A STUDY OF AIR SERVICE BETWEEN HAWAI'I AND EAST ASIA

PHASE ONE: EAST ASIA - HAWAI'I NON-STOP AND PHASE TWO: EAST ASIA - HAWAI'I NON-STOP WITH A CONTINUATION TO THE US WEST COAST

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EXECUTIVE SUMMARY

Introduction

The main purposes of this study are to better understand what factors may be important to airlines successfully operating scheduled service between Hawai'i and East Asia and what actions might be useful in increasing that level of service. The impact of extending these services to the US mainland will be examined as a possible alternative to turnaround service. Hawai'i has lost scheduled service (especially non-stop) to East Asian points such as Singapore and Hong Kong. As economies in East Asia increase in prosperity, the lack of Hawai'i non-stop scheduled service will make substantial growth in inbound travel from many East Asian markets difficult to achieve.

This study focuses on the non-stop scheduled services of Garuda Indonesia, Korean Airlines, Philippine Airlines, and China Airlines between Hawai'i and the home nation of each carrier (Indonesia, Republic of Korea, the Philippines, and Taiwan, respectively) and with a continuation of service to the US west coast. A number of data sources are used in the analysis, including those compiled by the Hawai'i Visitors and Convention Bureau, Pacific Asia Travel Association, Official Airline Guides, US Department of Transportation, and the International Civil Aviation Organization, and interviews with airline management.

Visitor arrival and air passenger statistics are used to estimate 1995 visitors between the four East Asian nations and Hawai'i (and the US mainland via Hawai'i), including residents of other Asian nations traveling via the four East Asian nations and Hawai'i. Data on the supply of scheduled airline service is used to estimate the volume and frequency of such supply and the expenses of these services. Revenue estimates are also developed, leading to estimates of R/T flight and annual profitability of each airline. Sensitivity analysis is used to evaluate alternative profitability scenarios.

Key factors in the successful provision of scheduled airline service between East Asia and Hawai'i and onward to/from the US mainland are identified. Certain limitations, however, mean that the results reported must be treated cautiously, since some of the data is not drawn from actual current airline operations. Principal limitations include the use of a number of different data bases, gaps and fluctuations in the data that were available, and lack of specific, detailed information on airline strategies.

PHASE I: EAST ASIA - HAWAI'I NON-STOP

Market Analysis: East Asia - Hawai'i

Annual arrivals from Asia dominated the foreign visitor market to Hawai'i, with Japan accounting for a large share of this market. Of the four nations under study, Korea had the largest number of annual arrivals in 1995 (104,550), followed by Taiwan, the Philippines, and Indonesia (19,220). Only Indonesia exhibited increases in market share of international arrivals to Hawai'i between 1993 and 1995. Total eastbound returning Hawai'i residents totaled between 54,000 and 64,000 for recent years. Non-stop US resident travel from Hawai'i was the largest for the Philippines (100,000 to 140,000), followed by Korea, Taiwan, and Indonesia (16,000-18,000). It was estimated that 11,000-17,000 Hawai'i residents traveled to the Philippines annually through 1994, with much smaller numbers (5,000 or less) for the other three nations.

Arrivals from Indonesia to Hawai'i were over 19,000 in 1995, with annual growth rates of over 18 percent for recent years. Overall market growth was nearly 320 percent between 1985 and 1995. Arrivals to Hawai'i from Korea were over 116,000 in 1995, a 21 percent increase from the previous year, with a total growth between 1985 and 1995 of 480 percent, the largest among the four nations. Arrivals from the Philippines to Hawai'i were 20,684 in 1995, seven percent below 1994. Total visitor growth from the Philippines was nearly 100 percent between 1985 and 1995, the smallest of the four nations. Visitors arrivals from Taiwan in 1995 were 62,760,a decline of 15 percent from 1994, and an overall growth in the Taiwan market of nearly 250 percent for the 1985 to 1995 period, third highest of the four nations.

Demand for non-stop air cargo service in both directions was available for some recent years (1989-1993), but was generally incomplete and/or non-continuous. No air cargo was reported in the Indonesia - Hawai'i market, while for the Korea market eastbound tonnage was about 5,700 tonnes and westbound was about 3,200 tonnes (1992). The Philippine - Hawai'i market yielded 6,800 tonnes of cargo eastbound and 3,000 tonnes westbound for 1991 (latest year with complete data). Air cargo between Taiwan and Hawai'i was between 2,000 and 3,600 tonnes eastbound and about 1,600 tonnes westbound for the years 1989 to 1991, but was incomplete for other years (air cargo carried by China Air was not reported).

Airline Service

Garuda Indonesia is government owned and has been the only international flag carrier of Indonesia providing scheduled service, although liberalization was recently implemented in the domestic and international sectors of its airline industry. In 1994, Garuda provided an international passenger capacity of 24.2 billion ASK, realized 14.2 billion RPK of passenger demand, lowering Garuda's international passengar load factor from previous years. Garuda's operating revenue was US$ 1.75 billion in 1994 (12 percent above 1993) and operating profit declined from US$ 100 million in 1991 to US$ 28 million in 1994, with an operating loss in 1993. Bali and Jakarta are the main points of trans-Pacific service for Garuda, which serves Honolulu and Los Angeles in the US (and the Americas), but has extensive route networks elsewhere. Scheduled westbound direct service from Honolulu was provided in recent years to Denpasar (Bali) and Jakarta, with five weekly flights to the latter two in April of 1995. For non-stop service in April of 1995, Garuda provided five scheduled weekly westbound flights to Bali (initiated in 1994). In 1995, non-stop monthly seat capacity to Bali was 5,400 and all of the Bali flights continued on to Jakarta.

Korean Airlines was for many years the only international scheduled airline of Korea, but Asiana now competes on a limited number of trans-Pacific routes, including Honolulu. Asiana and Korean have grown recently due to loosening of overseas travel restrictions on citizens of Korea. Both airlines have private sector ownership, with the government generally negotiating liberal bilaterals, including the one with the US. In 1994, Korean provided an international passenger capacity of 38.3 billion ASK (72 percent above 1990), serviced a demand of 25.2 billion RPK (56 percent growth), leading to a decline in passenger load factor fell from 73 percent to 66 percent. Korean's operating revenue was US$ 3.9 billion in 1994 and operating profit grew from US$ 145 million in 1990 to US$ 346 million in 1994, slightly below 1993. Korean had 67 weekly flights to the US in 1994 to points such as New York, Chicago, and Honolulu. Korean codeshares with Delta in a number of markets, including between Honolulu and the US mainland. Korean relies on air cargo for about a third of its revenue, unlike the other airlines under study. New services include Pusan to Los Angeles and Atlanta and expanded service to Latin America and Europe. Korean had ten weekly direct flights and an estimated 16,800 monthly available seats to Honolulu for 1992-1995 (April), all of which were non-stop.

