

Lake Hood Airport Forecast Summary

Alaska International Airport System

October 2012

Anchorage International Airport

Fairbanks International Airport



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September 13, 2012

Rebecca J. Cronkhite, Planning Manager
Alaska International Airports System
Department of Transportation & Public Facilities
PO Box 196960
Anchorage, Alaska 99519

Dear Ms. Cronkhite:

Alaska International Airport System (AIAS) Forecast

This letter is in response to your request for the Federal Aviation Administration's (FAA) review of the June 5, 2012, Alaska International Airport System Forecast. This request included the review of the individual forecast summaries for:

- Fairbanks International Airport (FAI) dated June 5, 2012
- Lake Hood Seaplane Base (LHD) dated August 17, 2012
- Ted Stevens Anchorage International Airport (ANC) dated June 5, 2012

We reviewed the AIAS Forecast and individual forecasts for the above airports in consultation with our National Planning & Environmental Division. We understand this document was prepared along with the on-going State System Plan efforts. At this point in time, there is no development expected to require an Environmental Impact Statement or a Benefit Cost Analysis at any of the three airports.

The total operations annual growth rates for the AIAS and individual summary forecasts for the above airports are consistent with the FAA Terminal Area Forecast (TAF). We find adequate justification exists for the forecast baseline figures and hereby approve the AIAS Forecast Summary and individual Summary Forecasts for FAI, LHD and ANC.

We look forward to working with you as you continue to develop the remaining components of the AIAS Plan.

Sincerely,

Gabriel Mahns
Airport Planner
FAA, Alaskan Region

AIAS Airlines Airport Affairs Committee

Ted Stevens Anchorage International Airport – Fairbanks International Airport

July 5, 2012

Mr. Steve Hatter
Deputy Commissioner of Aviation
4111 Aviation Avenue
P.O. Box 196900
Anchorage, AK 99519-6960

Re: AIAS Planning Study Forecasts

Thank you for the opportunity to participate in the development and review of the forecasts for Ted Stevens Anchorage International Airport, Lake Hood Seaplane Base, and Fairbanks International Airport. We appreciate the extensive effort made by the AIAS Planning team to reach out and actively solicit airline participation in the process.

The AIAS (Alaska International Airport System) AAAC (Airlines Airport Affairs Committee) believes these forecasts accurately represent current economic uncertainties and trends and are a reasonable estimate of long term future activity levels. Given uncertainties of forecasts, especially today, we encourage future planning to be based on aviation activity trigger points rather than forecasted dates. We also believe the forecasts will need to be revisited prior to committing to any large capital projects.

Thanks again for partnering with the airlines on the forecasts. We look forward to working with you on the Airport Master Plans.

Best Regards,



Kathy Smith
Co-Chairperson
AIAS Airlines Airport Affairs Committee



Kevin Hoffmann
Co-Chairperson
AIAS Airlines Airport Affairs Committee

cc: AIAS Airlines Airport Affairs Committee

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ALASKA INTERNATIONAL AIRPORT SYSTEM PLAN
LAKE HOOD AIRPORT
Forecast Summary
May 23, 2012

This report summarizes results of the aviation activity forecasts prepared for the Alaska International Airport System (AIAS) for Lake Hood Airport (LHD). In this study, LHD includes both the Lake Hood Seaplane Base and the Lake Hood Strip. In addition to LHD, The AIAS forecasts encompassed the two international airports in the State, Ted Stevens Anchorage International Airport (ANC) and Fairbanks International Airport (FAI). The AIAS forecasts are presented in more detail in the Alaska International Airport System Plan Forecast Technical Report.

Forecasts are presented for 2015, 2020, 2025, and 2030. This document first describes the purpose and background of the forecasts. Next, key socioeconomic and aviation industry factors are discussed and recent historical aviation activity at ANC is described. The document continues with projections of the aircraft operations forecasts including air taxi, and general aviation (GA). The document concludes with a comparison with the Federal Aviation Administration's (FAA) 2011 Terminal Area Forecast (TAF).

1.0. Purpose and Background

The AIAS forecasts have been prepared in support of the AIAS Planning Study, as part of the AIAS' overall strategic planning effort. The purpose of the planning effort is to outline initiatives to strategically position AIAS's standing in the international air cargo and passenger industries, explore the use of incentives and to help maximize use of the System's assets and enhance its long-term financial viability. The forecasts will also support the AIAS Strategic Plan which lays out the mission, vision, and values of the AIAS, and summarizes its operating context, external challenges, opportunities, and strategic initiatives. Finally, the forecasts will be used in the ANC and FAI Master Plan Updates along with the ANC Part 150 Study.

