

Economic and Community Contributions of Selected Alaska Airports: 12 Case Studies

Prepared for the
Alaska Department of
Transportation and Public Facilities
October 2011



Northern
Economics

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Prepared by



880 H Street, Suite 210
Anchorage, Alaska 99501
Phone: (907) 274-5600
Fax: (907) 274-5601
Email: mail@norecon.com

119 N Commercial Street, Suite 190
Bellingham, WA 98225
Phone: (360) 715-1808
Fax: (360) 715-3588

PROFESSIONAL CONSULTING SERVICES IN APPLIED ECONOMIC ANALYSIS

Principals:

Patrick Burden, M.S. – President
Marcus L. Hartley, M.S. – Vice President
Jonathan King, M.S.

Consultants:

Joel Ainsworth, B.A. Alejandra Palma, M.A.
Alexus Bond, M.A. Bill Schenken, MBA
Leah Cuyno, Ph.D. Don Schug, Ph.D.
Michael Fisher, MBA Katharine Wellman, Ph.D.
Cal Kerr, MBA

Administrative Staff:

Diane Steele – Office Manager
Terri McCoy, B.A.
Aurora Palmer, B.A.



880 H Street, Suite 210
Anchorage, Alaska 99501
Phone: (907) 274-5600
Fax: (907) 274-5601
Email: mail@norecon.com

119 N Commercial Street, Suite 190
Bellingham, WA 98225
Phone: (360) 715-1808
Fax: (360) 715-3588

Preparers

Team Member	Project Role
Jonathan King	Project Manager
Alexus Bond	Assistant Project Manager
Alejandra Palma Riedel	Economist
Joel Ainsworth	Project Analyst
Terri McCoy	Technical Editor

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Abbreviations

AAB	Governor’s Aviation Advisory Board
AASP	Alaska Aviation System Plan
ACS	American Community Survey
ADCCED	Alaska Department of Commerce, Community and Economic Development
ADOLWD	Alaska Department of Labor and Workforce Development
ADOT&PF	Alaska Department of Transportation and Public Facilities
AEC	Alaska Engineering Commission
ALARI	Alaska Local and Regional Information
AIP	The Federal Aviation Administration’s Airport Improvement Program
ARRC	Alaska Rural Rehabilitation Corporation
AVCP	Association of Village Council Presidents
BTS	Bureau of Transportation Statistics
CVRF	Coastal Villages Region Fund
EIS	Environmental Impact Statement
FAA	Federal Aviation Administration
FNSB	Fairbanks North Star Borough
I-O	Input-Output
IDC	Iliamna Development Corporation
Medevac	Medical evacuation
M&O	Maintenance and operations
NEI	Northern Economics, Inc.
NPS	National Park Service
NSB	North Slope Borough
NWAB	Northwest Arctic Borough
RSA	Runway Safety Areas
USCG	United States Coast Guard
USPS	U.S. Postal Service
TAF	Terminal Area Forecast

Airport Codes for Study Communities

ADQ – Kodiak	ILI – Iliamna
BET – Bethel	JNU – Juneau
EEK – Eek	OTZ - Kotzebue
FAI – Fairbanks	SCC – Deadhorse
HNS – Haines	TKA – Talkeetna
HPB – Hooper Bay	IYS – Wasilla

Executive Summary

Aviation is more important in Alaska than perhaps anywhere else in the United States, and Alaska's airports are as diverse as the communities they serve. In March 2009, the update of the Alaska Aviation System Plan resulted in the publication and release of *The Economic Contribution of the Aviation Industry to Alaska's Economy*, an analysis of the on-airport aviation industry's contribution to the State of Alaska.¹ While important, this study was unable to tell the individual stories of the unique communities served by the airports that make up Alaska's aviation system. The purpose of this study is to tell some of those individual airport stories and document in case studies the economic and social importance of twelve selected airports that are representative of the broader Alaska experience. There is no one-size-fits-all airport in Alaska, and this study documents that reality explicitly. The study's airports range from international airports such as Fairbanks and Juneau, to regional hub airports (e.g., Bethel, Kotzebue), to community airports providing critical food and fuel to individual rural communities (e.g., Eek), to airports that play a vital role in Alaska's core industries (e.g., Deadhorse, Talkeetna).

Because all of these airports are different, and sometimes substantially so, there is no single analytical method or data source that can accurately capture the unique way each airport is important to its community and region. Therefore, the individual airport analyses contained within this report rely on three different analytical methods to describe the economic and social contributions of individual airports, and to provide a more complete picture of how these airports fulfill their roles in their communities. These three methods are:

- A description of the airport's role within each community based on interviews and publicly available data
- An analysis of Bureau of Transportation Statistics (BTS) data showing passenger, mail, and cargo volumes
- Estimates of jobs and economic output resulting from on-airport economic activity based on a survey of leaseholders and airport operations staff

All data used by this analysis, and all of the estimates contained herein, are for 2009 (including part of the State of Alaska fiscal year 2010). The report collected the data in late 2010, so the study asked respondents for full year 2009 data as respondents would have been unable to provide employment and salary data for all of 2010.

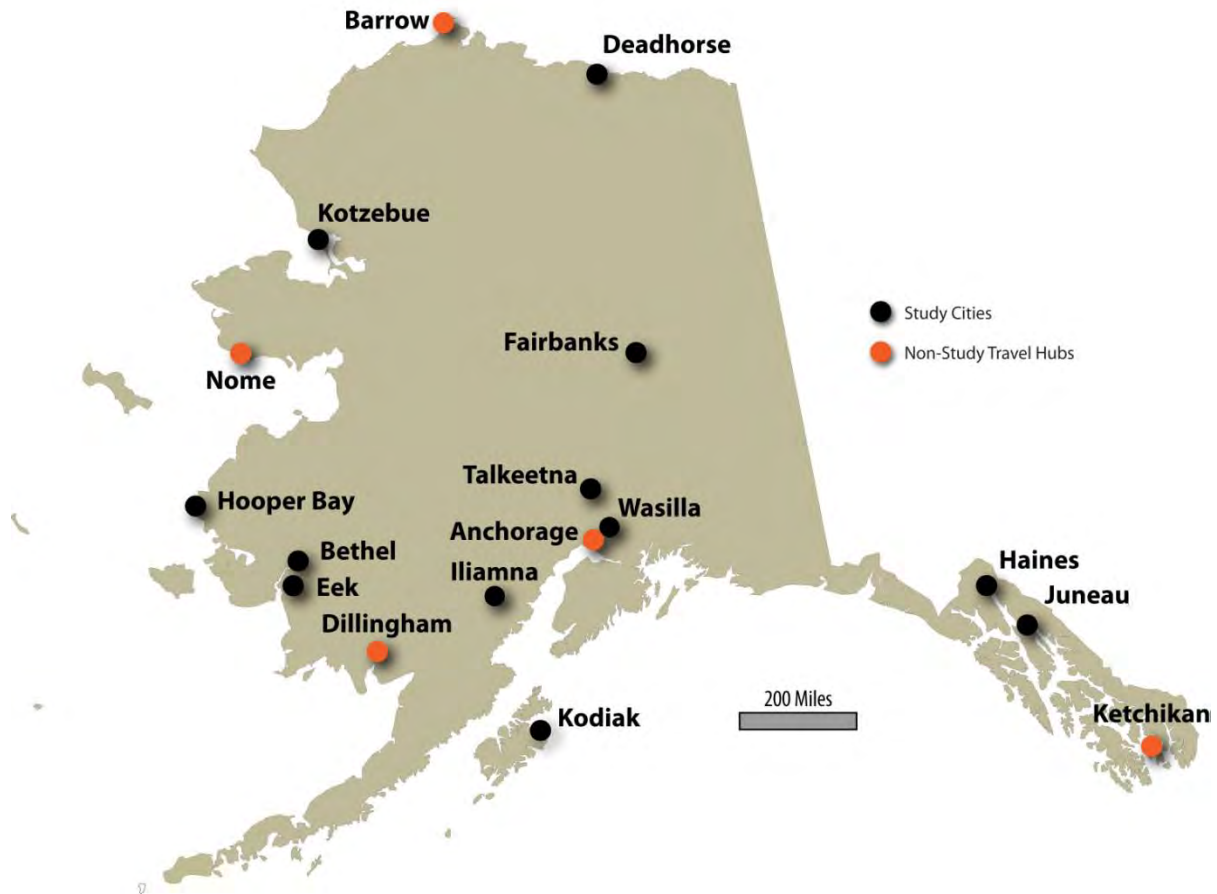
The following sub-sections document selected findings. The main body of the report contains further information on the study's methods and the individual case studies.

The Airports and their Communities

The twelve airports contained in this study are (in alphabetical order and with Federal Aviation Administration (FAA) International Air Transport Association location identifiers): Bethel (BET), Deadhorse/Prudhoe Bay (SCC), Eek (EEK), Fairbanks (FAI), Haines (HNS), Hooper Bay (HPB), Iliamna (ILI), Juneau (JNU), Kodiak (ADQ), Kotzebue (OTZ), Talkeetna (TKA), and Wasilla (IYS) (see Figure ES-1).

¹ Work Order D59825

Figure ES-1. Study Communities, 2009



Source: Alaska Map Company and Northwest Strategies, 2011.

As documented in Northern Economics, Inc’s 2009 study, Alaska as a whole is highly dependent on aviation. That study compared enplanements and freight deliveries per capita for 18 case study communities in Alaska with Lower 48 case study communities and noted:

The average number of annual enplanements per capita for off-road communities in Alaska was found to be 14.6 enplanements per person per year. This number is eight times higher than the number of enplanements per capita for even the next highest state (i.e., Idaho at 1.8 enplanements per year), and more than 30 times higher than the lowest comparison group (i.e., Montana at 0.5 enplanements per person per year). The difference in freight pounds per capita is even more startling for Alaska as compared to the western U.S. The per capita freight load for the 18 case study communities in Alaska is 39 times higher than the freight load for rural communities in the next highest surveyed state. Alaska communities in the study averaged 1,096 pounds of air freight per capita in 2007 while rural communities in Oregon averaged 28 pounds. Rural communities in Montana averaged just 2 pounds of air freight per person in 2007.

The data for the study communities in this analysis confirmed this finding; this study found a weighted average of 11.1 enplanements per capita.² In some cases, the study identifies certain communities in Alaska that are stunningly dependent on air travel. For example, Eek and Iliamna have far greater than average enplanements per capita for rural Alaska. This fact reflects both their remoteness and, in the case of Iliamna, the role of ILI in the exploration of the Pebble mineral prospect. Table ES-1 documents community populations and associated enplanements per capita, pounds of mail per capita, and pounds of cargo per capita for comparison to the Lower 48 average noted above.

Table ES-1. Enplanements, Mail Volume, and Cargo Volume by Airport, 2009

Airport by Community	Geographic Area Used for Pop. Base³	2009 Population per ALARI⁴	Enplanements per Capita	Mail per Capita (Pounds)	Cargo per Capita (Pounds)
Bethel	Census Area	16,997	15.8	2,806	1,275
Deadhorse/Prudhoe Bay	Borough	6,798	9.2	1,730	2,695
Eek	Community	282	20.9	1,505	358
Fairbanks	Borough	93,779	9.0	87	242
Haines	Borough	2,286	5.0	181	111
Hooper Bay	Community	1,158	9.7	1,773	458
Iliamna ⁵	Community	253	44.9	5,218	7,563
Juneau	Borough	30,661	17.3	286	597
Kodiak	Borough	13,860	11.4	171	796
Kotzebue	Borough	7,366	15.3	3,458	1,578
Talkeetna ⁶	Community	894	0.0	1	0
Wasilla ⁷	Community	7,245	0.0	0	0

Source: Northern Economics Estimates, 2011

BTS-documented enplanements (via T-100 Market Data) in the study ranged from zero per capita in Talkeetna and Wasilla, which do not have air carriers who provide data to the BTS T-100 program, to 44.9 per capita in Iliamna (see Figure ES-2). The communities with reported enplanements below the study average of 11.1 enplanements per capita were Deadhorse, Haines, and Fairbanks, which all have road access. Hooper Bay was also slightly below average, a fact which is surprising given the community's location in roadless western Alaska. Juneau's enplanements per capita are elevated because of its role as Alaska's capital, and because many federal and state agencies are headquartered there. Juneau is also served by the AMHS, but is the only state capital in the continental United States to lack a ground-based road connection. Bethel and Kotzebue are above the average, because they both serve as rural regional hubs.

² These data include only actual enplanements and deplanements of passengers, mail, and cargo.

³ Includes the population most likely to have easy service access to the airport by car, boat, or snowmachine.

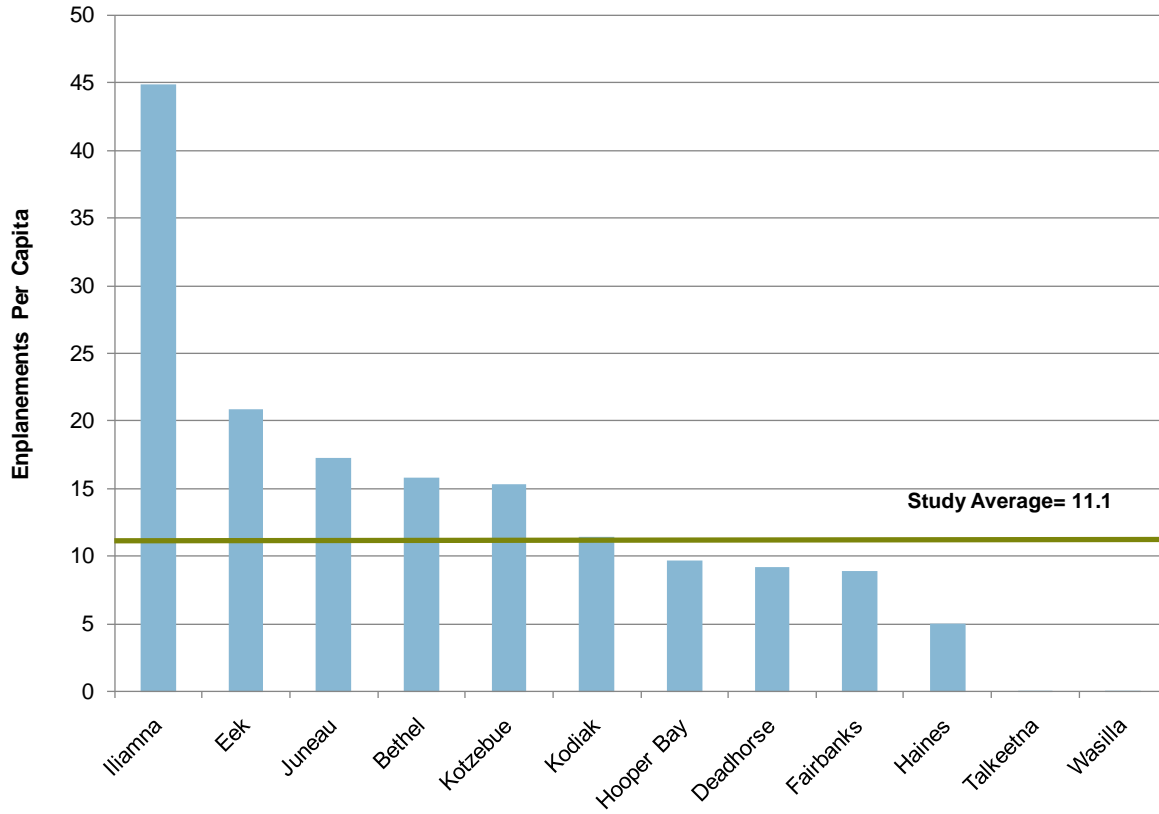
⁴ Alaska Local and Regional Information database

⁵ Includes the community of Newhalen.

⁶ Did not receive enplanements, mail, or cargo as recorded by the Bureau of Transportation Statistics T-100 Market program in 2009.

⁷ Did not receive enplanements, mail, or cargo as recorded by the Bureau of Transportation Statistics T-100 Market program in 2009.

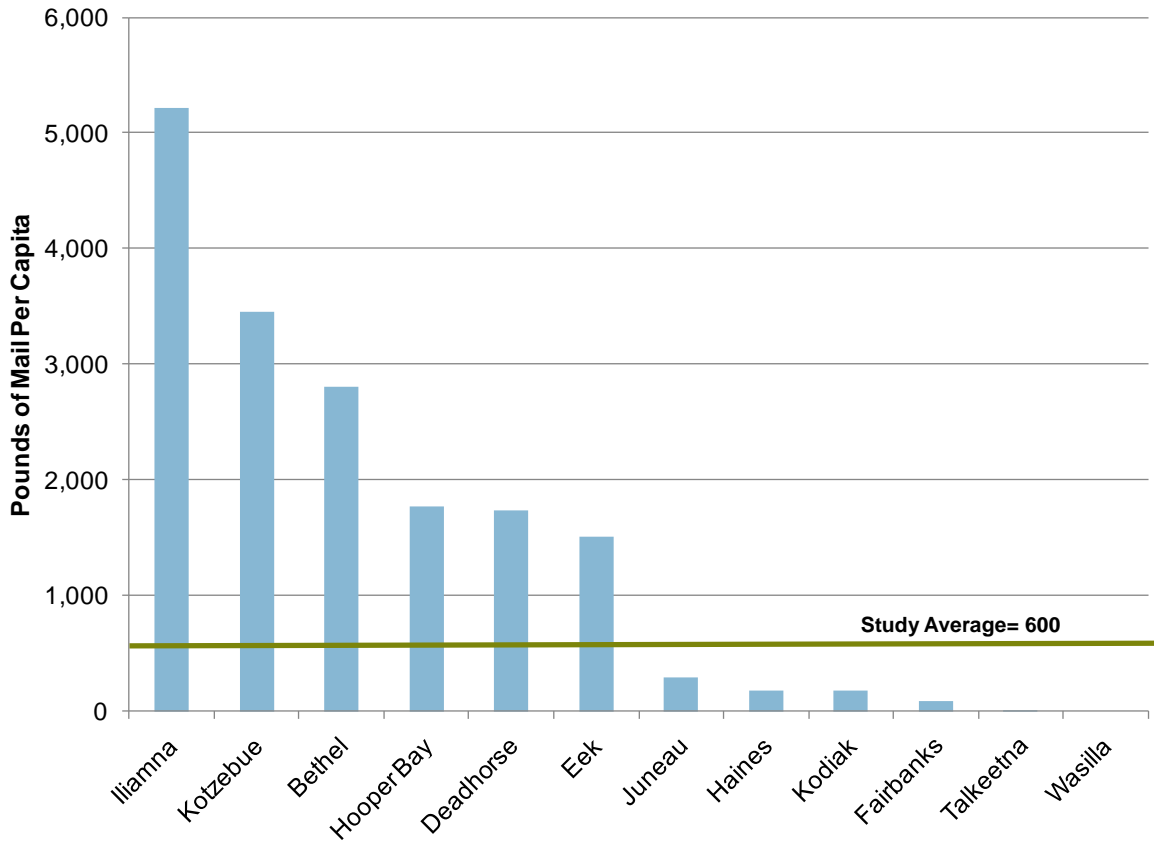
Figure ES-2. Enplanements per Capita by Airport and Community, 2009



Source: Northern Economics Estimates, 2011

The study identifies large differences in mail enplanements/deplanements per capita as well (see Figure ES-3). The most surprising result is the nearly 5,000 pounds per capita going to Iliamna and Newhalen. The data would seem to indicate that the mail traveling to ILI is bound for more than just the 253 residents of Iliamna and Newhalen. At this time, the study is unsure what is causing this spike in enplanements/deplanements, but the study team surmises that the high levels of both mail and cargo flowing to ILI reflect the size and scope of the exploration activities at the Pebble Prospect. On a population weighted basis, the study found average mail enplanements/deplanements of roughly 600 pounds per person, but also found that none of the study communities are “average.” The study airports either receive thousands of pounds, just a few hundred pounds, or no mail per capita by air. Communities which depend on the Bypass Mail Program tend to have airports that fall into the first category, while communities with year-round water access fall into the middle category, and road access communities tend to fall into the last category.