Philippine Airlines was privatized in 1992, although the government is still the largest single shareholder. As a result of reduced economic regulation, Philippine is now facing domestic competition. The international passenger seat capacity for Philippine in 1994 was 20.4 billion ASK's (80 percent above 1990), while demand grew to 14.0 billion RPK's in 1994, (64 percent above 1990); the passenger load factor declined from 75 percent to 69 percent. Financial results (international plus domestic) included an operating revenue of US$ 1.00 billion, 11 percent above 1990, with a decline in operating profit from US$ 74 million to an operating loss of US$ 59 million. Operating losses in its domestic sector put pressure on Philippine's international sector to be profitable. Philippine serves US points of Honolulu, Los Angeles, and San Francisco, and Philippine actively markets its Hawai'i service to citizens of other Asian nations. The Hawai'i resident market is important to Philippine because of the large Filipino population in the state. The airline provided seven weekly non-stop flights (the only service from Honolulu) to the Philippines in 1994 and 1995, a dramatic decline from thirteen in 1993; nearly all of the direct flights were non-stop. Estimated monthly seat capacity was 13,600 for 1995, a large drop from the 25,200 seats in 1993.

China Airlines is a privately-held airline which lost its national monopoly in scheduled international air transportation with the recent entrance of EVA Air. The international aviation agreements under which China Air operates are generally very liberal. China Air's passenger capacity in ASK's grew to 22.2 billion in 1994 (45 percent above 1990), while demand in RPK's increased to 15.4 billion (24 percent increase above 1990), resulting in a drop of about 10 percent for load factor to less than 70 percent. Operating revenue was just above expenses at US$ 1.73 billion, providing an operating profit of US$ 40 million, a substantial decline from the US$ 174 million in 1990. China Air serves six US points in addition to Honolulu (turn-around service): Anchorage, Chicago, Dallas-Ft. Worth, Los Angeles, New York, and San Francisco. Many of China Air's passengers are Taiwanese who wish to see as much of the mainland as possible before return, potentially handicapping Honolulu as a destination. For direct service from Honolulu to Taipei, China Air had seven flights and approximately 12,500 monthly available seats in the last two years, with five direct flights for the preceding three years. Non-stop service was only offered in two time periods: 1994-1995 and 1987-1988. Estimated non-stop monthly available seats were 2,800 for each of the last two years.

Other Factors Affecting Air Service

Aviation bilaterals play a significant role in determining the competitive environment for an airline. The aviation bileteral between the US and Indonesia can be classified as relatively liberal due to a lack of specified capacity or frequency constraints, with some route restrictions on Fifth Freedom rights. Feres are approved via the double approval process, although the time periods involved are short. The bilateral that Korea has with the US is generally liberal in nature, with no unilateral restrictions on frequency, capacity, schedules, or type of aircraft flown. Three sets of routes are available to the airlines of Korea, with some restrictions on points served and Fifth Freedom rights. US airlines apparently enjoy nearly unrestricted rights to routes, points served, and Fifth Freedom rights. Fare or rate approvals are via the double disapproval process (the most liberal used), but the time periods for approval are long (45-60 days).

The Philippine - US aviation bilateral does not generally allow unilateral restrictions on either capacity or type of aircraft used and capacity constraints exist on only one of the three routes specified. Each route has differing levels of restrictions on number of carriers permitted, points served (including Fifth Freedom rights), and frequency, with one route restricted to cargo only (generally similar for airlines of the two nations). The passenger fare approval process is somewhat complicated, with either double disapproval or country of origin rules used, depending on size of the requested fare change. Overall, this bilateral is more restrictive than the Korean bilateral, especially for US airlines. The less formal aviation agreement between the US and Taiwan places no restrictions on frequency, capacity, equipment, or number of airlines providing service. Routes allowed to be served are generally liberal for service between the two nations and for Fifth Freedom rights, but less so for Taiwanese airlines. Approval of rate and fare changes is by double disapproval. This bilateral is quite liberal in most respects, with the only major exception being that of points served for Taiwanese carriers in the US and particularly for Fifth Freedom rights.

Airline competition is the other major element examined that substantially affects airline success. For the Honolulu - Indonesia market Garuda had no competition for any of the years examined. At present (April 1995), Garuda offers five non-stop flights with approximately 5,400 monthly available seats from Honolulu to Indonesia (currently Bali), with continuing service to Jakarta. Korean westbound to Seoul faced three competitors over the years - Northwest Airlines, Asiana, and United Airlines (direct service only). Non-stop for April 1995 Korean offered ten weekly flights (16,800 estimated monthly seats), Asiana offered seven weekly flights (6,500

R/T passenger (and total) revenue was US$ 245,300, estimated expenses per total R/T flight were US$ 265,610 resulting in an operating result of US$ (20,310) per flight or US$ (5.28) million annually.

A sensitivity analysis for unit expense, annual demand, and passenger fare for the "Indonesia - Honolulu" segment found that the largest potential operating profit per R/T flight was US$ 112,385 and the largest operating loss was US$ 62,770, with most combinations of the three variables produced operating profits. For the "Honolulu - Los Angeles segment only, the operating result varied from US$ (15,010) to US$ 75,230, with all combinations resulting in a loss. For the combined service (with the "Honolulu - Los Angeles fare at the base case only), the operating result varied from a high of US$ 78,200 to a low of US$ (118,800), with most cells exhibiting an operating loss, especially when the "Indonesia - Honolulu" fare was below the base.

Korean Airlines (10 R/T weekly flights), for the "Seoul - Honolulu" segment (average R/T passenger fare of US$ 900), had a R/T passenger revenue of US$ 237,600 and air cargo revenue of US$ 85,205 per R/T flight (at US$ 5.25 per KG of cargo) and total revenue was US$ 322,805 per R/T flight. Estimated expenses per R/T flight were US$ 253,940 resulting in an operating profit of US$ 68,860 per R/T flight or US$ 35.81 million annually (ten weekly non-stops) for the "Seoul - Honolulu" flight segment. Estimated revenues for the "Honolulu - Los Angeles flight segment were US$ 36,250 (US$ 250 per R/T) for passenger revenue and US$ 22,720 for air cargo, with a total revenue of US$ 58,970. With estimated expenses per R/T flight of US$ 142,560, the operating result was US$ (14,730) per flight or US$ (43.47) million annually for the "Honolulu - Los Angeles" segment. For the two flight segments of Korean combined, overall R/T passenger revenue was US$ 273,850, overall total revenue was US$ 381,775, estimated expenses per total R/T flight were US$ 396,500, resulting in an operating result of US$ (14,730) per flight or US$ (7.66) million annually.

A sensitivity analysis for unit expense, annual demand, and passenger fare for the "Seoul - Honolulu" segment of Korean found that the largest potential operating profit per R/T flight was US$ 170,820 and the largest operating loss was US$ 33,090, with most combinations of the three variables produced operating profits. For the "Honolulu - Los Angeles" segment only, the operating result of Korean varied from US$ (43,960) to US$ (123,220), with all combinations resulting in a loss. For the combined service (with the "Honolulu - Los Angeles" fare at the base case only), the operating result varied from a high of US$ 105,110 to a low of US$ (134,560), with most cells exhibiting an operating loss, especially when the "Seoul - Honolulu" fare was below the base.

