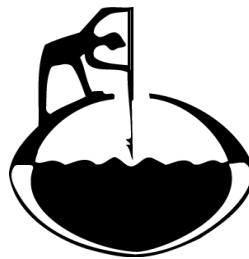


ANCHORAGE INTERNATIONAL AIRPORT 1998 ECONOMIC SIGNIFICANCE

by
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prepared for
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CONTENTS

[I. Introduction](#)

[II. Summary of Findings](#)

[III. Activity at the Airport](#)

[IV. Jobs and Payroll at the Airport](#)

[V. Total Economic Significance of the Airport](#)

[VI. Economic Value of the Airport](#)

[VII. Comparative Measures of Importance](#)

VIII. Airport Economic Impact Rules of Thumb

I. INTRODUCTION

This brief report updates our 1995 study, *Economic Contribution of the Anchorage International Airport*, which documented the airport's economic importance and described in detail the range of airport activities. Here we look primarily at growth in the number of airport-related jobs in recent years.

Anchorage International Airport covers 4,700 acres and includes both domestic and international terminals and a general aviation and air taxi base around Lake Hood. Unlike airports in other U.S. cities of comparable population (about 250,000), Anchorage International Airport serves not only local households and businesses, but several other important clients: (1) international cargo carriers; (2) visitors from outside the state; and (3) visitors from other parts of Alaska. It also has a number of government and private tenants who find it either advantageous or necessary to be located at the airport.

According to the Federal Aviation Administration, Anchorage has 3 times the passenger arrivals and 48 times the cargo arrivals you'd expect, based on the city's population. About half of all passengers who travel to Alaska by air arrive at Anchorage International Airport; an average of 166 passenger planes land daily.

Most of the major U.S. and foreign cargo carriers operate out of Anchorage, providing cargo service between the U.S. and the Far East and Europe and the Far East. Several large cargo carriers have established hubs in Anchorage in the past decade, and consequently 93 cargo planes land on an average day. The federal government also recently gave foreign carriers the authority to transfer cargo from one plane to another in Anchorage, providing the potential for greater flexibility and reduced costs for those carriers—and for more cargo handling jobs in Anchorage.

II. SUMMARY OF FINDINGS

Today there are about 8,200 jobs at the airport. If Anchorage International Airport disappeared tomorrow, Anchorage would lose more than 12,000 jobs and \$400 million in annual payroll—roughly one in every ten jobs in Anchorage and about 10 cents of every payroll dollar. That includes all jobs that depend on air transport activities—both at the airport and throughout the community.

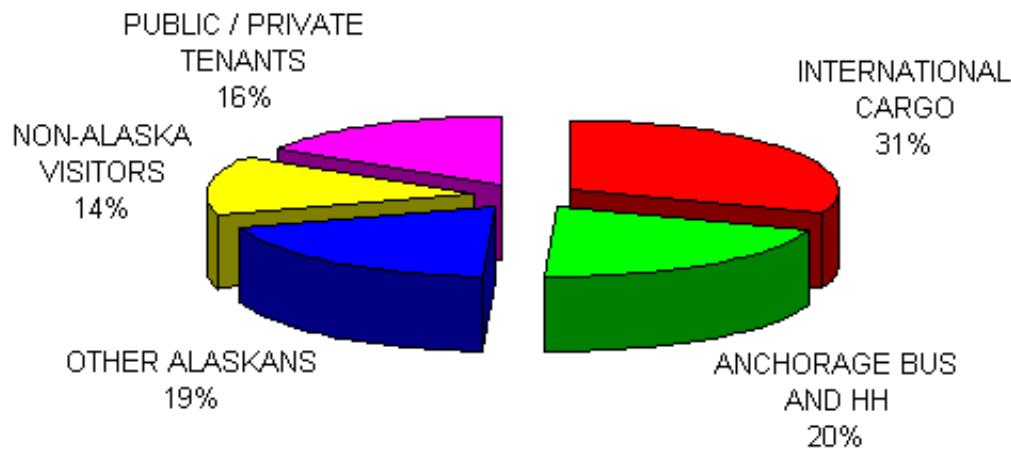
Also, if the millions of visitors who fly into the airport every year no longer came and spent money in the community, Anchorage would lose another 6,000 jobs and \$115 million in payroll. That amounts to an additional 5 percent of Anchorage jobs and about 2.5 cents of every payroll dollar.

Other losses—more difficult to estimate but nevertheless real—would follow. For instance, visitors who fly into Anchorage typically spend money in other Alaska communities as well, so other regional economies would also be hurt. And without the airport, the costs of moving people and goods to and within Alaska would be considerably higher, increasing costs for households and businesses throughout the state.

But far from disappearing, Anchorage's airport is growing—led in recent years by very strong growth in international cargo operations. We estimate increased cargo operations have created 1,000 jobs in the air transport industry in Anchorage over the past two years and many more in related sectors that depend on air transport. Anchorage is the nation's most important air cargo airport, with an average of 93 cargo planes landing daily—up from 60 daily landings as recently as 1994.

Figure A shows why the airport is so important to the local and the state economy. Airports in most cities the size of Anchorage exist mainly because of demand from local households and businesses. But only about 20 percent of airport jobs serve Anchorage households and businesses. Because of its geographic location, Anchorage also serves international carriers, especially cargo carriers. The biggest share of airport jobs—30 percent—result from international cargo operations. Those cargo operations are, as we mentioned above, leading growth at the airport.

FIGURE A. ANCHORAGE INTERNATIONAL AIRPORT JOBS AT THE AIRPORT BY CLIENT SERVED



Mid-Year 1998

INTERNATIONAL CARGO	ANCHORAGE BUS AND HH	OTHER ALASKANS
NON-ALASKA VISITORS	PUBLIC / PRIVATE TENANTS	

Anchorage is also the primary transportation link between Alaska and the rest of the country; tourists from outside the state generate 14 percent of airport jobs. Anchorage provides air services to many other Alaska communities as well. Alaskans from outside Anchorage—who come to shop, get medical care, and for many other reasons—create nearly 20 percent of jobs at the airport. Finally, various public and private tenants are also located at the airport, accounting for about 16 percent of airport jobs.

III. ACTIVITY AT THE AIRPORT

Business at the airport is increasing at a rapid rate, and this growth is reflected in the trends in the basic indicators of passenger and cargo traffic.

Passengers

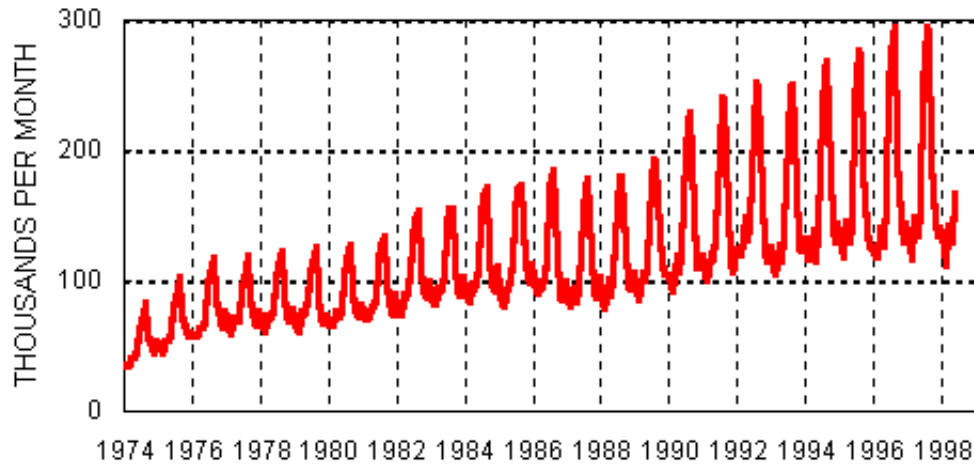
The number of passengers served at the airport—the sum of arrivals (deplanements), departures

(enplanements), and transit passengers—now exceeds 5 million per year, or almost 14,000 every day (Table 1).

Table 1. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL PASSENGER ACTIVITY (in thousands)				
FISCAL YEAR	PASSENGER DEPARTURES (Enplanements)	PASSENGER ARRIVALS (Deplanements)	TRANSIT	TOTAL
1990	1,587	1,560	1,529	4,676
1991	1,729	1,744	1,069	4,542
1992	1,860	1,846	785	4,491
1993	1,836	1,832	577	4,245
1994	1,917	1,899	543	4,359
1995	2,040	2,039	598	4,677
1996	2,051	2,034	679	4,764
1997	2,132	2,135	782	5,049
1998	2,126	2,124	767	5,017
Source: Anchorage International Airport. Fiscal Years—July 1 to June 30.				

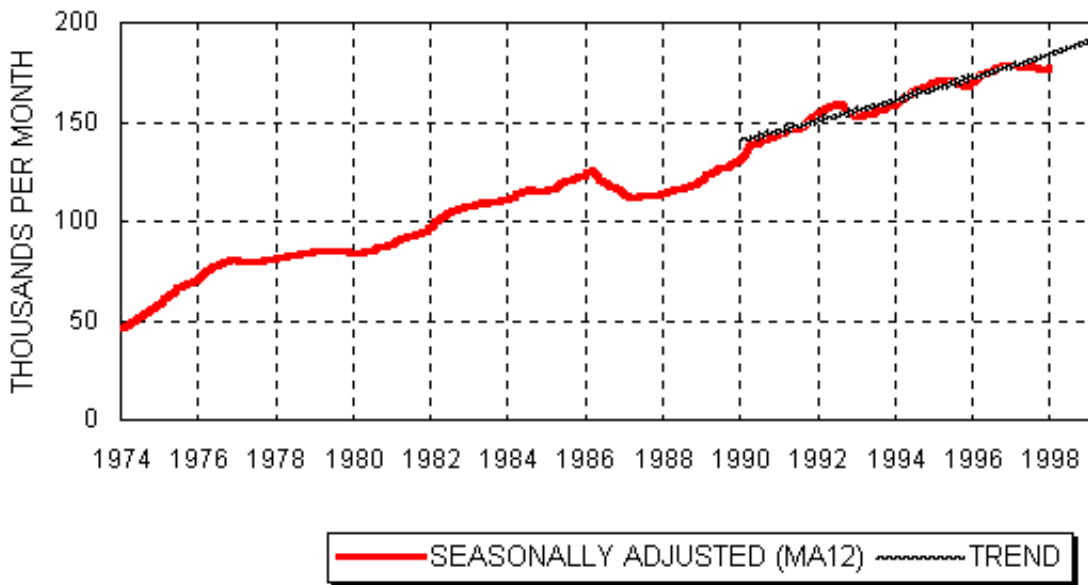
Since 1974, scheduled passenger departures (enplanements) have increased at an annual rate of 4.9 percent, and although that rate has slowed in recent years, the trend has still averaged 3.4 percent since 1990 (Figure 1B), well above the rate of population growth for the region. This growth has been fueled both by expansion of the Alaska population and economy and by the strong growth in the tourist industry, not only in Anchorage but in the rest of Alaska as well. The strong influence of tourist traffic is illustrated by the dramatic seasonal fluctuations in departures when viewed on a month-to-month basis (Figure 1A).

