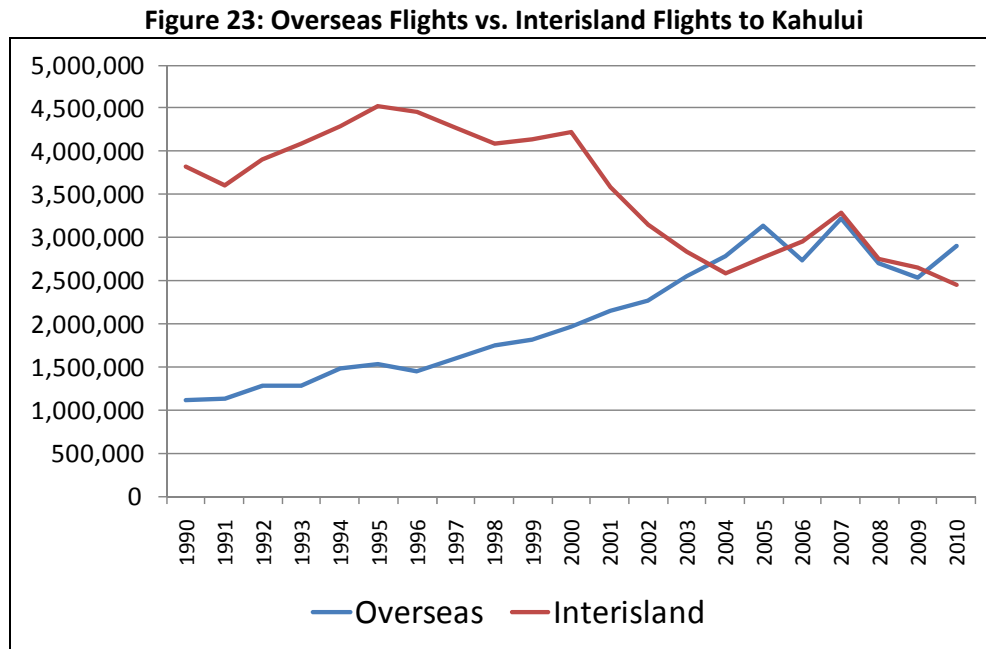
Figure 22: Honolulu and Kahului Air Passengers Compared to Statewide Air Passengers



Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

Specific to Kahului, there has been an increase in overseas flight passengers and a decrease in interisland traffic over the past 20 years.

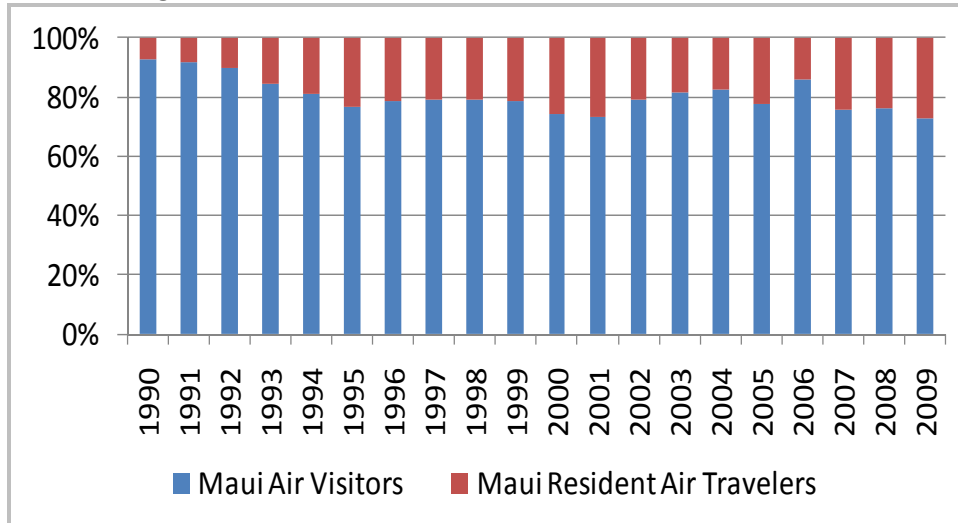
An important trend in the composition of service to Kahului is the fact that in 1990, the interisland flight passengers accounted for nearly 80% of the total passengers, but in 2010, the share between interisland and overseas passengers is nearly equal. This distribution of passengers by interisland flights versus overseas flights is presented in Figure 23.



Source: DBEDT and HTA; Hawaii Department of Transportation, Airports

Figure 24 shows that the majority of air travelers into Maui are visitors, but the share of resident passengers has been increasing slightly in the more recent years.

Figure 24: Maui Air Visitors vs Maui Resident Air Travelers

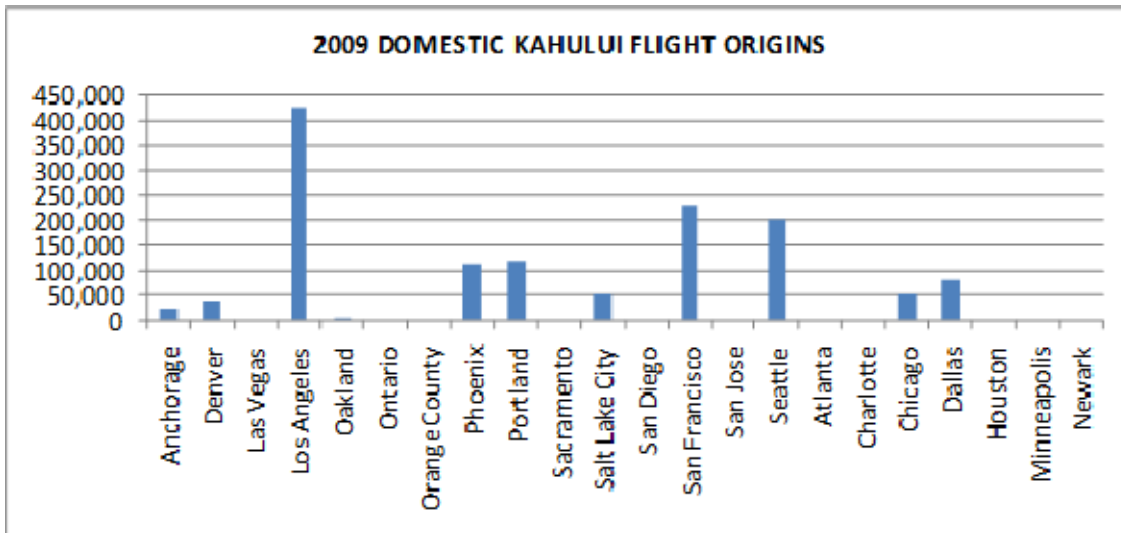


Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

Kahului Domestic Flights

Historically, Los Angeles has been the major gateway for direct overseas flights to Maui, supplying about 500,000 passengers annually, with a loss of 50,000 to 100,000 passengers to the Island in 2008 and 2009. San Francisco has been the second largest gateway to the island, averaging about 300,000 passengers until 2006, after which passengers from SFO fell by about 100,000 passengers. Seattle, Portland and Phoenix have become gateways, with additional non-stop service from Dallas, Chicago, Denver and Anchorage. Figure 25 shows the passengers originating into Maui by gateway.

Figure 25: Domestic Kahului Flight Origins for 2009 (Passengers by Departure Gateway)



Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

International Direct Flights to Kahului

In 2000, the two largest international flight origins for Kahului were Japan and Canada. However, the direct service from Japan was discontinued. This is consistent with the declining Japanese visitors market, but may also be a contributor to the loss of Japanese visitors to Hawaii. Flights from Canada continue to be the only international origin for flights into Kahului, and this reflects the growing Canadian tourism market into Maui. In addition to flights from Vancouver, it is to be emphasized that the Pacific Northwest airports such as Sea-Tac International, Portland International and Bellingham International also provide service to the Canadian market.

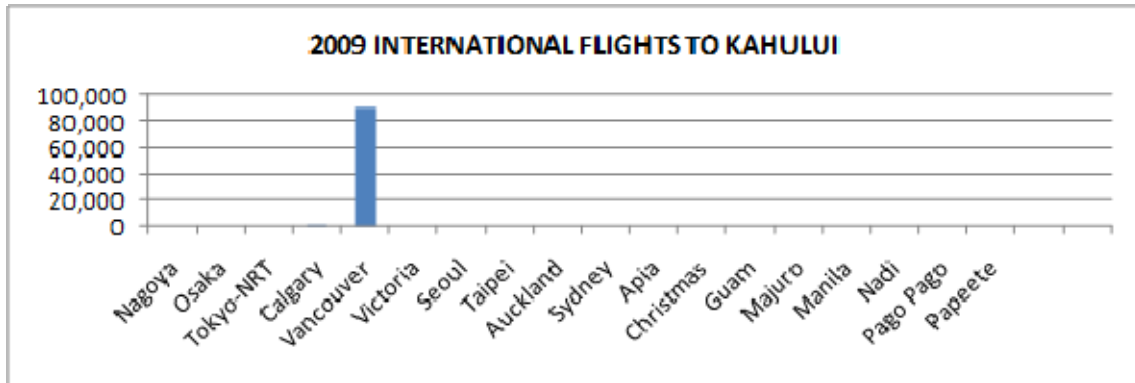


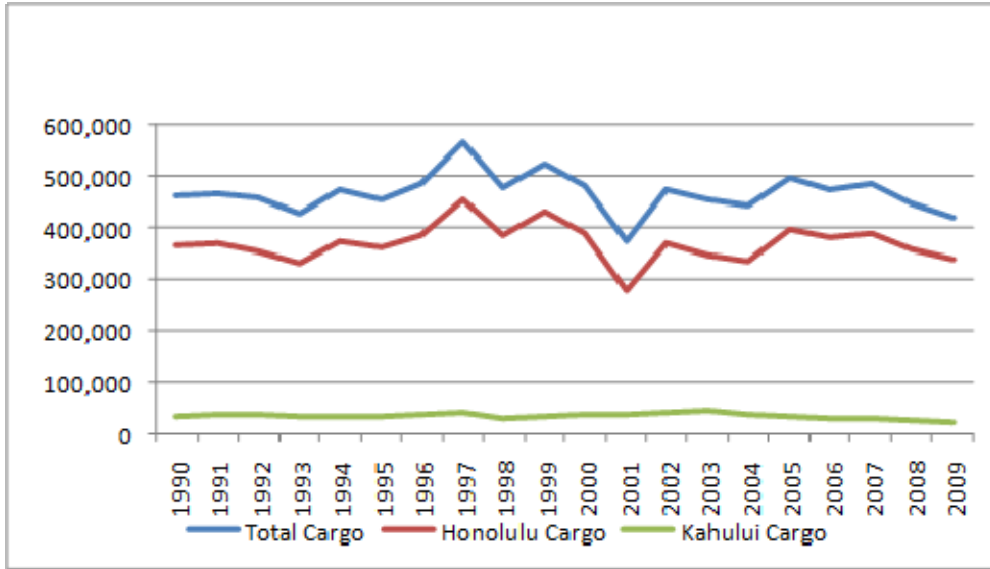
Figure 26: 2009 International Direct Flights to Kahului

Source: Annual Visitor Research Reports 1999-2010. DBEDT and HTA

Air Cargo

Air cargo handled at the Statewide airport system has shown little growth since 1990, and the trend in air cargo at the system level is mirrored by air cargo activity at Honolulu as well as Kahului. Figure 27 shows the trend in Statewide system air cargo, air cargo handled at Honolulu International and air cargo handled at Kahului. Total Statewide air cargo has been declining at a rate of 0.5%, with Honolulu specifically declining at a rate of around 0.4%. Overall, Honolulu's percentage of total Statewide cargo has been declining rapidly. At Kahului, cargo tonnage has been decreasing by 40% since 2003. However, while Kahului's cargo has been decreasing, it has not experienced as great of a decrease compared to the total Statewide cargo.