Passenger revenue for Philippine Airlines (seven R/T weekly flights), on the "Manila - Honolulu" segment (average R/T fare of US$ 775), R/T passenger revenue was US$ 248,775 and with an estimated rate of US$ 5.00 per KG of cargo, air cargo revenue was US$ 123,875 per R/T flight and total revenue was US$ 372,650 per R/T flight. Estimated expenses per R/T flight were US$ 340,220 resulting in an operating profit of US$ 32,430 per R/T flight or US$ 11.80 million annually (seven weekly non-stops) for the "Manila - Honolulu" flight segment. For the "Honolulu - Los Angeles" segment of Korean (R/T fare of US$ 250), R/T passenger revenue was US$ 56,500, and total revenue was US$ 87,130. With estimated expenses per R/T flight of US$ 164,075 the operating result was US$ (76,950) per flight or US$ (28.01) million annually for the "Honolulu - Los Angeles" segment. For the two flight segments of Philippine combined, overall R/T passenger revenue was US$ 305,275, overall total revenue was US$ 459,780, estimated expenses par total R/T flight were US$ 504,295 resulting in an operating result of US$ (44,520) per flight or US$ (16.20) million annually.

A sensitivity analysis for unit expense, annual demand, and passenger fare for the "Manila - Honolulu" segment of Philippine found that the largest potential operating profit per R/T flight was US$ 155,530 and the largest operating loss was US$ 90,670, with most combinations of the three variables produced operating profits. For the "Honolulu - Los Angeles" segment only, the operating result of Philippine varied from US$ (20,990) to US$ (132,900), with all combinations resulting in a loss. For the combined service of Philippine (with the "Honolulu - Los Angeles" fare at the base case only), the operating result varied from a high of US$ 100,640 to a low of an average of 1,453 passengers weekly. The projected demand per Korean flight was 145 passengers, yielding a load factor of 44 percent. For non-stop air cargo, using modifications similar to the passenger segments, it was estimated that Korean would carry 8,670 tonnes between Seoul and Honolulu and 7,160 tonnes between Honolulu and Los Angeles.

In the Philippines - Hawai`i market only, 1995 estimates were now that 11,360 residents of the Philippines and 72,660 US residents (non-stop Manila - Honolulu) transited via Hawai`i. The estimated 1995 total passenger demand for non-stop air service between the Philippines and Hawai`i was now 132,680. With market shares similar to the service without the extension, the estimated passenger demand for non-stop Philippine Airlines service was 116,730 passengers annually. This represents an average of 2,245 passengers weekly, and with seven non-stop flights, an average of 321 passengers per R/T flight. Based on an aircraft capacity of 410 passengers, Philippine's average load factor would be about 78 percent.

Only certain segments of these passengers would continue to/from Los Angeles. It was estimated that 82,150 passengers between Manila and Hawai`i would travel to/from Los Angeles, an average of 1,580 passengers weekly. The projected demand per Philippine flight was 226 passengers, yielding a load factor of 55 percent. For non-stop air cargo, using modifications similar to the passenger segments, it was estimated that Philippine would carry 9,020 tonnes between Manila and Honolulu and 7,430 tonnes between Honolulu and Los Angeles.

In the Taiwan - Hawai`i market only, 1995 estimates were now that 24,780 residents of Taiwan and 18,140 US residents (non-stop Taipei - Honolulu) transited via Hawai`i. The estimated 1995 total passenger demand for non-stop air service between Taiwan and Hawai`i was now 115,180. With market shares similar to the service without the extension, the estimated passenger demand for non-stop China Air service was 27,020 passengers annually. This represents an average of 520 passengers weekly, and with two non-stop flights, an average of 260 passengers per R/T flight. Based on an aircraft capacity of 303 passengers, China Air's average load factor would be about 86 percent.

Only certain segments of these passengers would continue to/from Los Angeles. It was estimated that 10,585 passengers between Taipei and Hawai`i would travel to/from Los Angeles, an average of 204 passengers weekly. The projected demand per China Air flight was 102 passengers, yielding a load factor of 34 percent. For non-stop air cargo, using modifications similar to the passenger segments, it was estimated that China Air would carry 1,730 tonnes between Taipai and Honolulu and 1,645 tonnes between Honolulu and Los Angeles.

Estimated Revenue, Expense, and Profit Analysis: East Asia - Hawai`i - US Mainland

Estimates of revenue, expenses, and profitability per flight and per year were developed for each of the airlines under study for the "home nation - Honolulu" segment and the "Honolulu - Los Angeles" segment, along with the two segments combined. These estimates were obtained in a similar fashion to that for the Phase I analysis (without the Los Angeles extension). A sensitivity analysis for flight profitability was performed with fares being varied above and below the base fare by US$ 100 and US$ 200 for the "home nation - Honolulu" segment and by US$ 75 and US 150 for the "Honolulu - Los Angeles" segment. Unit expense and annual demand were varied by five and ten percent above and below the base figures for each of the two flight segments. For the sensitivity analysis of both flight segments combined, the fare for the "Honolulu - Los Angeles" segment was not varied from the base case.

For Garuda's service (five non-stops) between Indonesia and Honolulu, with an average passenger R/T fare of US$ 900, R/T passenger (and total) revenue was US$ 213,300. Estimated expenses per R/T flight (Honolulu - Los Angeles) were US$ 188,490 resulting in an operating profit of US$ 24,810 per flight or US$ 6.45 million on an annual basis. For the "Honolulu - Los Angeles" segment, R/T fare of US$ 250, R/T passenger (and total) revenue was US$ 32,000, estimated expenses per R/T flight were US$ 77,120 yielding an operating result of US$ (45,120) per flight or US$ (11.45) million annually. For the two flight segments combined, overall monthly seats. Non-stop air cargo service was recorded with any consistency, both westbound and eastbound, to/from Honolulu. No tonnage data was available for the period when Continental exited the market after 1991, but Philippine did carry 2,770 tonnes westbound and 6,080 tonnes eastbound in 1991.

Non-stop westbound passenger service competition for China Airlines was found primarily in the Honolulu, Los Angeles, and San Francisco markets. From Honolulu, China Air provided two weekly non-stop flights (and an estimated 2,840 seats) in 1995 compared to five flights (and 4,630 seats) for EVA. In the Los Angeles market, the primary competitors were China Air (ten weekly non-stop flights), EVA (thirteen flights), Malaysian (three flights), and Singapore Airlines (seven flights). Estimated monthly capacities were 21,260 seats for China Air, 27,640 seats for EVA, 6,380 seats for Malaysian, and 14,880 seats for Singapore. From San Francisco, the non-stop competitors were China Air (seven weekly flights and 7,500 seats), EVA (seven flights and 14,880 seats), and United (the same as for EVA).

Competition for westbound non-stop cargo service to Taipei in 1994 was found from Los Angeles by Malaysian (1,050 tonnes) and Singapore (1,640 tonnes) and from San Francisco by United (2,210 tonnes). In the eastbound direction, competition was very similar with Malaysian (2,110 tonnes) and Singapore (4,240 tonnes) providing service to Los Angeles and United (4,950 tonnes) to San Francisco. Additionally, Delta carried 2,550 tonnes to Portland in 1994. No data was reported for China Air in 1994, while in 1993 China Air apparently carried non-stop westbound cargo from Los Angeles and San Francisco and eastbound cargo to Honolulu, Los Angeles, and San Francisco, but no tonnages were reported.