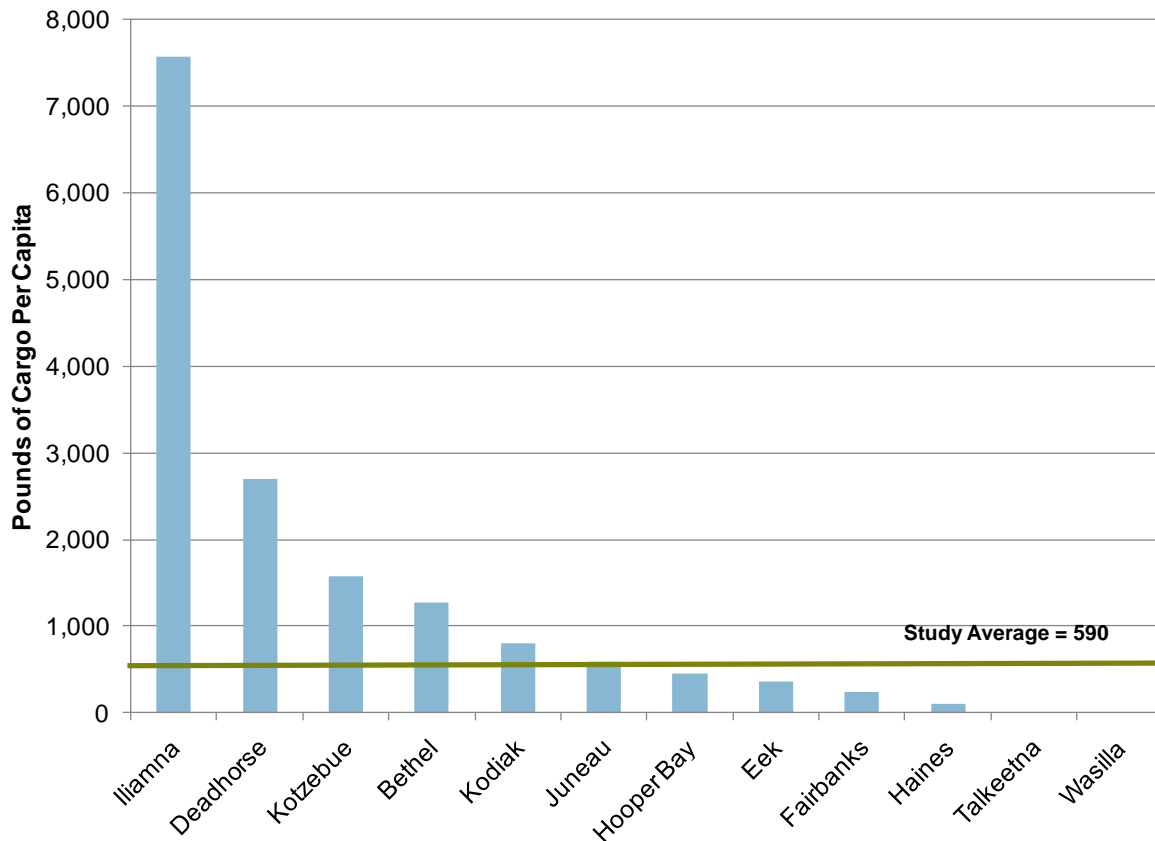
Figure ES-3. Mail Volume per Capita by Airport and Community, 2009



Source: Northern Economics Estimates, 2011

ILI also leads the study communities with over 7,000 pounds of enplaned/deplaned cargo per capita in 2009—a large number compared to the study average of 590 pounds per capita and the statewide average of just over 1,000 pounds per capita (NEI 2009). Again, the study surmises that this high volume has more to do with mineral exploration in the area than with cargo consumption by the local populace. The airport with the next highest delivery per capita is SCC (Deadhorse/Prudhoe Bay), another airport providing support to an industry—in this case the oil and gas industry on Alaska’s North Slope. OTZ (Kotzebue) and BET (Bethel) also received higher than average per capita shipments, a situation which may reflect their roles as hubs for the Northwest Arctic Borough (NWAB) and the Yukon-Kuskokwim area, mineral exploration in the area, and the challenge barges experience delivering to the surrounding communities during springs when river levels are lower than average. JNU (Juneau), HPB (Hooper Bay) ADQ (Kodiak), and EEK (Eek) receive amounts that are near the study average or the 2009 statewide average.

Figure ES-4. Cargo Volume per Capita by Airport and Community, 2009



Source: Northern Economics Estimates, 2011

Estimates of Total In-State Jobs, Labor, and Economic Output

On-site activity at airports has far-reaching consequences. The direct spending by on-site businesses and their employees, as well as the money spent operating and maintaining the airports, creates additional employment and income throughout the economy. When one employee brings home a paycheck and spends those wages on food, housing, and entertainment, this creates more economic

activity. The name for this phenomenon is the “multiplier effect.” This analysis documents that relationship between airports and the state’s economies.

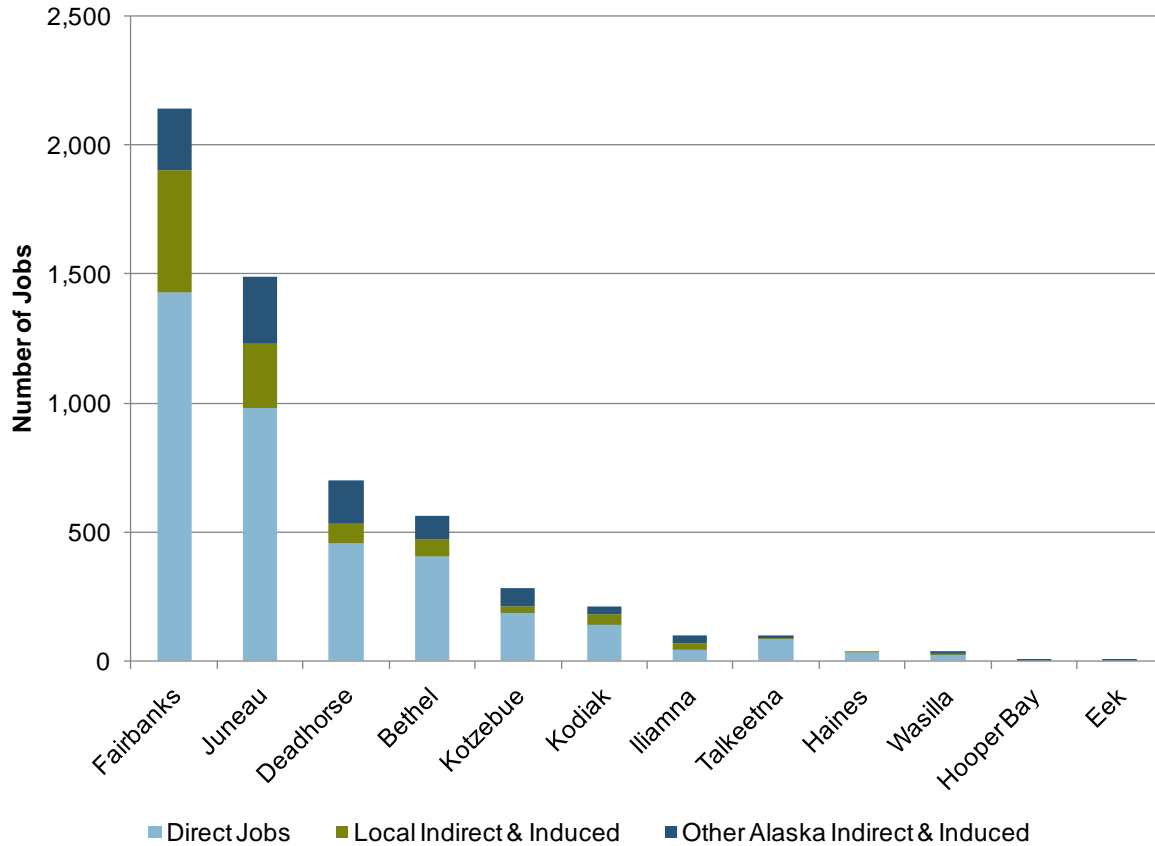
As noted above, the airports and communities in this study vary widely in terms of size, location, role, and on-site economic activity (see Table ES-2 and Figure ES-5). The study estimates that the largest airport in this study, as measured by on-site direct jobs and total in-state jobs related to on-site activity, is FAI. For 2009, the study estimates that FAI had over 1,400 jobs on-site and that the spending associated with on-site activities led to another 470 indirect and induced jobs in the FNSB and an additional 240 indirect and induced jobs throughout Alaska. In total, the study estimates that over 2,100 in-state jobs are related to FAI. On the other end of the size spectrum are the airports in Eek (EEK) and Hooper Bay (HPB). Activity at these airports involved just a single or couple of employees. However, as noted above, these communities demonstrate some of the highest per capita enplanements, mail volumes, and cargo volumes of all of the communities in the study. In this case, those who may be “last” as measured by employment are very much “first” when the airport is measured by delivery of critical goods and services by air. This dichotomy is the reason the study looks at each airport using a variety of methods.

Table ES-2. Jobs by Input/Output Type, Airport, and Location, 2009

Airport by Community	On-Site Direct Jobs	In-Borough/ Census Area (Local) Indirect & Induced Jobs	Other Alaska Indirect & Induced Jobs	Total In-State Jobs Related to On-Site Activity
Fairbanks	1,430	470	240	2,140
Juneau	981	249	260	1,490
Deadhorse	456	74	170	700
Bethel	402	68	90	560
Kotzebue	186	24	70	280
Kodiak	139	41	30	210
Iliamna	43	27	30	100
Talkeetna	82	8	10	100
Haines	35	5	0	40
Wasilla	21	9	10	40
Hooper Bay	1	0	1	2
Eek	1	0	0	1

Source: Northern Economics Estimates, 2011.

Figure ES-5. Jobs by Input/Output Type, Airport, and Location, 2009



Source: Northern Economics Estimates, 2011.

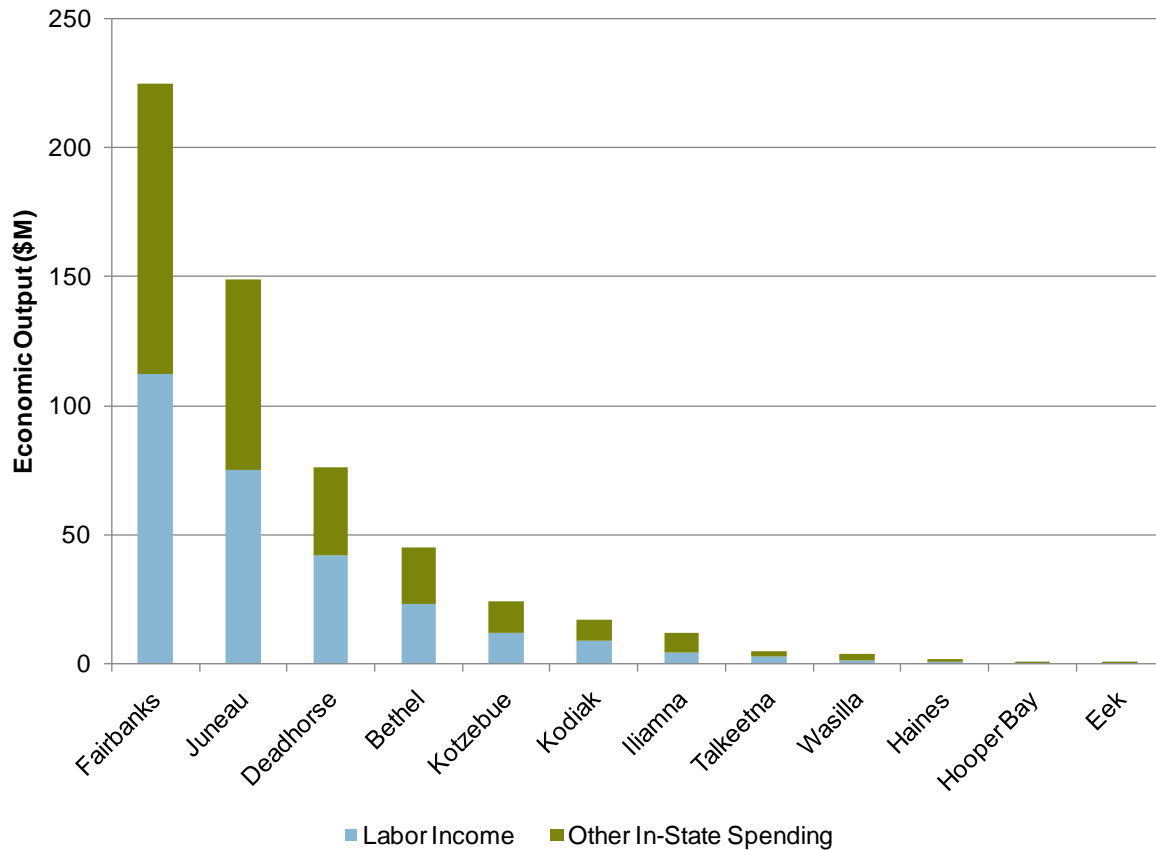
In addition to estimating the number of direct, indirect, and induced jobs created by on-site aviation industry activity at each airport, the study also estimates total in-state labor income (see Table ES-3 and Figure ES-6). FAI, JNU, SCC, BET, and OTZ all generated in-state labor income of more than \$10 million, while activity at FAI even broached the \$100 million level and tacked on another \$113 million in in-state, non-labor spending. The total in-state economic output of all twelve airports combined was more than \$550 million in 2009, including more than \$280 million in in-state labor expenses.

Table ES-3. Economic Output by Airport and Category, 2009

Airport by Community	In-State Labor Income	Other In-State Spending	Total In-State Economic Output
	(\$Millions)		
Fairbanks	112.0	113.0	225.0
Juneau	75.0	74.0	149.0
Deadhorse	42.0	34.0	76.0
Bethel	23.0	22.0	45.0
Kotzebue	12.0	12.0	24.0
Kodiak	9.0	8.0	17.0
Iliamna	4.4	7.3	11.7
Talkeetna	2.7	2.1	4.8
Haines	0.9	0.7	1.5
Wasilla	1.4	2.3	3.7
Hooper Bay	<0.1	0.1	0.1
Eek	<0.1	<0.1	<0.1

Source: Northern Economics Estimates, 2011.

Figure ES-6. Total In-State Economic Output by Airport and Category (\$Millions)



Source: Northern Economics Estimates, 2011

Out-of-State Economic Effect

This analysis does not estimate indirect and induced out-of-state jobs associated with on-site economic activity. However, leaseholders did report spending related to on-site activity that flowed out of state. These expenditures provide fuel to Lower 48 economies and should not be ignored. These expenditures prove that Alaska's airports provide benefit beyond the state's borders. In total, leaseholders reported nearly \$325 million in out-of-state spending in 2009.

Return on Annual Maintenance and Operating Costs

A frequent challenge faced by government entities and public decision makers is measuring the return on investment (ROI) of the public's investment in resources. In theory, many of these airports would not exist without their public owner/operator (e.g., the State of Alaska, the City of Juneau, the City of Wasilla in this study) providing a portion or all of their Maintenance and Operations (M&O) costs on an annual basis. Additionally, maximizing the results of the public's investment means that there is an "appropriate" annual M&O investment level from state or municipal governments. If the annual M&O investment is too little, the airport can have performance and reputation issues and may potentially experience safety issues; these factors can chase business away from the airport. An investment level which is too high can fuel the perception of "gold plating" and implies poor stewardship over the public trust. The challenge is to find the "right size" annual M&O investment. A "right size" investment will hopefully accomplish the following:

- Align philosophically with the mission, vision, values, and goals of the sponsoring organization
- Address the airport's physical needs
- Address airport user needs
- Show good stewardship of the public trust
- Enable maximum economic activity (however measured) on a per unit cost basis

The study asked the question, "On an annual basis, what do these public M&O funds enable?" In other words, "what is able to happen at these airports for every \$1 million or every \$100,000 spent annually because the public invests in these airports?" Table ES-4 shows the average 2009 activity at all study airports per million dollars spent in 2009 public M&O costs as measured by passenger, mail, and cargo flow volumes and enplaned/deplaned volumes.⁸ For both flow and enplaned/deplaned volumes, the study found that each \$1 million enabled approximately 212 direct, indirect, and induced jobs, and nearly \$21 million in economic output. For flow volumes, the study found that each \$1 million enabled 86,000 passengers, 4.5 million pounds of mail, and just over 5.4 million pounds of cargo to move through the airport. For enplaned/deplaned volumes, the study found that each \$1 million enplaned/deplaned 75,000 passengers, 4.1 million pounds of mail, and nearly 4.0 million pounds of cargo. These numbers are not a measure of how much *more* public entities could get from airports if they provide more money for M&O activities; adding another \$1 million will not necessarily increase activity, because much of the activity is driven by forces outside the control of airport operators such as ADOT&PF, the City of Juneau, and the City of Wasilla. However, these

⁸ The BTS tracks passenger, mail, and cargo volumes by two primary measures. The enplaned/deplaned data come from the BTS T-100 Market Database and only includes passengers, mail, and cargo that enplaned or deplaned at a given airport. The flow data come from the BTS T-100 Segment Database and include enplaned/deplaned passengers, mail, and cargo *plus* passengers, mail, and cargo that flowed through the airport (by staying on the plane) but did not enplane or deplane at that location. For a more detailed discussion please see Section 2.3.

numbers are indicative of what the public is enabling by spending this money on airport operations. For many of these communities publicly-operated airports are the primary connection between the community and the world.

Table ES-4. Activity per Million Dollars of Annual M&O Costs – Average of All Study Airports

Volume Measure	Total Direct, Indirect & Induced Jobs	Economic Output (\$M)	Passengers	Mail (Pounds)	Cargo (Pounds)
Flow	212	21	86,000	4,546,000	5,409,000
Enplaned/Deplaned	212	21	75,000	4,057,000	3,983,000

Source: Northern Economics, Inc Estimates 2011.

Table ES-5 shows 2009 activity at each airport per million dollars spent in 2009 public M&O costs at airports with at least \$1 million in annual public M&O costs. It is clear that some airports are strong in multiple measures, while others are strong in one or two factors. For example, Bethel is above average in every measure, while Kotzebue is strong in mail and cargo volume, but lower than average in jobs and economic output. The reason for these differences is likely due to local economic conditions such as the local economic strength, cost of living factors, and how much the region is dependent on the airport as a regional hub.

Table ES-5. Activity per Million Dollars of Annual M&O Costs – Airports with More than \$1M in Annual Operating Costs

Airport	Direct, Indirect & Induced Jobs	Economic Output (\$M)	Flow Measure			Enplaned/Deplaned Measure		
			Enplanements	Mail (Mlbs)	Cargo (Mlbs)	Enplanements	Mail (Mlbs)	Cargo (Mlbs)
Fairbanks	165	17	70,000	0.7	2.9	65,000	0.6	1.7
Juneau	292	29	130,000	1.9	6.2	104,000	1.7	3.6
Deadhorse	304	33	36,000	5.6	9.5	27,000	5.1	7.9
Kotzebue	144	12	78,000	15.3	7.6	58,000	13.1	6.0
Bethel	291	23	139,000	26.6	11.9	140,000	24.8	11.3
Kodiak	164	13	125,000	2.0	8.9	123,000	1.9	8.6

Source: Northern Economics, Inc Estimates 2011.