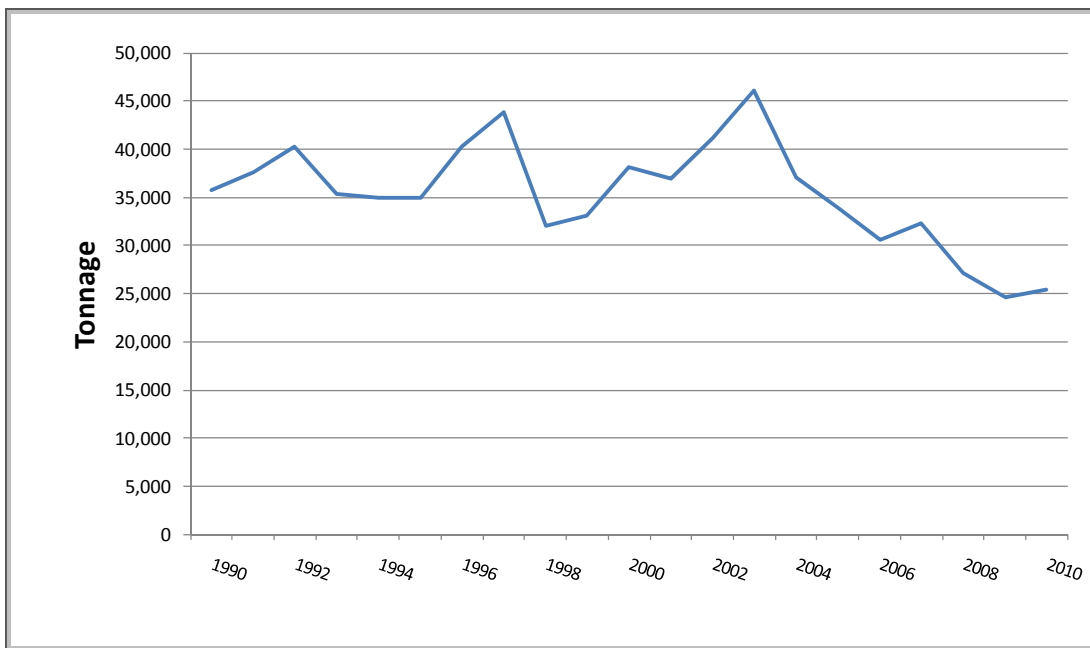
Figure 27: Air Cargo Tonnage Handled - Statewide, Honolulu International and Kahului



Source: Department of Transportation, Airports Division; State of Hawaii Airport Activity Statistics by Calendar Year, Hawaii Department of Transportation, Airports Division

Figure 28 shows the trend in air cargo for Kahului, and shows that air cargo tonnage fell from a high of 46,116 tons in 2003 to 25,482 tons in 2010, a 55% loss of air cargo tonnage in seven years. Two factors have contributed to this loss of air cargo. First the production of pineapples on Maui has been declining and secondly, there has been increased competition from interisland barge transportation.

Figure 28: Air Cargo Handled at Kahului

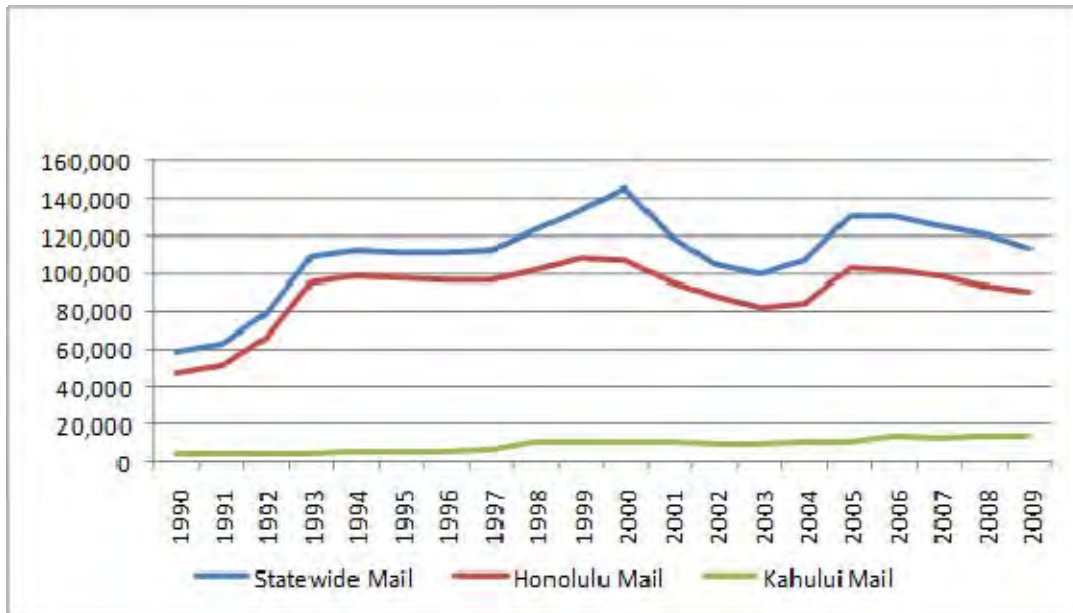


Source: Department of Transportation, Airports Division; State of Hawaii Airport Activity Statistics by Calendar Year, Hawaii Department of Transportation, Airports Division

Mail

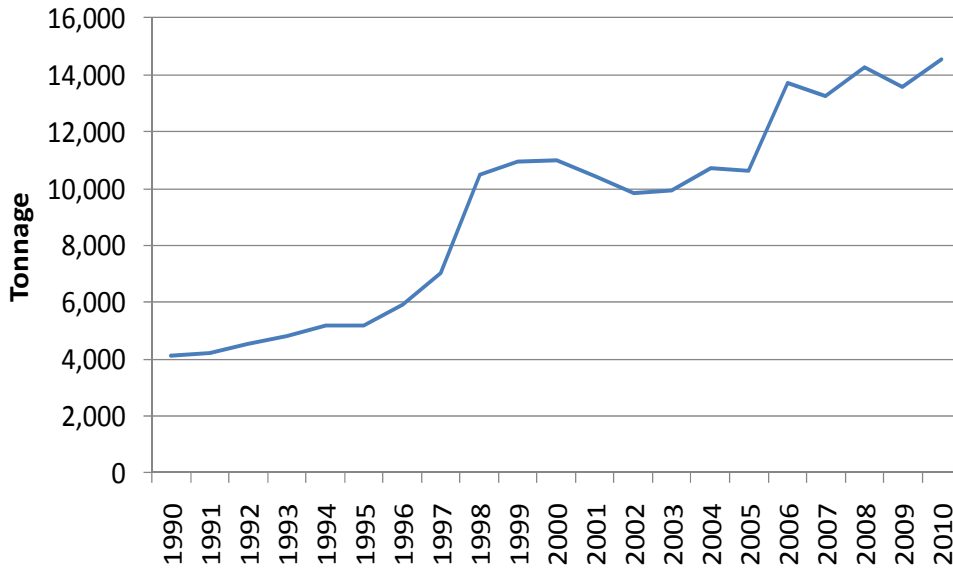
At the Statewide level, the volume of mail carried at the Statewide airports has remained relatively steady (Figure 29). Air mail loaded at Honolulu showed a significant increase between 1990 and 1992, and has remained nearly constant at about 100,000 tons annually. In contrast, mail handled at Kahului has grown at a CAGR of 2.8% since 2000, as shown in Figure 30. The mail handled at Kahului has continued to increase as a percentage of the total Statewide mail handled at all airports in Hawaii. This increase in air mail at Kahului reflects the growth in population in Maui compared to other counties/Islands.

Figure 29: Air Mail Handled Statewide, Honolulu International Airport and Kahului (Tons of Air Mail)



Source: Department of Transportation, Airports Division; State of Hawaii Airport Activity Statistics by Calendar Year, Hawaii Department of Transportation, Airports Division

Figure 30: Air Mail Handled at Kahului Airport



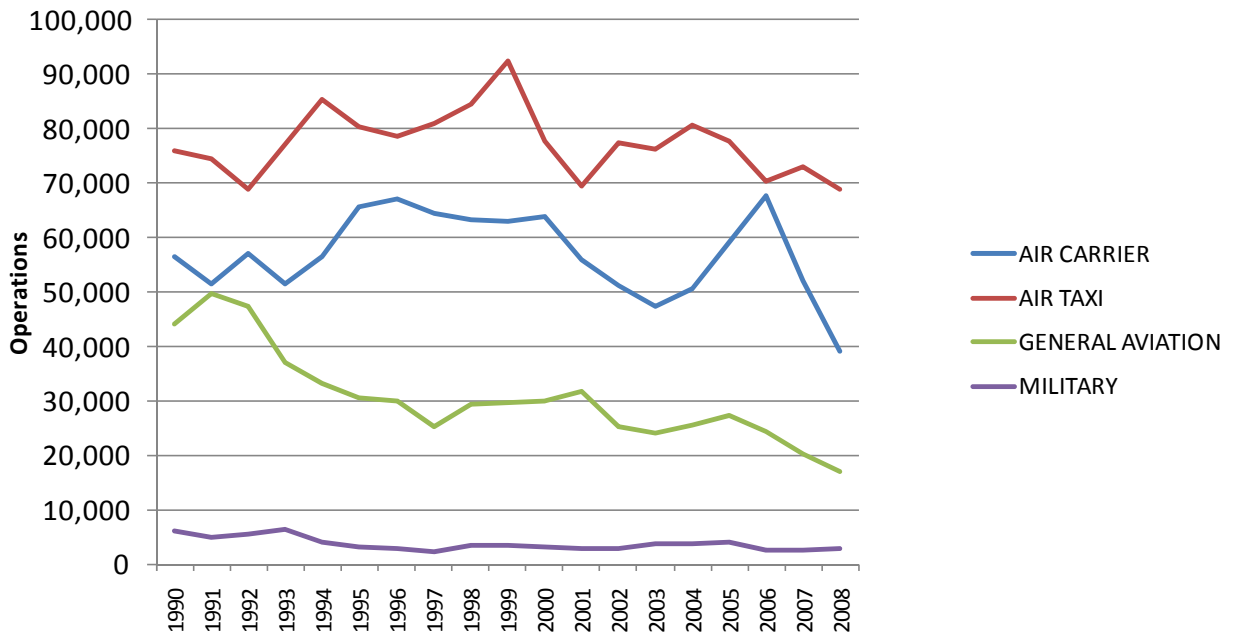
Source: Department of Transportation, Airports Division; State of Hawaii Airport Activity Statistics by Calendar Year, Hawaii Department of Transportation, Airports Division

Composition of Aircraft Operations

In addition to the analysis and projections of passenger, air cargo and air mail, it is further necessary to project the activity levels by type of aircraft, as the type of aircraft operation impacts gate requirements as well as noise emissions. In this section, the operations at Kahului by type of aircraft are described.