More specifically, the AIAS forecasts are intended to help determine the capacity of the AIAS system in order to: (1) explore options for transferring aviation activity between the two airports to optimize use of existing capacity; and (2) determine trigger points for adding new capacity to the system if needed. To assist in the capacity modeling analysis, the forecasts were used to prepare design day flight schedules for ANC and FAI. The forecasts are baseline forecasts that do not incorporate the impacts of capacity constraints or incentive programs and therefore assume that the AIAS airports will continue in their current roles.

As part of the forecast process, a forecast methodology and a set of forecast assumptions were prepared for review and approval by the State of Alaska and other stakeholders. In addition, a comprehensive survey of the major passenger and cargo carriers serving ANC and FAI was undertaken. These are described in more detail in the AIAS Forecast Technical Report.

2.0. Historical Aviation Activity at LHD

Aviation activity at LHD is comprised of the following subcategories:

- Air Taxi and Other Activity – Including small, for hire operators, and some other commercial operators that are not classified as passenger or cargo operators in the traditional U.S. DOT data sources; and
- General Aviation Activity; and

FAA tower statistics include all aircraft operating at an airport, but at a much lower level of detail than most other data sources. As a result, very detailed data are available for large aircraft, but the data for smaller general aviation aircraft are sparse. An additional issue is the breakout of operations at LHD which the FAA combines with ANC when compiling its statistics.

Information on operations at LHD is limited. Until 2007, the Airport analyzed tower counts to provide a breakout of activity between the two airports. LHD operations since 2007 are estimated based on the 2007 breakout of activity. Operations at LHD have declined slightly over the period. In 2010, there were 59,214 air taxi and GA aircraft operations estimated at Lake Hood compared to 65,245 in 2000. ANC and Lake Hood accounted for a combined total of 273,303 aircraft operations in 2010.

3.0. Key Forecast Assumptions

Aviation activity forecasts are highly dependent on assumptions about the future economic and operating environment. The ultimate determinants of aviation demand are the strength of the economy and the cost of operations. Consequently, a clear understanding of local, national, and international economic forces and trends is important for developing an accurate aviation activity forecast. This is particularly true for LHD and Alaska. Due to the State's large size, the remote location of many communities, and the limited road system, aviation assumes a role typically undertaken by highways and rail elsewhere in the country. Thus, a healthy aviation system is vital to the continued growth of the Anchorage and Alaska economies.

3.1. Socioeconomic Assumptions

Three sets of socioeconomic forecasts were considered for use in this study, including:

- Woods & Poole, Complete Economic and Demographic Data Source (CEDDS);
- Alaska Department of Labor and Workforce Development (DOL), Alaska Population Projections: 2010 to 2034; and
- Institute of Social and Economic Research (ISER), Economic and Demographic Projections for Alaska and Greater Anchorage 2010-2035.

Woods & Poole (W&P) is an economic forecasting firm that publishes annually updated economic and demographic forecasts for each state, metropolitan area, and county in

the United States. Its advantage is that it is a comprehensive and up-to-date source that provides forecasts for all major economic metrics such as population, employment and income. Its disadvantage is that it does not have the insight into Alaska's conditions that local organizations possess.

The Alaska Department of Labor's Population Projections are current, having been published earlier in 2011, and reflect in-depth knowledge of the State. The projections, however, are limited to population and do not include employment or income.

The ISER report contains forecasts of population, employment and income for Alaska, the Municipality of Anchorage and the Matanuska-Susitna Borough, but includes no information for Fairbanks. Its population forecasts are higher than those prepared by either W&P or the Alaska Department of Labor, but despite higher population forecasts its income forecasts are more conservative than W&P.

After discussion with many of the key airport stakeholders, a hybrid socioeconomic forecast was developed for use in this study. The hybrid forecast applied the average of the ISER and W&P per capita income projections to the State DOL population projections to develop an income forecast. The W&P income projections were considered too aggressive by regional economic development experts familiar with Alaska. The ISER projections, on the other hand, have a history of being conservative. Therefore, taking the average of the two forecasts was considered a reasonable compromise. For employment projections, a hybrid approach that applied the per capita employment projections from the W&P forecasts to the State DOL population projections was selected. This approach helps maintain consistency with the population projections, especially with respect to the relative growth rates between Anchorage, Fairbanks and the remainder of Alaska.