**FIGURE 1A. MONTHLY DEPARTING PASSENGERS
ANCHORAGE INTERNATIONAL AIRPORT**



Includes scheduled passengers on domestic and international carriers

**FIGURE 1B. MONTHLY DEPARTING PASSENGERS
ANCHORAGE INTERNATIONAL AIRPORT**



Includes scheduled passengers on domestic and international carriers

Growth in departures has been dominated by the domestic carriers, which now account for over 98 percent of the total (Table 2). International departures declined in the early 1990s but have stabilized in the last three years.

Table 2. ANCHORAGE INTERNATIONAL AIRPORT:

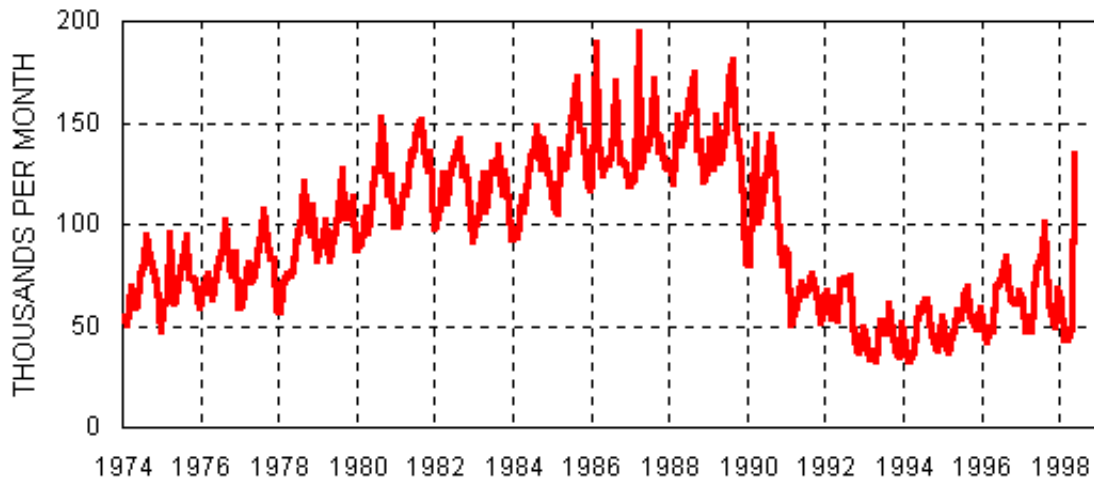
ANNUAL PASSENGER DEPARTURES
(in thousands)

FISCAL YEAR	DOMESTIC CARRIERS	INTERNATIONAL CARRIERS	TOTAL
1990	1,527	60	1,587
1991	1,679	50	1,729
1992	1,823	38	1,861
1993	1,807	29	1,836
1994	1,889	28	1,917
1995	2,014	26	2,040
1996	2,018	33	2,051
1997	2,094	38	2,132
1998	2,093	32	2,126

Source: Anchorage International Airport.
Fiscal Years—July 1 to June 30.

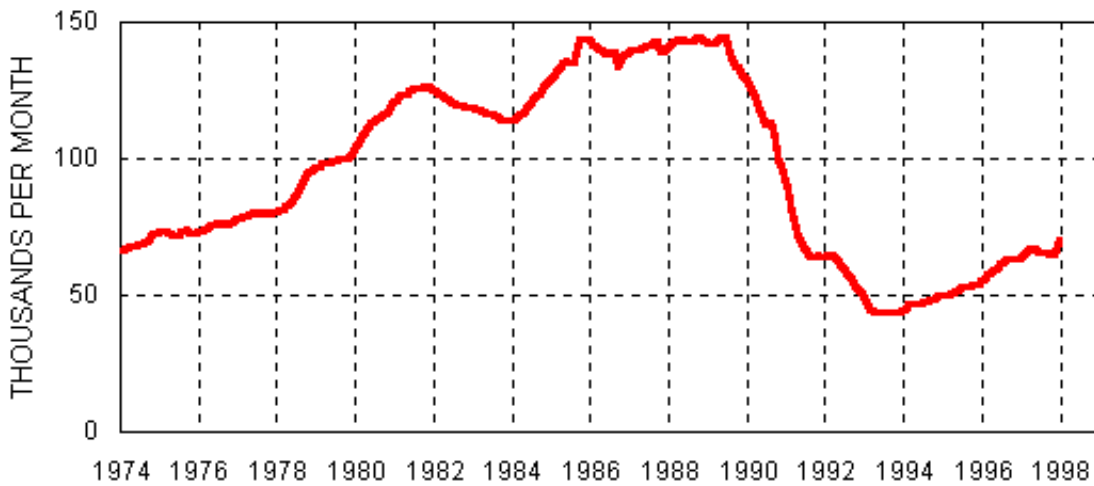
Noteworthy is the fact that the number of transit passengers, which fell dramatically with the introduction of longer-range aircraft, has been increasing since 1994 (Figures 2A and 2B). This is due to a rebound in the number of transit passengers handled by the international carriers (Table 3).

**FIGURE 2A. MONTHLY TRANSIT PASSENGERS
ANCHORAGE INTERNATIONAL AIRPORT**



Includes scheduled domestic and international carriers

**FIGURE 2B. MONTHLY TRANSIT PASSENGERS
ANCHORAGE INTERNATIONAL AIRPORT**



— SEASONALLY ADJUSTED (MA12)

Includes scheduled domestic and international carriers

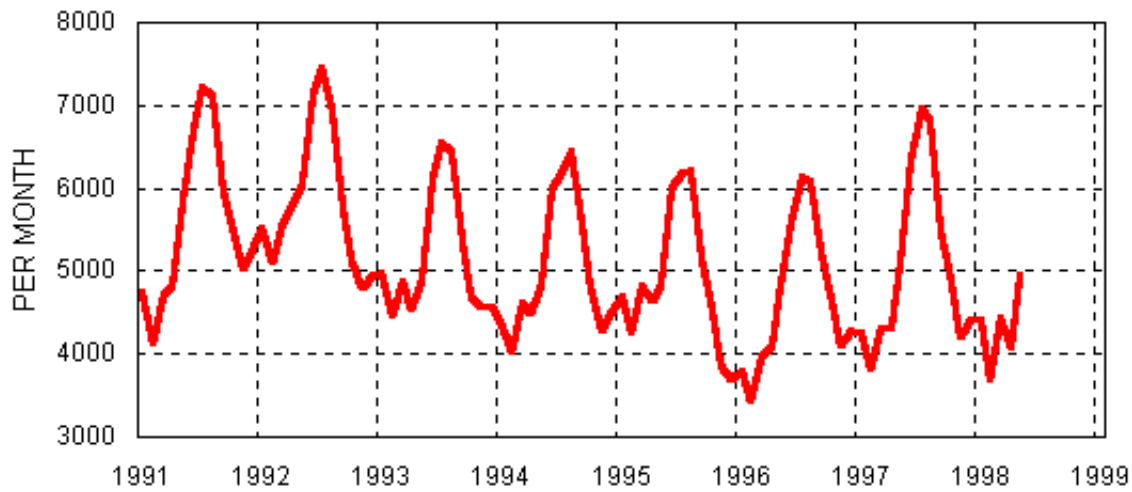
**Table 3. ANCHORAGE INTERNATIONAL AIRPORT:
ANNUAL TRANSIT PASSENGERS**

(in thousands)			
FISCAL YEAR	DOMESTIC CARRIERS	INTERNATIONAL CARRIERS	TOTAL
1990	142	1,387	1,529
1991	137	932	1,069
1992	173	612	785
1993	187	391	577
1994	194	348	543
1995	189	409	598
1996	171	507	679
1997	147	635	782
1998	165	601	767

Source: Anchorage International Airport.
Fiscal Years—July 1 to June 30.

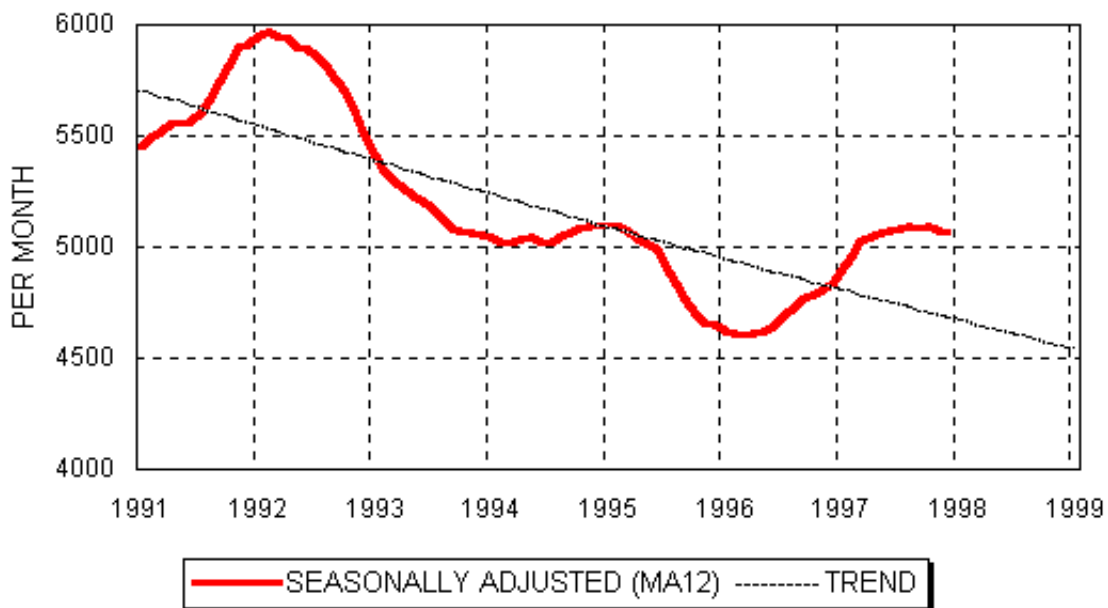
Although the number of passenger landings per month reflects considerable seasonal fluctuation (Figure 3A), when seasonally adjusted we see that they were declining through the early 1990s at an annual rate of -2.8 percent (Figure 3B). That trend has now been reversed, with both domestic and international landings having increased since 1996 (Table 4). The earlier decline in domestic landings was partly due to the departure of MarkAir from the local market, and partly the result of more efficient operations, since the number of passengers carried has continued to grow. Total scheduled passenger landings were nearly 61,000 for the year ending in June 1998, or 166 per day.