Aircraft operations at Kahului have shown an overall decline, falling from 155,452 operations in 1999 to 118,896 operations in 2010. Figure 31 shows that this downward trend is evident for air carriers, air taxi operations, general aviation activity and military operations. Air carrier operations actually increased from 2003 through 2007, but fell by nearly 50% between 2006 and 2010. The most significant decline is evident for general aviation activity (GA), as GA operations have been on a declining trend since 1991

Figure 31: Historical Operations at Kahului



Source: Department of Transportation, Airports Division; State of Hawaii Airport Activity Statistics by Calendar Year, Hawaii Department of Transportation, Airports Division. The activity in 2009 is an estimate, while 2010 is actual.

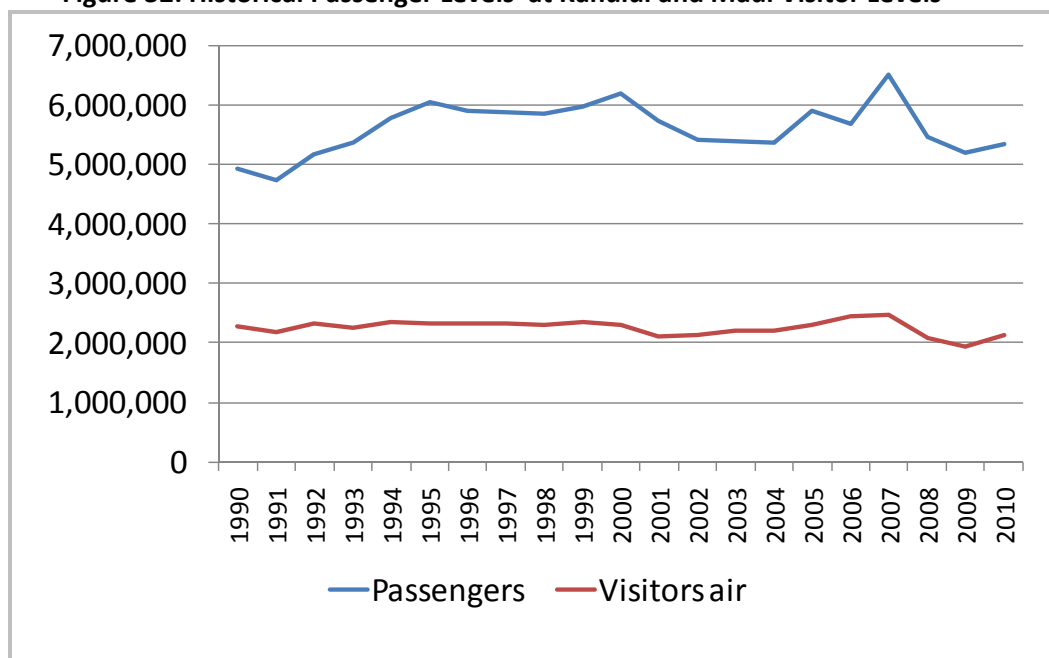
Kahului Passenger and Operations Projections

This section presents the methodology used to develop projections of passenger, operations by type of aircraft, and for air cargo and air mail activity levels at Kahului.

Passenger Activity Projections

The historical analysis of passenger activity and economic factors described in the previous sections suggests that passenger levels at Kahului will be driven by visitor levels, as well as population levels. Figure 32 shows the historical relationship between visitor levels to Maui and passenger levels at Kahului. It is to be emphasized that the passenger levels include enplanements and deplanements, essentially counting a passenger two times.

Figure 32: Historical Passenger Levels at Kahului and Maui Visitor Levels



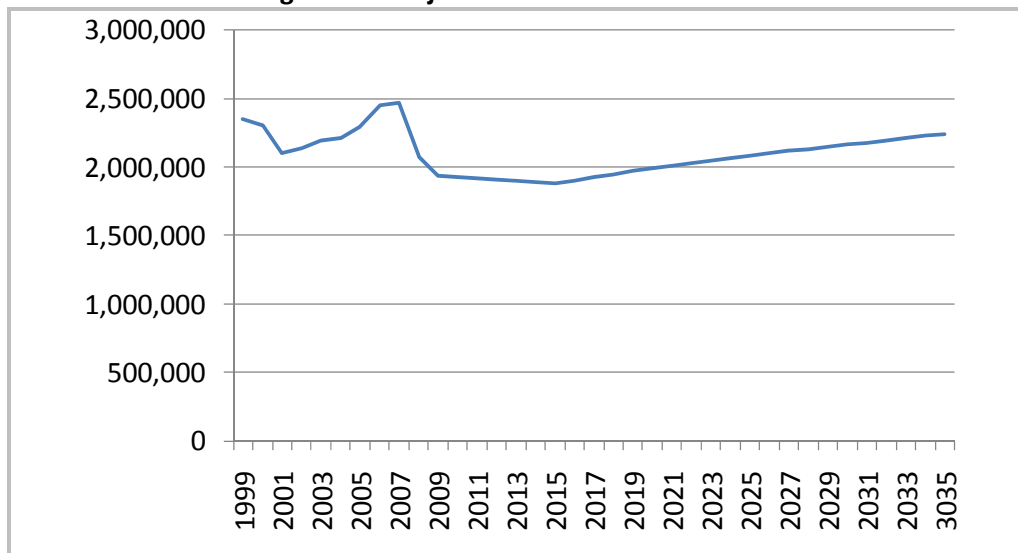
Source: Hawaii Department of Transportation, Airports Division. Hawaii Business, Economic Development and Tourism, Annual Reports 1990-2010.

Multiple regression analysis was used to develop a statistical relationship between passenger levels at Kahului Airport and visitor levels and population in Maui County. Population is included as an explanatory variable to reflect the impact of changes in population levels on resident air travel. As noted previously, resident air travel accounts for about 25% of the total passenger activity at Kahului. Multiple regression analysis was used to establish a relationship between total airline passengers at Kahului against visitors and population for Maui County. The analysis covered the 19 year period of data. The regression model produced an R^2 of 99.8, indicating that the resulting regression model explained more than 99% of the changes in passenger levels at Kahului. The regression model structure is significant at the 99% level of confidence, as indicated by an F-statistic of 3,519. The resulting regression relationship is: Total

passengers=1.69 X Maui Visitors+14.34 X Maui Population. The Hawaii Department of Business, Economic Development and Tourism (DBEDT) produced projections of visitor levels and population levels for Maui County. These projections were then substituted into the regression model to project passenger activity at Kahului.

Projections of visitors to Maui are presented in Figure 33, and projections of population are shown in Figure 34. Visitors are projected to grow at less than 1% annually over the forecast period, while population in Maui is projected to grow at an annual rate of 1.2%

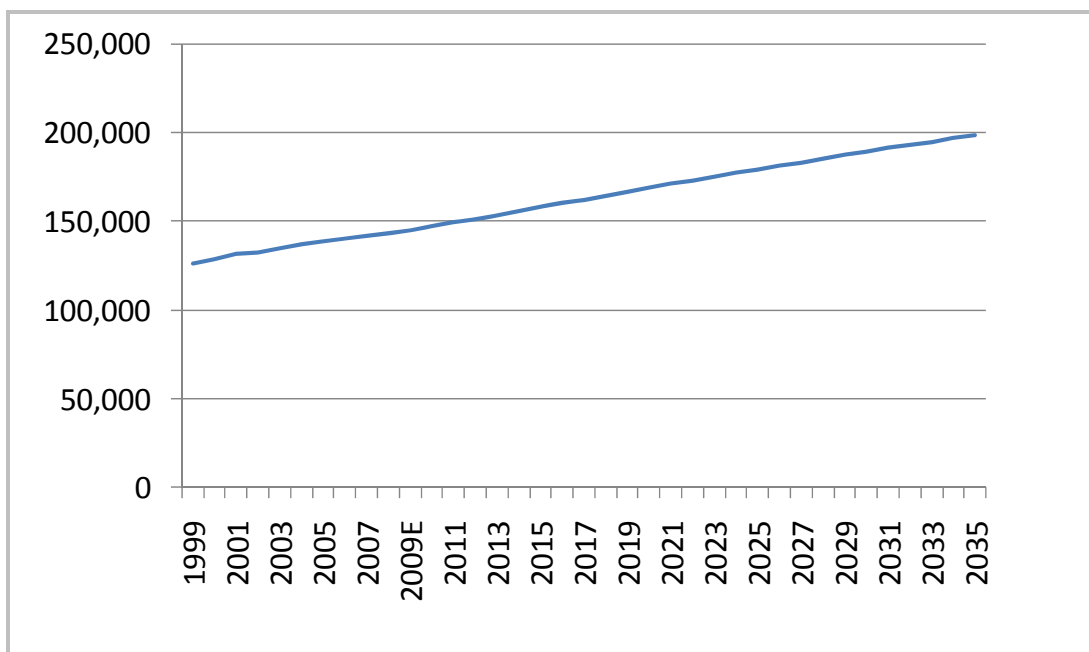
Figure 33: Projections of Maui Visitors



Source: Department of Business, Economic Development and Tourism, Population and Economic Projections for the State of Hawaii 2035- Revised, July 2009

The relatively low growth projected for the Maui visitor industry is based on the fact that future hotel units in Maui are projected to be limited by DBEDT, and the recently completed Maui County Master Plan focuses on limiting tourism growth on the Island. For example, the direct quotes from the master plan underscore the commitment of the County to limiting future tourism:

Figure 34: Maui Population Projections



Source: Source: Department of Business, Economic Development and Tourism, Population and Economic Projections for the State of Hawaii 2035- Revised, July 2009