Demand For Air Service: East Asia - Hawai'i - Mainland US

Demand for each airline's service between its home nation and Hawai'i and onward to the US mainland (Los Angeles) was estimated for the year 1995, using projection methods very similar to what was done earlier for service without the Los Angeles extension. With an extension of service to/from Los Angeles, changes were made in some of the individual demand and market share estimates to take into consideration the extension. Additionally, separate demand estimates were mada for each flight segment, "home nation with Hawai'i" and "extension for Hawai'i to/from Los Angeles".

In the Indonesia - Hawai'i market only, 1995 estimates were now that 20,520 Indonesian residents and 15,600 US residents (non-stop Indonesia - Honolulu) transited via Hawai'i. The estimated 1995 total passenger demand for non-stop air service between Hawai'i and Indonesia was 67,510. With market shares similar to the service without the extension, the estimated passenger demand for non-stop Garuda service was 61,740 passengers annually. This represents an average of 1,187 passengers weekly, and with five non-stop flights, an average of 237 passengers per R/T flight. Based on an aircraft capacity of 300 passengers, Garuda's average load factor would be about 79 percent. No air cargo was indicated as being carried between Honolulu and Indonesia. Only certain segments of these passengers would continue to/from Los Angeles. It was estimated that 33,200 passengers between Indonesia and Hawai'i would travel to/from Los Angeles, an average of 638 passengers weekly. The projected demand per Garuda flight was 128 passengers, yielding a load factor of 43 percent.

In the Korea - Hawai'i market only, 1995 estimates were now that 59,900 Korea residents and 34,900 US residents (non-stop Korea - Honolulu) transited via Hawai'i. The estimated 1995 total passenger demand for non-stop air service between Korea and Hawai'i was now 218,280. With market shares similar to the service without the extension, the estimated passenger demand for non-stop Korean Airlines service was 137,035 passengers annually. This represents an average of 2,635 passengers weekly, and with ten non-stop flights, an average of 264 passengers per R/T flight. Based on an aircraft capacity of 329 passengers, Korean's average load factor would be about 81 percent.

Only certain segments of these passengers would continue to/from Los Angeles. It was estimated that 75,560 passengers between Korea and Hawai'i would travel to/from Los Angeles, five weekly flights to the latter two in April of 1995. For non-stop service in April of 1995, Garuda provided five scheduled weekly westbound flights to Bali, which were initiated in 1994. In 1995, non-stop monthly seat capacity to Bali was 5,400 and all of the Bali flights continued on to Jakarta. For direct westbound service, Honolulu, Los Angeles, and New York had flights to Seoul in all years, while Anchorage, Chicago, and San Francisco all received service in some of the years. In 1995 the number of weekly direct flights were ten for Honolulu and New York and 24 for Los Angeles. For weekly non-stop service in 1995, there were ten flights for Honolulu, 14 flights for Los Angeles, and seven flights for New York; Anchorage, Chicago, and San Francisco received less consistent non-stop services (all had non-stop service in 1995). Estimated 1995 monthly non-stop seat capacities were 16,780 (Honolulu), 29,760 (Los Angeles), and 14,880 (New York).

Philippine Airlines provided direct westbound service to Manila from Honolulu, Los Angeles, New York, and San Francisco. Philippine had seven direct weekly flights from Honolulu, Los Angeles, and San Frencisco in 1995. Westbound non-stop service was provided by Philippine only from Honolulu with seven weekly flights (all of the direct flights were also non-stop) and approximately 13,600 monthly seats. China Airlines provided direct westbound service to Taipei from Anchorage, Honolulu, Los Angeles, New York, and San Francisco in essentially all years. Honolulu and San Francisco each had seven flights, Los Angeles had ten flights, and Anchorage had three flights in 1995. In 1995 for non-stop service, all but Honolulu had the same number of flights as for direct service, while Honolulu had two non-stops, five less than the number of direct flights. Additionally, Honolulu had no non-stop service from 1989 through 1993, unlike the other US service points. Estimated monthly seats were 21,600 for Los Angeles, 7,500 for San Francisco, 6,380 for Anchorage, and 2,840 for Honolulu.

Other Factors Affecting Air Service

For the Honolulu - Indonesia westbound non-stop market Garuda had no competition for any of the years examined. In 1995 Garuda offered five non-stop flights with approximately 5,400 monthly available seats from Honolulu to Indonesia (currently Bali), with continuing service to Jakarta. In the Korea westbound non-stop market for 1995, the main competitors to Korean were Asiana (Honolulu , Los Angeles, and San Francisco, each with seven flights), Northwest (Honolulu, Los Angeles, San Francisco (1995 only), each with seven weekly non-stops, and Seattle before 1994), and United (San Francisco with seven weekly flights). Korean offered non-stop service in 1995 from all points evaluated except Portland and Seattle with three flights from Chicago, seven flights from New York and San Francisco, ten flights from Honolulu, and 14 flights from Los Angeles.

Korean offered 6,380 non-stop monthly seats from Chicago (no competition in 1995) and 16,775 seats from Honolulu (compared to 6,480 for both Asiana and Northwest). In the Los Angeles to Seoul non-stop market in 1995, Korean offered an estimated 29,760 seats compared to 13,560 seats for both Asiana and Northwest and 10,650 seats for third-flag competitors. From San Francisco in 1995, Korean had an estimated 13,560 monthly seats compared to the same for Northwest and 14,880 for both Asiana and United (the only non-stop market for the latter carrier in 1995). Korean had no competition for non-stop service in the Anchorage (7,750 seats) and New York (14,880 seats) markets. Non-stop westbound air cargo competition in the most recent years was primarily between Asiana and Korean for service from Honolulu (1,180 and 3,360 tonnes, respectively) and Los Angeles (9,090 and 7,910 tonnes, respectively. A lesser level of competition between these two was found from Anchorage and San Francisco. Eastbound, the 1994 competitive situation was similar to Honolulu (where Asiana had 1,300 tonnes compared to 3,650 tonnes for Korean) and to Los Angeles (10,790 and 11,110 tonnes for Asiana and Korean, respectively) and also to San Francisco (6,595 tonnes for Asiana, 1,820 tonnes for Korean, and also 3,230 tonnes for United).

Philippine Airlines did not face westbound competition in recent years from Honolulu, the only non-stop point of service in the US, although Continental provided competition prior to 1992. In 1994 and 1995, Philippine provided seven weekly passenger flights and an estimated 13,560 case. With the annual demand and fare below the base, operating losses were reported in every case.

PHASE II: EAST ASIA - HAWAI'I NON-STOP WITH A CONTINUATION TO THE US WEST COAST

Market Analysis: East Asia - Hawai'i - US Mainland

Within the Asia-Pacific region, annual arrivals to the US were dominated by Japan, which accounted for a share of this market of over 50 percent. Of the four nations under study, Korea had the largest number of annual arrivals to the US in 1995, followed by Taiwan, and the Philippines. Both Korea and Taiwan exhibited increases in market share of international arrivals to the US between 1993 and 1995. US resident travel from the US in 1995 was the largest for Korea (358,900), followed by the Philippines (342,200), and Taiwan (289,300); 1995 data not available for Indonesia).