**FIGURE 3A. MONTHLY PASSENGER LANDINGS
ANCHORAGE INTERNATIONAL AIRPORT**



Includes scheduled domestic and international carriers

**FIGURE 3B. MONTHLY PASSENGER LANDINGS
ANCHORAGE INTERNATIONAL AIRPORT**



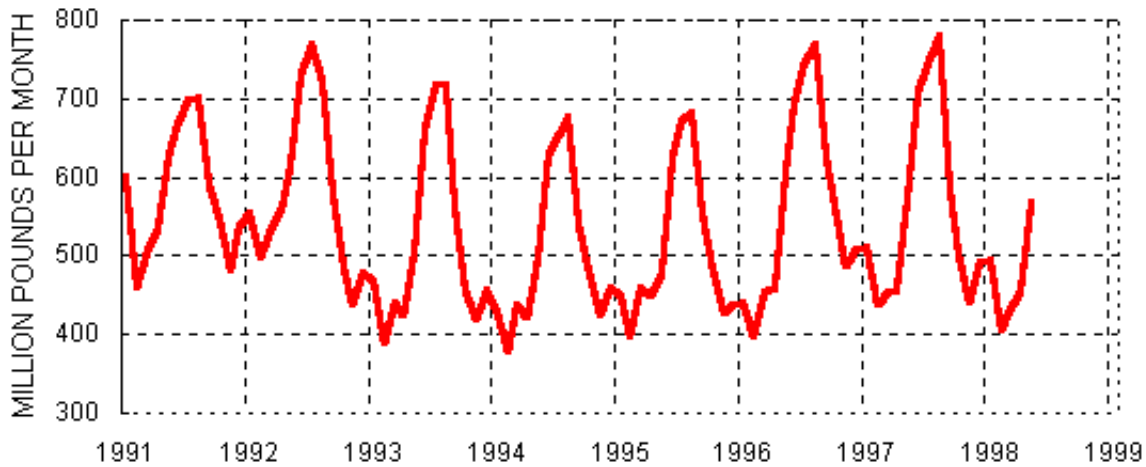
Includes scheduled domestic and international carriers

**Table 4. ANCHORAGE INTERNATIONAL AIRPORT:
ANNUAL PASSENGER FLIGHT LANDINGS**

Fiscal Year	DOMESTIC CARRIERS	INTERNATIONAL CARRIERS	TOTAL
1990	53,159	6,193	59,352
1991	60,887	4,581	65,468
1992	68,557	2,902	71,459
1993	62,889	2,197	65,086
1994	58,415	2,202	60,617
1995	58,844	2,298	61,142
1996	52,817	2,657	55,474
1997	55,351	3,369	58,720
1998	57,108	3,431	60,539
Source: Anchorage International Airport. Fiscal Years—July 1 to June 30.			

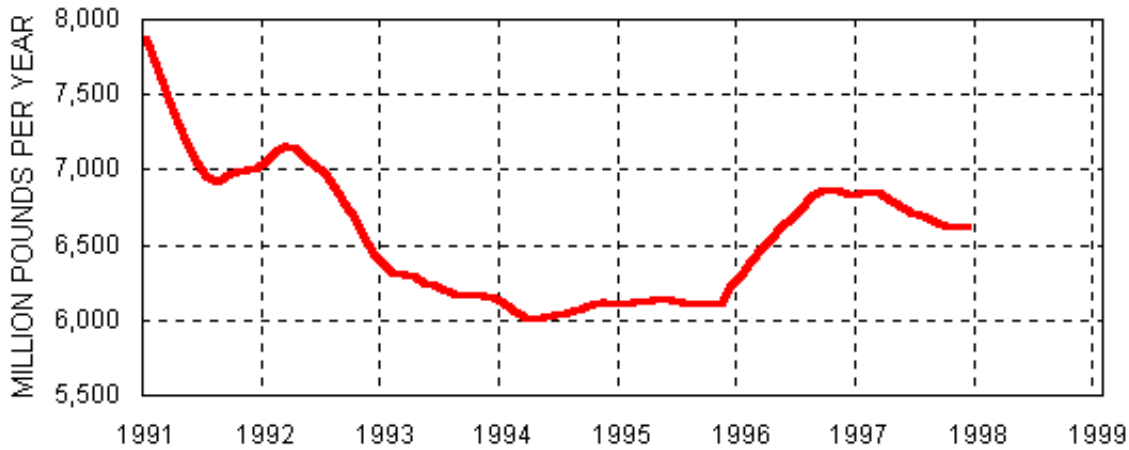
Passenger aircraft weight fluctuates considerably from month to month (Figure 4A), but the annualized certified maximum takeoff weight for passenger flights has increased since 1995 (Figure 4B). International carriers have accounted for this growth and now comprise 33 percent of the total (Table 5).

**FIGURE 4A. MONTHLY PASSENGER TAKEOFF WEIGHT
ANCHORAGE INTERNATIONAL AIRPORT**



Includes scheduled domestic and international carriers
Certified maximum gross takeoff weight

**FIGURE 4B. ANNUAL PASSENGER TAKEOFF WEIGHT
ANCHORAGE INTERNATIONAL AIRPORT**



— SEASONALLY ADJUSTED (MA12)

Includes scheduled domestic and international carriers
Certified maximum gross takeoff weight

**Table 5. ANCHORAGE INTERNATIONAL AIRPORT:
ANNUAL PASSENGER FLIGHT WEIGHT
(million pounds)**

Fiscal Year	DOMESTIC CARRIERS	INTERNATIONAL CARRIERS	TOTAL
1990	4,395	4,397	8,792
1991	4,707	3,168	7,875
1992	5,139	1,926	7,065
1993	5,009	1,350	6,358
1994	4,720	1,409	6,128
1995	4,501	1,605	6,106
1996	4,498	1,815	6,313
1997	4,528	2,314	6,842
1998	4,398	2,193	6,591

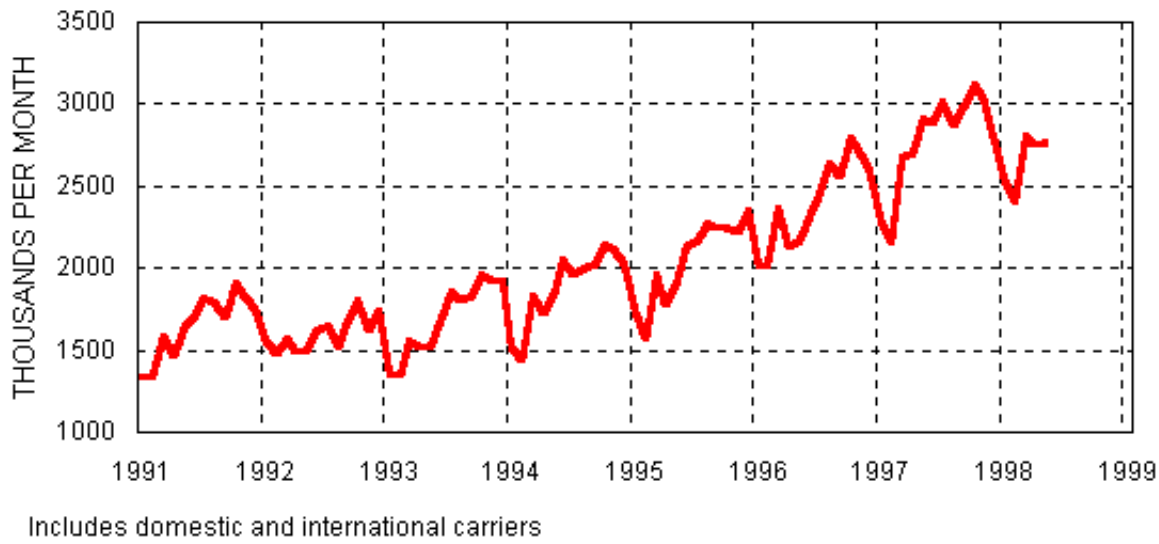
Source: Anchorage International Airport.
Fiscal Years—July 1 to June 30.

Cargo

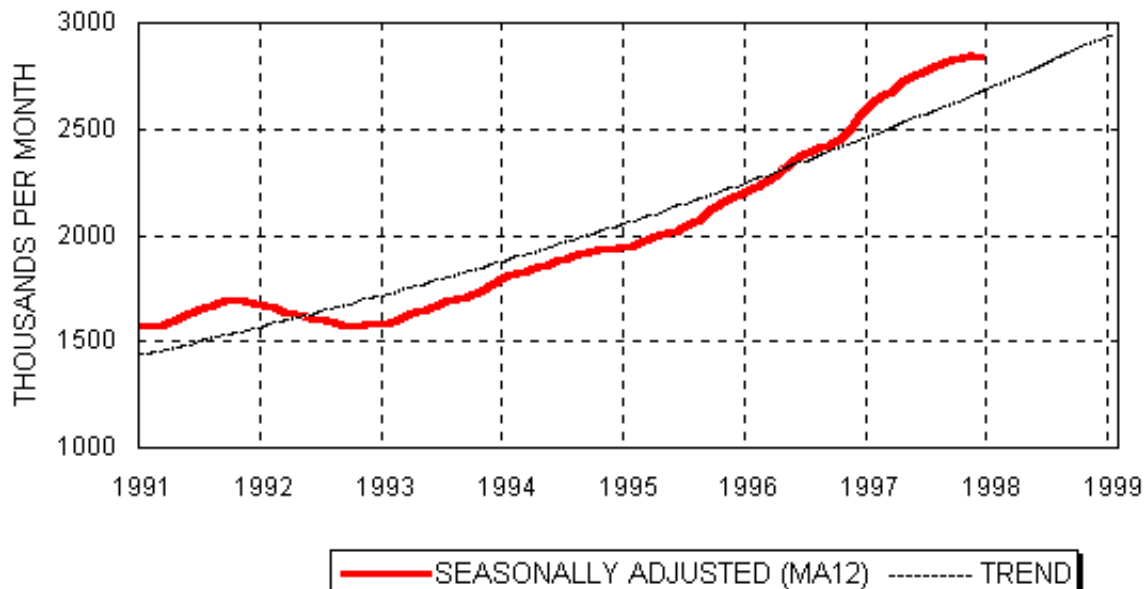
The volume of cargo moving through the airport is difficult to trace accurately, so the number of cargo landings and the maximum certified takeoff weight of cargo aircraft are the best indicators for tracking growth in cargo activity.