Table ES-6 shows 2009 activity at each airport per \$1 million spent in 2009 M&O costs at airports with less than \$1 million in annual M&O costs. Again, the different airports have relative strengths and weaknesses based on their role in their community. For example, M&O money spent in Talkeetna and Wasilla enables higher than average total direct, indirect, and induced jobs per unit of M&O costs, but does not enable enplanements, mail, or cargo services recorded by the BTS data. On the other end of the spectrum, M&O expenditures at Eek and Hooper Bay do not enable high numbers of jobs or economic output, but they deliver far higher than average enplanements, mail, and cargo per unit costs.

Table ES-6. Activity per Million Dollars of Annual M&O Costs – Airports with Less than \$1M in Annual Operating Costs

Airport	Direct, Indirect & Induced Jobs	Economic Output (\$M)	Flow Measure			Enplaned/Deplaned Measure		
			Enplanements	Mail (Mlbs)	Cargo (Mlbs)	Enplanements	Mail (Mlbs)	Cargo (Mlbs)
Iliamna	151	18	17,000	2.8	4.6	17,000	2.0	2.9
Talkeetna	397	22	0	0.0	0.0	0	0.0	0.0
Wasilla	284	27	0	0.0	0.0	0	0.0	0.0
Hooper Bay	35	2	276,000	43.4	11.7	197,000	36.0	9.3
Haines	1,605	61	597,000	24.2	15.0	462,000	16.6	10.2
Eek	50	2	504,000	39.0	9.5	255,000	18.4	4.4

Source: Northern Economics, Inc Estimates 2011.

1 Introduction

1.1 Study Purpose

Aviation is more important in Alaska than perhaps anywhere else in the United States, and Alaska's airports are as diverse as the communities they serve. In March 2009, the update of the Alaska Aviation System Plan resulted in the publication and release of *The Economic Contribution of the Aviation Industry to Alaska's Economy*, an analysis of the on-airport aviation industry's contribution to the State of Alaska.⁹ While important, this study was unable to tell the individual stories of the unique communities served by the airports that make up Alaska's aviation system. Eighty-two percent of Alaska communities are not served by roads, making Alaska's aviation system critical to the long-term survival of the state's communities and their unique cultures. The purpose of this study is to tell some of those individual stories and document in individual case studies the economic and social importance of twelve selected airports that are representative of the broader Alaska experience. There is no one-size-fits-all airport in Alaska, and this study documents that reality explicitly. The study's airports range from international airports, such as Fairbanks and Juneau, to regional hub airports (e.g., Bethel, Kotzebue), to community airports providing critical food and fuel to individual rural communities (e.g., Eek), to airports that play a vital role in Alaska's core industries (e.g., Deadhorse, Talkeetna). The twelve communities are (in alphabetical order): Bethel, Deadhorse/Prudhoe Bay, Eek, Fairbanks, Haines, Hooper Bay, Iliamna, Juneau, Kodiak, Kotzebue, Talkeetna, and Wasilla (Figure 1).

Figure 1. Study Airports and Selected Regional Hubs



Source: Alaska Map Company and Northwest Strategies, 2011.

⁹ Work Order D59825

1.2 The Alaska Aviation System Plan

This report is a component of the continuing Alaska Aviation System Plan (AASP), which is being prepared by the Alaska Department of Transportation and Public Facilities (ADOT&PF), Division of Statewide Aviation; the Federal Aviation Administration (FAA); and a consultant team led by DOWL HKM. This economic analysis was prepared by Northern Economics, Inc. as a subcontractor to DOWL HKM.

The primary purpose of the airport system planning process is to examine the existing aviation system, analyze future trends, evaluate policy issues, and determine the type, extent, and location of airport improvements needed in the state. Earlier in the planning process, members of the consultant team reviewed existing documents and studies and conducted extensive outreach within ADOT&PF and with external stakeholders to determine what aviation issues needed to be considered or addressed in the AASP. The absence of information on the economic effects of the aviation industry on the state's economy, and the importance of the industry to state residents and their communities were identified as issues that needed to be addressed; this report was prepared to continue to address these issues.

This AASP document was created in accordance with FAA Advisory Circular 150/5070-7: The Airport System Planning Process. The economic analysis described in this report was conducted pursuant to Section 101.a(3) of that document.

This report provides an estimate of the economic and social contribution of the selected airports to their individual boroughs (or census areas) and the State of Alaska in 2009. The estimates contained within this report are based on large survey and data analysis efforts conducted in the fall of 2010. More details of the study's methods are contained in Section 2.

As noted in prior reports, one of the early phases of the AASP focused on identifying issues and concerns facing the aviation industry in Alaska. The governor-appointed Aviation Advisory Board (AAB) and others knowledgeable about the industry saw a need for additional state capital investment in and operational funding for airports since these facilities are a necessary part of the aviation network and a critical transportation link for most Alaska communities. However, research documenting the importance of the aviation industry—especially for communities not connected to the road system—is very sparse. The 2009 reports focused on the statewide contributions of the state's aviation system, but did not address the impacts that individual airports have on their communities, regions, and the state. Thus, after the 2009 report, the AAB, ADOT&PF, and the FAA identified as important enhancing local, state, and federal decision-makers' understanding of the social and economic importance of individual, representative airports. For these individual communities, the aviation industry, and aviation-related businesses, the individual community "case studies" document information that has never been available at the community level for most airports below "international airport" status. The results further document that—for these communities and the State of Alaska as a whole—planning efforts, capital, and operational investment for a healthy aviation system and industry are very important.

The aviation industry, following on the 2009 study, includes all the businesses and organizations located at an airport. They are referred to in this report as on-site entities. Spending by these firms and organizations results in other jobs and income—the multiplier effect—for businesses located elsewhere (i.e., off-site). Information for on-site and off-site economic activity is presented in this report. Subsequent studies may expand the definition of "aviation industry" to include other aviation-related businesses not located at airports (e.g., off-site air freight companies or off-site aircraft parts manufacturing companies) and some portion of expenditures by visitors and other persons traveling on air transportation services and through airports.

1.3 Document Structure

This document is presented in the following order:

Section 1 contains the introduction, purpose, document structure, and acknowledgements.

Section 2 contains the study's analytical methods.

Sections 3-14 contain individual case studies for the following airports (in alphabetical order):

- Bethel/BET (Section 3)
- Deadhorse/Prudhoe Bay/SCC (Section 4)
- Eek/EEK (Section 5)
- Fairbanks/FAI (Section 6)
- Haines/HNS (Section 7)
- Hooper Bay/HPB (Section 8)
- Iliamna/ILI (Section 9)
- Juneau/JNU (Section 10)
- Kodiak/ADQ (Section 11)
- Kotzebue/OTZ (Section 12)
- Talkeetna/TKA (Section 13)
- Wasilla/IYS (Section 14)

Section 15 contains references.

1.4 Acknowledgements

The study team would like to acknowledge the assistance of a number of groups who made this analysis possible. We would not have been able to complete this study without the assistance of the ADOT&PF Division of Statewide Aviation, Fairbanks International Airport, Juneau International Airport, the City of Wasilla, the United States Postal Service's Bypass Mail Program, and the Aviation Advisory Board. Most importantly, we want to thank the more than 175 leaseholders who responded to the leaseholders' survey. This analysis would have been impossible without their input.

2 Analytical Methods

As noted in Section 1, the purpose of this analysis is to document the importance of airports and aviation to selected communities throughout Alaska. All of these airports are different and no single analytical method or data source can capture the role they play in their communities. Therefore, the individual airport analyses rely on three different analytical methods to describe the economic and social contributions of individual airports, and to provide a more complete picture of how these airports fulfill their roles in their communities.

The three analytical methods the study employs are Estimates of Direct, Indirect and Induced Employment and Expenditures, Description of the Airport's Community Role, and Estimates of Air Transport Related Spending.

Estimates of Direct, Indirect, and Induced Employment and Expenditures: The Direct, Indirect and Induced Employment and Spending analysis documents total employment and spending by leaseholders, businesses and government agencies located at the individual airports. In addition, this analysis uses the IMPLAN™ software package to estimate the indirect and induced jobs created by the direct employment and spending as the money from those items flows through the economy. This type of analysis works very well for airports where there are at least modest numbers of leaseholders, businesses, and government agencies working on airport, but does not adequately capture the true importance of the airport for small, isolated rural communities (e.g., Eek, Hooper Bay).

Description of the Airport's Community Role: Quantitative measures alone are unable to capture the critical role that Alaska's airports play in their host and surrounding communities. The study conducted limited interviews with selected community leaders, organizations, and businesses, and collected information from the Alaska Department of Labor and Workforce Development (ADOLWD), the Alaska Department of Commerce, Community and Economic Development (ADCCED), and the FAA to capture information which could provide context to the quantitative analyses.

Estimates of Air Transport Related Spending (Enplanement, Cargo, and Mail Expenditures): Another method for capturing activity at airports is to analyze the data collected by the Bureau of Transportation Statistics (BTS). This study analyzed 2009 BTS reports of enplanements and passenger segments, and enplanements/deplanements and segment volumes of mail and cargo arriving at each study airport. The study then applied primary expenditure data such as average air fares, bypass mail reimbursement rates, priority mail reimbursement rates, and per-pound cargo charges to estimate primary expenditures in 2009 by air passengers, mail customers, the U.S. Postal Service (USPS), and cargo shipping customers. This technique provides a raw measure of what people, businesses, and government are spending to move goods and individuals in and out of communities. This method works well for communities that are off the road system (e.g. Kotzebue, Bethel, Eek, Hooper Bay, Kodiak, Juneau, Iliamna) or are on the road system and play an important part in shipping (e.g., Fairbanks). This method does not work well for airports that are on the road system and thus accessible by road transport, and which do not play a role in shipping goods and transporting individuals to other communities (e.g., Wasilla, Talkeetna). The estimates created by this analytical method are not additive to the IMPLAN estimates. In addition, the estimates for each airport should not be added to estimates for other airports as each unit volume (e.g., person, pound of mail, pounds of cargo) includes two airports and adding estimates together would include some element of double counting.

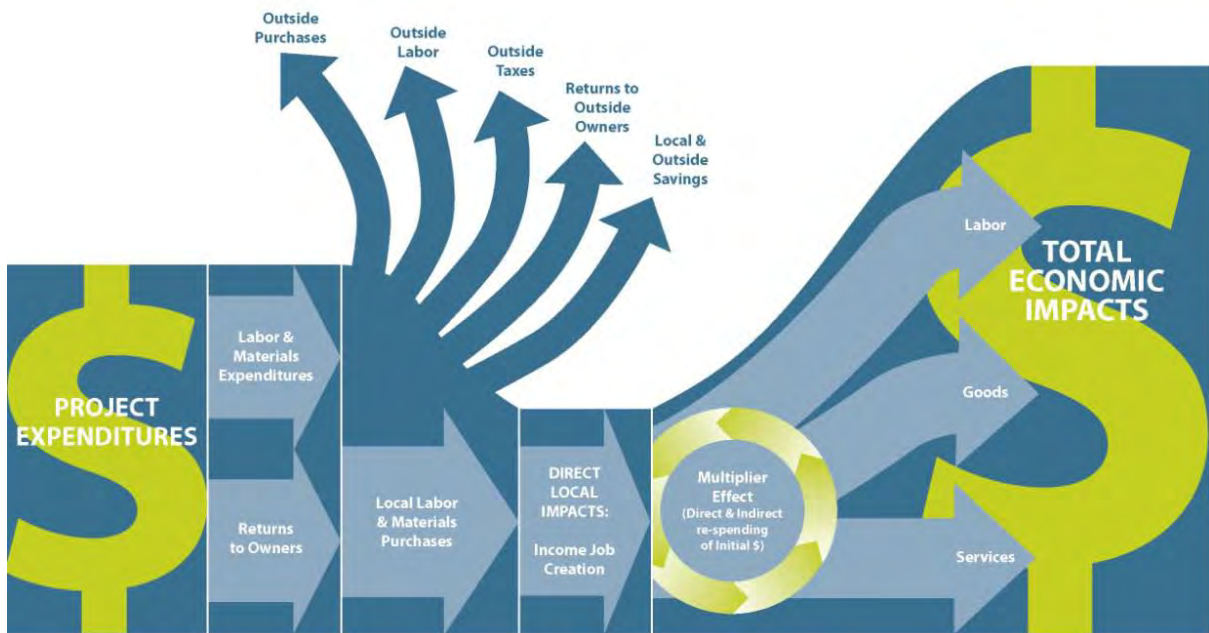
The following sub-sections describe these analytical methods in greater detail.

2.1 Estimates of Direct and Indirect Employment and Expenditures

The methodology for estimating direct, indirect, and induced employment and spending was first utilized for the March 2009 study entitled *The Economic Contribution of the Aviation Industry to Alaska's Economy* as part of the AASP Work Order D59825. This study uses the methodology devised for that study as the basis for its direct, indirect, and induced employment and expenditures analysis. As noted above, the purpose of this component of the analysis is to estimate the overall effect of employment and expenditures by each airport's on-site aviation industry. As with the 2009 study, the aviation industry is defined as all the businesses and organizations located on-site at these airports. These entities, which include the airlines, airport concessions, air freight companies, airline support services, and even government and civic organizations, are collectively referred to in this report as on-site entities. Not included in this study's definition of the aviation industry are the other aviation-related businesses that are not located at airports (e.g., off-site air freight companies or off-site aircraft parts manufacturing companies).

Businesses, organizations, and government agencies contribute more to an economy than just their direct employment and expenditures. The direct employment wages and expenditures fuel the economy as a portion of these monies are spent at other businesses in the community, around the state, and outside of the state. The recipients of these expenditures repeat the process until all of the money has leaked from the local and state economies into outside economies and savings. Thus, this tool measures how many times a dollar is re-spent in a community (or a larger economic region) before it leaks out. This process is known as the multiplier effect (see Figure 2). The cumulative total of the original jobs and expenditures from the on-airport aviation industry plus the indirect and induced jobs and expenditures created by the money flowing through the economy are the total economic impacts of the on-airport aviation industry.

Figure 2. Expenditures Moving Through the Economy



Source: Northern Economics, 2010.

The study used a comprehensive survey methodology to explore the various parts of the aviation industry in these communities. In total, the research team developed and administered two different

surveys to gather the data needed to assess the contribution of these local airports to their communities and provide insight on the importance of these airports to Alaska residents and policymakers. The study surveyed leaseholders located on each airport selected for the study and the managing organization responsible for each airport. Each of these surveys collected specific pieces of data required to generate a quantitative picture regarding the economic contributions of each airport to its local and nearby communities.

2.1.1 Leaseholder Economic Activity Survey

The study's primary vehicle for collecting economic information from the on-airport aviation industry at each of the selected airports was the leaseholder economic activity survey (LEAS). The LEAS process started by creating a master leaseholder database which combined leaseholder contact information from the ADOT&PF Rural Aviation leasing database, Fairbanks International Airports' aviation leasing database, the Juneau International Airport's aviation leasing database, and the City of Wasilla's aviation leasing database. Through this process, the study identified approximately 310 unique leaseholder/airport combinations representing 465 total leases at the 12 different airports.

The survey asked the leaseholders to:

- Identify their business type within a pre-identified group of categories
- Estimate the number of full-time and part-time positions held in an average month in 2009 by direct and contract employees and by resident and non-resident status
- Estimate the amount spent on direct and contract employee salaries in 2009
- Estimate their capital and operating expenditures, including the in-state portion, in 2009

A copy of the survey instrument is located in Appendix A- LEAS Survey Instrument.

The research team sent a mail survey packet to each identified leaseholder at the selected airports; leaseholders received one survey per airport where they held leases, because the information the study collected was on the individual airport and leaseholder level. Following the initial survey packet, each leaseholder who had not yet responded received a follow-up e-mail with an interactive version of the survey and finally, multiple attempted phone calls asking them to participate in the survey. The survey administration launched during the first week of October 8, 2010 and closed on December 17, 2010. The analysis uses data from the LEAS to estimate the employment, wages, capital, and operating expenditures at each airport. The robust response rates (see below) allow the survey to use respondent data as proxy data for non-respondents.

Of the 310 unique leaseholders, 162 returned completed surveys¹⁰. This number equals a raw response rate of 52.4 percent of total leaseholders in the database, and 55.3 percent when adjusted for uncontactable leaseholders. The study team defined leaseholders as uncontactable if no contact was made and no other information was obtainable that would allow us to contact them. Only 14 leaseholders of the 310 met this definition—an indication that the base leaseholder databases were of high quality. In addition, we removed two leaseholders from the denominator after discovering they were deceased. Table 1 shows leaseholder response rates by airport.¹¹

Table 1. Leaseholder Response Rates by Airport

Airport	Total Leases	Completed Surveys	Final Response Rate (%)
Bethel	37	19	51
Deadhorse	33	18	55
Eek	0	0	N/A
Fairbanks	138	82	59
Haines	11	6	55
Hooper Bay	1	1	100
Iliamna	18	8	44
Juneau	39	14	36
Kodiak	22	11	50
Kotzebue	17	8	47
Talkeetna	13	6	46
Wasilla	10	4	40

Source: Northern Economics, 2010.

Note: Some leaseholders held leases at more than one airport.

The responses weighted heavily toward single airport leaseholders (i.e., those leaseholders who only operated at one airport). We received an adjusted response rate of 56.6 percent from single airport leaseholders and a lower 36.8 percent adjusted rate from multi-airport leaseholders. In spite of the lower response rate from multi-airport leaseholders, the proportion of total leases required to proceed with the study were satisfied.

These response rates were far above the normal response rates expected for a mail survey conducted without an incentive. In general, a normal mail response rate will generate a return of roughly ten percent. Under these conditions, the responding ten percent stand in as a proxy for the non-responding 90 percent when the results are scaled to the entire survey population. In the case of this study, the analysis has a far higher portion of respondents whose data are scaled over a far smaller population of non-respondents. The net effect is a much higher level of confidence in the results of the study and a much smaller potential for large-scale error based on the survey respondents.

¹⁰ When leaseholders had leases at more than one airport they received multiple surveys—one for each lease held.

¹¹ The airport at Eek does not have any leaseholders with economic activity. Thus, it had no potential respondents to survey.

2.1.2 Operations, Maintenance, and Capital Expenditure Data

The study team relied upon ADOT&PF Division of Statewide Aviation, Fairbanks International Airport, Juneau International Airport, and the City of Wasilla to supply the operations-related financial and employment data. These entities provided the survey with:

- The number of full-time and part-time positions filled in an average month in 2009
- The total amount spent on maintenance and operations (M&O) in FY 2009
- The percentage of M&O expenditures that were spent in-borough and in-state
- The total amount spent on capital expenditures in FY 2009

We collected employment and M&O figures from the appropriate ADOT&PF departments and a contact at the Aviation Planning office. Estimates of the percentage of M&O expenditures spent in-borough and in-state were supplied by ADOT&PF's Statewide Maintenance and Operations office. The study team sourced capital expenditures from the FAA's Airport Improvement Program¹² (AIP) database and, where possible, verified the data with local airport managers.

ADOT&PF was unable to provide estimates of the percentage of capital expenditures that were spent in-borough and in-state. As a secondary measure, the study team used previous results from the 2009 study by Northern Economics and current data reported by the non-state-owned airports to create the estimates. For ADOT&PF rural airports, the study apportioned capital expenditures using a 50 percent in-borough and 50 percent out-of-borough assumption.

Juneau International Airport (JNU), Fairbanks International Airport (FAI), and the Wasilla Airport (IYS) provided detailed breakdowns of their capital expenditure data. The data received from the Juneau airport indicated that the breakdown of in-borough and in-state capital expenditures was unknown, but that the out-of-state capital expenditures were approximately two percent. The study team then assumed that half of the remaining expenditures (49 percent) were spent in the City and Borough of Juneau, mimicking the apportionment used by IYS and the previous results from the 2009 study. The IYS data did not require any assumptions.