Arrivals from Indonesia to the US were over 58,900 in 1994, with annual growth rates of about 11 percent for recent years. Overall market growth was nearly 111 percent between 1985 and 1994. Arrivals to the US from Korea were 604,000 in 1995, a 20 percent increase from the previous year, with a total growth between 1985 and 1995 of 788 percent, the largest among the four nations. Arrivals from the Philippines to the US were 105,000 in 1995, two percent below 1994. Total visitor growth from the Philippines was 31 percent between 1985 and 1995, the smallest of the four nations. Visitor arrivals from Taiwan in 1995 were 450,00, an increase of 19 percent from 1994, and an overall growth of 146 percent for the 1985 to 1995 period, second highest of the four nations.

Outbound from the US, Indonesia received 155,100 visitors in 1994, about eight percent below 1994 and 210 percent above 1985, the largest growth of any of the four nations. Korea received 358,900 US visitors in 1995, eight percent above 1994 and 50 percent above 1985, the smallest of the four destinations. In 1995 the Philippines received over 342,000 US visitors, ten percent above 1994 and 72 percent above 1985, second largest among the four destinations. Taiwan received over 289,000 US residents in 1995, about one percent above 1994 and 59 percent above 1985, the third largest growth.

Demand for non-stop air cargo service in both directions was available for some recent years (1989-1994), but was generally incomplete and/or non-continuous. No air cargo was reported in the Indonesia - US market, while for the Korea market air cargo tonnage with Los Angeles, the point with the largest overall non-stop air cargo volumes, was about 18,500 tonnes westbound and about 25,700 tonnes eastbound in 1994 The only other large volume markets in 1993 were eastbound to Anchorage (27,500 tonnes) and New York (16,650 tonnes) and westbound from San Francisco (7,800 tonnes), with service also with Chicago, Honolulu, Portland, and Seattle.

The Philippine - US non-stop air cargo market yielded 6,800 tonnes of cargo eastbound and 3,000 tonnes westbound with Honolulu for 1991 (latest year with complete data) and the only US point with any large tonnages. Most US points received no non-stop air cargo service to/from the Philippines. Non-stop air cargo volume between Taiwan and the US was the largest in 1994 for Los Angeles with 2,750 and 6,490 tonnes westbound and eastbound, respectively. The only other large volume markets were San Francisco (2,210 and 4,950 tonnes westbound and eastbound, respectively) and eastbound to Portland (2,250 tonnes). Air cargo carried by China Air was not reported in any year.

Airline Service: East Asia - Hawai'i - US Mainland

Denpasar (Bali), Biak, and Jakarta are served by direct trans-Pacific service for Garuda, which serves Honolulu and Los Angeles in the US on these routes. Scheduled westbound direct service from Honolulu was provided in recent years primarily to Denpasar (Bali) and Jakarta, with average of 228 passengers per R/T flight. Based on an aircraft capacity of 303 passengers, China Air's average load factor would be just about 75 percent.

Based on the incomplete historical data available (with no direct data for China Air), it was estimated that total non-stop air cargo volumes for 1995 between Honolulu and Taipei were 2,000 tonnes westbound and 2,920 tonnes eastbound. Market shares of air freight for China Air in 1995 were estimated to be 32 percent both westbound and eastbound. China Air was estimated to carry 640 tonnes of air cargo westbound and 935 tonnes eastbound for a total of 1,575 tonnes.

Estimated Revenue, Expense, and Profit Analysis

Estimates of revenue, expenses, and profitability per flight and per year were developed for each of the airlines under study. These estimates were obtained from the demand estimates of the previous chapter, estimated fares, and predicted unit expenses per available ton-kilometer (ATK). A sensitivity analysis for flight profitability was performed with fares being varied by US$ 100 and US$ 200 above and below the base fare, and unit expense and annual demand were varied by five and ten percent above and below the base figures.

For Garuda Indonesia, with an average passenger R/T fare of US$ 900, R/T passenger revenue was US$ 184,500 as was total revenue. Estimated expenses per R/T flight were US$ 188,490 resulting in an operating loss of US$ 3,990 per flight or US$ 1.03 million on an annual basis (with five non-stops). A sensitivity analysis for passenger fare, unit expense, and annual demand found that the largest potential operating profit per R/T flight was US$ 74,305 and the largest operating loss was US$ 82,290. Most combinations of the three variables produced operating losses, especially so when demand, fare, and unit expense were at or below base levels. With demand at or above base level and average fare above base level, operating profits were reported in every case for all levels of unit operating expense.

For Korean Airlines, with an average R/T passenger fare of US$ 900, R/T passenger revenue was US$ 193,500 and with an estimated rate of US$ 5.00 per KG of cargo, air cargo revenue was US$ 63,000 per R/T flight and total revenue was US$ 256,500 per R/T flight. Estimated expenses per R/T flight were US$ 253,940 resulting in an operating profit of US$ 2,560 per R/T flight or US$ 1.33 million annually (ten weekly non-stops). A sensitivity analysis for passenger fare, unit expense, and annual demand found that the largest potential operating profit per R/T flight was US$ 90,300 and the largest operating loss was US$ 85,190. Most combinations of the three variables produced operating profits, especially so when demand and fare levels were above the base case. With the annual demand and fare below the base case, operating losses were reported in every case.

For Philippine Airlines, with an average R/T passenger fare of US$ 775, R/T passenger revenue was US$ 233,750 and with an estimated rate of US$ 5.00 per kilogram (KG) of cargo, air cargo revenue was US$ 115,000 per R/T flight. Total revenue was US$ 345,960 per R/T flight, estimated expenses per R/T flight were US$ 340,220, resulting in an operating profit of US$ 8,060 per R/T flight or US$ 2.93 million on an annual basis (with seven weekly non-stops). The sensitivity analysis found that the largest potential operating profit per R/T flight was US$ 125,610 and the largest operating loss was US$ 109,490. Most combinations of the three variables produced operating profits, especially so when demand and fare levels were at or above the base case, generally regardless of the unit operating expense. With the annual demand and fare below the base case, operating losses were reported in every case save two.

For China Airlines, with an average R/T passenger fare of US$ 690, R/T passenger revenue was US$ 157,320 and with an estimated rate of US$ 5.00 per KG of cargo, air cargo revenue was US$ 75,690 per R/T flight, with total revenue estimated to be US$ 233,010 per R/T flight. Estimated expenses per R/T flight were US$ 229,405 resulting in an operating profit of US$ 3,610 per R/T flight or US$ 0.38 million annually (two weekly non-stops). The sensitivity analysis found that the largest potential operating profit per R/T flight was US$ 87,880 and the largest operating loss was US$ 80,670. Most combinations of fare, demand, and unit expense produced operating profits, especially so when demand and fare levels were at or above the base

In the Korea - Hawai'i market, 134,900 Korea residents traveled to Hawai'i in 1995 and 3,750 Hawai'i residents traveled to Korea. For the market segments between Korea and the US mainland via Honolulu (without stopping), 1995 estimates were 41,750 Korea residents and 30,570 US mainland residents transiting via Hawai'i, with the latter being non-stop travel from Honolulu to Korea. The estimated 1995 total passenger demand for non-stop air service between Hawai'i and Korea was 195,340.