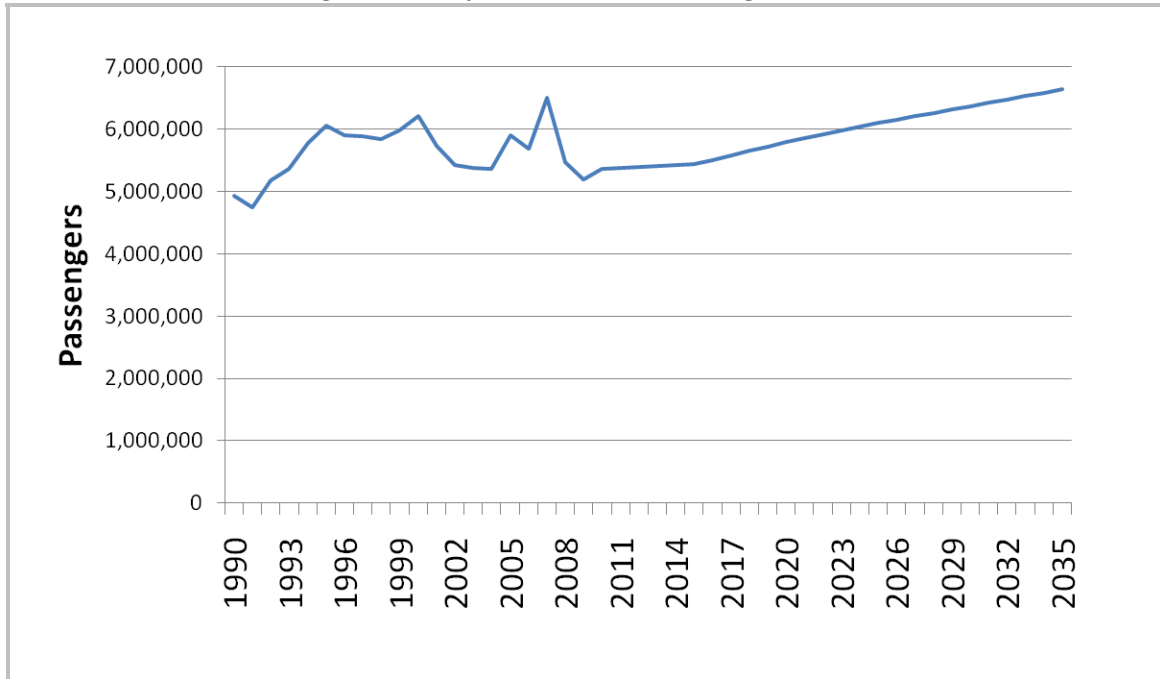
- “the important visitor industry will still grow, but at a comparatively smaller rate so that our economy will be more diversified”
- “The lack of appropriate available land for resort expansion will limit future employment opportunities in the visitor and development industries”

Overall, the Maui County Master Plan places focuses to limit visitor arrivals, but increase per day expenditures of visitors by targeting the “higher spending” tourist market.¹

Using the Maui County visitor and population projections, the passenger activity levels at Kahului are projected to show growth starting in 2011, and continuing this growth throughout the forecast period. However, the passenger level activity is not projected to return to pre-recession peak levels until 2030. This is the baseline projection from which aircraft operations projections are next developed. To this baseline passenger projection, scenarios will be developed regarding new overseas flights introduced on both US mainland and international routes.

¹Draft Maui Island Plan, Maui County Master Plan, County of Maui, December 2009.

Figure 35: Projected Baseline Passenger Levels at Kahului

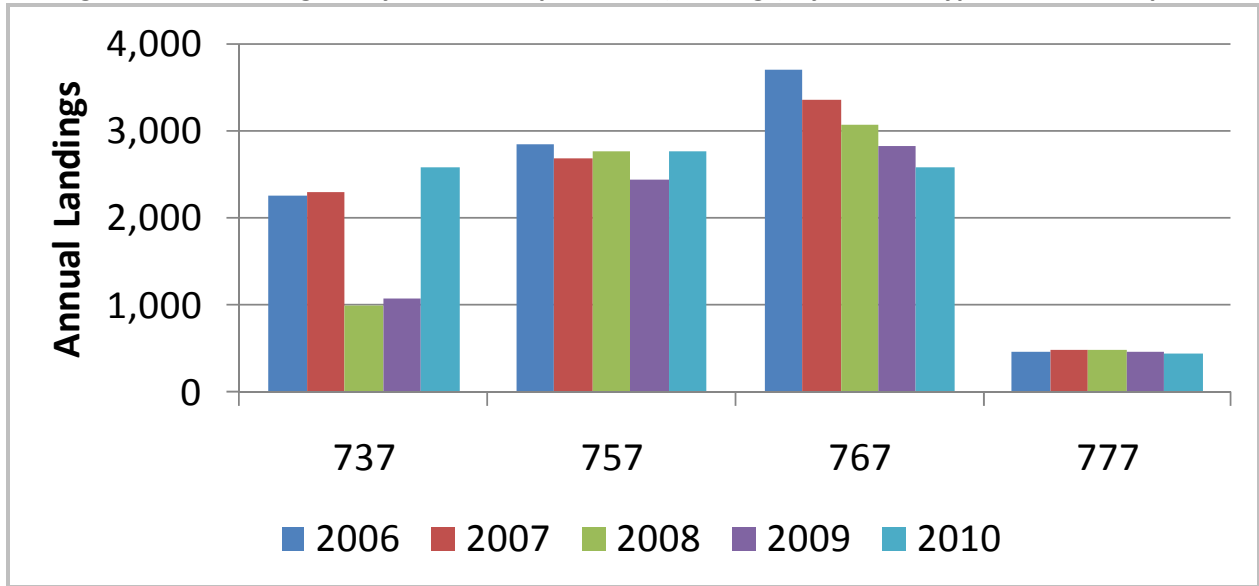


Source: Department of Business, Economic Development and Tourism, Population and Economic Projections for the State of Hawaii 2035- Revised, July 2009 used as inputs

Aircraft Operations Projections – Commercial Aircraft Type

The baseline passenger projections were next used to develop projections of aircraft operations, by type of aircraft. ***Actual 2010 passenger and operation data are used as the baseline in the operations and passenger projections.*** The first step in this process is to develop a profile of operations by aircraft type at Kahului. Using this composition of aircraft, as well as the share of interisland vs. overseas flights, the passenger forecasts are allocated to aircraft types. The ultimate projections of activity by aircraft type will then be used in other portions of the Kahului Master Plan for environmental /noise analysis as well as operational and facility planning. As noted previously, the share of Kahului passengers using interisland flights vs. overseas flights has become nearly equal. In 2010, 54.2% of the Kahului passengers traveled on overseas operations, while 45.2% of the passengers traveled on interisland flights. This share has been relatively stable over the past several years, and will be used in the development of the future projections of aircraft operations.

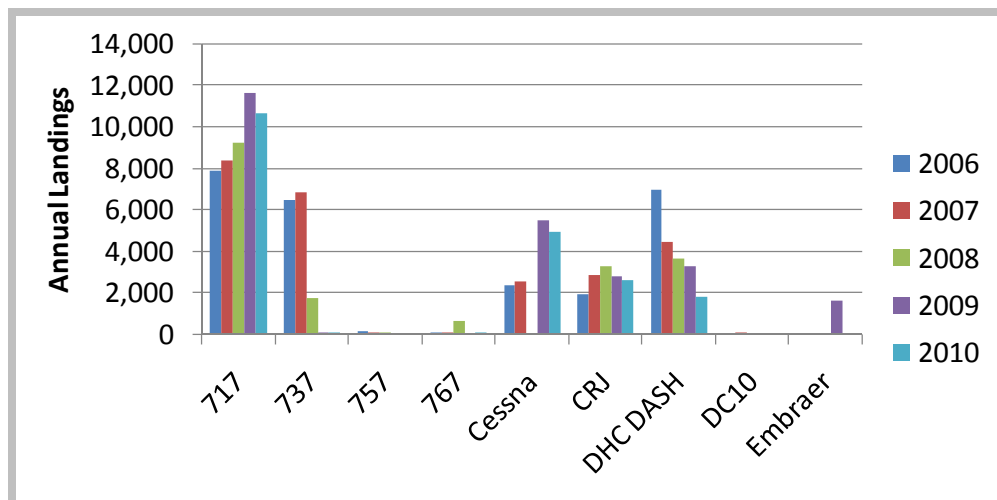
Figure 36: Annual Signatory Overseas Operations (Landings) by Aircraft Type – Kahului Airport



Source: Hawaii Department of Transportation, Airports Division

Figure 36 presents the overseas operations (landings) by the signatory carriers. Over the past four years, the composition of the aircraft type deployed on the Kahului routing has changed to some extent, with the greatest changes occurring in the deployment of 767 and 737 aircraft. The utilization of 767 aircrafts has been declining, but the deployment of 737 aircrafts has increased significantly in 2010 from the previous two years, as the deployment of the 737-800 series increased.

Figure 37: Annual Interisland Operations (Landings) by Aircraft Type – Kahului Airport



Source: Hawaii Department of Transportation, Airports Division

Figure 37 shows that the interisland market to Kahului has historically been served by Boeing 717 aircraft.

The 2010 composition of the overseas and interisland fleet by aircraft type was assumed to remain constant over the projection period. This assumption is based on interviews with the key signatory carriers serving Kahului.

The methodology to estimate the future level of operations by aircraft type for overseas and interisland flights consists of the following steps:

The baseline passenger forecasts for interisland and overseas operations assume the 2010 distribution of passengers by overseas vs. interisland:

- 54.2% overseas
- 45.8% interisland

An estimate of the number of seats by type of aircraft deployed in 2010 was developed from industry standard aircraft seating configurations. The projected passengers (overseas and interisland) were next allocated across seating capacity by aircraft type for overseas and interisland flights.

Three scenarios were then developed for the overseas flights.