The number of cargo landings has been increasing at an annual rate of 9.4 percent since 1991 (Figure 5B). This growth has been driven by both expansion of international cargo handling activity and growth of the Alaska economy, as reflected in the strong increases in both domestic and international landings (Table 6). The seasonal pattern of landings reflects fluctuations in the international cargo market, rather than in the Alaska economy (Figure 5A). Cargo landings in 1998 were more than 34,000, and averaged 93 per day.

**FIGURE 5A. MONTHLY CARGO LANDINGS
ANCHORAGE INTERNATIONAL AIRPORT**



**FIGURE 5B. MONTHLY CARGO LANDINGS
ANCHORAGE INTERNATIONAL AIRPORT**

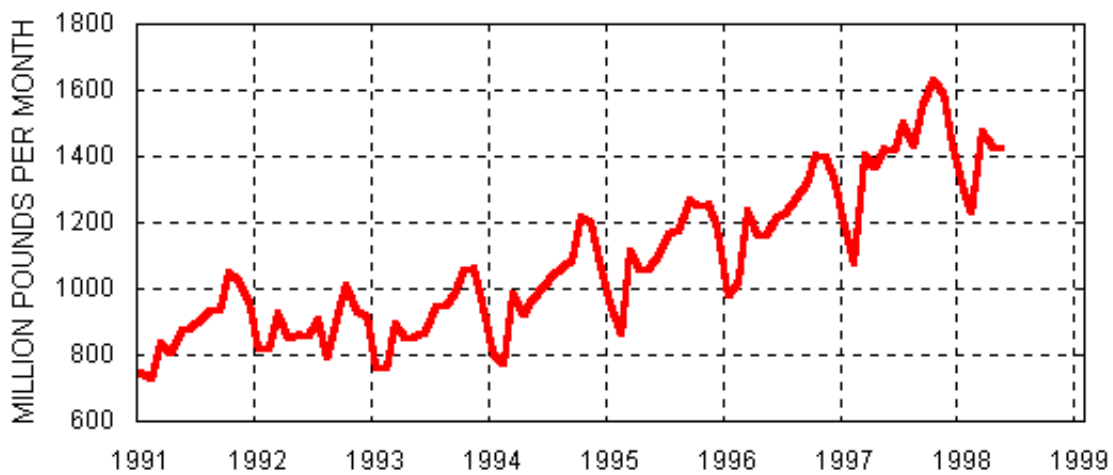


**Table 6. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL
CARGO FLIGHT LANDINGS**

Fiscal Year	DOMESTIC CARRIERS	INTERNATIONAL CARRIERS	TOTAL
1990	7,580	11,499	19,079
1991	7,077	11,772	18,849
1992	7,200	12,900	20,100
1993	6,556	12,550	19,106
1994	8,113	13,619	21,732
1995	7,990	15,373	23,363
1996	9,453	17,099	26,552
1997	11,986	19,393	31,379
1998	13,152	20,851	34,003
Source: Anchorage International Airport. Fiscal Years—July 1 to June 30.			

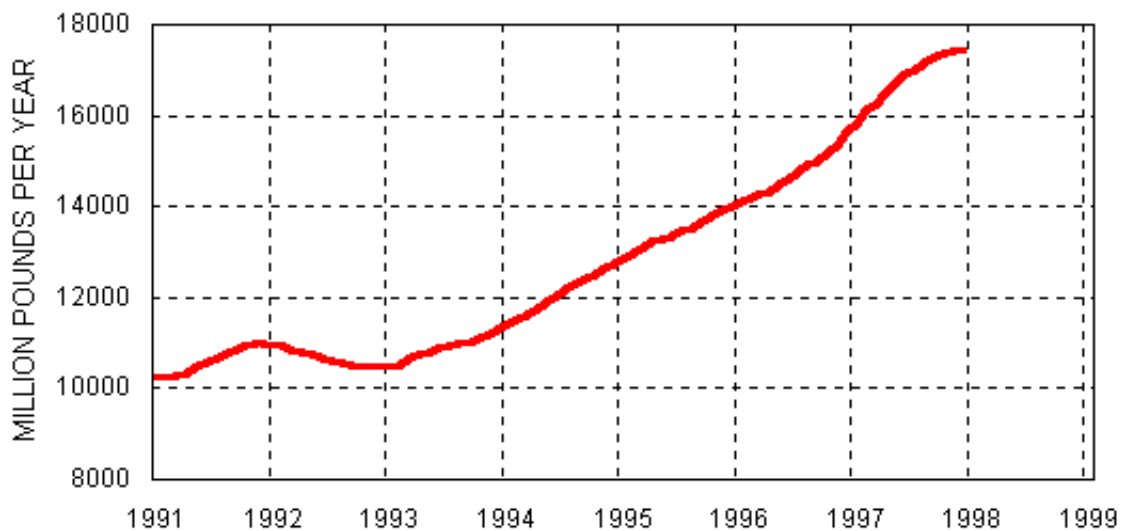
The weight of cargo aircraft has grown with the number of landings. Figure 6 shows both the monthly certified maximum takeoff weight (6A) and the annualized weight (6B), which is now close to 18 billion pounds. International cargo accounts for about 85 percent of the total traffic by weight (Table 7).

**FIGURE 6A. MONTHLY CARGO TAKEOFF WEIGHT
ANCHORAGE INTERNATIONAL AIRPORT**



Includes domestic and international carriers
Certified maximum gross takeoff weights

**FIGURE 6B. ANNUAL CARGO TAKEOFF WEIGHT
ANCHORAGE INTERNATIONAL AIRPORT**



— SEASONALLY ADJUSTED (MA12)

Includes domestic and international carriers
Certified maximum gross takeoff weights

**Table 7. ANCHORAGE INTERNATIONAL AIRPORT: ANNUAL
CARGO FLIGHTS WEIGHT**

(million pounds)			
Fiscal Year	DOMESTIC CARRIERS	INTERNATIONAL CARRIERS	TOTAL
1990	1,966	8,379	10,345
1991	1,740	8,503	10,243
1992	1,897	9,068	10,965
1993	1,780	8,750	10,530
1994	1,904	9,518	11,422
1995	1,950	10,914	12,863
1996	1,954	12,155	14,109
1997	2,190	13,657	15,846
1998	2,722	14,751	17,473
Source: Anchorage International Airport. Fiscal Years—July 1 to June 30.			

The scope of activity at the airport is reflected in the list of carriers currently active at the airport (Table 8).

Table 8. ANCHORAGE INTERNATIONAL AIRPORT: CARRIERS			
INTERNATIONAL		DOMESTIC	
Scheduled Passenger		Scheduled Passenger	
Aeorflot		Alaska Airlines	
Air China		America West	
Alaska Airlines		Continental Airlines	
Asiana Airlines		Delta Airlines	
Belair		Era Aviation	
Canadian 3000		Frontier Flying Service	
Cathy Pacific Airlines		Grant Aviation	

	China Airlines		Northwest Airlines
	Condor		Peninsula Airways
	Eva Air		Reeve Aleutian Airways
	Korean Air		Reno Air
	Mavia/Magadan		South Central Air
	Northwest		TWA
Passenger Charters			United Airlines
	Japan Airlines		Yute Airlines
All Cargo		Passenger Charters	
	Air China		Hawaiian Airlines
	Air Hong Kong		Sun Country
	American Transair	All Cargo	
	Asiana Airlines		Air Cargo Express
	Atlas Air		Air Central Express
	Cathy Pacific Airways		Alaska Airlines
	China Airlines		Empire Airlines
	Eva Air		Era Aviation
	Evergreen International Airlines		Lyndon Air Cargo
	Federal Express		Northern Air Cargo
	Japan Airlines		South Central Air
	Korean Air		
	Nippon Cargo Airlines		
	Northwest Air Cargo		
	Polar Air Cargo		
	Singapore Airlines		
	Southern Air Transport		
	United Airlines		

	Worldwide Cargo		
	United Parcel Service		
All Cargo Charters			
	Aeroflot		
	American International Airlines		
	Emery Worldwide Airlines		
	Gemini		
	Malaysia Airlines		
	Martinair		
	Southern Air Transport		
	Tower Air		
Source: Anchorage International Airport			

IV. JOBS AND PAYROLL AT THE AIRPORT

Employment Growth

Employment at the airport is nearly 8,200 workers on an average day. Although most jobs are related to providing air transport services to Anchorage, to the rest of Alaska, and to customers throughout the world, there are some businesses and government agencies located at the airport that are not in the air transport business.

If we consider just the air transportation industry, we see that since 1988 employment has been growing at a 3.3 percent annual rate and averaged 5,094 in 1997, with an annual payroll of \$228 million (Table 9).

Table 9. ANCHORAGE INTERNATIONAL AIRPORT: AIR TRANSPORT INDUSTRY EMPLOYMENT AND PAYROLL		
	Air Transport Jobs	Payroll (million \$)
1988	3,384	\$108.3
1989	3,756	\$121.2
1990	4,149	\$131.5

1991	4,523	\$155.8
1992	4,721	\$179.3
1993	4,716	\$182.6
1994	4,863	\$191.8
1995	4,695	\$189.0
1996	4,650	\$190.5
1997	5,094	\$227.8
Source: Alaska Department of Labor, calendar-year basis.		

The trend in jobs has been steadily upward, with the exception of a sharp drop in early 1995 when MarkAir pulled out of the market (Figures 7A and 7B). At the time, other carriers were able to pick up the passengers and cargo that MarkAir had been serving with fewer employees. Although there was a loss of about 500 jobs, all those jobs were replaced within two years as international cargo activity at the airport expanded. Since the start of 1997, growth has been particularly strong, and in the middle of 1998, seasonally adjusted employment in the air transport industry is close to 5,500 (Figure 8). In the last two years, continued growth in international cargo activities has added close to 1,000 jobs to the air transport sector.