For Korea passengers to Hawai'i, the estimated share for Korean Airlines was 58 percent and 65 percent for Korean travelers transiting Hawai'i to the US mainland. Korean was assumed to have 50 percent market share for Hawai'i and US passengers to Korea and beyond. The passenger demand for non-stop Korean service was 111,560 passengers annually. This represents an average of 2,145 passengers weekly, and with ten non-stop flights, an average of 215 passengers per R/T flight. Based on an aircraft capacity of 329 passengers, Korean's average load factor would be just under 66 percent.

Based on the incomplete historical data available, it was estimated that total non-stop air cargo volumes for 1995 between Honolulu and Seoul were 3,525 tonnes westbound and 6,125 tonnes eastbound. Market shares of the air freight portion for Korean in 1995 were estimated to be 95 percent westbound and 76 percent eastbound. Korean was estimated to carry 3,325 tonnes of air cargo westbound and 4,615 tonnes eastbound for a total of about 7,940 tonnes.

In the Philippines - Hawai'i market, 20,840 residents of the Philippines traveled to Hawai'i in 1995 and 10,980 Hawai'i residents traveled to the Philippines. For the market segments between the Philippines and the US mainland via Honolulu (without stopping), 1995 estimates were 8,500 residents of the Philippines and 69,200 US mainland residents transiting via Hawai'i, with the latter being non-stop travel from Honolulu to the Philippines. The estimated 1995 total pessenger demand for non-stop air service between Hawai'i and the Philippines was 126,030. The estimated 1995 total demand for non-stop air service between Hawai'i and the Philippines is thus 109,550.

For passengers from the Philippines to Hawai'i, the estimated share for Philippine Airlines is 75 percent and 80 percent for travelers of the Philippines transiting Hawai'i to the US mainland. Philippine was assumed to have a 100 percent market share for Hawai'i and US passengers to the Philippines and beyond. Combining the estimated size of all market segments and the market share for Philippine Airlines yields an estimated passenger demand for non-stop Philippine service of 109,550 passengers annually. This represents an average of 2,110 passengers weekly, and with seven non-stop flights, an average of 301 passengers per R/T flight. Based on an aircraft capecity of 410 passengers, Philippine's average load factor would be just above 73 percent.

Based on the historical data available (incomplete for recent years), it was estimated that total non-stop air cargo volumes for 1995 between Honolulu and Manila were 2,030 tonnes westbound and 6,930 tonnes eastbound. Market shares of air cargo for Philippine in 1995 were estimated to be in the westbound direction 90 percent and 70 percent for air freight and air mail, respectively. For eastbound non-stop air cargo service, it was estimated that Philippines market shares were 80 percent and 90 percent for air freight and air mail, respectively. Philippine was estimated to carry 2,550 tonnes of non-stop air cargo westbound and 5,610 tonnes eastbound for a total of about 11,000 tonnes.

In the Taiwan - Hawai'i market 62,760 Taiwanese residents traveled to Hawai'i in 1995 and 2,200 Hawai'i residents traveled to Taiwan. For the market segments between Taiwan and the US mainland via Honolulu (without stopping), 1995 estimates were 16,950 Taiwanese residents and 12,800 US mainland residents transiting via Hawai'i, with the latter being non-stop from Honolulu to Taiwan. The estimated passenger demand for non-stop China Air service in 1995 was thus 101,410.

For Taiwanese passengers to Hawai'i, the estimated share for China Airlines is 23 percent and 27 percent for Taiwanese travelers transiting Hawai'i to the US mainland. China Air was assumed to have 20 percent market share for Hawai'i and US passengers to Taiwan and beyond. Combining the estimated size of all market segments and the market share for China Air yields an estimated passenger demand for non-stop China Air service of 23,690 passengers annually. This represents an average of 456 passengers weekly, and with two non-stop flights, an estimated monthly seats), and seven weekly flights for Northwest (6,500 estimated monthly seats). Asiana was in the market only for the last two years, while Northwest re-entered in 1995. Korean offered the most consistent passenger service over the years, but competition in the passenger segment recently increasing dramatically. In the years air cargo data was available for Korean, the carrier dominated both the westbound and eastbound markets and provided service in all the years examined, unlike any competitor.

Philippine Airlines faced only one other competitor in the non-stop westbound passenger market to Manila - Continental Airlines (only through 1991). For the last two years (April of each), Philippine provided seven weekly non-stop flights with about 13,600 monthly available seats. For direct service, Continental had flights in all years after 1987, with three weekly flights (3,300 monthly available seats) in April 1985 compared to the figures above for Philippine, whose flights were all non-stop. Two other competitors were found in the Honolulu to Manila market - Northwest in 1992 only and United in April of 1990, 1992-1993. The only effective competitor to Philippine in the passenger market appeared to be Continental, but less so recently. In the air cargo market, only Philippine and Continental were shown as providing non-stop service between Honolulu and Manila.

China Air faced non-stop competition from three other competitors, although no year had more than two airlines in the market. China Air provided non-stop passenger service only in 1987-1988 and 1994-1995. China Air's service consisted of two weekly non-stops each year and an estimated monthly capacity of 2,800 seats for the latest two years. In 1995 (April), EVA had more weekly non-stop flights (five) and estimated monthly available seats (4,600) than did China Air, with 1994 marking its first appearance in the Honolulu - Taipei market. Singapore Airlines had the longest period of non-stop service in the market (six years) but ceased service after 1992. The other non-stop competitor, Malaysian, offered service in 1991 and 1992 only. For the direct service market, China Air had flights in all years, consisting of an additional five flights and 9,700 seats, putting the airline in a better position than the non-stop data would show. China Air was not shown with any non-stop air cargo for the years 1989-1994, but did provide such service in 1994.

Demand For Air Service with Honolulu

Demand for each airline's service between Hawai'i and its home nation was estimated for the year 1995, using projections from prior data for non-stop passenger and cargo demand. Each carrier's 1995 market share was also estimated as well as demand in individual market segments. The demand estimates also included travel between the US mainland and the carrier's home nation and travel to/from third nations via Hawai'i and the airline's home nation. The data available to make these projections came from a number of data sources, making the accuracy of the estimates subject to a higher degree of uncertainty than was desired.

In the Indonesia - Hawai'i market, 19,500 Indonesians traveled to Hawai'i in 1995, 20 percent above the previous year, while 1,620 Hawai'i residents traveled to Indonesia. For the market segments between Indonesia and the US mainland via Honolulu (without stopping), 1995 estimates were that 12,800 Indonesian residents and 14,300 US residents (non-stop Honolulu to Indonesia) transited via Hawai'i. The estimated 1995 total passenger demand for non-stop air service between Hawai'i and Indonesia was 60,790. No air cargo was indicated as being carried between Honolulu and Indonesia.

Historic market shares for Garuda, whether non-stop or all direct, were 100 percent from Hawai'i to Indonesia for all years. For Indonesian passengers to Hawai'i, the estimated share is 90 percent and 85 percent for those Indonesians transiting Hawai'i to the US mainland. Garuda was assumed to have 100 percent market share for Hawai'i and US passengers to Indonesia and beyond. The estimated passenger demand for non-stop Garuda service was 53,190 passengers annually. This represents an average of 1,023 passengers weekly, and with five non-stop flights, an average of 205 passengers per R/T flight. Based on an aircraft capacity of 300 passengers, Garuda's average load factor would be about 68 percent.