2.1.3 The IMPLAN Input-Output Analysis

The results of the two surveys were then fed into the Input-Output (I-O) analysis using IMPLAN software to develop the I-O model for individual boroughs or census areas¹³ and the Alaska economy. IMPLAN is a widely used software package used for economic impact assessments, and Northern Economics has used the software for a decade in Alaska.

As noted above, I-O analysis is an economic tool used to measure the effects or impacts of an economic activity, and it is typically used to evaluate the benefits of a project, an entity, or an industry to the local, regional, and state economy. The analysis is based on a model of the inter-industry transactions within a community, region, or state. The I-O model is a matrix that tracks the dollar flow between the industries within a specified economic region of interest. The model can measure how many times a dollar is re-spent in, or ripples through, a community (or a larger economic region) before it leaks out.

¹² The AIP provides grants for the planning and development of public-use airports that are included in the National Plan of Integrated Airport Systems (FAA 2010a).

¹³ Not all of the airports are located in boroughs. In these cases the study used the IMPLAN multiplier for the census area containing the airport.

The I-O model yields multipliers that are used to calculate the indirect and induced effects on jobs, income, and business sales/output generated per dollar of spending on various types of goods and services in the study area. To evaluate the economic effects to the state or a particular region, only the local (i.e., within the state or within the region) expenditures are used in the model; the rest are considered leakages. More leakages mean smaller multiplier effects; conversely, the larger the local expenditures, the greater the multiplier effects.

The multipliers for any given industry in any given location are unique, based on industry composition and geographic area. IMPLAN uses specific data on what inputs are needed to produce the goods or services for over 400 industries. IMPLAN also has borough-specific data on what industries are available locally from which to purchase those inputs. The study applied the most recent IMPLAN data (2009 data) on multipliers for all the economic sectors in the Alaska I-O model.

The analysis' measure of the total economic contribution is comprised of the direct (or on-site) effects and the indirect and induced (or multiplier/off-site effects). The direct effects result from the aviation expenditures injected into the borough/census area and state economies through payroll, M&O, and capital spending by on-site entities. Not included in this study's direct spending measure is the portion of expenditures by visitors and other persons traveling on air transportation services and through airports. The study attempts to describe this portion of the industry in the Estimates of Air Transport-Related Expenditures portion of the study (described in the following subsection). The *indirect and induced effects*, which are also referred to as multiplier effects, result from the spin-off spending as aviation employees and other businesses that support the on-site entities buy goods and services from the local vendors.

The study team rounds estimates to the nearest ten jobs because the analysis is not so accurate as to estimate the number of jobs within a single position of the actual number. For the same reason, we round estimates of expenditures to the nearest tenth of a million excepting airports where the estimates are under one-tenth of one million. This rounding can cause tables to not add up perfectly. However, the total amount in the table represents the rounded estimate of total jobs or total expenditures.

2.2 Role in the Community

The study team captured the unique role that each airport plays within its local community by reaching out to residents, organizations and businesses to conduct key stakeholder interviews. Generally speaking, the study asked interviewees to describe their relationship to the airport. Questions asked are similar to those listed below.

1. Why is the airport important to you, your business, or your community?
2. What is the airport typically used for? Do most residents in your community use the airport for the same reason(s)?
3. What would be the greatest hardship if there were no airport?

The study team identified key stakeholders through research of regional employers, industries, and community organizations. Interviewees included business owners and managers, representatives from schools, health organizations, and those knowledgeable about the flow of local goods and services to a particular community such as city and state personnel.

In cases where passenger or cargo data showed anomalies, the study team contacted industry representatives and asked about specific data patterns.

2.3 Estimates of Air Transport-Related (Enplanement, Cargo, and Mail) Expenditures

As an alternative measure of economic activity and the importance of the study airports to their communities and regions, the analysis estimates the total primary expenditures related to air transport for each community in 2009. In other words, the study asks the question: “how much did people, governments, and businesses spend to move people and goods in 2009 as measured by passenger fares, bypass mail reimbursement rates, primary mail reimbursements rates, and cargo shipping charges?” This section describes the analytical methodology the study uses to estimate the expenditures associated with transporting passengers, freight, and mail departing from or arriving at any of the 12 selected Alaska airports during the year 2009. These estimates are incorporated into the community discussion in each case study.

As noted above, the study estimates 2009 expenditures in terms of volume (number of passengers, pounds of freight and pounds of mail) and the expenditures associated with those volumes. The volume estimates depict the inflow and outflow activity related to an airport (a measure of an airport’s connectivity). The associated expenditures reflect the economic importance that the air traffic to/from an airport has at the local level and beyond. A significant portion of these expenses flow out of the state’s economy, and in that sense the analysis of air traffic volumes and associated expenses complements the IMPLAN I-O analysis.

2.3.1 Data Collection Process

Northern Economics obtained most of the data for the study from a variety of aviation datasets available from the BTS (2011) and complemented it with information collected through the internet and personal communications with various air carriers.

The study uses two primary datasets from the BTS:

- “Air Carriers: T100 Domestic Markets - All Carriers”
- “Air Carriers: T100 Domestic Segments - All Carriers” databases (BTS, 2010a).¹⁴

The difference between these two sources is subtle but critical. The former includes only passengers, mail, and cargo that enplaned or deplaned at a given airport. The latter database includes enplaned/deplaned passengers, mail, and cargo *plus* passengers, mail, and cargo that flowed through the airport (by staying on the plane) but did not enplane or deplane at that location. Thus, the former shows actual enplaning and deplaning volumes (Market data) while the latter shows flow volumes (Segment data).

The study finds both measures to be important. The enplaning and deplaning data (commonly referred to as just “enplanements”) are used in funding formulas and as direct measure of activity on airports. The flow data show interconnectedness between airports and communities that exist even when passengers, mail, and cargo do not enter or exit aircraft while stopped at a given airport. For example, Alaska Airlines currently operates three flights per day in a “milk run” covering Anchorage, Nome, and Kotzebue. The enplane/deplane (Market) data for this run show comparatively little direct flow from Kotzebue to Nome even though the plane to Nome flies through Kotzebue twice per day. The flow (Segment) data show the passengers flying through Kotzebue to Nome even though they

¹⁴ This dataset contains domestic non-stop segment data reported by both U.S. and foreign air carriers when both origin and destination airports are located within the boundaries of the United States and its territories.

don't leave the plane. The first measure is better at picking up localized activity while the second measure is better at showing interconnectedness.

Most importantly:

- The study uses the enplane/deplane (market) data when conducting specific calculations related to per capita measures and the amount of money spent to ship passengers, mail, and cargo to a community. The estimates contained in the fourth subsection of the individual report chapters (i.e., Chapters 3-15) use enplane/deplane data. When referring to these data the report uses the terms “enplaned”, “deplaned”, or “enplanements.”
- The study uses the flow (segment) data when depicting movement between communities. Thus, the detailed maps and tables contained in the third subsection of the individual report chapters use the flow data to show the interconnectedness between the communities. When using these data the report uses the terms “flow” or “segment volumes”.

Table 2 shows the difference between the traditional “enplanement” data and the “flow volume” data by airport. For passengers at approximately half of the airports, the difference between the two data sets is less than 10 percent. These airports tend to be ones where passengers do not sit on the airplanes waiting to reach another destination. The passengers are either at their final destination or they must change planes to another flight number to continue their journey. However, at locations such as SCC, EEK, HNS, HPB, JNU, or OTZ, a larger percentage of passengers stay on the planes before traveling to another destination. These airports tend to be part of larger “milk run” systems. These distinctions tend to breakdown somewhat with regards to mail and cargo, with most airports’ volume differential greater than 10 percent between “enplanement” and “flow” data.

Table 2. “Flow” Volumes vs. “Enplaned/Deplaned” Volumes by Airport, 2009¹⁵

Airport by Community	Passengers			Mail			Cargo		
	“Enplane”	“Flow”	Difference	“Enplane”	“Flow”	Difference	“Enplane”	“Flow”	Difference
Bethel	268,200	268,200	0%	47,694,000	51,207,700	-7%	21,678,100	22,832,500	-5%
Deadhorse	62,700	82,400	-24%	11,761,700	12,824,400	-8%	18,321,400	21,907,700	-16%
Eek	5,900	11,600	-49%	424,400	899,900	-53%	100,900	218,600	-54%
Fairbanks	839,400	913,700	-8%	8,113,500	9,326,700	-13%	22,671,900	37,515,200	-40%
Haines	11,500	14,900	-23%	413,900	602,800	-31%	254,100	373,200	-32%
Hooper Bay	11,200	15,800	-29%	2,053,400	2,479,600	-17%	530,800	669,600	-21%
Iliamna	11,400	11,500	-1%	1,320,200	1,864,700	-29%	1,913,500	3,058,300	-37%
Juneau	529,400	663,300	-20%	8,776,500	9,792,200	-10%	18,290,600	31,604,800	-42%
Kodiak	158,000	160,100	-1%	2,375,400	2,620,600	-9%	11,037,600	11,467,200	-4%
Kotzebue	112,600	151,300	-26%	25,469,900	29,851,600	-15%	11,623,800	14,899,500	-22%
Talkeetna	6	6	0%	0	0	0%	0	0	0%
Wasilla	9	9	0%	0	0	0%	0	0	0%

Source: NEI estimates based on BTS, 2010 and 2011.

The main advantage of these datasets is their reliability and coverage. The datasets contain records of flights provided by each carrier of every commercial route, whether it is cargo, chartered, or scheduled passenger service. Out of the 70,051 records involving an Alaska airport in 2009, the study uses a subsample of 24,980 flights (36 percent) to or from at least one of the 12 selected airports. This

¹⁵ Volumes rounded to the nearest hundreds position. Percentages calculated based on unrounded data.

subsample includes 16,512 flights transporting passengers, 12,929 transporting freight, and 10,481 transporting mail.¹⁶ For each of the flights in the subsample, the study uses information regarding carrier, aircraft, origin, destination, and distance, as well as volumes of passengers, freight, and mail transported.¹⁷

The analysis uses passenger airfares mostly obtained from the *Origin and Destination Survey (DB1B)* (BTS, 2010b). This dataset contains a sample of 10 percent of all domestic tickets sold by all carriers (but does not include charter air craft or flight-seeing operations), which in 2009 amounts to 226,182 tickets. Out of those, the study used the subsample of 65,858 tickets (29 percent) involving any of the selected airport city pairs. The data include origin and destination airports, total miles traveled, the number of passengers, and market fare. When BTS data were not available (notably in the case of charter flights), the study used estimations based on actual passenger airfares for ticket quotes obtained directly through the air carriers or via the web. Passenger airfares correspond to tickets being sold more than six weeks in advance for a short trip of 3 days during a period without holidays (December 7, 2010 or closest available date). If various fares were available, the least expensive was used. In this sense, the study's estimates are conservative. This data collection process was followed by calls to the carriers to make adjustments if needed or to confirm that the rates were representative of typical fares for 2009.

The analysis uses cargo rates based on actual freight rate quotes obtained directly from the air carriers or via the web, followed by inquiries to the carriers to validate or adjust the rates so that they are representative for 2009.

Northern Economics obtained information from the USPS regarding its Bypass Mail program (Deaton and McDonald, 2010) and—of particular importance—from the U.S. Department of Transportation (USDOT) regarding the rates per revenue ton mile from the Intra-Alaska bush mail rates (USDOT 2010a) and the Intra-Alaska mainline mail rates (USDOT 2010b). The expenses associated with mail transported by air—via the Bypass Mail program or not—were calculated using one of these bypass mail rates. The team used its professional judgment and experience to assign rates on a case-by-case basis, taking into account the air carrier (which is a main factor that determines the rate) and the airport-city pair.

The study calculated the expenditures by multiplying the volumes of passengers, mail, and cargo transported to/from the selected airport-city pairs by the documented rates for bypass mail and the estimated rates for cargo. In both cases this methodology provided estimated “first retail¹⁸” expenditures for more than 90 percent of the mail and cargo volumes analyzed for this study. The study team conducted additional interviews to determine the best rates to apply to the remaining 10 percent. For example, the mail flying to Kodiak from Anchorage is not bypass mail; it is priority mail. Carriers are paid by the USPS to carry this mail at a rate that is not included in the documentation for the Bypass Mail program. In this instance the USPS was able to provide the study with a rate per pound paid for priority mail that goes to Kodiak from Anchorage.

¹⁶ The sum of flights transporting passengers, freight and mail is greater than the total number of records in the subsample because many flights transport simultaneously more than one of those categories.

¹⁷ In this study all mileage references correspond to statute miles (i.e. 5,280 feet) and passengers correspond to “revenue passenger” (i.e. passengers for whose transportation an air carrier receives commercial remuneration).

¹⁸ The study defines “first retail” as the first and primary expenditure associated with a transaction at the retail level. This definition does not include additional charges such as what might be charged to move the cargo from the airport to the final location.

3 Bethel Airport

The Bethel Airport (BET) is a lifeline for 56 communities in the Yukon-Kuskokwim region. Food, fuel, consumable goods, and durable goods all flow through BET to surrounding villages. At the same time, this economic activity creates significant employment within the Bethel Census Area. This study finds that:

- On-site activity by leaseholders and airport operations at BET generated a total of 560 direct, indirect, and induced in-state jobs; roughly 460 were direct and indirect local (i.e., in borough/census area) jobs and another 100 were jobs generated throughout the state.
- ADOLWD data indicate that average monthly total employment in the Bethel Census Area equaled 6,732 employed (wage and salary) individuals (ADOLWD 2011). Thus, the local jobs tied to the airport were enough to provide nearly 7 percent of the census area's wage and salary employees with a job.
- In-state labor income from airport and leaseholder activities was approximately \$24 million in 2009, contributing to a total statewide economic output of roughly \$45 million.

In addition, the airport made a significant contribution to the Lower 48 economy as well. Leaseholders reported spending roughly \$40 million outside of Alaska on their operations at BET.

The following sub-sections describe the BET analysis in greater detail.

3.1 Community Description

Bethel is a major regional hub for Alaska's Yukon-Kuskokwim region and is located on the Kuskokwim River, 400 air miles west of Anchorage. Originally established by Yup'ik Eskimos, the city is also known as Orutsararmuit Native Village, the name of the federally recognized local tribe. Today, Bethel functions as an important hub for the Yukon-Kuskokwim region, providing goods and services to 56 surrounding native villages that are unreachable by road. The traditional practices and languages of the Yup'ik Eskimos continue as strong influences within the community, and subsistence activities such as hunting, gathering and fishing are important to residents, both native and non-native (ADCCED 2011; City of Bethel 2011).

The City of Bethel is the largest population center in the Yukon-Kuskokwim region. The region comprises three major census areas: Dillingham Census Area, Wade Hampton Census Area, and Bethel Census Area. Bethel's population of 6,000 residents is more than the population of the entire Dillingham Census Area (4,700), equivalent to almost 80 percent of the population of the entire Wade Hampton Census Area (7,700), and accounts for more than 35 percent of the population in the Bethel Census Area (17,000), (ALARI 2011). As a hub for the Yukon-Kuskokwim region, Bethel hosts many federal and state regional offices, as well as the headquarters for businesses and non-profit organizations providing services to the region. Its top employers include the Yukon-Kuskokwim Health Corporation, the Lower Kuskokwim School District, and the State of Alaska (ALARI 2011). The Association of Village Council Presidents (AVCP), an organization that manages a variety of social service and development programs to its member tribes in the Yukon-Kuskokwim region, is also a significant employer as its main office is located in Bethel (AVCP 2011).

Bethel sits within the boundaries of the Yukon Delta National Wildlife Refuge, the second largest wildlife refuge in the nation. The area is characterized by vast expanses of low-lying wetlands and tundra, and supports a diverse population of mammals, fishes and birds (US Fish and Wildlife 2011; Alaska Geographic 2011). The area has limited transportation infrastructure and access to Bethel from

other regions is possible via air and water only. Intra-regional travel may also be done using land-based vehicles such as snow machines, all-terrain-vehicles, and automobiles. A local paved and dirt road system provides for about 40 miles of road access within and around Bethel, and in the winter, the Kuskokwim River freezes, becoming an ice road which also provides access to surrounding villages (ADCCED 2011).

3.2 Airport Description

BET is Alaska's third busiest state-owned airport in terms of operations (flights per day), and is the major transportation center for the Yukon-Kuskokwim region (ADCCED 2011). The airport and its facilities are state owned and are maintained by the ADOT&PF. There are more than two hundred single-engine, general aviation aircraft, more than a dozen multi-engine, general aviation aircraft, and helicopters and operational military aircraft based at the facility (FAA 2010a).

BET is at 126 feet elevation and is located approximately three miles southwest of the town center. The airport is equipped with three runways—two asphalt and one gravel. The asphalt runways are 6,400 feet in length by 150 feet wide, and 4,000 feet in length by 75 feet wide. The gravel runway is considerably shorter, at 1,860 feet in length and 75 feet wide (FAA 2010a).

Figure 3. Lynden Air Cargo L100 Hercules Delivers to BET



Source: ADOT&PF, 2011

3.3 Role in the Community

As the major regional transportation center, the Bethel Airport is used as a distribution point for passengers, mail, and cargo destined for smaller villages in the area. Passengers traveling to and from the 56 villages within the Yukon-Kuskokwim Delta fly through Bethel's airport. Goods destined for a village such as Atmautluak or Kasigluk, for example, are usually barged or flown into Bethel, then re-flown to their final destinations. Similarly, goods leaving these villages may first be flown to Bethel, where they are grouped into larger shipments headed for Anchorage or another distribution point.

Bethel receives direct flight service from Anchorage, and has well-established communications infrastructure and higher levels of income and healthcare service than much of the surrounding area. The villages which depend on Bethel for goods and services are small and remote in comparison. Fewer wage and salary positions are available, and many of these communities have high unemployment and poverty rates and are characterized by undeveloped public services and little to no transportation infrastructure (ALARI 2011). Consequently, village residents rely heavily on Bethel for goods and services not available in their local communities. The remoteness of the area's villages and the existence of few roads make the Bethel airport instrumental in providing regional access to the city's resources.

The Bethel area health-care delivery system, administered by the Yukon-Kuskokwim Health Corporation, relies on the transportation services available through the Bethel airport. Village residents may either commute to Bethel or await scheduled visits from Bethel-based healthcare providers such as dentists, doctors, and opticians. The transportation of both the patients and the providers is typically done via air. Bethel is home to the Yukon-Kuskokwim Delta Regional Hospital, a 50-bed general acute-care medical facility which offers services not available at village or sub-regional clinics. Patients at the facility have access to services like in-patient care, an adult medical-surgical ward, a CT scanner, and an obstetric ward (YKHC 2011; Bach 2011). As Donna Bach, Director of Public Relations at the Yukon-Kuskokwim Health Corporation notes, "We greatly rely on the Bethel Airport to connect us to our patient base."

Reliance on use of the Bethel airport by nearby village residents was confirmed by Daniel Waska, Tribal Administrator for the Native Village of Atmautluak. He points out that residents in his village fly to the hub for doctor's appointments and also receive medical supplies and medicines that are delivered via aircraft from Bethel. In addition to being a healthcare resource, Daniel notes that Bethel also functions as an educational center for the region. Atmautluak and residents of other nearby villages fly into Bethel for workshops and trainings put on by both the Bureau of Indian Affairs and AVCP (Waska 2011; AVCP 2006).