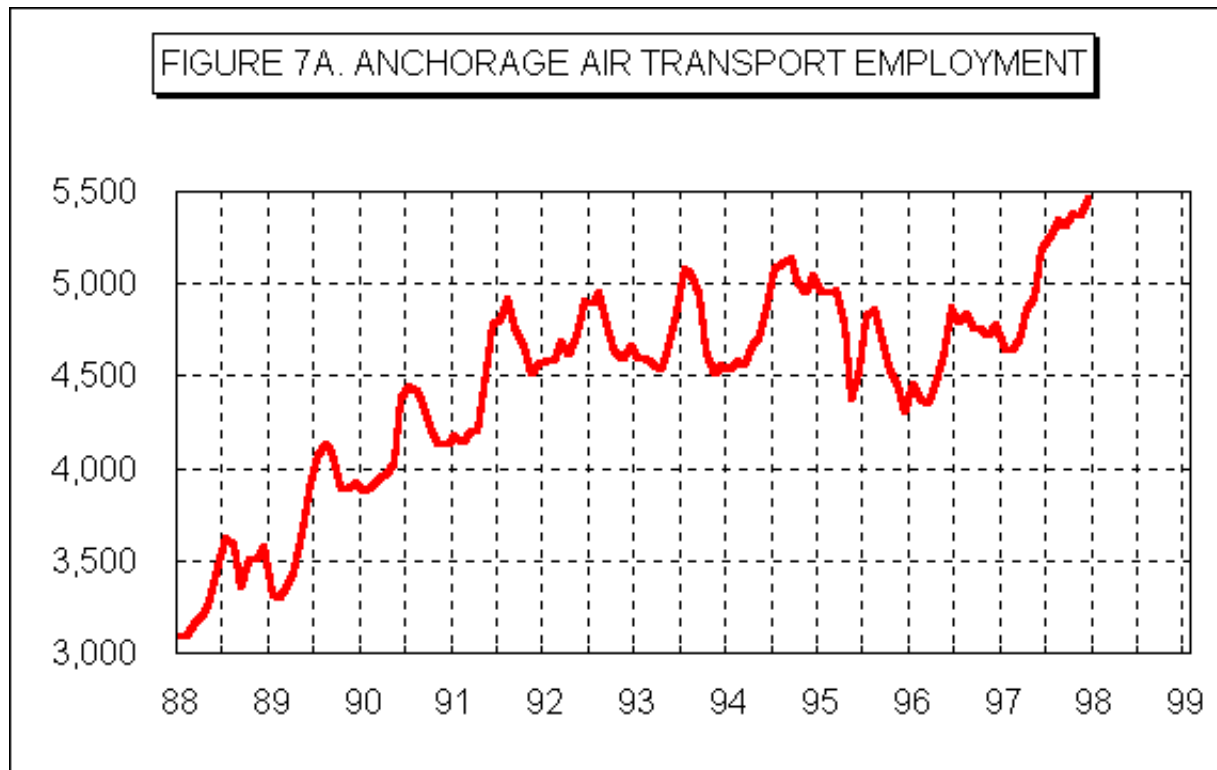


FIGURE 7B. ANCHORAGE AIR TRANSPORT EMPLOYMENT

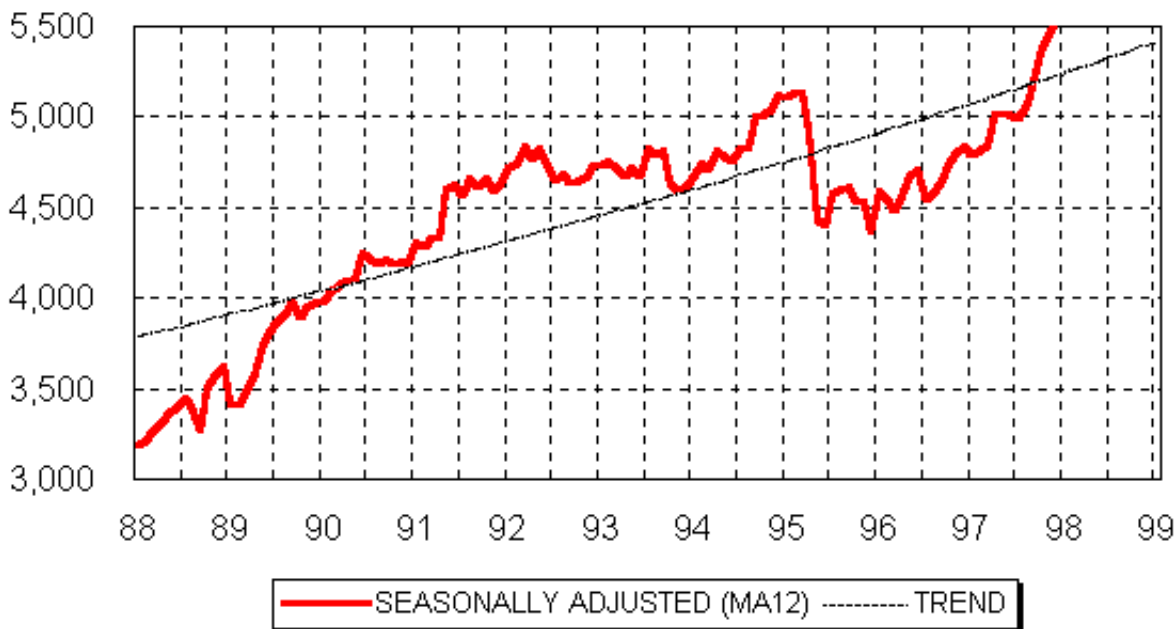
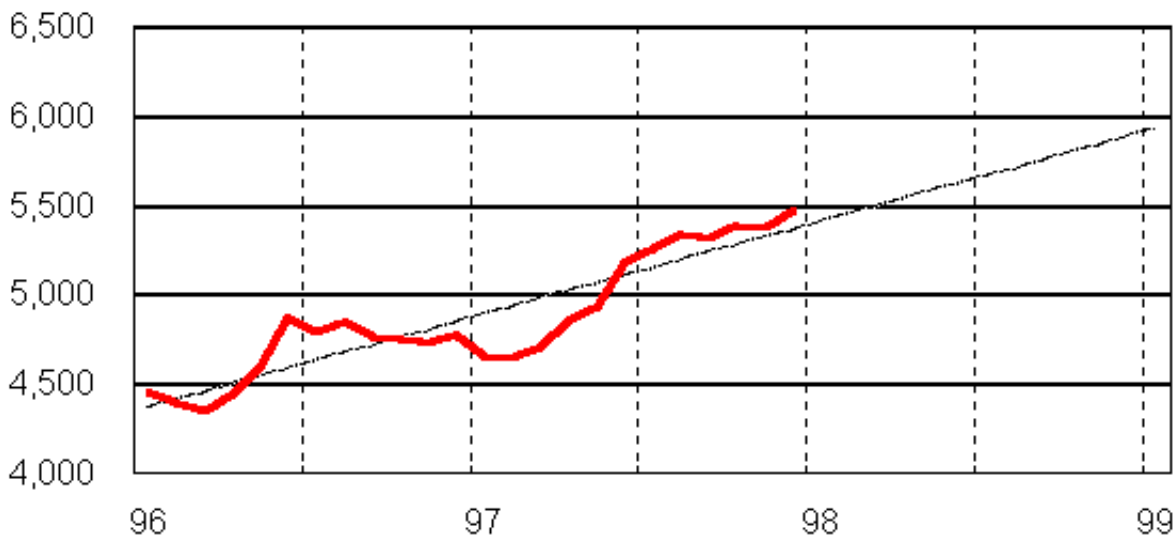


FIGURE 8. ANCHORAGE AIR TRANSPORT EMPLOYMENT
TREND FOR 1996 AND 1997



The "Asian Crisis," which began in the middle of 1997, has influenced international cargo volumes, particularly the amount of cargo moving west over the Pacific, but seems to have had less effect on the number of flights. Although the economic problems in Asia may have moderated the rate of growth of activity at the airport, they have not resulted in any observable decline in activity, at least through fiscal year 1998.

One recent development that has helped maintain the growth momentum in international cargo operations at the airport has been the Alaska Air Cargo Transfer Initiative, approved in late 1996. Under this Initiative, the U.S. Department of Transportation gave foreign air cargo carriers the authority to move transit cargo between

planes at the Anchorage and Fairbanks International Airports. This "trans-handling" capability increases the attractiveness of both airports to foreign carriers, since it provides them the opportunity for greater flexibility in their operations and substantial cost savings. The major international carriers as well as other businesses trying to get a piece of the rapidly growing international cargo market are developing methods of taking advantage of this initiative.

Employment by Type of Business

The largest employers at the airport are the **domestic and international carriers**, including both passenger and cargo carriers, that together account for about half of all jobs (Figure 9 and Table 10). Next in importance, with nearly 800 jobs, are the companies providing various types of **ground support** (air service providers) to the carriers. These businesses include fuel suppliers and caterers and operations that provide other services that some carriers choose not to handle themselves, such as maintenance, baggage handling, cleaning, paperwork, warehousing cargo, leasing employees, and garbage disposal. The **air taxi and charter operators** directly employ about 530 workers at the airport. **Freight forwarders** that serve both Alaska and the growing international cargo market employ an additional 410.