US$ (189,670), with most cells exhibiting an operating loss, especially when the "Manila - Honolulu" fare was below the base.

China Air's passenger revenue (two R/T weekly flights), on the "Taipei - Honolulu" segment (average R/T fare of US$ 690), R/T passenger revenue was US$ 179,400 and with an estimated rate of US$ 5.00 per KG of cargo, air cargo revenue was US$ 83,260 per R/T flight and total revenue was US$ 262,660 per R/T flight. Estimated expenses per R/T flight were US$ 229,405 resulting in an operating profit of US$ 33,255 per R/T flight or US$ 3.46 million annually (two weekly non-stops) for the "Taipei - Honolulu" flight segment. For the "Honolulu - Los Angeles" segment of China Air (R/T fare of US$ 250), passenger revenue was US$ 25,500, and total revenue was US$ 53,180. With estimated expenses per R/T flight of US$ 113,230 the operating result was US$ (60,050) per flight or US$ (6.24) million annually for the "Honolulu - Los Angeles" segment. For the two flight segments of China Air combined, overall R/T passenger revenue was US$ 204,900, overall total revenue was US$ 315,840, estimated expenses per total R/T flight were US$ 342,630 resulting in an operating result of US$ (26,790) per flight or US$ (2.79) million annually.

A sensitivity analysis for unit expense, annual demand, and passenger fare for the "Taipei - Honolulu" segment of China Air found that the largest potential operating profit per R/T flight was US$ 126,135 and the largest operating loss was US$ 59,625, with most combinations of the three variables produced operating profits. For the "Honolulu - Los Angeles" segment only, the operating result of China Air varied from US$ (30,875) to US$ (89,220), with all combinations resulting in a loss. For the combined service of China Air (with the "Honolulu - Los Angeles" fare at the base case only), the operating result varied from a high of US$ 79,960 to a low of US$ (133,545), with most cells exhibiting an operating loss, especially when the "Taipei - Honolulu" fare was below the base.

Identification of Success Factors

A number of factors were identified as being important to the success of scheduled international air service. Some factors are outside the control of an airline's management, but may be under the control of government(s) or some other element of the travel industry. Other factors are essentially uncontrollable, such as travel time (relative and perceived), climate, weather, and ethnic population factors, both at the destination and origin, affect the demand for travel between regions.

Economic factors contribute to the level of travel among an origin and destination. For example, the nations with the largest number of visitors were generally Korea and Taiwan, the two nations among the four with the highest levels of economic growth. The level of costs incurred by a visitor in traveling to/from a destination also affects patterns of travel. The expenses incurred by airlines serving Hawai'i from East Asia will be high due to the length of flights, along with the fees, charges, and fuel prices at Honolulu International. If an airline has an unprofitable or marginally profitable service, it may consider abandoning its Hawai'i service.

Profit estimates for non-stop service for East Asia - Honolulu non-stop service only found that only Garuda was projected to have an operating loss. When the service extension to/from Los Angeles was included, all airlines were projected to have operating losses, although all showed improved profits on the East Asia - Honolulu segment as a result of higher demand. Based on these estimates, for the East Asia - Honolulu segment, Philippine and Korean are profitable, China Air is marginally profitable (on an annual basis), while Garuda is unprofitable. With the service extension, operating results for the combined service are between US$ 3.0 and US$ 19.1 million lower.

To be successful in East Asia - Hawai'i service, an airline must be able to attract enough passengers at a high enough fare to be profitable. Fares between East Asia and Hawai'i are typically higher compared to other destinations closer to East Asia, while Hawai'i - US mainland fares are often lower because of competition in the domestic market. Hawai'i, as a result of the level of airfares and other cost elements, is perceived as a "high cost" destination, although non-airline prices can be lower than for a number of Asian destinations.

Governmental factors also influence the provision of airline service between Hawai`i and East Asia, principally via the restrictiveness of the applicable aviation bilateral agreements. US aviation agreements with Korea and Taiwan are the most liberal, although restrictions do exist. Management of airlines operating in the Korea and Taiwan markets should have more operating flexibility, while those in the Indonesia and Philippines markets would have less flexibility. More competitors were found for the two most liberal agreements (Korea, Taiwan), while the Philippines and Indonesia marketed little, if any, non-stop competition.

Another governmental factor is legal impediments to travel, particularly access to passports. Restrictions on outbound travel have been reduced in Korea and Taiwan, but the US requires visas for the citizens of the four nations, a costly and time consuming process. Little in the way of legal restrictions exists for US citizens traveling overseas. Requirements for US citizens traveling internationally are generally much less restrictive than for foreign travelers to the US Some short-term travelers are unable to visit the US since they cannot obtain visas; especially for potential visitors from Korea.

Customs and immigration processing can also affect the desire for travel between nations. The US (including Honolulu) have had a reputation for being unfriendly locales to undergo customs and immigration processing, although progress has been made at Honolulu. Even so, US Customs at Honolulu apparently still projects a negative image to overseas visitors. Another negative aspect to government inspections services is that of overcrowding at an airport, resulting in processing delays, which Honolulu International suffered from in the past.

All four airlines under study provided non-stop, scheduled westbound air service during the 1987-1995 period, although not all had service in every year. Garuda, Korean, and Philippine provided service in all years, while China Air provided such service only for the first two and last two years. Korean and China Air faced home nation competitors (Asiana and EVA, respectively), while Garuda and Philippine did not. In the Korea market, Asiana provided service in the last two years, but did not have a large market share, while the opposite was true for the market share of EVA. US airlines such as Continental, Northwest, and United provided competition on all routes except to Indonesia, where Garuda was the only competitor. The US airlines often did not provide consistent service over the years and all three were never found in any market for the same year. Philippine had little effective competition in the non-stop market, except for Continental between 1988 and 1991. In the Taiwan market, no US airline provided non-stop service, but Singapore and Malaysian provided the only such service between 1989 and 1992, and no airline offered non-stop service in 1993.

Airline marketing effort is typically directed to building demand for that airline's service, although it must often focus on successfully differentiating itself from any competitors. Limited non-stop competition prevails in most cases, and, for example, Garuda and to a great extent Philippine, could focus marketing efforts on demand for travel with the home nation. Korean and China Air, on the other hand, have had to devote substantially more marketing resources to differentiate themselves from competition in the last two years when each airline faced a national competitor. Although both Asiana and EVA are quite new to Hawai`i service, they can pose a threat to Korean and China Air and have already taken an important share of supply in the respective markets.

A number of entities in the travel industry engage in destination marketing in order to increase the level of primary demand for tourism to the destination area of each organization. For inbound tourism to Hawai`i (and the US mainland), the primary agencies would be DBEDT, HVCB, mainland agencies at the state level, and the successor to USTTA. Effective marketing efforts by all three sets of organizations are needed to realize the East Asia inbound potential. Severe budgetary cutbacks have reduced the ability of both the state and federal governments to support extensive marketing efforts. HVCB, for example, has directed much of its Asian marketing effort toward Japan, leaving few resources available to devote to some developing destinations such as those examined in this report. Without a significant commitment of marketing resources, the inbound growth rates from Indonesia, Korea, the Philippines, and

Taiwan will be lower than what might be obtained. For the Hawai'i and US outbound market to the four nations, the principal marketing efforts to encourage such travel will need to come from the NTO's of the four nations.