The **Baseline Scenario** consists of the following assumptions

- Assume 2010 seating capacity allocation by aircraft type remains constant over projection period
- Assume 2010 seating capacity utilization of 79% remains constant over the period

Scenario 2 assumes seating capacity utilization increases. The key assumptions are:

- Assume 2010 seating allocation by aircraft type remains constant over projection period
- Assume seat capacity utilization increases to 85% by 2011

Scenario 3 assumes the addition of overseas flights based on target markets now under consideration by Hawaii Department of Transportation, Airports. The key assumptions underlying Scenario 3 are:

- In 2012 add one daily Pacific Northwest flight, utilizing a Boeing 737- 800 series aircraft to accommodate the growing Canadian market as well as provide another US mainland gateway.
- In 2012 add one daily Asian flight – Japanese/Korean market utilizing a 767-300 Series, which is consistent with marketing Maui to the high end Japanese/Korean visitor market.
- In 2014 add one additional daily Pacific Northwest flight and one additional Asian Flight
- Overseas passengers then grow to reflect the new flights with an 85% seating capacity utilization

Table 2 presents the projected landings by aircraft type for the baseline scenario for the overseas market. **The highlighted rows in the table are actual operations and passenger levels.**

Table2
 Projected Overseas Landings and Passengers by Aircraft Type – Scenario 1

Year	Total PAX	Overseas PAX	B737-700	B737-800	B757	B757-200	B757-300	B757ERL	B767	B767-209	B767-300	B767-300E	B767CL	B767ER	B777-200A	Total
2007	6,500,384	3,215,786	1,410	897	902	998	578	205	1,236	131	1,018	477	484	8	491	8,835
2008	5,463,787	2,709,061	249	742	1,068	1,069	423	210	982	152	1,320	0	615	8	486	7,324
2009	5,192,693	2,536,552	8	1,075	875	1,020	95	461	732	177	1,478	4	417	11	471	6,824
2010	5,346,694	2,898,090	188	2,397	1,020	1,168	0	581	936	230	972	6	431	18	440	8,387
2015	5,438,392	2,947,793	192	2,438	1,037	1,188	0	591	952	234	989	6	438	18	448	8,531
2020	5,791,283	3,139,072	204	2,596	1,105	1,265	0	629	1,014	249	1,053	6	467	19	477	9,084
2025	6,099,048	3,305,891	215	2,734	1,164	1,332	0	663	1,068	262	1,109	7	492	21	502	9,569
2030	6,367,786	3,451,556	224	2,855	1,215	1,391	0	692	1,115	274	1,158	7	513	21	524	9,989
2035	6,640,259	3,599,246	234	2,977	1,267	1,451	0	722	1,162	286	1,207	7	535	22	546	10,416

2010 is actual data and serves as the base year

The overseas projections under Scenario 3, increased seat utilization, are presented in Table 2.

Table 3

Year	Total PAX	Overseas PAX	B737-700	B737-800	B757	B757-200	B757-300	B757ERL	B767	B767-209	B767-300	B767-300E	B767CL	B767ER	B777-200A	Total
2007	6,500,384	3,215,786	1,410	897	902	998	578	205	1,236	131	1,018	477	484	8	491	8,835
2008	5,463,787	2,709,061	249	742	1,068	1,069	423	210	982	152	1,320	0	615	8	486	7,324
2009	5,192,693	2,536,552	8	1,075	875	1,020	95	461	732	177	1,478	4	417	11	471	6,824
2010	5,346,694	2,898,090	188	2,397	1,020	1,168	0	581	936	230	972	6	431	18	440	8,387
2015	5,438,392	2,947,793	178	2,266	964	1,104	0	549	885	217	919	6	407	17	416	7,928
2020	5,791,283	3,139,072	190	2,413	1,027	1,176	0	585	942	232	979	6	434	18	443	8,445
2025	6,099,048	3,305,891	200	2,541	1,081	1,238	0	616	992	244	1,031	6	457	19	466	8,891
2030	6,367,786	3,451,556	209	2,653	1,129	1,293	0	643	1,036	255	1,076	7	477	20	487	9,285
2035	6,640,259	3,599,246	218	2,767	1,177	1,348	0	671	1,080	265	1,122	7	497	21	508	9,681

Projected Overseas Landings and Passengers by Aircraft Type – Scenario 2

2010 is actual data and serves as the base year

The overseas projections by aircraft type under Scenario 3, the assumptions of additional overseas flights, are presented in Table 4. The orange shaded rows indicate when two daily Pacific Northwest flights are added and two daily Japanese/Korean flights are added.

Table 4
 Projected Overseas Landings and Passengers by Aircraft Type – Scenario 3

Year	Total PAX	Overseas PAX	B737-700	B737-800	B757	B757-200	B757-300	B757ERL	B767	B767-209	B767-300	B767-300E	B767CL	B767ER	B777-200A	Total
2007	6,500,384	3,215,786	1,410	897	902	998	578	205	1,236	131	1,018	477	484	8	491	8,835
2008	5,463,787	2,709,061	249	742	1,068	1,069	423	210	982	152	1,320	0	615	8	486	7,324
2009	5,192,693	2,536,552	8	1,075	875	1,020	95	461	732	177	1,478	4	417	11	471	6,824
2010	5,346,694	2,898,090	188	2,397	1,020	1,168	0	581	936	230	972	6	431	18	440	8,387
2015	5,438,392	2,947,793	178	2,996	964	1,104	0	549	885	217	1,649	6	407	17	416	9,388
2020	5,791,283	3,139,072	190	3,143	1,027	1,176	0	585	942	232	1,709	6	434	18	443	9,905
2025	6,099,048	3,305,891	200	3,271	1,081	1,238	0	616	992	244	1,761	6	457	19	466	10,351
2030	6,367,786	3,451,556	209	3,383	1,129	1,293	0	643	1,036	255	1,806	7	477	20	487	10,745
2035	6,640,259	3,599,246	218	3,497	1,177	1,348	0	671	1,080	265	1,852	7	497	21	508	11,141

2010 is actual data and serves as the base year

For the interisland operational projections, two scenarios were developed. The baseline Scenario 1 assumes that seating utilization remains at the current level, 77%, while under scenario 2, it is assumed that the seating utilization increases to 85% in 2011. Under both scenarios for the interisland projections, it is assumed that the current distribution of passengers between interisland flights and overseas flights remains constant over the projection period. It is to be emphasized that the interisland flights include commuters as well as non-signatory activity as well.

Table 5 presents the interisland projections under the 77% percent seat utilization, while Table 6 presents the interisland projections under the improved seat utilization of 85% by 2011. The shaded rows in each table indicate actual levels.

Table 5
Projected Interisland Landings and Passengers by Aircraft Type – 77% Seating Utilization

Year	Total PAX	Interisland PAX	Baseline Interisland Forecasts										TOTAL
			B717	B737	B757	B767	B767-300	CESSNA 208B	CRJ200	EMBRAER 170	C DASH 8-100		
2007	6,500,384	3,284,598	8,364	6,851	68	24	0	2,540	2,870	0	4,469	25,186	
2008	5,463,787	2,754,726	9,214	1,735	0	284	346	0	3,255	0	3,628	18,462	
2009	5,192,693	2,656,141	11,609	0	0	5	1	5,514	2,806	1,629	3,286	24,850	
2010	5,346,694	2,448,604	10,622	1	0	1	0	4,960	2,604	0	1,796	19,984	
2015	5,438,392	2,490,599	10,804	2	0	2	0	5,046	2,649	0	1,827	20,330	
2020	5,791,283	2,652,211	11,505	2	0	2	0	5,373	2,821	0	1,946	21,649	
2025	6,099,048	2,793,156	12,117	2	0	2	0	5,658	2,971	0	2,049	22,799	
2030	6,367,786	2,916,229	12,651	2	0	2	0	5,908	3,102	0	2,139	23,804	
2035	6,640,259	3,041,013	13,192	2	0	2	0	6,161	3,235	0	2,231	24,823	

2010 is actual data and serves as the base year

Table 6
Projected Interisland Landings and Passengers by Aircraft Type – 85% Seating Utilization

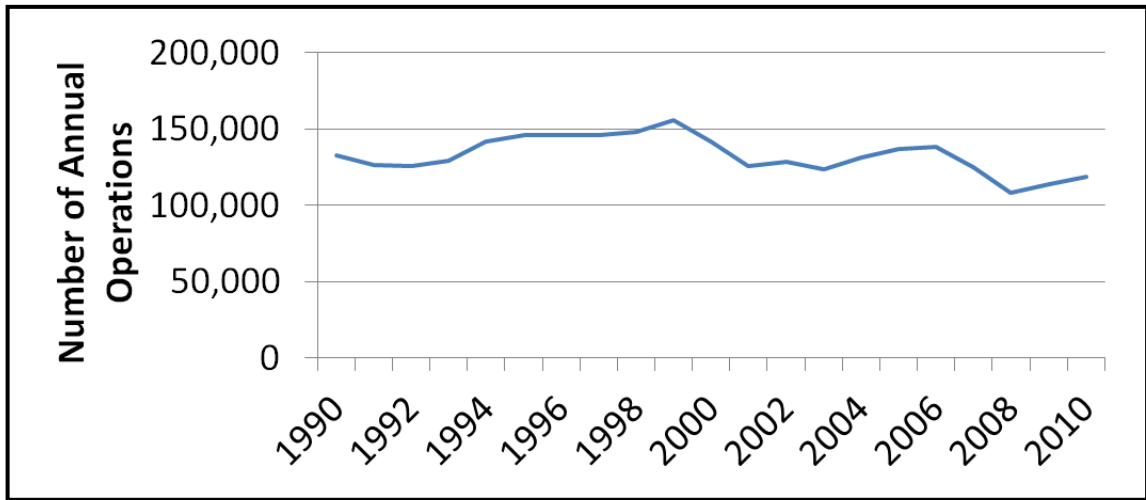
Year	Total PAX	Interisland PAX	Baseline Interisland Forecasts										TOTAL
			B717	B737	B757	B767	B767-300	CESSNA 208B	CRJ200	EMBRAER 170	C DASH 8-100		
2007	6,500,384	3,284,598	8,364	6,851	68	24	0	2,540	2,870	0	4,469	25,186	
2008	5,463,787	2,754,726	9,214	1,735	0	284	346	0	3,255	0	3,628	18,462	
2009	5,192,693	2,656,141	11,609	0	0	5	1	5,514	2,806	1,629	3,286	24,850	
2010	5,346,694	2,448,604	10,622	1	0	1	0	4,960	2,604	0	1,796	19,984	
2015	5,438,392	2,490,599	9,913	1	0	1	0	4,629	2,431	0	1,677	18,652	
2020	5,791,283	2,652,211	10,557	1	0	1	0	4,930	2,588	0	1,785	19,862	
2025	6,099,048	2,793,156	11,118	2	0	2	0	5,192	2,726	0	1,880	20,920	
2030	6,367,786	2,916,229	11,608	2	0	2	0	5,420	2,846	0	1,963	21,841	
2035	6,640,259	3,041,013	12,104	2	0	2	0	5,652	2,968	0	2,047	22,775	

2010 is actual data and serves as the base year

Operations Projections by Activity Category

In addition to the operation activity projected for commercial passenger activity, by type of aircraft, Martin Associates also developed operations projections by categories typically projected by the FAA in the Terminal Area Forecasts for specific Airports. These categories are air carrier, air taxi, general aviation and military operations. Figure 38 shows the total annual operations at Kahului for the period 1990-2010. Aircraft operations at Kahului have shown an overall decline, particularly since 1999, falling from 155,452 operations in 1999 to 118,896 operations in 2010.