There were some concerns that using a 2009/2010 base year during the middle of an economic downturn may negatively bias the projections. However, the large amount of public debt and anticipated reductions in government spending will likely reduce the rate of future economic growth, so the period of rapid recovery experienced after previous downturns is less likely to occur this time.

The economic forecasts assume no new major economic downturn, such as occurred during the depression of the 1930s or the financial crisis of 2008. Local, national and international economies will periodically increase and decrease the pace of growth in accordance with business cycles. However, it is assumed that over the 20-year forecast term the high-growth and low-growth periods will offset each other so that the adjusted economic forecasts will be realized.

3.2. Fuel Costs and Air Fares

Fuel prices are an important determinant of aviation demand and were incorporated in AIAS forecasts. Fuel prices are very sensitive to crude oil prices which have been

extremely volatile over the past several years. Several forecasts of fuel and crude oil prices were considered.

Jet and avgas fuel costs, along with other fuel costs, are generally higher in Alaska than elsewhere in the United States for a variety of reasons including higher refining costs, higher transport costs, and the expense of Alaska insurance and spill response costs.

Although hard data are not readily available, anecdotal evidence is that the Alaska fuel price differential has always been a factor, and is expected to remain a factor through the foreseeable future. There are future circumstances that may change the degree to which fuel prices in Alaska differ from those elsewhere in the United States, including:

- Current Asian excess fuel refining capacity may diminish, reducing the competitive pressure that is restraining Alaska fuel prices from increasing even more than is presently the case;
- The Jones Act, which requires that fuel shipped from a U.S. port to Alaska be carried on U.S. flag vessels (which are more expensive than foreign flag vessels), could be altered, either increasing or decreasing the Alaska fuel price differential; and
- Regulatory or tax rate changes within Alaska or the U.S. could alter the current Alaska fuel price differential.

Although the above factors will have an influence on Alaska fuel prices, the main determinants will continue to be the global demand and supply factors that affect fuel prices throughout the world.

As noted earlier, there is no available data base of average Alaska fuel prices that spans the historical period. Likewise, there are no available long-term forecasts for fuel prices specific to Alaska. For these reasons, U.S. fuel price data was used as a proxy for Alaska fuel price data in subsequent analyses.

Between 2000 and 2011, jet fuel prices almost tripled in real terms. Within that term, there were sharp fluctuations as well. Oil prices peaked in mid-2008 and then plummeted during the ensuing financial crisis. By 2011, they had returned to levels close to those in 2008.

After reviewing several alternative jet fuel price forecasts, a compromise projection was developed with the input of those stakeholders that reviewed the forecast assumptions. The selected jet fuel price forecast assumes that fuel prices will grow gradually in real terms to the average of the United States Department of Energy (DOE) Reference and High forecasts by 2015, and then continue to grow at the average of the DOE Reference and High cases thereafter. This assumption incorporates the continuing tendency of fuel prices to track higher than most forecasts but does not completely accept the DOE High forecast which was intended to represent an extreme case.

3.3. Other Forecast Assumptions

In addition to the economic and fuel price assumptions, additional assumptions below were used to prepare the LHD activity forecasts:

- No nighttime curfews at LHD.
- New environmental regulations and fees will not be so extreme as to significantly constrain air transportation in Alaska.
- The FAA will successfully implement any required changes and improvements for the national airspace system to accommodate the unconstrained forecast of aviation demand.
- Security issues related to air travel will continue to evolve as new procedures and technology enhance airport security. Events that may affect pilot confidence in airport security or air travel security cannot be predicted. It is assumed that there will be no terrorist attacks during the forecast period that will affect confidence in the aviation system to the same extent as 9/11. It is also assumed that the Transportation Security Administration (TSA) and associated security costs and requirements will continue through the forecast period.
- Although volcanic eruptions are likely to occur in Alaska and elsewhere in the North Pacific, they will cause no long term disruptions in air transportation.
- Although some additional airline consolidation may occur, no attempt is made to predict which individual airlines would be affected.

4.0. Air Taxi and Other Forecasts

For the purpose of this analysis, the air taxi and other category includes traditional “for hire” air taxi at LHD.

Air taxi and other operations at LHD use smaller aircraft than ANC and typically support recreational activities such as fishing and hunting expeditions unrelated to oil exploration. These operations were assumed to grow at the same rate as LHD general aviation operations.