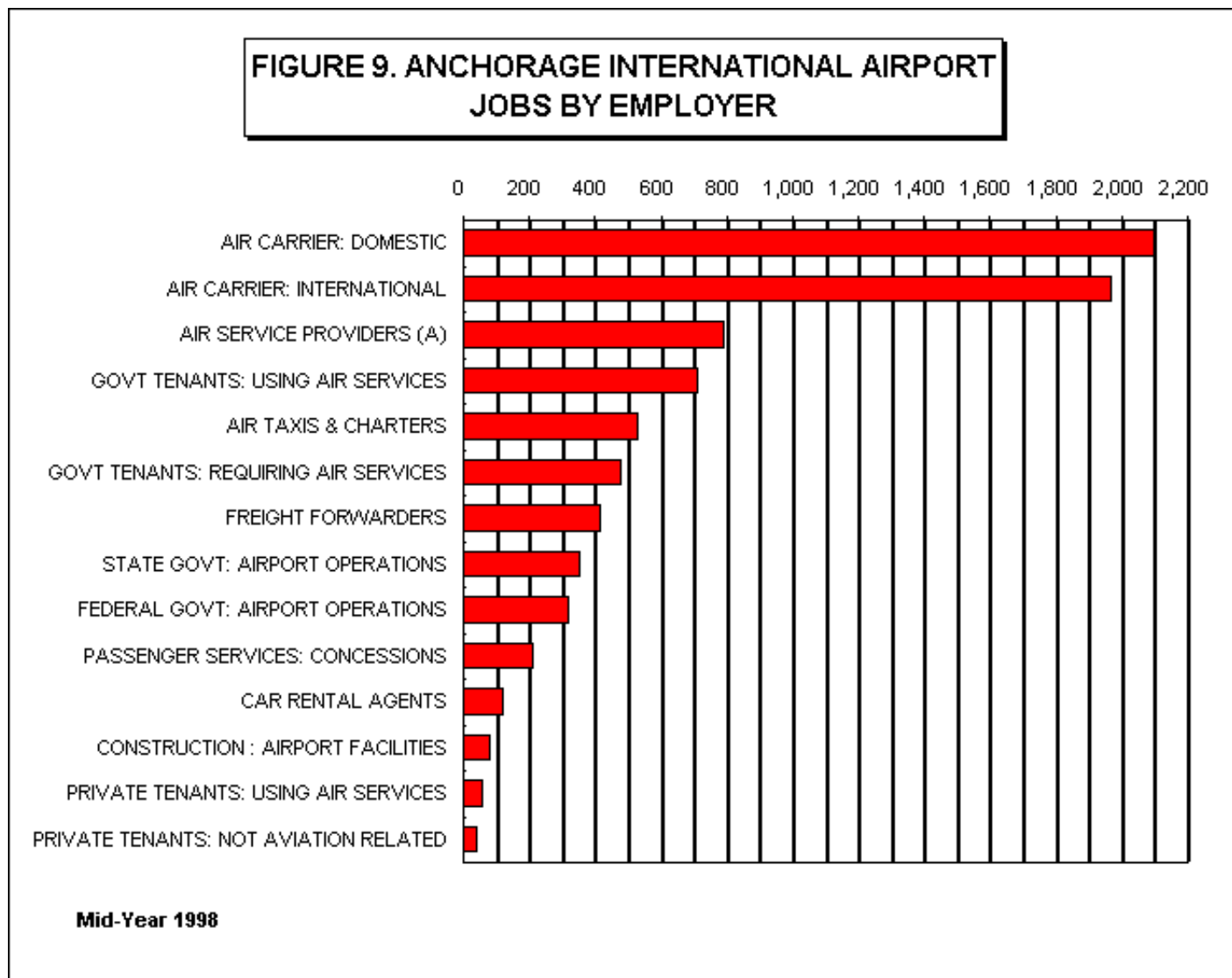


Table 10. ANCHORAGE INTERNATIONAL AIRPORT: 1998

EMPLOYMENT AND PAYROLL BY EMPLOYER

	ANNUAL EMPLOYMENT	PAYROLL (million \$)	AVERAGE ANNUAL EARNINGS (thousand \$)
TOTAL	8,163	\$316	
Air Carriers: Domestic	2,095	\$95	\$45.4
Air Carriers: International	1,966	\$89	\$45.4
Govt Tenants: Using Air Services	709	\$28	\$39.3
Air Taxis and Charters	530	\$13	\$25.4
Air Service Providers (1)	789	\$20	\$25.4
Govt Tenants: Requiring Air Services	479	\$19	\$39.3
State Govt Operations	351	\$13	\$38.1
Fed Govt Operations	320	\$13	\$42
Concessions	208	\$3	\$16.3
Freight Forwarders	413	\$13	\$31.7
Car Rental	120	\$2	\$16.2
Facilities Construction	82	\$4	\$45.7
Private Tenants: Using Air Services	59	\$1	\$16.2
Private Tenants: Not Aviation Related	42	\$1	\$23.3
Source ISER Estimates. (1) Includes Fixed Base Operators, Fuel Distributors, and Caterers.			

Both the **state and federal government** are important in the operation of the airport. About 350 state and 320 federal employees work at the airport in operations. Several federal agencies that directly make use of the

air transport services at the airport employ about 480 people (those "requiring air service" in Figure 9 and Table 10). In addition, nearly 710 government employees work at the airport for the post office and the Alaska Department of Transportation. Although portions of these agencies could be located away from the airport, it is very advantageous for them to be on site so that all their functions can be consolidated in a single location. We identify these agencies in the figure and table as "using air services."

Businesses providing **passenger services** include restaurants, gift shops, luggage handling, car rental agents, and others. These businesses support an estimated 330 jobs.

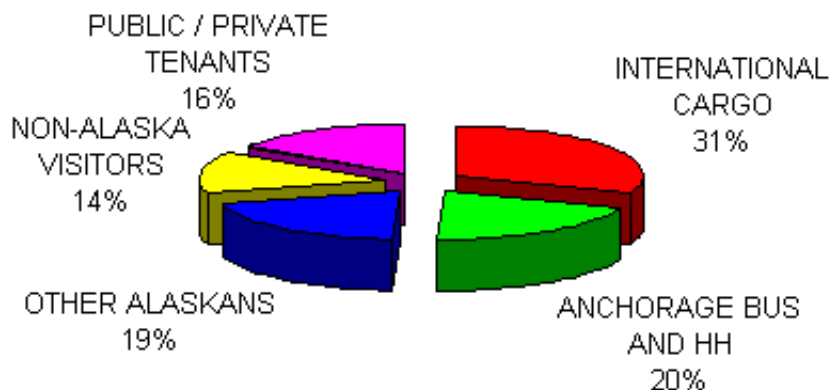
Construction and maintenance are ongoing activities at a large and complex facility like the airport. The average capital budget of the airport, excluding special projects, supports about 80 annual construction and maintenance contract jobs at the airport.

Finally, there are a number of **private tenants** at the airport, the majority of whom find it advantageous to have an operation located close to air cargo services. These tenants include, among others, fish processors and warehouse operations for oil businesses.

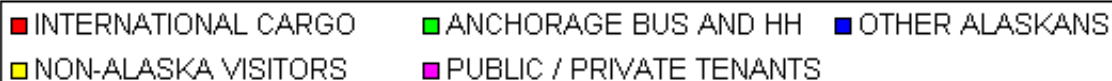
Employment by Customer

The airport serves many different types of customers, and we can assign airport jobs to these different customers (Figure 10). This helps us understand the sources of growth at the airport, since job growth is linked to growth in customer demand.

FIGURE 10. ANCHORAGE INTERNATIONAL AIRPORT JOBS AT THE AIRPORT BY CLIENT SERVED



Mid-Year 1998



The largest number of jobs at the airport is now devoted to **International Cargo** operations. Many types of businesses contribute to serving international cargo customers, including both scheduled and unscheduled air carriers, ground support providers, and freight forwarders. A share of airport operations employment is also attributable to this activity. Essentially all the growth in employment at the airport since 1994 (see *The Economic Significance of the Anchorage International Airport*, ISER, 1995) has been due to expansion of international cargo operations—both in the volume of traffic and in the activities on the ground associated with cargo operations.

Next in size are the jobs associated with providing air transport services to **Anchorage Residents and Businesses**. Some cargo carrier operations, such as the portion of Fedex activities that deals with the local market, and over one-third of passenger carrier activities are identified as serving the passenger and freight air transportation needs of Anchorage households and businesses. As with the international carriers, a portion of the employment associated with ground support providers, freight forwarders, and the operation of the airport are attributable to serving the local Anchorage market. This market includes Anchorage resident and business air travel and air cargo needs, both interstate and intrastate. In addition to scheduled carrier operations, air taxi and charter operators serve the local market, and we allocate a portion of the employment in this industry to Anchorage resident household and business customers. This source of demand for airport services grows with population and employment; employment increased by about 8 percent between mid-1994 and 1998.

Jobs associated with providing services to **Other Alaskans** is the next largest category. Interior air travelers usually pass through Anchorage on their way to destinations outside the state, and intrastate travelers often pass through Anchorage when going from one Alaska community to another. Anchorage, the trade and service center for the state, is itself a primary destination for much intrastate travel by Alaskans from other communities. Household and business freight, including mail destined for the interior, moves through the airport, and exports of fish and other Alaska products move to market through the Anchorage airport. Employment supported by the demands of Alaska households and businesses outside Anchorage can be found among the scheduled carriers, ground support providers, air taxis and charters, and passenger concessions. In addition, a portion of the employment associated with operation of the airport is attributable to these users.

Non-Alaska Visitors mostly use the passenger services provided by the scheduled carriers, on both interstate and intrastate routes. However, they also provide business to the air taxis and charters operating out of the airport. A portion of the employment of the ground support providers, the concessions, and state and federal operators of the airport is also attributable to these users.

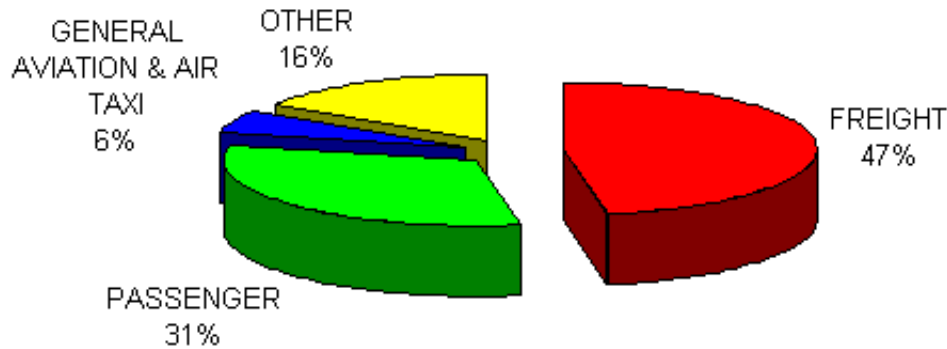
The final category of employment at the airport is attributable to the operations of the **Public and Private Tenants**. Some, like the Kulis Air National Guard facility, must be at the airport; some, like the post office, find it advantageous to be at the airport; and others, like the Alaska Department of Transportation's Southcentral regional headquarters, happen to be located on airport property for other reasons. Most of these tenants are federal or state agencies, but there are also a number of private tenants on airport land.