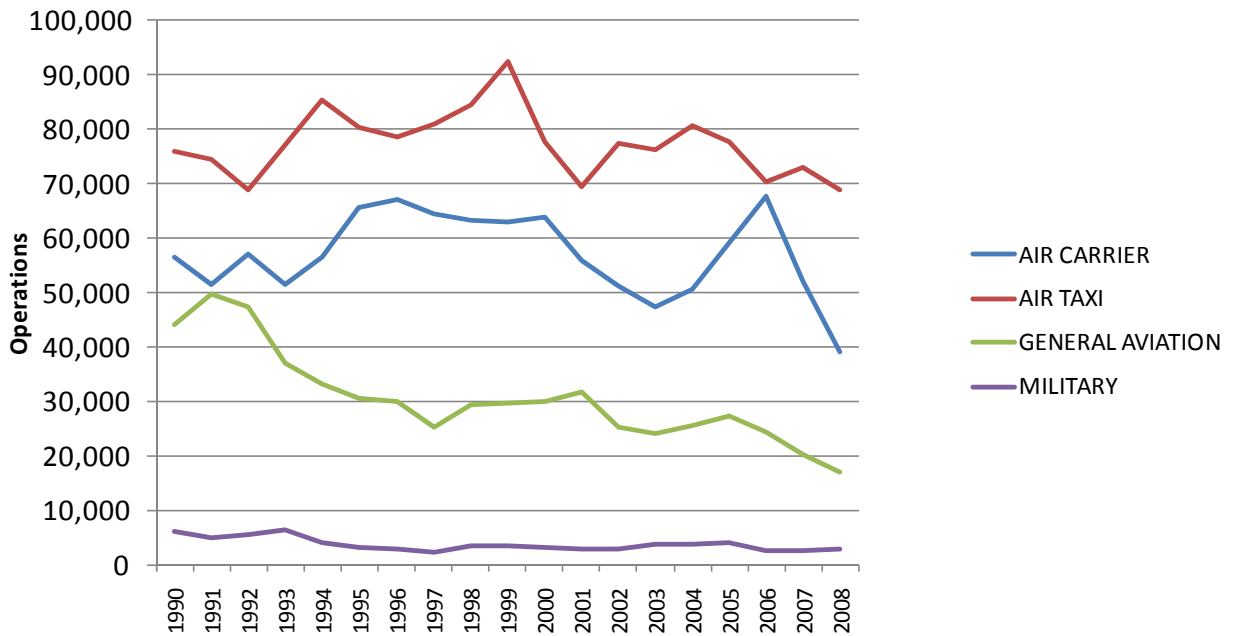
Figure 38: Total Annual Operations at Kahului



Source: Hawaii Department of Transportation, Airports Division

Figure 39 shows annual operations activity by activity category. While operations have been declining for activity types, air taxi and general aviation activity have shown the strongest declines in annual operations.

Figure 39: Historical Operations at Kahului



Source: Department of Transportation, Airports Division; State of Hawaii Airport Activity Statistics by Calendar Year, Hawaii Department of Transportation, Airports Division. The activity in 2009 is an estimate, while 2010 is actual.

To develop activity level operations projections, Martin Associates applied the growth in commercial overseas and interisland passenger traffic operations (described in the previous section in Tables 2 through 6) to the actual 2010 operational levels of air carrier and air taxi/commuter operations reported at Kahului, as supplied by Airports. The projected landings estimated under Scenario 3 for overseas operations and the interisland operations under an 85% capacity utilization (Table 6) were used in the commercial air carrier and air commuter/air taxi operations.

For general aviation activity operations projections, it is assumed that the decline in general aviation activity levels (both local and itinerant) has stabilized, and therefore the actual 2010 general aviation activity levels are assumed to remain at the 2010 levels throughout the period. Similarly, military operations (both local and itinerant operations) have shown no growth historically, and as a result, the 2010 activity levels of military operations are projected to remain constant over the forecast period.

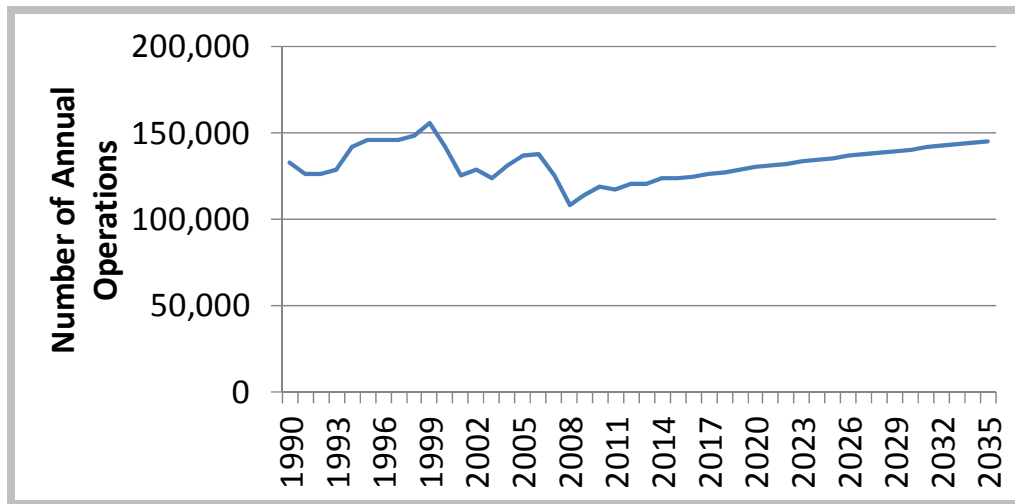
Table 7 shows the projected level of operations by type of activity. It is to be emphasized that 2010 operations by type of activity are actual operations. Overall, operations are projected to increase by 18% over the next twenty years, or about 1.008% annually over the next twenty years. This compares to a 10.2% decline over the 1990-2010 period (a 0.5% annual decline per year over the past twenty years).

Table 7: Projected Annual Operations by Type of Activity

	Itinerant Air Carrier	Itinerant Air Taxi	Itinerant General Aviation	Itinerant Military	Itinerant SubTotal	Local General Aviation	Local Military	Local SubTotal	Total Operations
2010	39,400	59,387	10,989	2,375	112,151	6,298	447	6,745	118,896
2011	38,793	58,472	10,989	2,375	110,629	6,298	447	6,745	117,374
2012	39,914	60,162	10,989	2,375	113,440	6,298	447	6,745	120,185
2013	40,026	60,331	10,989	2,375	113,721	6,298	447	6,745	120,466
2014	41,155	62,032	10,989	2,375	116,550	6,298	447	6,745	123,295
2015	41,271	62,207	10,989	2,375	116,842	6,298	447	6,745	123,587
2016	41,768	62,956	10,989	2,375	118,087	6,298	447	6,745	124,832
2017	42,272	63,716	10,989	2,375	119,353	6,298	447	6,745	126,098
2018	42,782	64,485	10,989	2,375	120,631	6,298	447	6,745	127,376
2019	43,296	65,259	10,989	2,375	121,920	6,298	447	6,745	128,665
2020	43,821	66,050	10,989	2,375	123,235	6,298	447	6,745	129,980
2021	44,254	66,703	10,989	2,375	124,320	6,298	447	6,745	131,065
2022	44,691	67,362	10,989	2,375	125,417	6,298	447	6,745	132,162
2023	45,136	68,033	10,989	2,375	126,532	6,298	447	6,745	133,277
2024	45,585	68,710	10,989	2,375	127,659	6,298	447	6,745	134,404
2025	46,036	69,390	10,989	2,375	128,790	6,298	447	6,745	135,535
2026	46,419	69,967	10,989	2,375	129,751	6,298	447	6,745	136,496
2027	46,804	70,547	10,989	2,375	130,715	6,298	447	6,745	137,460
2028	47,195	71,137	10,989	2,375	131,696	6,298	447	6,745	138,441
2029	47,584	71,722	10,989	2,375	132,670	6,298	447	6,745	139,415
2030	47,979	72,318	10,989	2,375	133,661	6,298	447	6,745	140,406

Figure 40 shows graphically the historical and projected level of total operations for Kahului through the year 2035

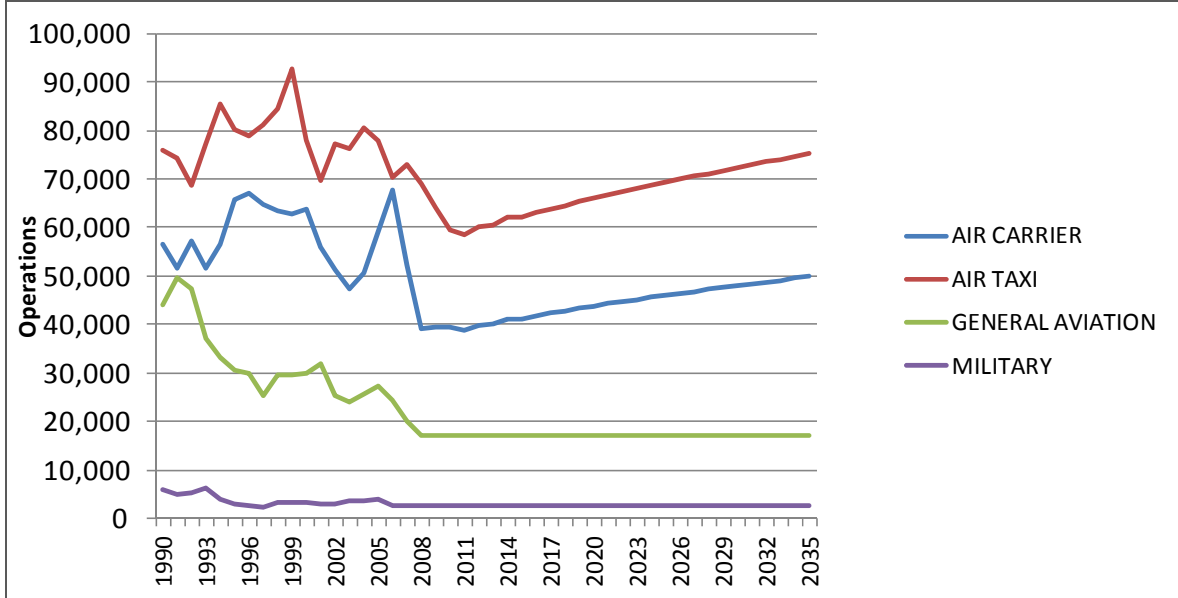
Figure 40: Historical and Projected Annual Operations



Total annual operations are projected to return to early 2000 years levels by 2015.

Figure 41 graphically shows the historical and projected annual operations by type of activity. As this figure shows, the historical decline in GA and military operations are projected to remain stable, while the declines in air carrier and air taxi operations are projected to reverse in 2012, and show an small annual growth.