Table 1 shows the forecast of air taxi passenger enplanements at LHD. There has been significant variation in the historical data, ranging from a low of 13,040 enplanements in 2004 to a high of 24,900 enplanements in 2002. However, there is no discernible long-term trend. Based on the facilities currently available at Lake Hood, it is not anticipated that there will be significant changes in the types or size of aircraft operating at the Airport; therefore no material change in the number of passengers per operation is projected. Consequently, air taxi passenger enplanements are projected to grow at the same rate as air taxi aircraft operations. As shown, enplanements are projected to grow 1.4 percent per year to over 26,000 by 2030.

Table 1

LAKE HOOD AIRPORT
Air Taxi Enplanement Forecasts
Lake Hood Seaplane Base and Lake Hood Strip

Year	Enplanements		Air Taxi Operations (c)
	Historical (a)	Projected (b)	
2000	19,127		
2001	20,363		
2002	24,900		
2003	23,831		
2004	13,040		
2005	13,727		
2006	18,540		
2007	23,647		
2008	15,184		
2009	15,018		
2010	19,789	19,789	14,286
2015		20,937	15,115
2020		21,876	15,793
2025		23,776	17,164
2030		26,183	18,902
	Average Annual Growth Rate		
2010-2030		1.4%	1.4%

(a) FAA ACAIS database.

(b) Projected to increase at same rate as air taxi operations.

(c) Table 10.11 in AIAS Forecast Technical Report.

Sources: As noted and HNTB analysis.

5.0. General Aviation Forecasts

General aviation is an important component of aviation in Alaska. Nationally, personal and recreational general aviation has been in decline while corporate and business-related general aviation has been increasing. Both categories suffered declines during the fuel spike and recession of 2008 and 2009, but have experienced a partial recovery in 2010 and 2011.

General aviation operations at ANC and LHD were initially projected in combination since recent breakouts of activity between the two airports are unavailable. The forecast was based on a market share analysis of U.S. general aviation activity, measured by general aviation hours flown. The change in the historical ratio of ANC/LHD general aviation operations to U.S. general aviation hours flown was calculated, and this change in the ratio was projected to continue in the future. As a share of U.S. general aviation and air taxi hours flown, general aviation operations at these two airports have experienced a slight decline. Since the Anchorage metropolitan area economy is projected to grow less quickly than the U.S. economy in the future it is reasonable to assume that going forward this decline in share will continue.

Two conflicting factors will affect the future split of general aviation operations between ANC and LHD. The LHD share of general aviation activity has grown over the past ten years, suggesting that the LHD share of general aviation will continue to increase at the expense of ANC. However, jets and sophisticated turboprops represent the fastest growing component of general aviation, and most of these aircraft are unable to use the facilities at LHD suggesting that ANC general aviation will grow faster than LHD general aviation. As a compromise between these countervailing factors, it was assumed that the percentage split between ANC and LHD general aviation operations will remain constant at 2010 levels.

6.0. Forecast Summary

Table 2 summarizes the aircraft operations forecasts for LHD. Estimated aircraft operations at Lake Hood are projected to increase from 59,214 in 2010 to 78,348 in 2030, an average annual increase of 1.4 percent. These baseline forecasts are unconstrained and assume that there will be adequate airfield, terminal, and cargo facilities to accommodate projected traffic. The impact of constraints on aviation activity will be addressed later in the AIAS study.

Table 2

LAKE HOOD AIRPORT

Summary of Aircraft Operations Forecast
Lake Hood Seaplane Base and Lake Hood Strip