Employment by Service Provided

It is also possible to identify the 8,200 jobs at the airport by the type of service provided (Figure 11). The two main services provided at the airport are the movement of cargo and the scheduled movement of passengers. Together, nearly 80 percent of the jobs are associated with these services, which are provided to Anchorage residents and businesses, other Alaskans, and the rest of the world. About 5 percent of the employment at the airport is attributable to general aviation and air taxi operations. The remaining 15 percent is associated with public and private tenants who are not directly engaged in airport operations or providing air transport

services. Most of these tenants either must be located at an airport (for instance, the Kulis Air National Guard facility), or find it advantageous to be located at the airport (as does the post office).

**FIGURE 11. ANCHORAGE INTERNATIONAL AIRPORT
JOBS AT THE AIRPORT BY SERVICE PROVIDED**



Mid-Year 1998

■ FREIGHT ■ PASSENGER ■ GENERAL AVIATION & AIR TAXI ■ OTHER

Payroll

The annual payroll for the employees of all the businesses operating at the airport now equals \$316 million (Table 10). The largest share, about \$185 million, is paid by the domestic and international air carriers, which aside from the construction industry have the highest average annual wage rate. The other industries at the airport with significant payroll include the

federal and state governments and the ground support businesses (air service providers). Smaller payrolls are associated with the other industries.

The average annual earnings for workers at the airport vary with the type of job. Sectors with the highest average annual earnings are the air carriers and construction (Table 10). Federal and state government operations and personnel of agencies located at the airport provide the next highest levels of average annual earnings.

V. TOTAL ECONOMIC SIGNIFICANCE OF THE AIRPORT

The activities at the airport generate considerable off-site employment. As a result, the total economic significance of the airport is considerably more than the 8,200 jobs and \$316 million of payroll directly generated by onsite activities. Off-site employment results from the local spending by the households of airport workers, local purchases of goods and services by the businesses and government agencies at the airport, and, to a smaller extent, the purchases by layover flight crews. The total off-site employment

resulting from this re-circulation of dollars flowing out into the community from the airport amounts to 5,300 additional jobs. The majority of those jobs are in the trade, service, and finance sectors of the economy. The payroll associated with these jobs is \$130 million.

Adding the offsite and onsite jobs together results in a **total number of jobs** in the Anchorage economy attributed to the activities at the airport of 13,400. The total payroll associated with the airport is \$446 million annually (Table 11).

Table 11. ANCHORAGE INTERNATIONAL AIRPORT: TOTAL COMMUNITY EMPLOYMENT AND PAYROLL (MILL \$) FROM ONSITE ACTIVITIES						
	ANNUAL SUM	INTERNATIONAL CARGO	ANCHORAGE RESIDENTS	OTHER ALASKANS	NON-ALASKA VISITORS	TENANTS
Onsite Jobs	8,163	2,485	1,659	1,584	1,147	1,289
Offsite Jobs	5,256	1,710	1,109	965	639	833
Total Jobs	13,419	4,194	2,868	2,548	1,786	2,122
Onsite Payroll	\$316	\$98	\$65	\$63	\$41	\$49
Offsite Payroll	\$130	\$42	\$27	\$24	\$12	\$25
Total Payroll	\$446	\$140	\$92	\$87	\$53	\$74
Source: ISER						
Onsite includes flight crews based in Anchorage. Offsite includes impact of flight crew layovers.						

But not all the people working at the airport are in the business of delivering **air transport services**. To develop an estimate of the economic significance of just the air transport activities at the airport and in the community, we must net out the jobs at the post office, the regional headquarters of the Alaska Department of Transportation, and at several smaller private businesses. The remaining 7,400 jobs at the airport, with a combined payroll of \$286 million, are air transport dependent. If at some time the airport were to relocate outside the city, this is the probable number of jobs that would directly be lost to the community. The offsite employment loss that would accompany such a move would be 4,800 additional jobs, with a payroll of \$115 million. The combined job loss would be 12,100, with a payroll of \$401 million (Table 12).

Table 12. ANCHORAGE INTERNATIONAL AIRPORT: DIFFERENT WAYS TO CHARACTERIZE ECONOMIC SIGNIFICANCE

	JOBS			PAYROLL (MILL \$)			
	ONSITE	OFFSITE	TOTAL		ONSITE	OFFSITE	TOTAL
TOTAL AIRPORT	8,163	5,256	13,419		\$316	\$130	\$446
MINUS: USING AIR SERVICES	808	504	1,312		\$30	\$15	\$45
EQUALS: AIR TRANSPORT ACTIVITY	7,355	4,751	12,107		\$286	\$115	\$401
MINUS: SERVICES TO ANCHORAGE RESIDENTS	1,659	1,109	2,768		\$65	\$27	\$92
EQUALS: BASIC AIR TRANSPORT ACTIVITY	5,696	3,643	9,339		\$221	\$88	\$309
Source: ISER.							

Another way to think about the airport is as a generator of economic growth for the community. One of the important ways that it contributes to growth is by bringing new money into the community through the provision of services to businesses and households from outside the community. Three of the activities at the airport—international cargo services, non-Anchorage Alaska resident passenger and cargo services, and non-Alaskan resident passenger and cargo services—bring new money into the community. In these important activities, the airport is serving functions that most airports in communities the size of Anchorage do not provide. Most airports in communities of 250,000 primarily provide services to their own residents but have only a limited reach beyond a small service territory. Generally, only airports in much larger communities might derive the majority of their employment by serving nonresident customers. That is why the level of air transport employment in Anchorage is commensurate with that of communities several times its size.

The economic contribution of air transport activities at the airport to the **economic base of the community** takes into account these services provided outside the community but nets out the services provided to local residents. We estimate that 5,700 jobs at the airport, with a combined payroll of \$221 million, are part of the economic base of the city. These are all the air transport-related jobs at the airport that are not serving the air transport needs of Anchorage residents. The offsite employment from the re-circulation of spending from this basic activity in the community is 3,600 jobs, with a payroll of \$88 million. The combined onsite and offsite contribution of the basic component of the air transport industry is 9,300 jobs, with a payroll of \$309 million.

VI. ECONOMIC VALUE OF THE AIRPORT

The contribution of the airport to the economy of the community and the state goes beyond the generation of employment and wages from the provision of air transport and other services. The airport is part of the underlying infrastructure supporting the activities that provide benefits to all Alaska households and

businesses. These benefits exceed the cost of these services to Alaskans, but we cannot measure the size of this net benefit. Clearly, without the airport, the costs of transporting goods and people to and within Alaska would be considerably higher than they are today. This would raise the cost of living throughout the state, which would reduce the well-being of virtually every household and raise costs for every business.

One of the more obvious benefits the airport provides is access to the community and state for visitors from out of state and from other communities within Alaska. These visitors come for a variety of reasons, such as tourism, shopping, and medical services, and while here support local businesses and stimulate employment through their expenditures. We estimate that spending in Anchorage by visitors who arrive by air annually accounts for 6,100 jobs in the community and \$115 million of payroll (Table 13). Many, if not most, of the nonresident visitors continue on to other locations within the state and impact those economies as well.

Table 13. ANCHORAGE INTERNATIONAL AIRPORT: ECONOMIC SIGNIFICANCE OF VISITORS ARRIVING BY AIR						
	JOBS			PAYROLL		
	ONSITE	OFFSITE	TOTAL	ONSITE	OFFSITE	TOTAL
TOTAL	-	6,051	6,051	-	\$115	\$115
Alaskans	-	2,766	2,766	-	\$53	\$53
Non-Alaskans	-	3,285	3,285	-	\$62	\$62

Source: ISER.

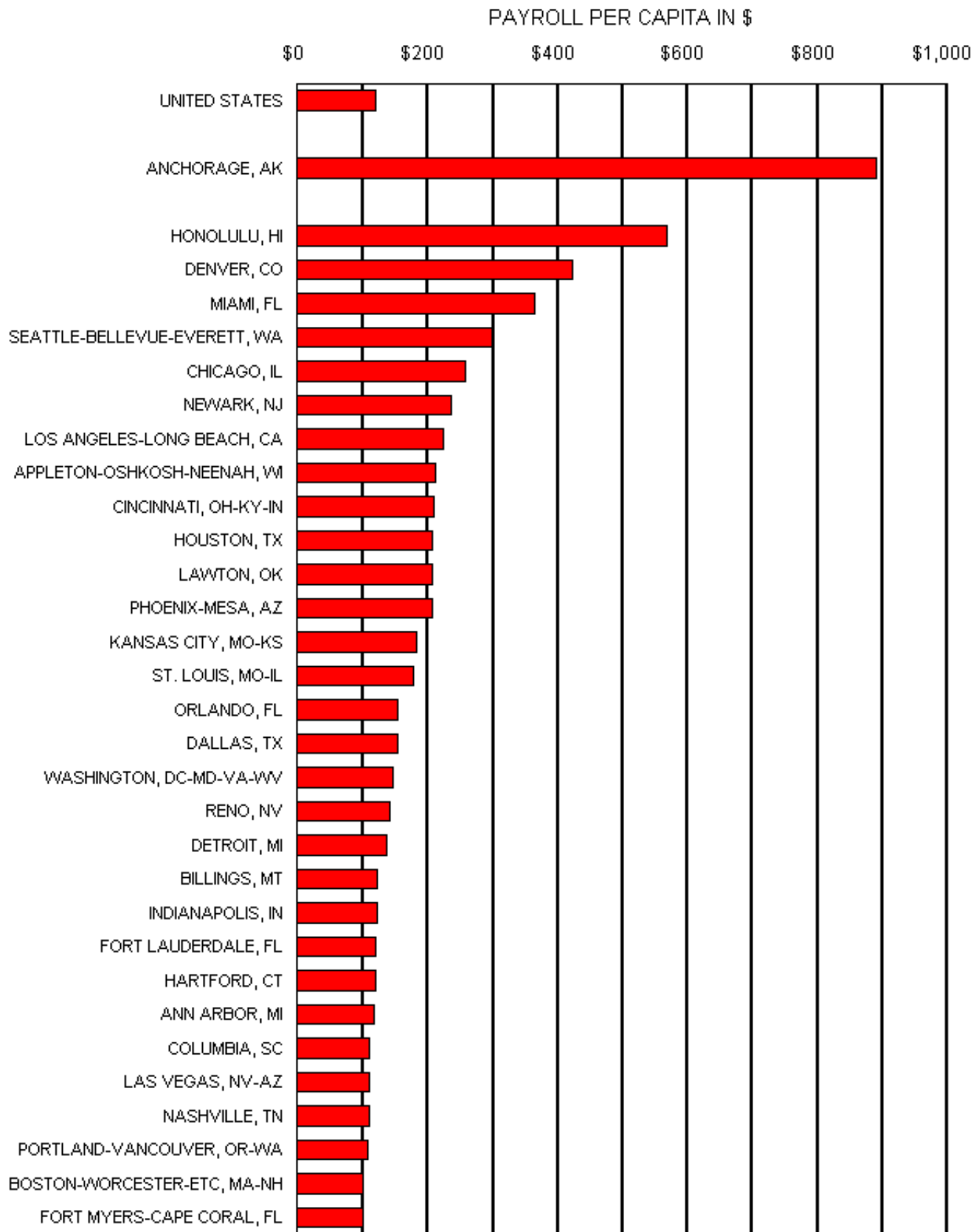
VII. COMPARATIVE MEASURES OF IMPORTANCE

In this section we repeat and update several of the comparative measures of the importance of the airport that appeared in the 1995 ISER study, *The Economic Contribution of the Anchorage International Airport*.