Figure 41: Historical and Projected Operations by Type of Activity



Comparison of Passenger and Operations Forecasts with FAA and Official Statement

The projected level of passenger enplanement activity developed for Kahului were then compared to the projected levels of passenger enplanement levels developed for Kahului Airport in the Official Statement issued by the Department of Transportation, Airports. Table 8 shows that the enplanement projections developed as part of the Kahului Master Plan and those prepared as part of the Official Statement are on average within 3%. The current passenger projections are higher than those presented in the Official Statement in earlier years, but lower in the later years of the projection period. Under the more aggressive Scenario 3 for overseas flights, the current Master Plan projections are higher than the projections presented in the Official Statement in years after the actual levels shown for 2010. It is important to note that the Official Statement is based on FY 2009 and under states actual CY 2009 passenger activity at Kahului. The Official Statement degree of under-statement becomes more severe when compared to ***actual 2010 enplanements, which are included under the Martin Associates projections in Table 8.*** In 2010, actual passenger enplanements for overseas activity were nearly 12% higher than that projected in the Official Statement for 2010. In contrast, the Official Statement enplanement projections for interisland activity are actually nearly 4% greater than the actual interisland enplanements in 2010. In summary, the Master Plan passenger projections represent a CAGR of 0.84% under the Baseline Scenario, and a 2.19% CAGR under the overseas Scenario 3 with added overseas flights. These growth rates compare to the 1.26% CAGR presented in the Official Statement.

Table 8
Comparison of Master Plan Passenger Projections with Official Statement Projections

	Martin Overseas	Official Statement Overseas	% Difference	Martin Interisland	Official Statement Interisland	% Difference	Martin Total	Official Statement Total	% Difference
2009	1,268,276	1,254,604	1.09%	1,328,071	1,287,718	3.13%	2,596,347	2,542,322	2.13%
2010	1,449,045	1,302,000	11.29%	1,224,302	1,274,000	-3.90%	2,673,347	2,576,000	3.78%
2011	1,456,891	1,341,000	8.64%	1,230,931	1,286,000	-4.28%	2,687,823	2,627,000	2.32%
2012	1,460,933	1,341,000	8.94%	1,234,346	1,299,000	-4.98%	2,695,279	2,640,000	2.09%
2013	1,465,113	1,361,000	7.65%	1,237,878	1,312,000	-5.65%	2,702,991	2,673,000	1.12%
2014	1,469,434	1,382,000	6.33%	1,241,529	1,325,000	-6.30%	2,710,963	2,707,000	0.15%
2015	1,473,897	1,402,000	5.13%	1,245,299	1,339,000	-7.00%	2,719,196	2,741,000	-0.80%
2016	1,492,545	1,423,000	4.89%	1,261,055	1,352,000	-6.73%	2,753,600	2,775,000	-0.77%
CAGR	2.35%	1.82%		-0.74%	0.70%		0.84%	1.26%	
Martin With New PNW and Asian Service									
	Martin Overseas	Official Statement Overseas	% Difference	Martin Interisland	Official Statement Interisland	% Difference	Martin Total	Official Statement Total	% Difference
2009	1,268,276	1,254,604	1.09%	1,328,071	1,287,718	3.13%	2,596,347	2,542,322	2.13%
2010	1,449,045	1,302,000	11.29%	1,224,302	1,274,000	-3.90%	2,673,347	2,576,000	3.78%
2011	1,456,891	1,341,000	8.64%	1,230,931	1,286,000	-4.28%	2,687,823	2,627,000	2.32%
2012	1,594,651	1,341,000	18.92%	1,234,346	1,299,000	-4.98%	2,828,997	2,640,000	7.16%
2013	1,598,831	1,361,000	17.47%	1,237,878	1,312,000	-5.65%	2,836,709	2,673,000	6.12%
2014	1,736,869	1,382,000	25.68%	1,241,529	1,325,000	-6.30%	2,978,398	2,707,000	10.03%
2015	1,741,332	1,402,000	24.20%	1,245,299	1,339,000	-7.00%	2,986,632	2,741,000	8.96%
2016	1,759,980	1,423,000	23.68%	1,261,055	1,352,000	-6.73%	3,021,036	2,775,000	8.87%
CAGR	4.79%	1.82%		-0.74%	0.70%		2.19%	1.26%	

Source: Official Statement, March 24, 2010, State of Hawaii, Airports System Revenue Bonds. 2010 enplanements are actual enplanements in Martin Projections

Table 9 presents a comparison of the current Master Plan (Martin Enplanements) passenger projections for Kahului Airport with those developed by the Federal Aviation Administration (FAA), Terminal Area Forecasts (TAF). As this table indicates, the passenger projections are typically within 5% through the year 2020, under both the baseline and high (scenario 3 increased PNW and Asian flights) passenger projection scenarios developed under the current Master Plan. In later years of the projection period, the Master Plan projections are within 10% of the TAF projections through 2025 under the baseline and high projections (scenario 3), with the Master Plan projections being lower in the later years of the projection period. Under the increased overseas flight scenario (Scenario 3) developed in the Master Plan, the projections are within 8% of the TAF projections, and in fact, nearly identical to the TAF projections in the years 2021 through 2025.

Table 9
Comparison of Master Plan Passenger Projections with the FAA Terminal Area Forecasts for Kahului

Date	TAF Enplanements	Martin Base Enplanements	Martin Increased PNW and Asian Flights Enplanements	Martin Base/TAF % Difference	Martin Increased PNW and Asian Flights/TAF - % Difference
2009	2,480,121	2,596,347	2,596,347	4.69%	4.69%
2010	2,474,597	2,673,347	2,673,347	8.03%	8.03%
2011	2,604,398	2,687,823	2,687,823	3.20%	3.20%
2015	2,803,852	2,719,196	2,986,632	-3.02%	6.52%
2020	3,077,040	2,895,642	3,163,077	-5.90%	2.80%
2025	3,379,703	3,049,524	3,316,959	-9.77%	-1.86%
2030	3,715,433	3,183,893	3,451,328	-14.31%	-7.11%

2010 enplanements are actual enplanements in Martin Projections. Source for FAA projections is the- FAA Terminal Area Forecasts.

Table 10 compares the operational projections developed as part of the Master Plan with those prepared in the Revised FAA TAF report. The FAA TAF report for Kahului was published in 2009 (and the enplanements presented in this 2009 report are presented in Table 9). The report was revised in 2011. The FAA also has also prepared a draft revised TAF forecast for Kahului. As this table shows, the published revised TAF forecasted enplanements for 2010 are 8% below the actual enplanement levels reported at Kahului in 2010. The enplanements projected under the 2011 Revised draft TAF projections are 6.5% below the actual 2010 level of enplanements. The master plan forecasted enplanements are those estimated under Scenario 3, which includes the addition of two PNW and Asian flights, and further assumes that the interisland and overseas flights will operate at an 85% capacity level. Under these assumptions, the revised draft TAF and Master Plan enplanement forecasts for 2015 and 2020 are nearly identical.

However, the Master Plan Operational Forecasts are less than the annual operations projected under both the published revised TAF and the Draft Revised TAF. Under both the revised published TAF and the Draft TAF, the operations are projected to grow at a much greater rate than are enplanements, which is inconsistent with the historical performance of passenger activity and operational levels at Kahului.

Table 10: Comparison of Master Plan Projection Summaries with Revised TAF

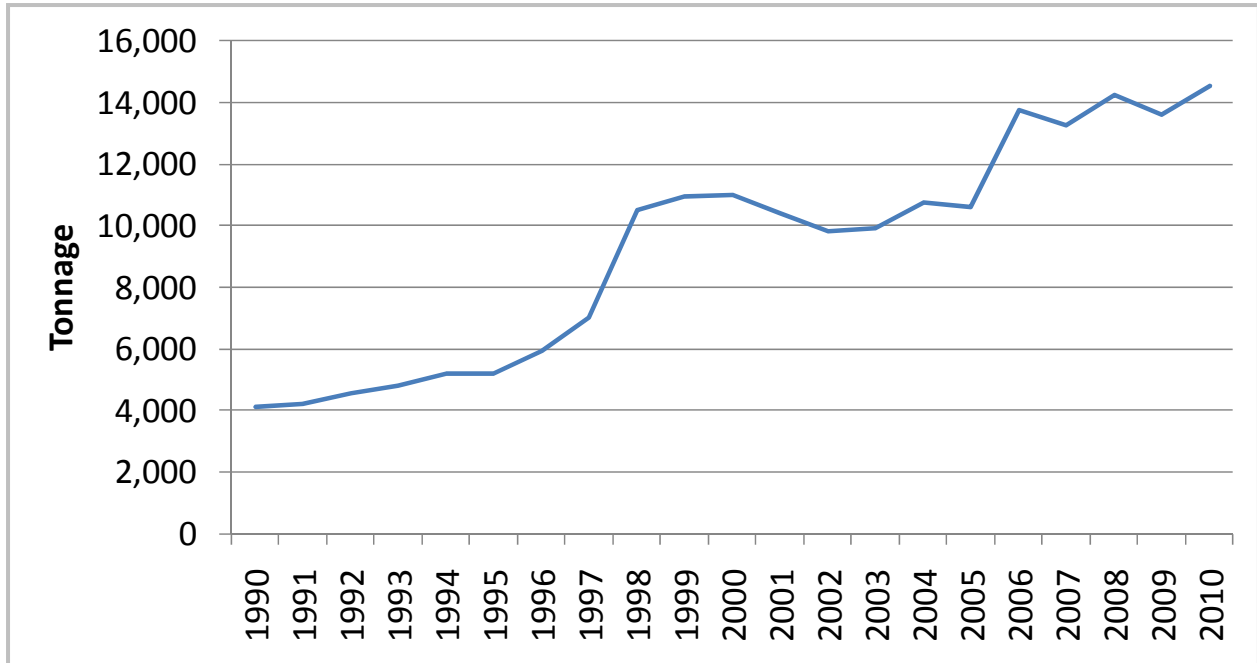
	<u>Year</u>	<u>Master Plan Forecast</u>	<u>Published TAF</u>	<u>MP/TAF (% Difference)</u>
Enplanements				
Base yr. 2010 (actual)	2010	2,673,347	2,474,597	8.0%
Base yr. + 5yrs.	2015	2,719,196	2,803,852	-3.0%
Base yr. + 10yrs.	2020	2,895,642	3,077,040	-5.9%
Commercial Operations				
Base yr. 2010 (actual)	2010	98,787	96,655	2.2%
Base yr. + 5yrs.	2015	103,478	118,351	-12.6%
Base yr. + 10yrs.	2020	109,871	129,300	-15.0%
Total Operations				
Base yr. 2010 (actual)	2010	118,896	116,338	2.2%
Base yr. + 5yrs.	2015	123,587	138,820	-11.0%
Base yr. + 10yrs.	2020	129,980	151,453	-14.2%

	<u>Year</u>	<u>Master Plan Forecast</u>	<u>DRAFT TAF</u>	<u>MP/TAF (% Difference)</u>
Enplanements				
Base yr. 2010 (actual)	2010	2,673,347	2,509,281	6.5%
Base yr. + 5yrs.	2015	2,719,196	2,716,154	0.1%
Base yr. + 10yrs.	2020	2,895,642	2,965,932	-2.4%
Commercial Operations				
Base yr. 2010 (actual)	2010	98,787	96,655	2.2%
Base yr. + 5yrs.	2015	103,478	114,588	-9.7%
Base yr. + 10yrs.	2020	109,871	125,622	-12.5%
Total Operations				
Base yr. 2010 (actual)	2010	118,896	116,338	2.2%
Base yr. + 5yrs.	2015	123,587	135,955	-9.1%
Base yr. + 10yrs.	2020	129,980	147,487	-11.9%

Air Mail Projections

As noted previously, air mail at Kahului has been increasing over time, and appears to be related to the growth in resident population in Maui County. Figure 42 shows that mail handled at Kahului increased by 2.8% CAGR since 2000. Figure 43 shows the historical relationship between air mail at Kahului and Maui County population.