George Young, the Fire Chief of Bethel, noted that the Bethel Airport is an important logistical tool for fire and emergency response in the area. It is not uncommon for members and volunteers of the Bethel Fire Department to assist with emergencies in other villages, and they are usually transported to the site of the emergency via aircraft leaving from the airport. Regarding how the absence of an airport would affect his department, Young observed, "I can't imagine how we would get severely injured people out of here....we'd really be putting people at risk if there was no airport here."

Bethel is the third busiest state-owned airport in Alaska and serves as a major passenger and cargo hub for 56 village airports within the Yukon-Kuskokwim Delta (ADOT&PF 2010). Table 3 and Figure 4 summarize the passenger segment volumes for the Bethel Airport. With the exception of Anchorage, all of the communities listed in the table are within the Yukon-Kuskokwim region, attesting to Bethel's role as a regional hub. In 2009, Anchorage accounted for 39 percent of the city's incoming and outgoing commercial passengers. The Ted Stevens Anchorage International Airport is the major aviation hub for Alaska, functioning as a distribution point for both in-state and out-of-state

flights. Many of the passengers coming from and going to Anchorage may actually have other origin or final destination points.

Table 3. BET Passenger Segments by Airport-City Pair¹⁹, 2009

City	Passenger Segments		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	52,987	52,185	105,172	39.2
Chevak	4,527	5,142	9,669	3.6
Quinhagak	4,229	4,051	8,280	3.1
Tuntutuliak	3,556	3,792	7,348	2.7
Hooper Bay	3,145	4,142	7,287	2.7
Kipnuk	2,971	3,857	6,828	2.5
Eek	3,038	3,140	6,178	2.3
Pilot Station	2,954	3,171	6,125	2.3
Kasigluk	3,144	2,926	6,070	2.3
Scammon Bay	3,258	2,417	5,675	2.1
All others*	49,095	50,468	99,507	37.1
Grand Total	132,904	135,291	268,139	100.0

*The category "all others" includes 19 communities with more than one percent of Bethel's total enplanements. These communities (and the percentage of total enplanements that they represent) are the following: Emmonak (2.1), Kongiganak (2), Toksook (2), Kwethluk (2), Mountain Village (1.9), Kalskag (1.8), Chefornak (1.8), Kotlik (1.7), Atmoutluak (1.7), Newtok (1.6), Marshall (1.5), Kwigillingok (1.5), Tuluksak (1.4), Nightmute (1.4), Nunapitchuk (1.4), Akiachak (1.3), Mekoryuk (1.1), and Russian Mission (1.1).

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011.

¹⁹ The Airport-City Pair is the combination of the study airport (e.g., Bethel) and a city or community involved in the movement of people, mail, or cargo to and from the airport. This arrangement is in comparison to an airport-airport pair, which would involve movements between two airports. The study uses airport-city pairs because some communities, such as Anchorage, have multiple airports which can be involved in moving people and goods to the study airport. The airport-city pair allows the study to avoid having to discuss multiple non-case study airports in the tables and figures and simplifies the relationship between the study airport and surrounding communities.

Figure 4. Geographic Location of BET's Top Partner Communities for Passenger Segments, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

Note: Bolded communities on the maps in this document represent locations of other case study airports appearing in this report. Case study airports are not bolded when they are one of the partner communities shown in the map. For example, in the map above, Iliamna is bolded, but Hooper Bay is not, because it is one of Bethel's partner communities.

The 34.5 million pounds of incoming mail to Bethel shown in Table 4 and Figure 5 are attributable, at least in part, to the USPS bypass mail program, which uses federal funds to lower the cost of sending goods to rural Alaska. This amount includes mail that deplaned at Bethel and mail that continued onto another location on the same plane. The Bypass Mail program uses specific air carriers authorized by the USPS to transport mail shipments of 1,000 pounds or more, and is credited with keeping the cost of goods and foodstuffs affordable in many remote Alaska locations. One airline employee, who asked to remain anonymous, indicated that more than 75 percent of the bypass mail volume corresponds to foodstuffs, with the remaining 25 percent being furniture and miscellaneous goods.

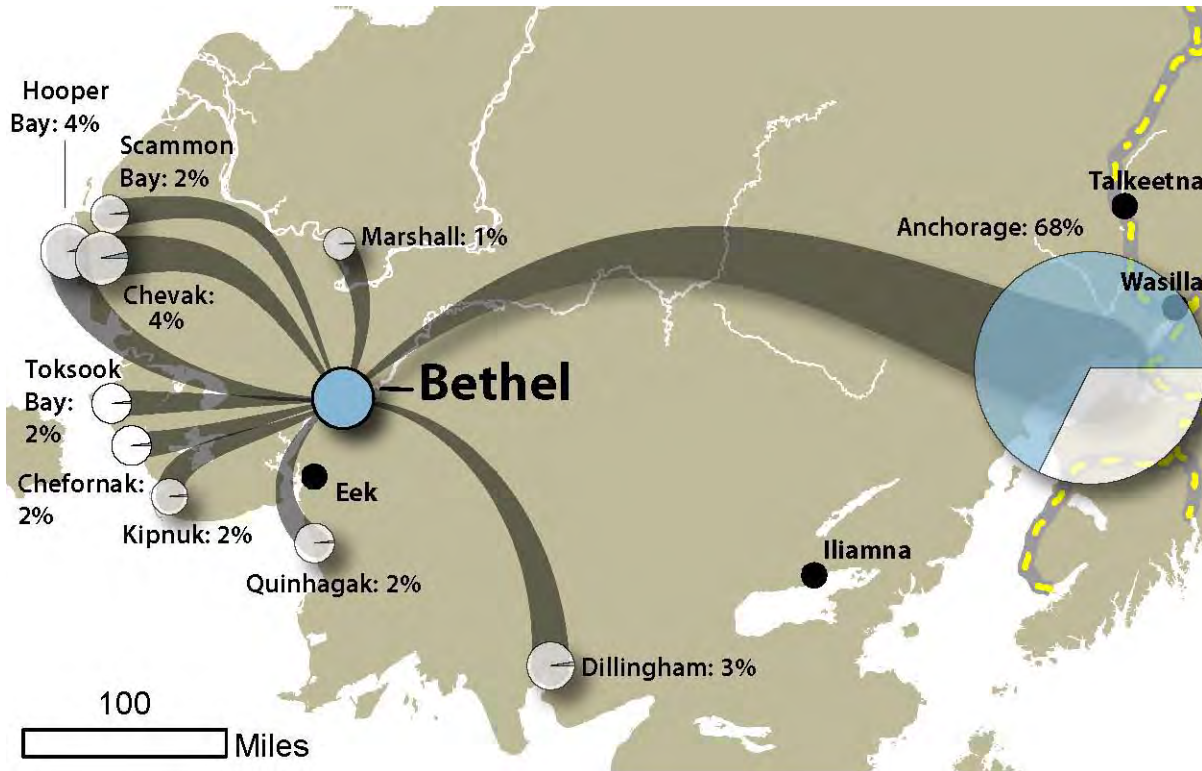
Bethel plays an important role as a regional distribution hub for mail and cargo moving into the region. In 2009, USPS used Bethel as a hub and the significantly higher volumes of departing cargo than arriving cargo from smaller Yukon-Kuskokwim communities shown in Table 4 is evidence of goods being transported from Anchorage, through Bethel, to their final destination. As is typical for rural Alaska, incoming goods outweighed outgoing goods by a more than two-to-one ratio. Very little of the mail in Table 4 and Figure 5 was likely to have originated in Bethel and represents imports from outside economies.

Table 4. BET Mail Volumes by Airport City Pair (in Pounds), 2009

City	Mail		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	34,091,481	577,394	34,668,875	67.7
Hooper Bay	14,680	1,913,519	1,928,199	3.8
Chevak	18,998	1,784,278	1,803,276	3.5
Dillingham	26,751	1,442,823	1,469,574	2.9
Quinhagak	9,137	1,009,989	1,019,126	2.0
Toksook	8,086	1,009,047	1,017,133	2.0
Scammon Bay	14,246	949,989	964,235	1.9
Kipnuk	10,263	845,715	855,978	1.7
Chefornak	13,195	775,865	789,060	1.5
Marshall	3,835	656,453	660,288	1.3
All others	325,078	5,727,988	6,031,991	11.8
Grand Total	34,535,750	16,693,060	51,207,735	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011.

Figure 5. Geographic Location of BET's Top Partner Communities for Mail Volumes, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

Bethel airport received over 13.7 million pounds of cargo in 2009 (Table 5 and Figure 6). As with mail volumes, a large portion of the incoming cargo was transported from Anchorage through Bethel en route to smaller villages in the region. Arctic Transportation (20 percent), Northern Air Cargo (20 percent), Lynden Air Cargo (17 percent), Alaska Airlines (16 percent), and Tatonduk Flying Service (13 percent) transport the majority of these goods (BTS 2010). More than 70 percent of the air cargo corresponds to foodstuffs, with the remaining being mostly medical supplies and some seafood when in season. (Alaska Airlines 2011)

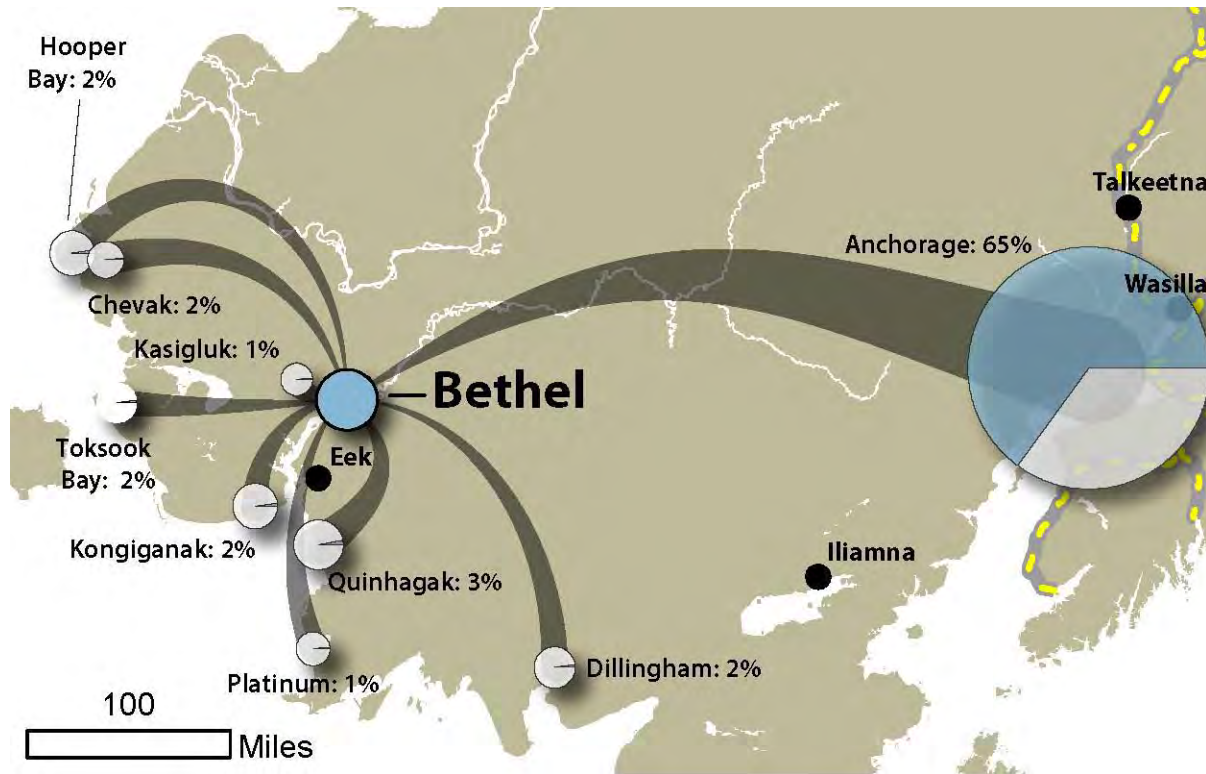
Table 5. BET Cargo Volumes by Airport City Pair (in Pounds), 2009

City	Cargo		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	12,445,424	2,386,975	14,832,399	65.0
Quinhagak	256,846	372,135	628,981	2.8
Kongiganak	48,955	470,157	519,112	2.3
Hooper Bay	32,744	470,577	503,321	2.2
Toksook	141,452	317,557	459,009	2.0
Dillingham	16,198	420,418	436,616	1.9
Chevak	38,081	303,024	341,105	1.5
Platinum	87,119	210,424	297,543	1.3
Bethel ²⁰	18,783	284,859	284,859	1.2
Kasigluk	26,950	233,045	259,995	1.1
All others	657,161	3,612,438	4,269,599	18.7
Grand Total	13,769,713	9,081,609	22,832,539	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011.

²⁰ Data reported from BTS, but the study team believes that the data for Bethel is anomalous for 2009.

Figure 6. Geographic Location of BET’s Top Partner Communities for Cargo Volumes, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

3.4 Enplanement, Cargo, and Mail Expenditures for BET

The study estimates that the total initial (first retail) expenditures related to enplanements, mail, and cargo associated with the Bethel Airport were approximately \$107.8 million in 2009 (Table 6). This estimate only includes passengers, mail, and cargo enplaned and deplaned in Bethel and is a conservative estimate of the value of “first retail” equivalent expenditures in 2009 (i.e., what people and organizations spent to move goods and people to and from Bethel). Passenger enplanements contribute about \$50.4 million (47 percent), not including additional travel expenditures by travelers including baggage fees and associated services. Mail and cargo transported through the airport contribute \$40.9 million (38 percent) and \$16.4 million (15 percent), respectively.

Table 6. Estimates of Enplanement, Cargo, and Mail Expenditures for BET, 2009

Expenditures Category	Flow (Segment) Volume	Enplane/ Deplane Volumes	2009 Economic Activity (M\$)
Passenger Enplanements	268,139	268,171	50.4
Mail (Pounds)	51,207,735	47,693,955	40.9
Cargo (Pounds)	22,832,539	21,678,114	16.4
Total			107.8

Source: Northern Economics Inc. using BTS (2011a, 2011b) and OST (2010a, 2010b)

3.5 Direct and Indirect Economic Contributions of On-Airport Activity

As described in Section 2.1, the study conducted a series of surveys at the Bethel airport involving on-airport leaseholders and airport operations staff to determine the number of jobs and level of expenditures directly attributable to on-airport operations. The study then used these data to estimate, via an input-output analysis, the number of indirect jobs and the amount of indirect economic activity in the Alaska economy related to these direct on-airport jobs and expenditures.

The study estimates that on-site activity by leaseholders and airport operations at BET generated a total of 560 in-state jobs including 460 direct and indirect local (i.e., in borough/census area) jobs. Of those 460 local jobs, roughly 402 are direct jobs on-site. In-state labor income from direct, indirect, and induced jobs was approximately \$24 million in 2009, contributing to a total statewide economic output of roughly \$45 million.

The following sub-sections describe the study’s analysis of on-airport economic activities in greater detail.

3.5.1 Employment and Expenditures by Airport Leaseholders and Airport Management and Operations

As noted above, the study surveyed the 37 unique leaseholders identified by ADOT&PF’s Division of Statewide Aviation as holding on-airport leases about their airport operation in 2009. More than half of the identified leaseholders completed the survey. The analysis estimates that BET leaseholders provided roughly 390 direct jobs to the community in 2009 (see Table 7). The study found that nearly 70 percent of these jobs, 280 of the 390, were full-time, non-contract jobs held by Alaskans. The second largest group, 80 of the 390, are part-time non-contract jobs held by Alaskans. Non-Alaskans held less than three percent of all jobs. Contract employees, all of which respondents reported as Alaskans, held just over 7 percent of all jobs. In total, the analysis estimates that all of these jobs together generated roughly \$14 million in wages and benefits to job holders in 2009.

Table 7. Jobs Provided by Leaseholders at BET, 2009

Category	Full-Time		Part-Time		Total	2009 Wages and Benefits (\$Millions)
	Alaskans	Non-Alaskans	Alaskans	Non-Alaskans		
Leaseholder Employees	280	10	70	0	360	12.8
Contract Employees	20	0	10	0	30	1.0
Total	300	10	80	0	390	13.9

Source: Northern Economics, Inc. using IMPLAN, 2011

As with all leaseholders, BET leaseholders also contribute to the local, state, and national economies through capital and operating expenditures.²¹ The study estimates that in 2009, leaseholders at BET poured \$48 million into the local, state, and national economies directly, roughly \$9.7 million of which went into Alaska’s economy. The predominant “outside Alaska” portion is being driven by Alaska Airlines’ allocation of their corporate operating expenditures, which largely take place in the State of Washington, to their BET-related operations (see Table 8). Thus, Bethel’s airport is important

²¹ Capital expenditures represent long-term investments in equipment and infrastructure. In this case, operating expenditures are all other non-wage and benefit expenditures required for day-to-day operations.

to more than just Bethel and the State of Alaska; it is an important contributor to workers and communities in Washington as well.

Table 8. Geographic Distribution of Leaseholder Capital & Operating Expenditures at BET, 2009

Category	In-Borough Census Area	Other Alaska	Total Alaska	Outside Alaska	Total
	(\$Millions)				
Capital Expenditures	0.2	0.1	0.3	1.1	1.4
Operating Expenditures	2.3	7.0	9.4	37.6	47.0
Total	2.5	7.2	9.7	38.7	48.4

Source: Northern Economics, Inc. using IMPLAN, 2011.

Operations and Management of the airport by ADOT&PF is an additional contributor to the local, regional, and state economies. In 2009, airport operations provided 12 jobs generating \$0.8 million in wages and benefits, \$3.3 million in capital expenditures, and \$1.1 million in other operating expenditures (see Table 9).

Table 9. Airport Operations and Management Jobs and Expenditures at BET, 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures
		(\$Millions)		
Operations/Management	12	0.8	3.3	1.1

Source: Northern Economics, Inc. 2011.

When taken together, the analysis estimates that BET leaseholders and airport operations resulted in 402 direct jobs, nearly \$15 million in wages and benefits, and total non-wage and benefit expenditures of nearly \$53 million in 2009 (see Table 10). These numbers are difficult to comprehend without context, but the airport is exceptionally important to Bethel and the 56 communities that depend on Bethel as their first step in reaching the rest of the world. According to the ADOLWD's ALARI database, there were 2,605 resident workers in the City of Bethel in 2009 and the study estimates roughly 372 of the 402 direct jobs were held by residents. If each resident job were held by a unique worker, then the Bethel airport could provide direct employment to nearly 14 percent of the workers in the City of Bethel. Conceptually, one in every seven workers in the City of Bethel could depend directly on the airport.

Table 10. BET Leaseholder and Airport Operations Expenditures Summary 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures	Total Expenditures
		(\$Millions)			
Leaseholders	390	13.9	1.4	47.0	62.3
Operations	12	0.8	3.3	1.1	5.2
Total	402	14.7	4.7	48.1	67.5

Source: Northern Economics, Inc. 2011.

3.5.2 Estimates of Total On-Airport Related Employment and Expenditures

The direct employment and expenditures described above are fuel for the local, state, and national economies. The wages and expenditures cycle through the economy as workers spend their wages and businesses and government entities buy goods and services from off-airport businesses. The study estimates that the total number of in-state jobs attributable to BET is 560 jobs including direct, indirect, and induced jobs. Further, in-state labor income in 2009 was approximately \$24 million, contributing to a total statewide economic output of roughly \$45 million. The study estimates that 460 direct and indirect local (i.e., in borough/census area) jobs are attributable to the airport. ADOLWD data indicate that average monthly employment in the Bethel Census Area equaled 6,732 employed (wage and salary) individuals (ADOLWD 2011).²² Thus, the jobs tied to the airport were enough to provide nearly 7 percent of the census area’s wage and salary employees with a job.