Air Transport Payroll

One way to show the relative importance of the air transport industry in Anchorage is to look at the relative size of the air transport payroll per capita across communities. Figure 12 shows that Anchorage, with an air transport payroll of \$890 per capita, is the highest of all cities in the nation. The Anchorage payroll per capita is about six times the national average and nearly twice that of the second highest ranked city, Honolulu. This high concentration of payroll reflects the importance of the airport as an international cargo center and as a provider of air services to much of the state, and as well as its role supporting the primary transport link between Anchorage and the rest of the nation.

**FIGURE 12. AIR TRANSPORT PAYROLLS PER CAPITA
METROPOLITAN AREAS WITH LARGEST
PER CAPITA PAYROLL**



Importance of Air Transport Jobs to Anchorage Economy

The total number of jobs in the Anchorage economy associated with air transport, both on-site at the airport and off-site in the rest of the community, is now about 12,100 (Table 12). Total wage and salary employment in Anchorage in 1997 was 123,600, so nearly 1 job in 10 in Anchorage is associated with air transport, directly or indirectly. The payroll associated with air transport was \$401 million in 1997, about 10 percent of the total Anchorage payroll for the year.

Fourth Largest Economy in the State

The total number of jobs in Anchorage associated with air transport, both on-site and off-site, is now about 12,100 (Table 12). In 1996 the only cities in Alaska with wage and salary employment greater than 12,000 were Anchorage, Fairbanks, and Juneau. By this measure, the air transport industry based at Anchorage International Airport would be the fourth largest economy in the state.

Airport Compared to Large Employers

The largest employers in Alaska in 1997 are shown in Table 14. This compares with total employment at the airport in 1997 of 8,163 and scheduled air carrier employment of 5,094.

Table 14. ALASKA'S LARGEST EMPLOYERS IN 1997		
	ORGANIZATION	EMPLOYMENT
1	Federal Government	17,339
2	State of Alaska	15,791
3	University of Alaska	5,434
4	Anchorage School District	5,248
5	Municipality of Anchorage	3,553
6	Carr Gottstein Foods	3,192
7	Providence Alaska Medical Center	2,844
8	Fred Meyer	1,925
9	Fairbanks North Star School District	1,706
10	Arco Alaska	1,526

Anchorage Share of State Transport Jobs

Of the 7,626 statewide air transport jobs in Alaska in 1996, nearly 2 out of 3, or 4,650, were located in Anchorage.

Operations Comparisons

Based on Federal Aviation Administration (FAA) data for 1993, Anchorage had 7 times the air carrier operations, 9 times the air taxi operations, and 5 times the general aviation operations that would be expected based on population. Also based on FAA data Anchorage had 3 times the passenger arrivals, 48 times the cargo arrivals, and 520 times the U.S. mail arrivals that would be expected based on population.

About half of all scheduled air carrier passenger arrivals in Alaska occur at Anchorage International Airport. Fairbanks and Juneau each account for about 8 percent of the total.

VIII. AIRPORT ECONOMIC IMPACT RULES OF THUMB

Growth of international cargo traffic is causing rapid growth at the airport, and this is contributing to a strengthening and diversification of the economic base in Anchorage. Existing carriers are increasing the number of flights through Anchorage; new carriers are using the airport; and the activities in support of cargo handling are expanding at the airport. In the past, international cargo flights were mostly "gas and go" operations, with planes on the ground in Anchorage for little more than an hour. Now many carriers have established hubs in Anchorage and are finding it advantageous to do sorting while on the ground. Once they have begun this activity, other opportunities open for further expansion, such as maintenance and training activities in Anchorage.

Relating growth in cargo moving through the airport to employment growth is difficult because of the variety of activities related to cargo handling and the different operations characteristic of each carrier. It is clear, however, that the employment effect of cargo activity is related to time on the ground. Simple illustrative **rules of thumb** identifying the annual average employment associated with one additional flight per week with various characteristics are shown in Table 15. For each type of flight we show the number of annual average jobs associated with air transport services that are generated onsite at the airport and offsite within the community. In addition, for passenger flights that bring non-residents into Southcentral Alaska we show the number of jobs created by spending by these visitors within Anchorage and in the rest of Southcentral Alaska.

A new weekly cargo flight without sorting and handling will add on average about 8 jobs, 5 at the airport and 3 offsite. (The exact number depends on the particular circumstances of the carrier. We have found that different carriers with similar numbers of scheduled flights through Anchorage can have very different numbers of local employees.) With cargo handling, one additional cargo flight per week will add on average 17 jobs, 10 at the airport and 7 offsite.

**Table 15. ANCHORAGE INTERNATIONAL AIRPORT: "RULE OF THUMB"
JOBS CREATED BY ADDING 1 WEEKLY FLIGHT**

	INTERNATIONAL						INTERSTATE DOMESTIC		
	CARGO		PASSENGER				PASSENGER		
	NO SORT	WITH SORT	TRANSIT ONLY	ANNUAL	ANNUAL/ ANCHORAGE BASED CREW	SUMMER ONLY	ANNUAL	ANNUAL/ ANCHORAGE BASED CREW	SUMMER ONLY
GRAND TOTAL	8	17	6	243	258	81	75	85	25
AIR TRANSPORT	7.5	16.9	5.8	5.8	21.2	1.9	4.8	14.1	1.6
AIRPORT	4.3	10	2.8	2.8	12.8	.9	2.5	8.5	.8
Services	4.3	10	2.8	2.8	2.8	.9	2.5	2.5	.8
Anchorage-Based Crew	-	-	-	-	10	-	-	6	-
OFFSITE	3.2	6.9	3.0	3.0	8.4	1.0	2.3	5.6	.8
Crew Overnites	.3	.3	1.1	1.1	-	.4	.7	-	.2
Multiplier	2.8	6.6	1.8	1.8	8.4	.6	1.7	5.6	.6
VISITOR SPENDING	-	-	-	237	237	79	70	70	24
Within Anchorage	-	-	-	120	120	40	35	35	12
Other Alaska	-	-	-	117	117	39	35	35	12

NOTE: JOBS ARE AVERAGE ANNUAL EQUIVALENT EMPLOYMENT.

The rules of thumb for destination passenger flights are very dependent upon whether the flight and cabin crews are based in or only layover in Anchorage. For a weekly international passenger flight with crews based in Anchorage, 21 jobs are created, including the flight crew. Thirteen of those jobs are at the airport, and eight are offsite.

The total impact on the community of a weekly international passenger flight is much greater than simply the jobs generated from the transportation services provided to the travelers. If we assume that a new flight brings tourist visitors into the state (rather than taking Alaskans out), the average international passenger destination flight would generate 258 average annual jobs in Alaska in the tourist industry and throughout the economy. Of these, 237 jobs would be the result of visitor spending and 21 would be due to the provision of

air transport services.

Another set of rules of thumb are shown in Table 16. These show the number of jobs and the size of the payroll generated within the Anchorage economy from each \$1 million in additional sales (or expenditures) by various businesses at the airport. For example, an increase in air carrier receipts of \$1 million would increase employment in Anchorage by 14.2 and generate additional payroll of \$.41 million.

Table 16. ANCHORAGE INTERNATIONAL AIRPORT: "RULE OF THUMB" JOB AND INCOME IMPACTS FROM \$1 MILLION OF ADDITIONAL AIRPORT ACTIVITIES			
ACTIVITY	EXAMPLE	JOBS (annual average)	PAYROLL (million \$)
AIR CARRIER	Receipts from general operations increase \$1 million	14.2	\$.41
GOVERNMENT TENANTS: NON AIR TRANSPORT	Post Office receipts increase \$1 million	19.5	\$.64
AIR TAXIS AND CHARTERS	Air charter sales increase \$1 million	14.2	\$.41
AIR SERVICE PROVIDERS	Fixed Base Operator sales increase \$1 million	18.4	\$.49
GOVERNMENT TENANTS: AVIATION RELATED	Kulis Air Base budget increases \$1 million	16.4	\$.51
STATE / FEDERAL GOVT AIRPORT OPERATIONS	Airport operating budget increases \$1 million	19.5	\$.64
CONCESSIONS	Restaurant receipts increase \$1 million	26.9	\$.50
FREIGHT FORWARDERS	Receipts increase \$1 million	19	\$.45
CAR RENTAL AGENCIES	Sales increase \$1 million	19	\$.45
CONSTRUCTION	Capital Construction budget at the airport increases \$1 million	11	\$.38
PRIVATE BASIC INDUSTRY	Increase of \$1 million in sales of a "generic" private industry	9.4	\$.22
MISCELLANEOUS SUPPORT	Travel agency receipts increase by \$1 million	28.6	\$.71
FLIGHT CREW	Increase in flight crew spending in	21.7	\$.45

FLIGHT CREW	Anchorage of \$1 million	21.7	\$0.49
ALASKA RESIDENT VISITOR	Increase of visitor spending by \$1 million	24.5	\$0.49
NON-ALASKA VISITOR	Increase in visitor spending by \$1 million	24.5	\$0.49

Source: The Economic Contribution of the Anchorage International Airport, ISER, 1995.