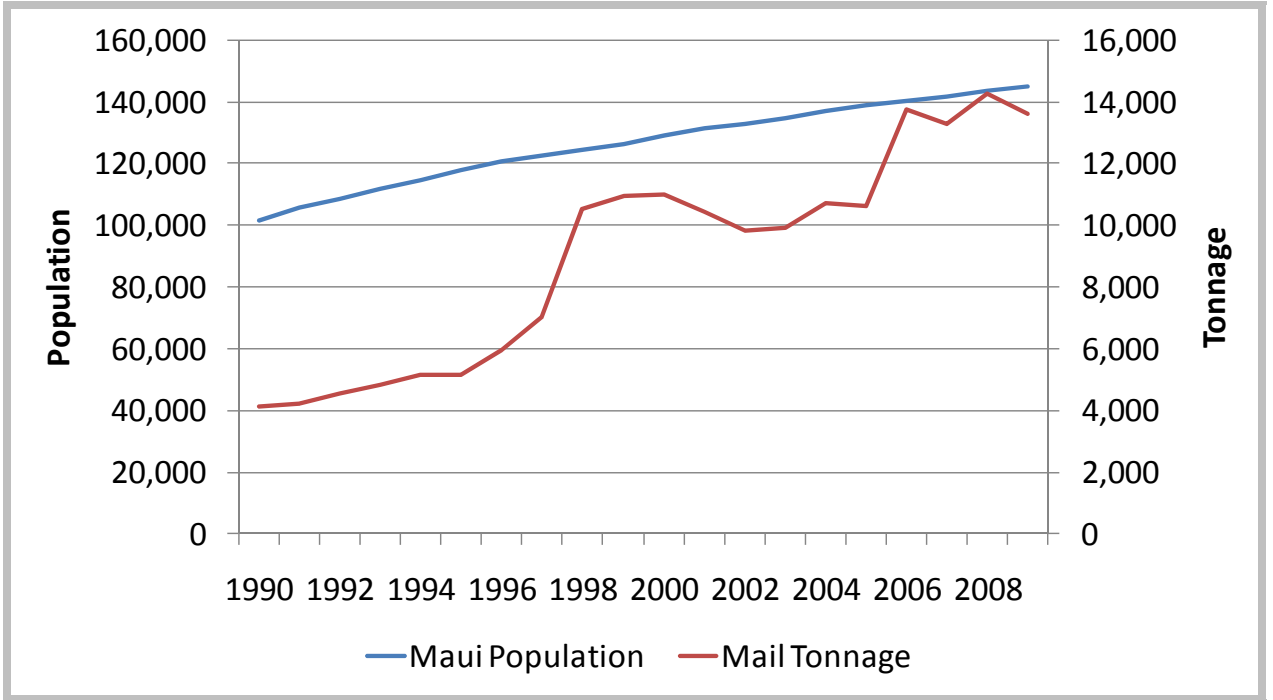
Figure 42: Air Mail Handled at Kahului



Source: Department of Transportation. Airports Division; State of Hawaii Airport Activity Statistics by Calendar Year, Hawaii Department of Transportation, Airports Division

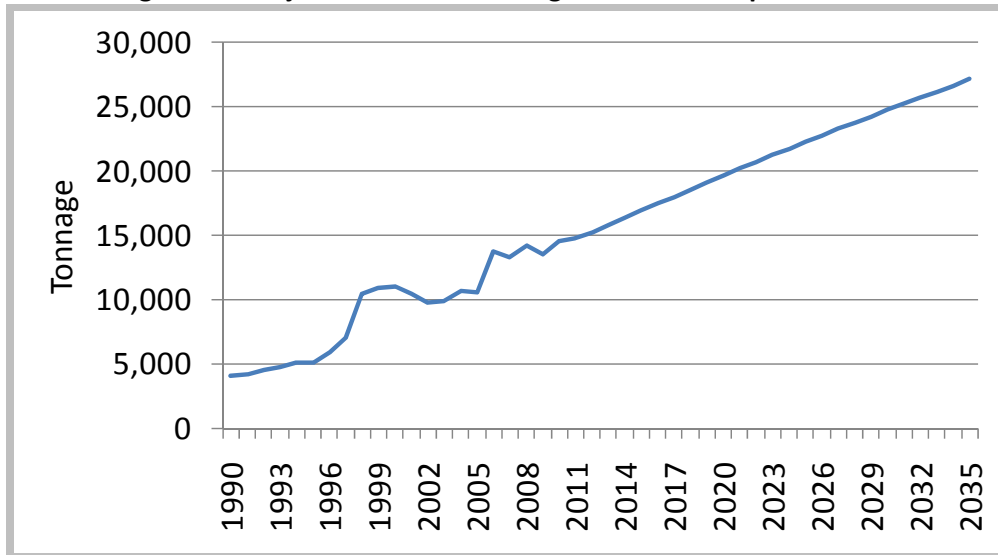
A regression was developed to formulate a statistical relationship between air mail tonnage at Kahului and Maui County population. The regression resulted in an R^2 of .89 and the model is significant at the 99% level of confidence. Projected population for Maui County developed by the Hawaii Department of Business, Economic Development and Tourism was used in the regression model to project annual air mail tonnage levels at Kahului. The projected level of air mail at Kahului is presented in Figure 44. Over the 25 year projection horizon, the air mail is projected to grow at an annual rate of 2.5%. Air mail is carried on commercial and air taxi operations and hence separate air mail operations are not developed as part of this report.

Figure 43: Historical Trends in Air Mail at Kahului and Maui County Population



Source: Department of Transportation. Airports Division; Hawaii Department of Business, Economic Development and Tourism. State of Hawaii Airport Activity Statistics by Calendar Year, Hawaii Department of Transportation, Airports Division

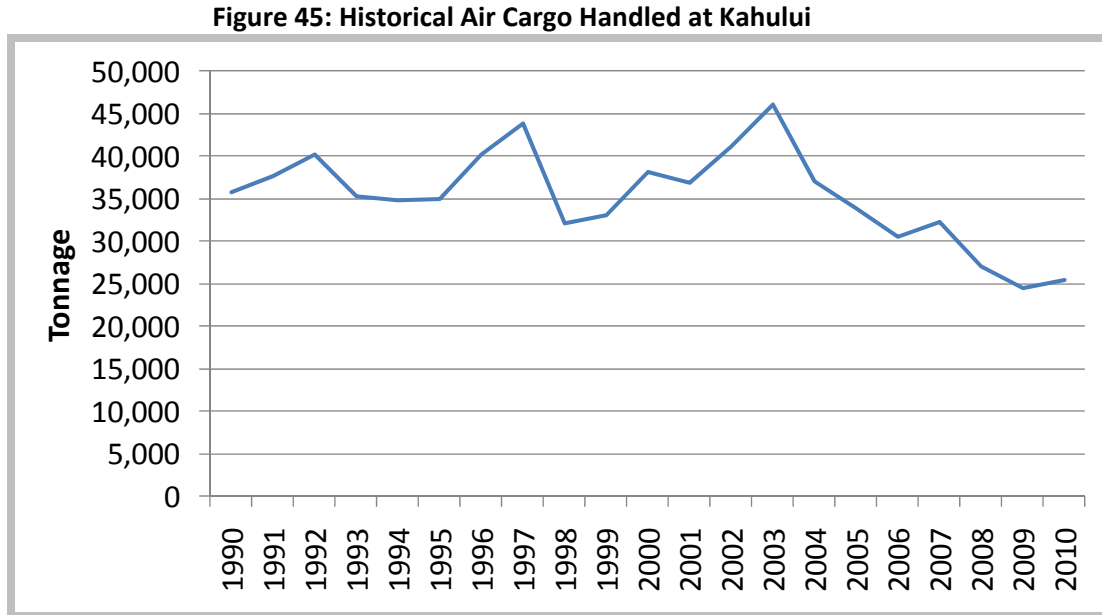
Figure 44: Projected Air Mail Tonnage at Kahului Airport



Source: Hawaii Department of Transportation, Airports. State of Hawaii Airport Activity Statistics by Calendar Year, Hawaii Department of Transportation, Airports Division

Air Cargo Projections

Historically, air cargo at Maui has been declining, as shown in Figure 45.



Source: Hawaii Department of Transportation, Airports. State of Hawaii Airport Activity Statistics by Calendar Year, Hawaii Department of Transportation, Airports Division

The decline in air cargo handled at Kahului is driven by the reduction in pineapple production and acreage in Maui County, as well as rate and capacity competition from interisland barge operations. Because of the overall downward trend in air cargo activity at Kahului, for planning purposes in the Master Plan, current air cargo tonnage at Kahului is held constant throughout the projection period. This represents 5,194 annual operations of dedicated air cargo operations.

GA and Military Operations Projections

Finally, it is assumed that FBO and Tour Operations at Kahului remain constant over the forecast period, and other non-revenue operations including military and general aviation activity are also assumed to remain constant over the forecast period. General aviation activity is projected to remain at 17,287 operations annually and military operations are assumed to remain at 2,822 operations annually.

References

Annual Visitor Research Reports 1999-2010. Department of Business, Economic Development & Tourism, Hawaii Tourism Authority. Tables 22, 23, 29, 32, 39-42. <http://hawaii.gov/dbedt/info/visitor-stats/visitor-research/>

Draft Maui Island Plan. Maui County Master Plan, County of Maui, December 2009. <http://www.co.maui.hi.us/index.aspx?NID=1503>

Local Employment Dynamics. Department of Business, Economic Development and Tourism; Hawaii Tourism Association, November, 2010. <http://hawaii.gov/dbedt/info/census/LED>

“Official Statement. March 24, 2010.” State of Hawaii, Airports System Revenue Bonds.

Population and Economic Projections for the State of Hawaii 2035. Department of Business, Economic Development and Tourism, Population and Economic Projections for the State of Hawaii 2035- Revised, July 2009. <http://hawaii.gov/dbedt/info/>

State of Hawaii Airport Activity Statistics by Calendar Year. Hawaii Department of Transportation, Airports Division.

State of Hawaii Data Book Time Series. Department of Business, Economic Development and Tourism(DBEDT), 2010. http://hawaii.gov/dbedt/info/economic/databook/Data_Book_time_series

Data bases on flight operations, passengers, air cargo and air mail for interisland, overseas, aircraft type, etc. provided by Hawaii Department of Transportation, Airports Division, 2002-2010

Federal Aviation Administration, TAF Forecasts, 2009