Table 11. BET’s Direct, Indirect, and Induced In-State Economic Effects, 2009

Category	Number of Jobs		Labor Income		Output	
	In-Borough/ Census Area	Other Alaska	(\$Millions)			
			In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska
Airport Operations	30	30	2	2	4	5
Leaseholder	430	70	16	4	21	15
Subtotals	460	100	18	6	25	20
Total In-State Effect	560		24		45	

Source: Northern Economics, Inc. using IMPLAN

²² <http://labor.alaska.gov/research/ee/ee09.pdf>

4 Deadhorse (Prudhoe Bay) Airport

The Deadhorse/ Prudhoe Bay Airport (SCC) is the main transportation hub for oil and gas operations on the North Slope. Access to the remote North Slope area is limited, and workers, supplies and equipment are typically transported through the airport. In 2009, the airport supported 446 direct jobs, 376 of which were held by Alaskans. It also generated about \$42 million in direct, indirect and induced labor income in Alaska, which contributed to a total state-wide economic output of \$76 million.

In addition to generating economic output, SCC helps lower the cost of doing business in and around Deadhorse, the North Slope Borough (NSB), and Alaska's North Slope oil fields. The oil and gas operations in Prudhoe Bay make extraction of rich petroleum resources possible, and the related revenue is valuable to the state's economy. The airport benefits these operations by allowing for the use of fixed-wing aircraft, which is the most practical and cost-effective method of year-round transportation when compared to available alternatives, such as helicopters or the construction of ice roads.

4.1 Community Description

Prudhoe Bay is located on Alaska's North Slope (the slope), adjacent to the Beaufort Sea. The site, also referred to as Deadhorse, was developed to support oil and gas development in the 1970s. An unincorporated area within the North Slope Borough, Prudhoe Bay is more of an industrial area than a permanent community, and its "population" consists of thousands of non-residents who work rotating shifts on and off the slope (ADCCED 2011; ALARI 2011).

All of the employment on the slope is oil and gas related. The 800-mile-long Trans Alaska Pipeline System starts in Prudhoe Bay, pumping oil south to Valdez's ice-free port. The pipeline has transported more than 16 billion barrels of oil since its startup in 1977 (Alyeska 2011).

Workers on the slope commute from locations within Alaska and in the Lower 48. They work long, consecutive shifts and are provided food, housing, and the use of recreational facilities while on the slope (ADCCED 2011). The mostly-gravel Dalton Highway runs the 414 miles from Livengood to Deadhorse, but is rarely (if ever) used for worker transportation (BLM 2011). Workers travelling to and from the slope use air transportation. Commercial and charter flights are available at SCC, and local industry provides additional flights, which call at privately owned airstrips.

4.2 Airport Description

SCC is owned by the State of Alaska and is operated and maintained by ADOT&PF. The airport has a single asphalt runway that is 6,500 feet in length and 150 feet wide. Two helicopters, three single engine, and two multi-engine general aircraft are based at the facility (FAA 2010a).

SCC is the only airport available for public use in the area. Several privately owned heliports and airports exist, and are used primarily to support oil and gas development on the North Slope. Owners include BP, ConocoPhillips Alaska, Inc., Fairweather, Inc., and the Bureau of Land Management (FAA 2010a).

The operations taking place at the airport for the 12-month period ending in July 16, 2009²³ included 31 percent transient general operations, 28 percent air taxi, 23 percent local general operations, 18 percent commercial, and less than 1 percent military (AirNav).²⁴

Figure 7. SCC Receives Warm Weather Visitors



Photo courtesy of Dwight Stuller, 2011.

4.3 Role in the Community

Given the small residential population of Deadhorse and Prudhoe Bay, discussion of SCC's role in the local community is somewhat less pertinent than for other more isolated communities. The more relevant factor is the role of the airport in activities that are important to the borough and the state. The NSB is home to 6,800 residents, divided among nine communities dispersed across an area of more than 89,000 square miles. These communities include Anaktuvuk Pass, Atkasuk, Barrow, Deadhorse/Prudhoe Bay, Kaktovik, Nuiqsut, Point Hope, Point Lay, and Wainwright (ADCCED 2011;

²³ The study uses this end date as more recent FAA data are unavailable.

²⁴ "Transient general operations" are civil aircrafts, excluding air carriers, operating on other than local flights; "air taxis" are operators carrying passengers, mail or cargo for revenue; "local" are those operating in the local traffic pattern or within a 20-mile radius of the airport; "commercial" are scheduled operations by cab-certificated carriers or intrastate carriers.

ASCG 2005). The borough is the primary employer of local Native residents, and its main source of income is oil tax revenues. According to state estimates, the North Slope oil field operations provide employment to over 5,000 non-borough residents, who rotate in and out of oil work sites from other parts of Alaska, and the Lower 48 (ADCCED 2011).

SCC is a valuable facility for oil and gas companies operating in the NSB as air travel provides the only year-round access to the oil fields. Though trains of specialized winter vehicles are sometimes used to transport freight over land from Barrow during the winter, air is the primary mode of transportation. SCC allows for the regularly scheduled movement of large volumes of non-resident workers to and from the oil fields, and also acts as a cost-effective gateway for goods and equipment. The airport allows for the use of fixed wing aircraft, which are the least expensive method of transportation when compared to available alternatives, such as helicopters or the construction of ice roads.

The existence of the airport also benefits North Slope resident populations who oppose the construction of year-round roads due to unintended effects on subsistence resources. Nuiqsut, a village in the borough, expressed concern that roads can provide non-residents access to valuable subsistence resources, a key issue in many areas of Alaska. Roads could also change the migratory patterns of game in the area, which could negatively impact populations dependent on seasonal hunting (ASCG 2005).

Gary Porter, co-owner and operations manager of Bald Mountain Air, attested to the importance of SCC to businesses in Deadhorse during his key informant interview. He confirmed that the primary use of the airport is to support oil and gas exploration, and noted that his company uses the airport to provide point-to-point hauling for companies operating in the area. While passengers such as government inspectors or company personnel may be headed to remote locations such as Alpine or Kuparuk, SCC is used as the hub or jumping-off point for these operations. According to Porter, if there were no airport in Deadhorse, "Things would grind to a screeching halt because there are no roads. Ice roads cost millions of dollars... It would increase the cost of goods dramatically."

More than 82,000 passenger segments (arriving and departing) took place at SCC in 2009, with total incoming and outgoing volumes differing by fewer than fifty passengers (see Table 12). The majority of passenger segments were associated with Anchorage (38.9 percent), followed by Fairbanks (26.3 percent), and Barrow (23.4 percent). The remaining segments are associated with Barter Island, Nuiqsut, Kotzebue and 14 other communities, each with 0.1 percent or less of the total traffic.

The bulk of people arriving and departing are North Slope workers commuting back and forth from their homes in other regions of Alaska or out of state. Though their final destinations may be a remote field outside of Deadhorse, the data do not show these smaller destinations as subsequent charter flights are not captured by the BTS.

Anchorage passenger traffic is balanced between incoming and outgoing volumes. In contrast, 93 percent of the traffic associated with Fairbanks corresponds to arrivals at SCC and 98 percent of Barrow corresponds to departures out of SCC (see Figure 8). The routing of the major air carrier explains the seemingly unbalanced pattern. Flights to SCC typically come in directly from Anchorage or Fairbanks; a passenger from Juneau or the Lower 48 would travel through one of these hubs. While outgoing passengers may still fly directly to Anchorage, fewer fly directly back to Fairbanks. This is likely the impact of Alaska Airlines, a major carrier in the region. Alaska Airlines offers direct service from SCC to Anchorage and Barrow only; passengers who do not fly directly to Anchorage will make an intermediary stop in Barrow before leaving the North Slope region (Alaska Airlines 2011). Data shown in Figure 8 and Table 12 support this hypothesis. SCC shows 18,536 "excess" segment arrivals from Fairbanks and 18,587 "excess" segment departures from Barrow. In other words, for the entire route FAI-SCC-BRW-FAI, the total number of passenger segments is evenly distributed between arriving and departing.

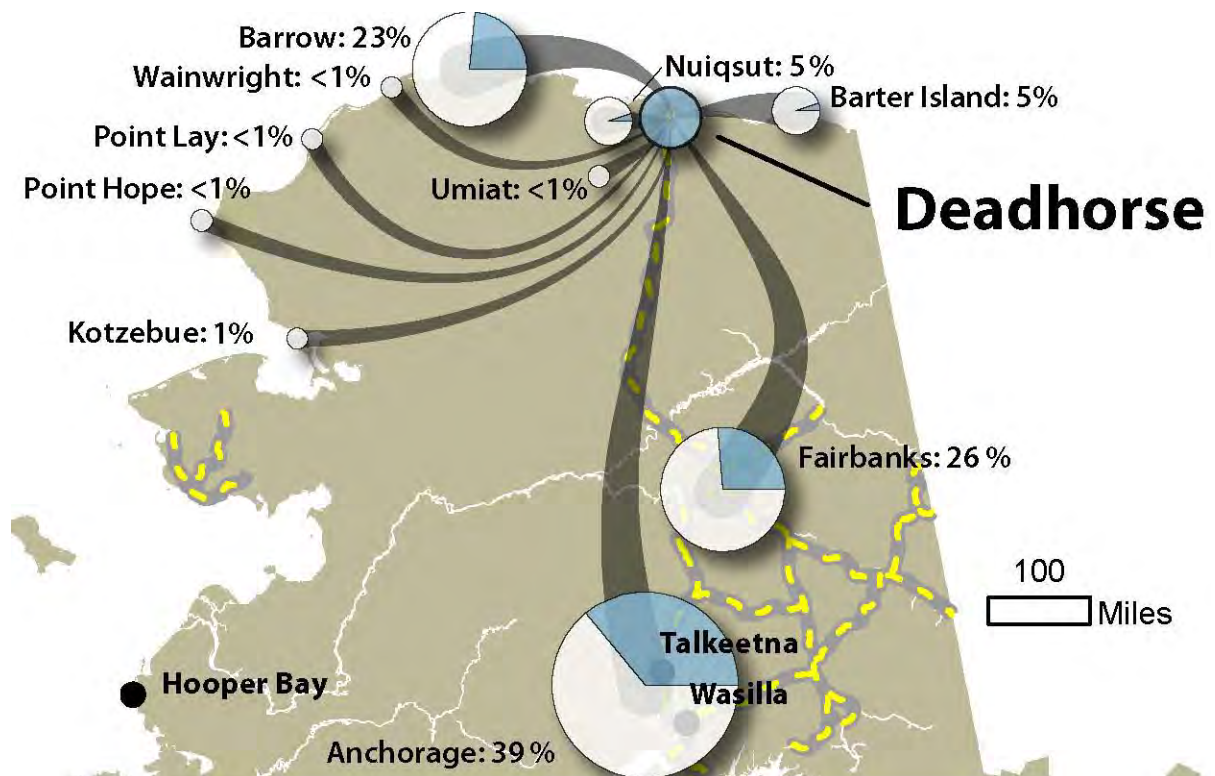
Table 12. SCC Passenger Segments by Airport-City Pair, 2009

City	Passenger Segments		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	16,259	15,789	32,048	38.9
Fairbanks	20,094	1,558	21,652	26.3
Barrow	335	18,922	19,257	23.4
Barter Island	1,967	2,526	4,493	5.4
Nuiqsut	2,153	2,029	4,182	5.1
Kotzebue	276	280	556	0.7
Umiat	22	28	50	0.1
Wainwright	24	16	40	0.0
Point Hope	16	19	35	0.0
Point Lay	14	14	28	0.0
All Others	50	77	107	0.1
Grand Total	41,210	41,258	82,448	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 8 shows the geographic distribution of passenger segments related to SCC and the strong relationship between SCC, Barrow, Fairbanks, and Anchorage.

Figure 8. Geographic Location of SCC's Top Partner Communities for Passenger Segments, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

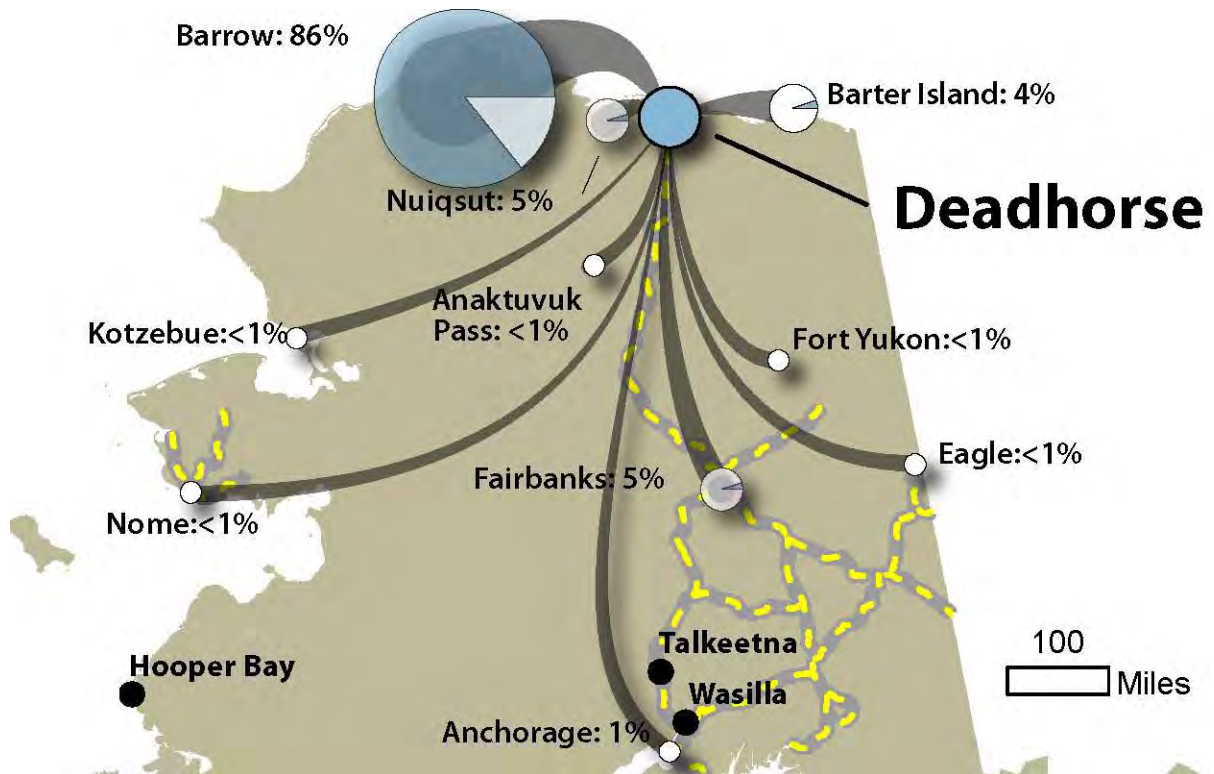
In contrast to passengers, much of the mail going to Deadhorse and the other northern communities arrives via land. Mail is trucked north to Deadhorse via the Dalton Highway, then loaded onto airplanes for final delivery to other parts of the northern region. Barrow is the major population and service center of the NSB, and the high volumes of departing mail that we see in Table 13 and Figure 9 are consistent with this role. Nuiqsut, Barter Island (more commonly referred to as Kaktovik), and Anaktuvuk Pass are smaller villages also located within the NSB.

Table 13. SCC Mail Volumes by Airport City Pair, 2009 (in Pounds)

City	Mail		Total	
	Arriving	Departing	Number	Percentage (%)
Barrow	25,766	10,974,046	10,999,812	85.8
Nuiqsut	4,945	616,286	621,231	4.8
Fairbanks	605,239	3,370	608,609	4.7
Barter Island	77,681	384,912	462,593	3.6
Anchorage	47,060	80,695	127,755	1.0
Fort Yukon	1,697	0	1,697	0.0
Eagle	0	1,231	1,231	0.0
Anaktuvuk Pass	809	0	809	0.0
Nome	361	0	361	0.0
Kotzebue	314	0	314	0.0
Grand Total	763,872	12,060,540	12,824,412	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 9. Geographic Location of SCC's Top Partner Communities for Mail, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

The movement of cargo into SCC confirms that the airport is a destination and a working hub for the local oil & gas industry (see Table 14). Alpine, listed as having the second highest volume of arriving cargo and the single highest volume of outgoing cargo, is not a community, but rather an oilfield work camp operated by Conoco-Phillips Alaska. It is the fifth largest discovery on the North Slope (ASRC 2011). The departing cargo volume shown for Alpine in Table 14 represents the goods flown in to support the oil and gas operations. While companies use less-expensive land-based transportation options when possible, a significant volume of foodstuffs and material goods such as tools, piping, repair iron, and building materials are still flown to Alpine. Some of these goods, such as drilling mud, are very heavy and can account for considerable poundage (Ragar 2011). The main carriers transporting cargo through SCC in 2009 include Tatonduk Flying Service (49 percent), Alaska Airlines (25 percent), Northern Air Cargo (19 percent) and Lynden Air Cargo (5 percent).

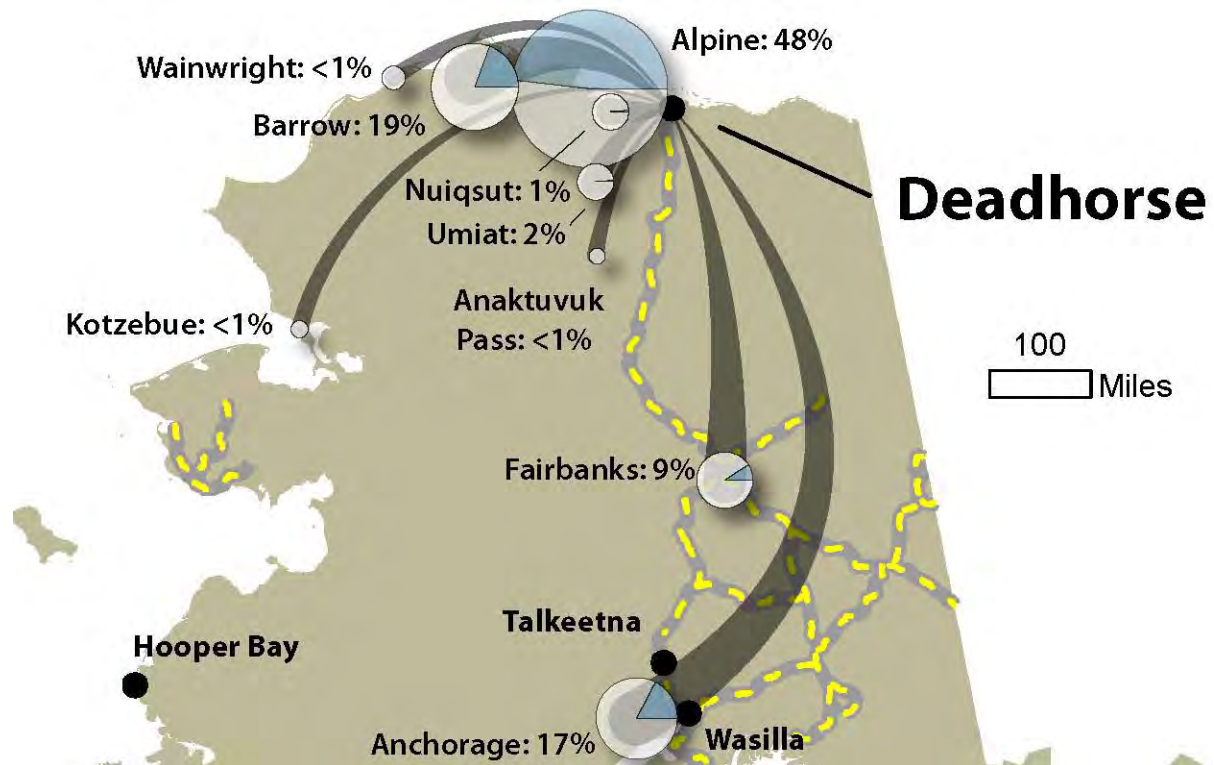
Table 14. SCC Cargo Volumes by Airport City Pair, 2009 (in Pounds)

City	Cargo		Total	
	Arriving	Departing	Number	Percentage (%)
Alpine	3,196,031	7,453,330	10,649,361	48.61
Barrow	1,108,793	3,121,842	4,230,635	19.31
Anchorage	3,258,278	533,290	3,791,568	17.31
Fairbanks	1,998,494	6,541	2,005,035	9.15
Umiat	447,610	14,842	462,452	2.11
Barter Island	56,533	187,316	243,849	1.11
Nuiqsut	56,774	171,243	228,017	1.04
Wainwright	0	94,183	94,183	0.43
Kotzebue	49,922	1,189	51,111	0.23
Anaktuvuk Pass	520	43,700	44,220	0.20
All others	36,829	70,471	107,300	0.49
Grand Total	10,209,784	11,697,947	21,907,731	100.00

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 10 shows the strong connection between SCC and the working oil field of Alpine with regards to cargo shipments. In 2009, the airport for Alpine accounted for nearly 50 percent of the cargo moving through SCC.