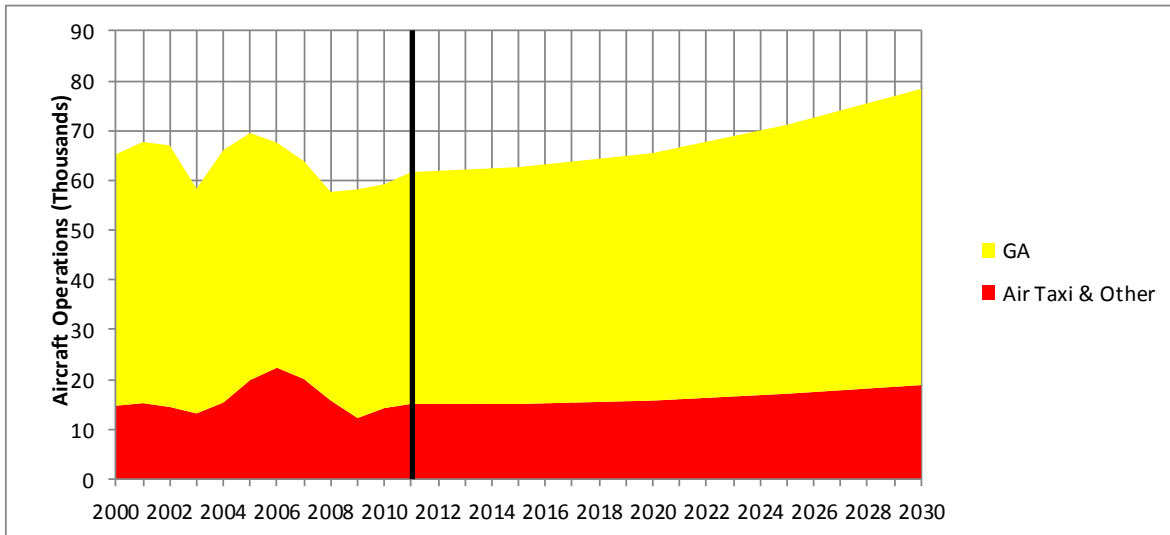
Year	Passenger	All-Cargo	Air Taxi and Other	General Aviation	Military	Total
2010	-	-	14,286	44,928	-	59,214
2015	-	-	15,115	47,534	-	62,649
2020	-	-	15,793	49,667	-	65,460
2025	-	-	17,164	53,978	-	71,142
2030	-	-	18,902	59,446	-	78,348
Average Annual Growth Rate						
2010-2030	-	-	1.4%	1.4%	-	1.4%

Source: Table 10.11 in AIAS Forecast Technical Report.

A graphic summary of the aircraft operations forecasts for LHD is presented in Exhibit 1.

Exhibit 1

Summary of Projected Activity: Lake Hood Airport
Aircraft Operations



Source: Exhibit 10.3 in AIAS Forecast Technical Report.

7.0. Forecast Comparisons

The FAA's TAF combines ANC and LHD operations. Therefore, the AIAS forecasts of ANC and LHD operations were combined for the purposes of the comparison in Table 3. Commercial operations include passenger, cargo, and air taxi and other operations. In the TAF, these correspond to the air carrier and air taxi classifications. The AIAS forecast growth rate for commercial operations at ANC (1.4 percent) is lower than the TAF growth rate (1.9 percent) resulting in an AIAS commercial operations forecast that is almost 9.0 percent lower than the TAF by 2030.

The AIAS and TAF growth rates for total operations at ANC are almost identical - the total operations forecasts in 2030 are within 1.0 percent of each other. The lower AIAS projected growth in commercial operations is offset by higher projected growth in general aviation operations.

According to the FAA, forecasts are considered to be consistent with the TAF if they differ by less than 10 percent within the five-year forecast period, and by less than 15 percent within the ten-year forecast period. The AIAS forecast for ANC plus LHD meets these criteria.

8.0. Conclusion

The above demand forecasts are subject to political, economic and technological factors that are difficult to predict. Therefore, the forecasts should be monitored and compared to actual activity to identify any material deviations. Also, the addition of new airport capacity should be tied to trigger levels to ensure that facilities are phased to come on line when needed and not too soon or too late. Finally, it should be reemphasized that these forecasts represent unconstrained demand. Therefore, if physical, financial, political, or environmental obstacles prevent the implementation of capacity required to accommodate this demand, actual activity levels may be lower than anticipated in these forecasts.

Table 3

**Comparison with FAA Terminal Area Forecast
Anchorage and Lake Hood**

Category and Year	AIAS Forecast	TAF	Percent Difference
Passenger Enplanements			
2010	2,261,181	2,171,982	4.1%
2015	2,397,244	2,321,116	3.3%
2020	2,538,286	2,547,479	-0.4%
2025	2,701,762	2,802,763	-3.6%
2030	2,908,110	3,084,842	-5.7%
Average Annual Growth Rate			
2010-2030	1.3%	1.8%	
Commercial Operations			
2010	189,389	187,169	1.2%
2015	199,693	203,215	-1.7%
2020	215,938	223,639	-3.4%
2025	233,311	247,236	-5.6%
2030	250,864	274,680	-8.7%
Average Annual Growth Rate			
2010-2030	1.4%	1.9%	
Total Operations			
2010	272,036	274,778	-1.0%
2015	290,646	287,646	1.0%
2020	310,359	307,735	0.9%
2025	333,260	332,880	0.1%
2030	360,021	360,290	-0.1%
Average Annual Growth Rate			
2010-2030	1.4%	1.4%	

Source: Table 10.14 in AIAS Forecast Technical Report.