Destination marketing must also be a role of the airlines and other travel organizations - destinetion associations, intermediaries, and suppliers of travel products. All of these organizations will, to some degree, engage in primary demand marketing. It cannot be expected, however, that primary destination demand marketing efforts can be accomplished with just these marketing efforts. In nearly all cases, a travel organization will need to devote a substantial portion of its marketing resources toward marketing the organization's product(s). In many cases, an organization will also need to devote marketing resources to differentiating itself from its competitors.

Conclusions

A number of the factors discussed in the previous chapters were identified as being the most important in encouraging (or discouraging) air service between the four nations and Hawai'i and onward to the US mainland. These were judged to be: barriers to travel, characteristics of travel markets, airlina and travel destination marketing, and expense of airline operations. The principal travel barriers are:

- Aviation Bilateral Restrictions;
- Ease of Obtaining Travel Documents;
- Airport Passenger Processing.

The main markets that determine travel demand on a particular route (or set of routes) are:

- Leisure;
- Personal (Including Ethnic or VFR Travel);
- Business.

The leisure market, along with personal travel, dominate the inbound Hawai'i market but typically pey the lowest fares.

The most critical components of airline and travel destination marketing with regard to who is responsible are as follows:

- Destination Marketing;
  - Government and NTO's;
  - Airlines;
  - Other Travel Industry Organizations;
- Airline Brand Marketing.

In order for an airline to be successful, both destination marketing and airline brand marketing must motivate potential travelers to travel to thet destination on that particular airline.

Airline operating expenses are also important to the success of an airline operating to/from a particular destination. The important components of operating expense are:

- Fuel Expense
- Station Expense
- Total Direct Expense
- Total Indirect Expense

The first two components, although part of overall operating expense, are generally not controllable by an airline. These expenses may be more determined by the location and airport being served. The lower these expenses are, the more attractive a particular route is to an airline.

Based on these four key characteristics, a number of recommendations were developed in order to improve the attractiveness of routes between Hawai'i and the four East Asian nations. Specific action items were developed for the Hawai'i state government, the US government, the private sector, and NTO's of the four East Asian nations.

Specific actions to be undertaken by the State of Hawai'i government, by state agency, include:

- DBEDT/HVCB
    - Develop and execute more intensive tourism marketing efforts towards potential visitors in the four East Asian nations, including expansion of the representation of the HVCB in Korea and Taiwan as well as the other two nations;
    - Coordinate marketing efforts with the four East Asian nations to encourage US mainland residents to travel to these nations via Hawai'i;
    - Coordinate marketing efforts with state tourism organizations on the US mainland, especially for California;
    - Develop and implement and implement intensive marketing efforts towards attracting business meetings and conventions to the new convention center, to include the development of tour packages.
    - Develop and implement and implement intensive marketing efforts towards creating or expanding travel package options which use Hawai'i as part of the itinerary.
- State DOT
    - Expand the resources within the Airports Division devoted to international transportation issues to assist in expanding air links with East Asia and other points;
    - Work aggressively with federal agencies to implement:
        - Expansion of the visa waiver program to Korea and Taiwan (in conjunction with DBEDT and HVCB);
        - Improvements to the processing of international passengers, particularly in the Customs area;
        - Continued lobbying for revisions to the current aviation bilaterals to include Hawai'i as a designated point and to increase liberality, especially for areas of route authority, multiple designation of carriers, and the fare/rate approval process;
    - Continue working with the four airlines (and others) to enable more economic operations between Hawai'i and East Asia..
- Other State Agencies:
    - Integrate efforts with other state agencies such as the Hawai'i Department of Agriculture in the implementation of actions to improva the economic viability of airline service with East Asia.
- Agencies of Other States

    Work with these agencies to develop coordinated marketing programs that can include a Hawai'i stopover.

Specific actions to be taken by the US government by agency include:

- US Department of Transportation
    - Work with US Department of State, Hawai'i state agencies, and airlines to improve the attractiveness of Hawai'i as a destination;
    - Work with US Department of State, Hawai'i state agencies, airlines, and appropriate government agencies in the East Asian nations to find and implement ways to simplify the travel documentation process
    - Consider approvals of airline code sharing and alliances to increase the economics of air service on the East Asia - Hawai'i - US mainland routes.
- US Department of State
    - Work with other US and state of Hawai'i agencies and private sector organizations to reduce any barriers to travel that may exist;
    - Coordinate efforts with USDOT to negotiate revised international bilateral agreements to increase decision making flexibility of airline management.

- US Customs and Immigration
    - Work with the airlines and travel intermediaries to identify any unreasonable barriers to travel in these markets;
    - Re-evaluate visitor processing procedures to make them more "people friendly".

Specific actions to be taken by the private sector include:

- Airline Actions
    - Evaluate operating expenses and reduce if possible while maintaining an appropriate level of service;
    - Enter into negotiations with US airlines for the purpose of establishing code sharing or alliances, as appropriate, thus allowing US airlines to provide a continuing service to/from the US mainland;
    - Evaluate and implement, as necessary, revised marketing programs to increase demand in the East Asia - Hawai'i - US mainland market;
    - Develop in conjunction with travel intermediaries tour packages that include Hawai'i as an intermediate stop;
    - Coordinate marketing efforts with HVCB and other tourism organizations to increase the flow of travelers in both directions.
- Other Travel Industry Elements
    - Coordinate, as appropriate and legal, marketing efforts to attract visitors to Hawai'i and to East Asia and the US mainland via Hawai'i;
    - Work with various other travel organizations to develop travel packages that are more attractive, diversified, and economical to encourage increased travel to, from, and via Hawai'i.
- NTO's in Indonesia, Korea, the Philippines, and Taiwan
    - Evaluate and modify as necessary marketing efforts directed to Hawai'i and the US mainland;
    - Coordinate marketing efforts with the respective international airlines to improve the commercial viability of service with Hawai'i and the US mainland.

Some of the proposed actions will be easier and/or more costly to implement than others, such as "open skies" agreemants. In some cases such actions are essentially out of the control of the state of Hawai'i. Non-stop service between East Asia and the US mainland may be more attractive (and profitable) than service via Hawai'i, making it difficult to obtain increase service and visitors. Extensive efforts on the part of the state of Hawai'i and the Hawai'i travel industry will be needed to have any chance of success in attracting additional non-stop air service to/from East Asia. Providing some form of access for the East Asia carriers to the Hawai'i - US mainland market may be a key to making East Asia - Hawai'i more attractive. Code sharing and alliances with US airlines may represent a more viable approach than the continuing service evaluated in this report. Due to limitations of this research, the results must be interpreted with caution and further research may be necessary to increase the chances of obtaining air service increases. The results of this research should provide a good basis on which to make policy decisions and/or develop actions to obtain the desired non-stop air service increases.