Figure 10. Geographic Location of SCC's Top Partner Communities for Cargo, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

4.4 Enplanement, Cargo, and Mail Expenditures for SCC

The analysis suggests that the “first retail equivalent expenditures” spent to move goods and people to and from SCC were approximately \$42.0 million in 2009 (Table 15). This amount includes only passengers, mail, and cargo enplaned and deplaned at SCC. Passenger enplanements contribute the majority of it, approximately \$20.1 million (48 percent). Air cargo contributes 36 percent and the remaining 16 percent is attributed to mail.

Table 15. Estimates of Enplanement, Cargo, and Mail Expenditures for SCC, 2009

Expenditures Category	Flow (Segment) Volume	Enplane/ Deplane Volumes	2009 Economic Activity (M\$)
Passenger Enplanements	82,448	62,708	20.1
Mail (Pounds)	12,824,412	11,761,692	6.9
Cargo (Pounds)	21,907,731	18,321,369	15.0
Total			42.0

Source: Northern Economics, Inc. using BTS (2011a, 2011b) and OST (2010a, 2010b)

4.5 Direct and Indirect Economic Contributions of On-Airport Activity

SCC is an important logistical center for the NSB and North Slope oil and gas activities. On-site activity at the airport by leaseholders and airport operations staff demonstrate this importance. The study estimates that:

- On-site activity at SCC generated a total of 700 jobs in Alaska, including 446 direct jobs (see Table 18 and Table 19).
- Total direct expenditures by leaseholders and airport operations, including expenditures flowing out of state, were approximately \$81 million in 2009 (see Table 18).
- The total in-state economic effect of the direct jobs and expenditures is approximately \$42 million in wages contributing to \$76 million in economic output (see Table 19).

The following sub-sections describe the study’s analysis of on-airport economic activities in greater detail.

4.5.1 Employment and Expenditures by Airport Leaseholders and Airport Management and Operations

The study surveyed the 34 unique leaseholders identified by ADOT&PF’s Division of Statewide Aviation as holding on-airport leases about their airport operation in 2009. Accurate contact information could not be found for one of the leaseholders. Of the remaining 33, 19 (or 58 percent) responded to the survey.

The analysis estimates that SCC leaseholders provided roughly 440 direct jobs to the community in 2009 (see Table 16). The study found that the bulk of the jobs (370 out of 440 or 84 percent) were full-time, of which the majority (310 of 370 or 84 percent) were full-time positions held by Alaskans. Non-Alaskans held 18 percent of the total jobs (80 out of 440), and 16 percent of the full-time jobs (60 out of 370). In total, the analysis estimates that all of these jobs together generated roughly \$26 million in wages and benefits to job holders in 2009.

Table 16. Jobs Provided by Leaseholders at SCC, 2009

Category	Full-Time		Part-Time		Total	2009 Wages and Benefits (\$Millions)
	Alaskans	Non-Alaskans	Alaskans	Non-Alaskans		
Leaseholder Employees	290	60	30	10	390	25.0
Contract Employees	20	0	30	<10	50	1.1 ²⁵
Total	310	60	60	20	440	26.0

Source: Northern Economics, Inc., 2011.

As with all leaseholders, SCC leaseholders also contribute to the local, state, and national economies through capital and operating expenditures.²⁶ The study estimates that in 2009, leaseholders at SCC poured \$53 million into the local, state, and national economies directly, approximately \$24 million of which went into Alaska's economy. The predominant "outside Alaska" portion is being driven by Alaska Airlines' allocation of their corporate operating expenditures, which largely take place in the State of Washington, to their SCC-related operations (see Table 17). Thus, SCC is important to more than just the NSB and the State of Alaska; operations at SCC make a contribution to the Lower 48 economy as well.

Table 17. Geographic Distribution of Leaseholder Capital & Operating Expenditures at SCC, 2009

Category	In-Borough Census Area	Other Alaska	Total Alaska	Outside Alaska	Total
	(\$Millions)				
Capital Expenditures	12.0	5.6	17.6	1.3	18.9
Operating Expenditures	1.0	5.7	6.7	27.0	33.7
Total	13.0	11.3	24.4	28.2	52.6

Source: Northern Economics, Inc., 2011.

Management and operations of the airport by ADOT&PF is an additional contributor to the local, regional, and state economies. In 2009, airport operations provided six jobs generating about \$0.7 million in wages and benefits, and \$1.6 million in other operating expenditures (see Table 18).

Table 18. Airport Operations and Management Jobs and Expenditures at SCC, 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures
		(\$Millions)		
Operations/Management	6	0.7	0.0	1.6

Source: Northern Economics, Inc. 2011.

²⁵ The study team feels that this number may somewhat underestimate actual wages and benefits by part-time workers. This number is being driven by a relatively small number of respondents in this category who reported comparatively low wages for part-time workers. The data may represent seasonal, part-time jobs related to tourism in the summer.

²⁶ Capital expenditures represent long-term investments in equipment and infrastructure. In this case, operating expenditures are all other non-wage and benefit expenditures required for day-to-day operations.

The analysis estimates that, when taken together, SCC leaseholders and airport operations resulted in 446 direct jobs, about \$27million in wages and benefits, and total non-wage and benefit expenditures of nearly \$54 million in 2009 (see Table 19).

Table 19. SCC Leaseholder and Airport Operations Expenditures Summary 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures	Total Expenditures
		(\$Millions)			
Leaseholders	440	26.0	18.9	33.7	78.6
Operations	6	0.7	0.0	1.6	2.3
Total	446	26.7	18.9	35.3	81.0

Source: Northern Economics, Inc. 2011.

4.5.2 Estimates of Total On-Airport Related Employment and Expenditures

The direct employment and expenditures described above are fuel for the local, state, and national economies. The wages and expenditures cycle through the economy as workers spend their wages and businesses and government entities buy goods and services from off-airport businesses. The study estimates that there are roughly 700 direct, indirect, and induced in-state jobs related to operations at SCC. Further, these operations generated in-state labor income of \$42 million, contributing to total statewide economic output of \$76 million in 2009.

The study also estimates the portion of direct, indirect, and induced jobs, wages, and output that SCC generates within the NSB. In contrast to other communities included in this analysis, the study team believes the in-borough estimates shown in Table 20 to be high given the unique nature of employment on the slope. As previously stated, North Slope oil field operations provide employment to over 5,000 non-borough residents (ADCCED 2011). Consequently, SCC does not fit the typical airport model; many of the workers are from outside of the region and commute to SCC as needed.

Table 20. SCC's Direct, Indirect, and Induced In-State Economic Effects, 2009

Category	Number of Jobs		Labor Income		Output	
	In-Borough/ Census Area	Other Alaska	(\$Millions)			
			In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska
Airport Operations	<10	20	1	1	1	3
Leaseholders	520	150	33	7	48	24
Subtotals	530	170	34	8	49	27
Total In-State Effect	700		42		76	

Source: Northern Economics, Inc. and IMPLAN, 2011

5 Eek Airport

As with many airports providing services to Alaska's roadless communities, the Eek Airport (EEK) is vital to sustaining the local community and its importance far outweighs the simple measurements of how many jobs on-airport activity provides. Most of the airport's economic impacts do not take the form of on-site employment or spending. They instead come in the forms of goods and services transported through the airport, and employment opportunities available to local residents only through the use of air transportation. Thus, the amount of economic activity occurring on the airport itself as measured by jobs and wages is not indicative of the role that EEK plays in its community. The airport is more a gateway for goods and services than a hub for on-site economic activity.

5.1 Community Description

Eek, Alaska is a community of 282 residents located on the south bank of the Eek River, 12 miles east of the mouth of the Kuskokwim River. It is 35 air miles south of Bethel in the Yukon-Kuskokwim Delta and 420 miles west of Anchorage (ADCCED 2011). The Yukon-Kuskokwim Delta region is an area known for its large river delta, dotted with wetlands, which exist in a harsh Arctic climate. The tundra-covered soil on top of often very thin permafrost is not conducive to road construction or maintenance; thus, travel is by boat and aircraft in the summer and by aircraft and snowmobile on marked trails in the winter (NEI 2010).

The city was formally incorporated in 1970. The Native Village of Eek—a federally recognized tribe—is located in the community. The population of the community consists of 96.8 percent Alaska Native or part Native, mostly traditional Yup'ik Eskimo who practice a subsistence lifestyle in which salmon is the staple food. Eek is privileged in that all five Pacific salmon species spawn in the Eek River. All families participate in subsistence fishing and the local diet is more than 80 percent salmon (ADCCED 2011).

Commercial fishing is a primary economic activity for many residents. Eek is one of 20 communities that comprise the Coastal Villages Region Fund (CVRF), a regional organization focused on sustainable development and the growth of commercial fishing (CVRF 2011; NMFS 2011). In 2009, 40 residents held commercial fishing permits, the majority for salmon fishing. There are no commercial fish processing plants in Eek; instead, commercial fishers take their catch to processors in other communities, where the fish is processed and shipped out.

An estimated 52 percent of Eek's residents 16 years and older were not in the labor force (i.e., were unemployed or not seeking work) and 23.8 percent were unemployed during 2005-2009.²⁷ During the same period, Eek's average per capita income was \$11,756 and 22.5 percent of its residents were living below the poverty level (ACS 2011).

The largest employment sectors in Eek, ranked by the number of resident workers, include local government (52 percent), trade, transportation and utilities (18 percent), and financial activities (11 percent). The top employers include the Lower Kuskokwim School District, Eek Traditional Council, City of Eek, Iqfijouaq Company Store, Coastal Villages Seafoods, and CVRF (ALARI 2011).

Bulk fuel storage in Eek is available through the Iqfijouaq Company Store, Alaska Village Electric Cooperative, Lower Kuskokwim School, the City of Eek, and the Army National Guard. Fuel is

²⁷ It is important to note that individuals who are not in the labor force may still be actively supporting their families through subsistence activities or as unpaid caregivers (i.e., child and elder care).

transported from Anchorage to Bethel, where it is then loaded onto smaller barges and brought to Eek. Since EEK's runway extension in 2002, fuel can be transported by air if an urgent delivery is needed (NEI 2010).

5.2 Airport Description

The community of Eek has one airport facility which boasts a single runway. Prior to relocation in 2002, the runway was 1,400 feet in length and 35 feet wide (NEI 2010). In 2002, ADOT&PF completed a \$2.1 million runway relocation and extension, creating a 3,243 feet long by 60 feet wide gravel surface runway (AirNav 2011). The runway extension led to a 45 percent increase in the number of annual commercial flights using the airport and a comparable increase in the average number of passengers per flight. Air cargo and mail volumes remained relatively constant pre and post extension. EEK is approximately 12 feet above sea level and is located one mile west of the center of town. Much of the runway and airport is surrounded by wetlands and ponds. The airport's limited facilities and its location relative to the community can be seen in Figure 11.

Figure 11. On Approach to EEK



Source: ADOT&PF 2011.

5.3 Role in the Community

EEK is the community's connection to the outside world and a key component in maintaining the physical health of the community's residents and providing them with educational opportunities that

they would lack without the airport. In a key informant interview, Brett Stirling, Principal at the Eek School highlighted how important the airport is for the school and the village’s children. The school participates in the State’s Fresh Fruit and Vegetable Program, which significantly broadens the diet of students by providing healthy snacks for children from kindergarten to 8th grade during the school day. The fresh produce is transported into Eek by air twice a month. In addition to contributing to children’s diets, the airport also makes it possible for the school to comply with time-sensitive state requirements for students to graduate. During three specific days in April, the school must administer the Alaska High School Graduation Qualifying Exam and return them to Bethel. If the tests don’t arrive in time, students could have to wait to the next semester or year to graduate. The airport also provides the only means of transportation that students have to travel and participate in athletic events (Stirling 2011).

In 2009 EEK had more than 11,600 passenger segments, balanced evenly between arrivals and departures (see Table 21). In 2009 total enplanements number nearly 5,900. The difference between segments and enplanements is that segment numbers include people who only traveled through EEK on flights to or from other communities, never leaving the plane, as well as those who got on or off the plane in Eek. Thus, segment numbers show community connectedness more clearly than simple enplanement numbers. The number of enplanements is equal to more than 20 enplanements for every resident of Eek in 2009. A more typical average for the Lower 48 resident would be less than one enplanement for each resident. Eek’s economy is largely based on subsistence, but nonsubsistence items must still be purchased with cash, and wage opportunities in Eek are limited. The high per-capita use of passenger flights could represent residents temporarily leaving the community to seek wage employment elsewhere. Eek is en route between Bethel, the Yukon-Kuskokwim region’s hub, and Quinhagak. Bethel accounted for 53 percent of the total passenger segments traveling through EEK, followed by Quinhagak (38 percent), and various smaller communities located less than 80 statute miles from Eek—Tuntutuliak, Napakiak, Goodnews Bay, Napaskiak, and Platinum—each representing between 1 and 3 percent of EEK’s passenger segments in 2009 (see Figure 12).

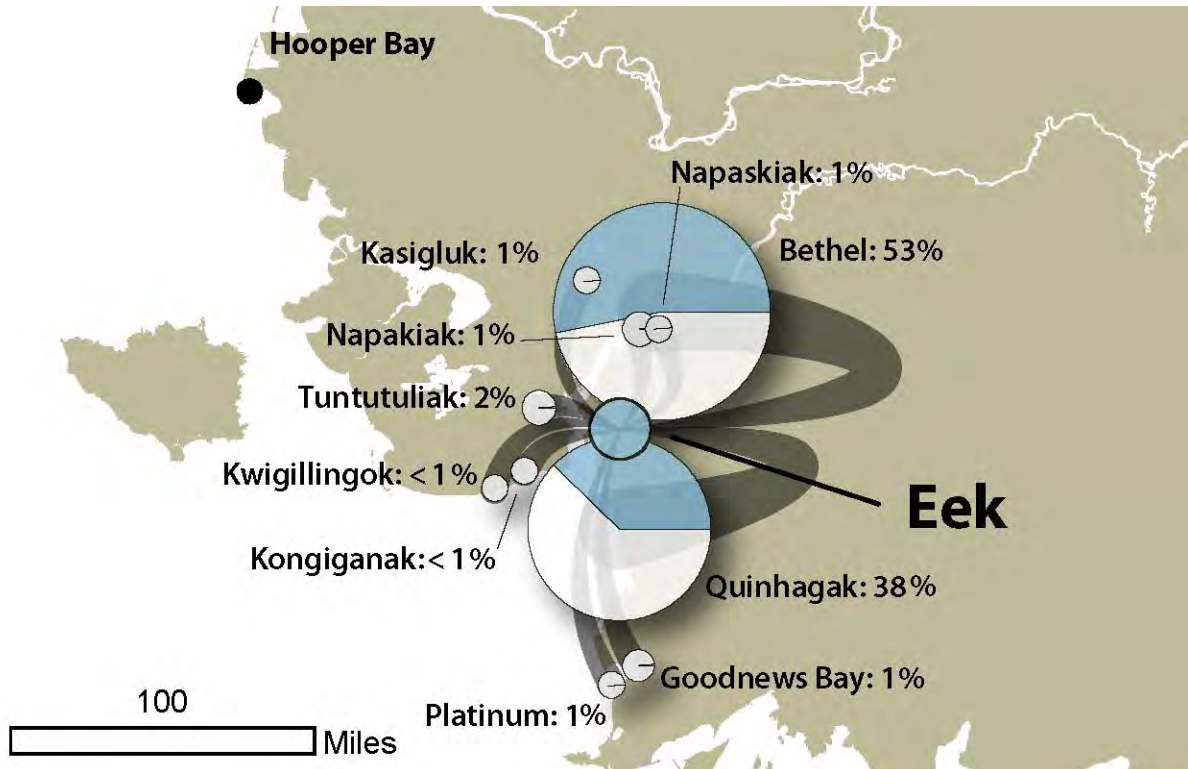
Table 21. EEK Passenger Enplanements by Airport-City Pair, 2009

City	Passenger Segments		Total	
	Arriving	Departing	Number	Percentage (%)
Bethel	3,140	3,038	6,178	53.1
Quinhagak	2,166	2,226	4,392	37.8
Tuntutuliak	149	138	287	2.5
Napakiak	84	72	156	1.3
Goodnews Bay	62	72	134	1.2
Napaskiak	49	65	114	1.0
Platinum	48	52	100	0.9
Kasigluk	36	38	74	0.6
Kongiganak	25	21	46	0.4
Kwigillingok	25	7	32	0.3
All others	68	50	118	1.0
Grand Total	5,852	5,779	11,631	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Since the 2002 runway extension, total passenger traffic at EEK has increased to over 150 percent of the pre-extension amount, but the number of carriers transporting passengers has fallen. Since 2002, Yute Air has grown into the dominant passenger carrier to EEK. In 2009 Yute Air transported 55 percent of EEK’s passenger traffic, followed by Grant Aviation (37 percent) and Hageland Aviation Services (8 percent).

Figure 12. Geographic Location of EEK’s Top Partner Communities for Passenger Segments, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

About 900,000 pounds of air mail were transported through EEK in 2009; or more than 3,000 pounds for each resident. This amount includes mail that enplaned/deplaned plus mail that continued on to other locations. More than half of this air mail traffic arrived from Bethel (Table 22 and Figure 13). EEK is a bypass mail destination and its corresponding hub is Bethel. A significant portion of the 570,000 pounds of air mail arriving from Bethel is likely bypass mail. Bypass mail consists of bulk goods, including groceries and other staples, which are packaged by certified shippers and placed on pallets designated to specific communities without road access. Bypass mail literally bypasses postal facilities and is taken directly to certified air carriers for transport. Each rural community, or “destination bush point” in program parlance, is associated with a specific hub point which, in turn, is associated with either Anchorage or Fairbanks as the bypass mail originating point. (ADOT&PF 2004).

The relative importance among city pairs for mail transport is similar to that for passenger segments and enplanements. Bethel accounts for the majority of EEK’s air mail (64.5 percent) followed by Quinhagak (30 percent); other smaller communities account for 1 or 2 percent. More than 90 percent of the mail associated with Bethel and Napakiak corresponds to mail arriving to EEK. In contrast, more than 90 percent of air mail associated with Goodnews Bay and Platinum corresponds to mail departing EEK. The four carriers that transported mail to and from EEK in 2009 are Yute Air (51

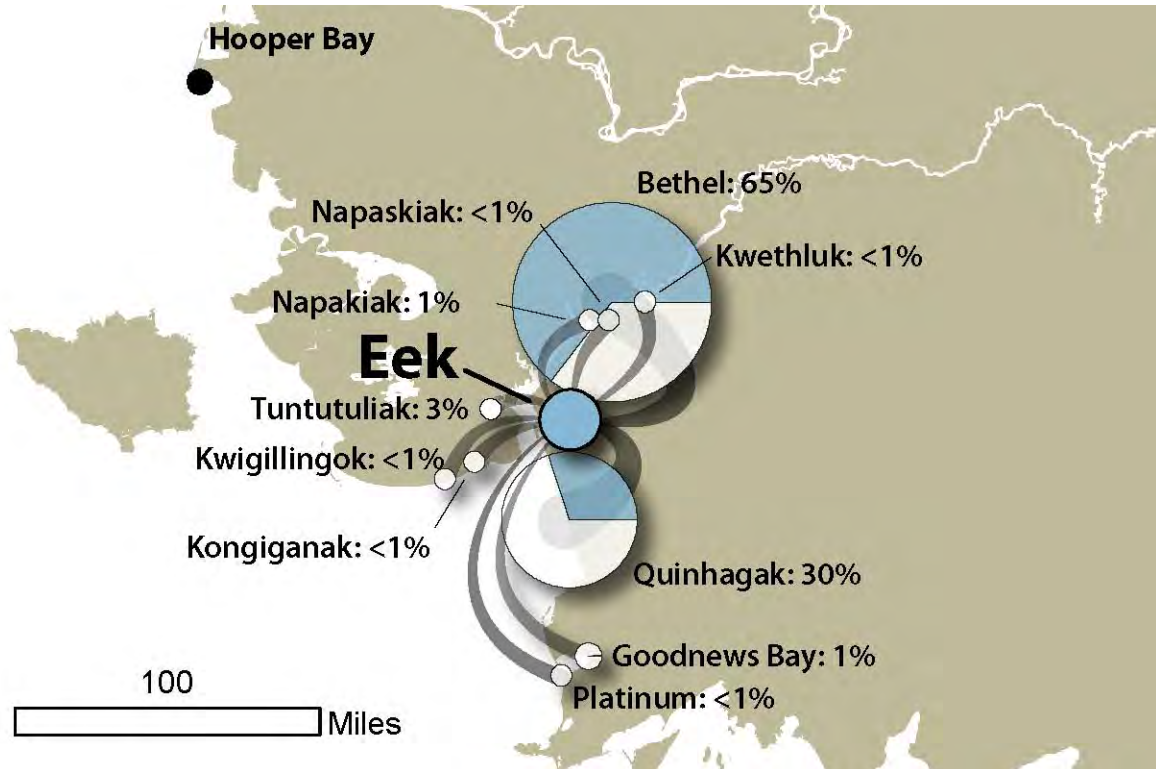
percent), Grant Aviation (25 percent), Arctic Transportation (13 percent), and Hageland Aviation Service (11 percent).

Table 22. EEK Mail Volumes by Airport City Pair (in Pounds), 2009

City	Mail		Total	
	Arriving	Departing	Number	Percentage (%)
Bethel	570,503	10,298	580,801	64.5
Quinhagak	64,211	205,564	269,775	30.0
Tuntutuliak	10,682	13,588	24,270	2.7
Goodnews Bay	689	9,718	10,407	1.2
Napakiak	4,085	246	4,331	0.5
Platinum	275	3,404	3,679	0.4
Kongiganak	1,106	1,861	2,967	0.3
Napaskiak	2,819	81	2,900	0.3
Kwigillingok	0	423	423	0.0
Kwethluk	232	0	232	0.0
Kipnuk	45	118	163	0.0
Grand Total	654,647	245,301	899,948	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 13. Geographic Location of EEK's Top Partner Communities for Mail, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

More than 140,000 pounds of arriving cargo and about 78,000 pounds of departing cargo moved through EEK in 2009. More than half of the nearly 219,000 pounds of cargo transported by air through EEK in 2009 corresponds to cargo arriving from Bethel (Table 23 and Figure 14). Much of the cargo moved on to other locations, but over 100,000 pounds enplaned and departed at EEK. The relative importance among city pairs in cargo transport shows a similar pattern as for passengers and mail. Bethel accounts for the majority of EEK's total air cargo traffic (61 percent), followed by Quinhagak (27 percent), Atmautluak (5 percent) and other smaller communities, which account for 1 or 2 percent. All the cargo volume related to Atmautluak corresponds to one delivery at EEK in May of 2009.

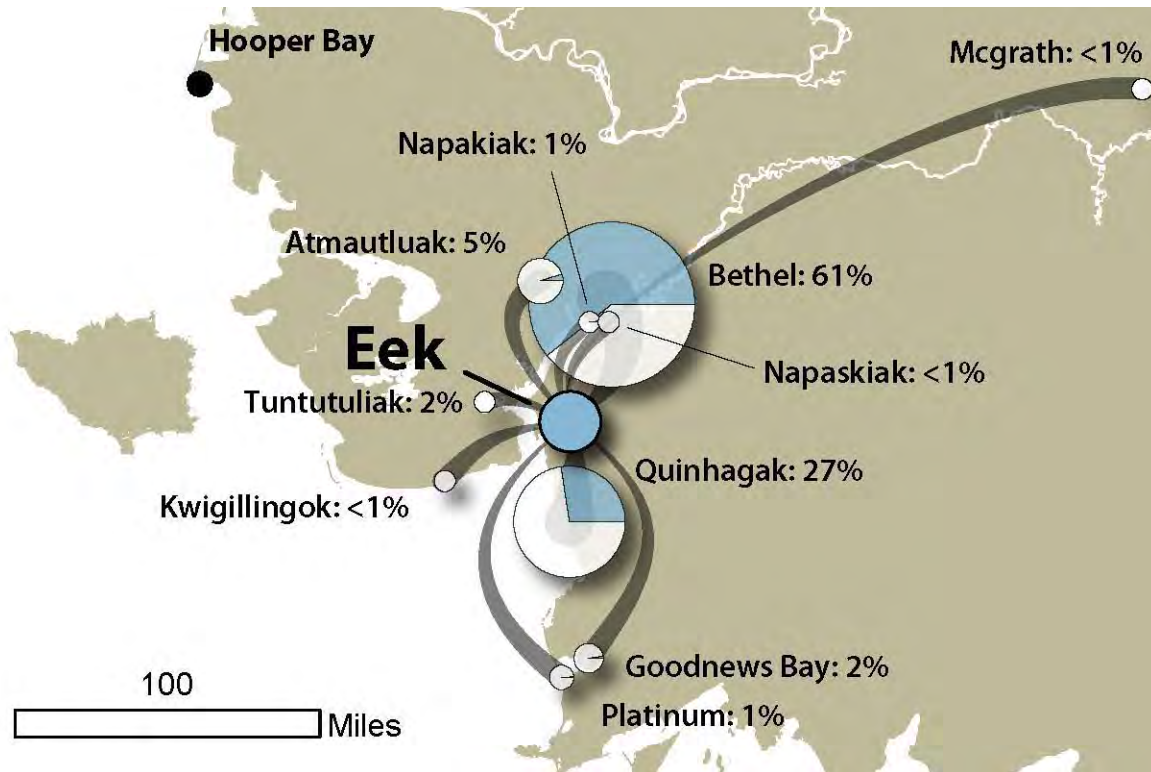
Arctic Transportation and Yute Air (formerly known as Flight Alaska) were the main air carriers transporting cargo to and from EEK. Combined, those two carriers transported over 80 percent of the total cargo volume.

Table 23. EEK Cargo Volumes by Airport City Pair (in Pounds), 2009

City	Cargo		Total	
	Arriving	Departing	Number	Percentage (%)
Bethel	111,344	21,390	132,734	60.7
Quinhagak	15,721	44,259	59,980	27.4
Atmautluak	9,875	0	9,875	4.5
Tuntutuliak	776	3,800	4,576	2.1
Goodnews Bay	264	3,982	4,246	1.9
Platinum	1,082	1,768	2,850	1.3
Napakiak	852	1,356	2,208	1.0
Napaskiak	451	428	879	0.4
McGrath	0	500	500	0.2
Kwigillingok	0	337	337	0.2
All others	161	296	457	0.2
Grand Total	140,526	78,116	218,642	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 14. Geographic Location of EEK's Top Partner Communities for Cargo, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

5.4 Enplanement, Cargo, and Mail Expenditures for EEK

The analysis suggests that the “first retail equivalent expenditures” spent to move goods and people to and from EEK were approximately \$2.1 million in 2009 (Table 24). Passenger enplanements contribute the bulk of it, approximately \$1.8 million (85 percent). This amount only includes fees paid for passengers, mail and cargo enplaned and deplaned at EEK. This amount is a conservative estimate, because it does not include what travelers spent in Eek or paid for baggage fees and associated services. Mail contributes 12 percent, and the remaining 3 percent is attributed to freight transported through EEK.

Table 24. Estimates of Enplanement, Cargo, and Mail Expenditures for EEK, 2009

Expenditures Category	Flow (Segment) Volume	Enplane/ Deplane Volumes	2009 Economic Activity (M\$)
Passenger Enplanements	11,631	5,892	1.8
Mail (Pounds)	899,948	424,405	0.2
Cargo (Pounds)	218,642	100,912	0.1
Total			2.1

Source: Northern Economics, Inc. using BTS (2011a, 2011b) and OST (2010a, 2010b)

5.5 Direct and Indirect Economic Contributions of On-Airport Activity at EEK

Unlike most airports included in this study, EEK has no leaseholders and the airport has only one full-time employee. As the tables in the following section demonstrate, little to no employment and spending takes place at the airport, but as noted above, every resident and thus every job in Eek depends on the airport. The airport contributes to the local economy by providing a gateway for goods and services, and makes community-based, non-airport transactions possible. Despite the unique nature of Eek, the study is able to quantify the following:

- On-site activity at EEK generated fewer than 10 direct, indirect and induced jobs.
- Total direct expenditures by airport operations were just over \$23,000. Since there are no leaseholders at EEK, the operation of the airport itself is the only driver of economic activity.

The following sub-sections describe the study's analysis of on-airport economic activities in greater detail.

5.5.1 Employment and Expenditures by Airport Leaseholders and Airport Management and Operations

There are currently no leaseholders conducting business at EEK. Figure 15 shows the extent of facilities at EEK and confirms the lack of on-site commercial activities.

Figure 15. Facilities at Eek



Source: ADOT&PF, 2011.

Table 25 and Table 26 mirror the absence of on-airport leaseholder operations and are not indicative of all economic activity that may occur through airport operations.

Table 25. Jobs Provided by Leaseholders at EEK, 2009

Category	Full-Time		Part-Time		Total	2009 Wages and Benefits (\$Millions)
	Alaskans	Non-Alaskans	Alaskans	Non-Alaskans		
Leaseholder Employees	0	0	0	0	0	\$0.00
Contract Employees	0	0	0	0	0	\$0.00
Total	0	0	0	0	0	\$0.00

Source: Northern Economics, Inc. 2011.

Table 26. Geographic Distribution of Leaseholder Capital & Operating Expenditures at EEK, 2009

Category	In-Borough Census Area	Other Alaska	Total Alaska	Outside Alaska	Total
	(\$Millions)				
Capital Expenditures	0	0	0	0	0
Operating Expenditures	0	0	0	0	0
Total	0	0	0	0	0

Source: Northern Economics, Inc. 2011.

As an additional measure of economic activity, the study team contacted the airport management in Eek to glean any economic activity generated via the ongoing operations at the airport. According to ADOT&PF Division of Statewide Aviation, only one job is associated with the ongoing airport operations at EEK, an airport maintenance contractor. The result is that both wages and benefits, and operating expenditures for 2009 fall below the one million dollar benchmark set by the study.

Table 27. Airport Operations and Management Jobs and Expenditures at EEK, 2009

Category	Number of Jobs	Wages/Benefits	Capital Expenditures	Other Operating Expenditures
		(\$Millions)		
Operations/Management	1	0.00	0.00	0.02

Source: Northern Economics, Inc. 2011.

Note: The single employee is a contract employee whose wages and benefits are included in the other operating expenditure category. The labor income shown may not be representative of his/her full salary.

Table 28 summarizes leaseholder and airport operations expenditures for 2009. Due to the lack of leaseholder activity and minimal staff required to operate EEK, this table only provides the operations and management data from Table 27.

Table 28. EEK Leaseholder and Airport Operations Jobs Expenditures Summary 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures	Total Expenditures
		(\$Millions)			
Leaseholders	0	0.00	0.00	0.00	0.00
Operations	1	0.00	0.00	0.02	0.00
Total	1	0.00	0.00	0.02	0.02

Source: Northern Economics, Inc. 2011.

Note: The single employee is a contract employee whose wages and benefits are included in the other operating expenditure category. The labor income shown may not be representative of his/her full salary.

5.5.2 Estimates of Total On-Airport Related Employment and Expenditures

As with all of the airports in this study, the wages and expenditures created by on-airport leaseholders and ADOT&PF cycle through the economy as workers spend their wages and businesses and government entities buy goods and services from off-airport businesses. This multiplier effect generates other economic activity that can be attributable to jobs and other output within the community. This study estimates that fewer than 10 jobs statewide are attributable to on-site airport activity at EEK for 2009. In addition, these on-airport activities generated roughly \$10,000 in labor income, contributing to a total of \$40,000 in economic output around the state.

Table 29. EEK's Direct, Indirect, and Induced In-State Economic Effects, 2009

Category	Number of Jobs		Labor Income		Output	
	In-Borough/ Census Area	Other Alaska	(\$Millions)			
			In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska
Airport Operations	<10	0	0.01	0.00	0.02	0.02
Leaseholder	0	0	0.00	0.00	0.00	0.00
Sub-Totals	<10	0	0.01	0.00	0.02	0.02
Total In-State Effect	<10		0.01		0.04	

Source: Northern Economics, Inc. and IMPLAN, 2011.

Note: Jobs are not FTE equivalents.

6 Fairbanks International Airport

Fairbanks International Airport (FAI) is Alaska's second largest airport, a key creator of jobs for the Fairbanks North Star Borough (FNSB), and a key link in moving passengers, food, supplies, and services to Alaska's interior. This study estimates that the on-site operations at FAI by leaseholders and ADOT&PF resulted in 1,430 direct on-site jobs in 2009. When multiplier effects are included, the estimates of jobs dependent on FAI increases to including approximately 1,900 direct, indirect and induced jobs in the FNSB and over 2,100 total jobs statewide. If the "aviation industry" were its own economic sector, the in-borough jobs would make the industry a larger employer than the sectors of mining and logging, manufacturing, information, finance, and other services.²⁸ In 2009, average monthly employment in the FNSB averaged roughly 37,800 jobs. These data and this analysis indicate that roughly five percent of these jobs are connected in some way to FAI.

6.1 Community Description

The FNSB is located in the heart of Interior Alaska and is the second largest population center in the state with 98,660 residents in 2009 (ADCCED 2011). The City of Fairbanks is located on the banks of the Chena River in the Tanana Valley and had an estimated population of 32,506 residents in 2009 (ADCCED 2011). By air, Fairbanks is 45 minutes from Anchorage and 3 hours from Seattle. It lies 358 statute miles north of Anchorage. Fairbanks is at the confluence of the Richardson Highway, George Parks Highway, Steese Highway, and Elliott Highway, connecting the Interior to Anchorage, Canada, and the Lower 48 states. The Dalton Highway to Prudhoe Bay begins about 75 statute miles north of Fairbanks (ADCCED 2011).

As the regional service and supply center for Interior Alaska, the City of Fairbanks and the FNSB offer a comparatively diverse economy, although one that is highly dependent on government, public education, and the military. The largest industries for employment by resident workers—both at the city and borough levels—include trade, transportation and utilities (22-25 percent), state and local government (17-23 percent), leisure and hospitality (10-14 percent), and education and health services (12-13 percent). The military is also a contributor to the local economy with Fort Wainwright located within the city limits. The top employers—both at the city and borough levels—are the University of Alaska, Fairbanks North Star School District, State of Alaska (excluding the University of Alaska), Banner Health System, Wal-Mart Associates Inc, Fred Meyer Stores Inc, FNSB, Fairbanks Gold Mining Inc, Tanana Chiefs Conference, and Safeway Inc. (ALARI 2011).

During 2009, the unemployment rate in the Fairbanks Metropolitan Statistical Area²⁹ was 7.2 percent (FNSB 2010). An estimated 26.5 percent of FNSB's residents 16 years and older were not in the labor force during 2005 – 2009. During the same period, FNSB's median household income was \$65,121, per capita income was \$28,373 and 8.0 percent of its residents were living below the poverty level (ACS 2011).

²⁸ The traditional economic industries as governed by the North American Industrial Classification System (2-digit level) are natural resources and mining; construction; trade, transportation, and utilities; information, financial activities; professional and business services; education and health services; leisure and hospitality; government; and other. In reality, employment related to FAI (or any airport) pulls from many of these industries. However, the study team finds the comparison useful as many readers can relate to the importance of these sectors in their communities.

²⁹ For all practical purposes, the Fairbanks Metropolitan Statistical Area and the Fairbanks North Star Borough can be considered one and the same.

6.2 Airport Description

The state-owned FAI is one of the largest airports in the State of Alaska. FAI has an 11,800 feet in length by 150 feet wide asphalt runway, a 6,500 feet by 100 feet asphalt runway, a 2,900 feet by 75 feet gravel landing strip, and a seaplane landing area. Together, FAI and Ted Stevens Anchorage International Airport comprise the Alaska International Airport System, and serve as each other's primary diversionary airports. FAI is home to international and domestic passenger and cargo traffic, as well as regional, charter, and general aviation. As such, it operates round the clock and maintains extensive infrastructure capable of handling any size aircraft, international or domestic, anytime. Additionally, it maintains a four-position heavy cargo apron and two de-icing basins to help minimize environmental impacts. Lastly, it boasts an extensive general aviation area, home to nearly 400 tie-down tenants.

FAI is unique in that it is a readily accessible, cold-weather facility. Aircraft such as Boeing's new 787 passenger plane and 747-8 freighter were tested in Fairbanks for their cold-weather performance (MSNBC 2011). During 2009, the FAA recorded more than 121,000 flights at FAI. Air taxi operations accounted for 32 percent, 31 percent were itinerant general aviation, 27 percent civil local, 8 percent commercial air carriers, and the rest were military operations (FAA 2010a).³⁰

Figure 16. Operations at Fairbanks International Airport



Source: ADOT&PF, Fairbanks International Airport, 2011.

³⁰ "Transient general operations" are civil aircrafts, excluding air carriers, operating on other than local flights; "air taxi" are operators carrying passengers, mail or cargo for revenue; "local" are those operating in the local traffic pattern or within a 20-mile radius of the airport; "commercial" are scheduled operations by cab-certificated carriers or intrastate carriers.

6.3 Role in the Community

Transportation and communications are basic fundamentals for social and economic development. The Alaska aviation system is designed for the particular characteristics of the State of Alaska and to support the symbiotic relationship between rural and urban communities in the state. As part of this system, FAI serves as a hub for more than 50 communities in Interior and Northern Alaska that rely upon air freight, mail, and commuter services. The airport contributes to lowering the already high cost of living in rural Alaska. It supports the population base in these communities, which otherwise would be much smaller or wouldn't exist (Dodson 2011).

Fairbanks is one of Alaska's major tourism spots and its airport is a gateway for both domestic and international travelers. Domestic passenger enplanements and segments are somewhat seasonal due in part to the tourism industry. The number of passengers during the peak summer months is 1.7 times the number during the winter months. Passenger segments fluctuated between a high of over 105,000 in July to a low of almost 57,000 in February. Tourism by in-bound winter international travelers is a bright spot during Fairbanks' long winter. Travelers from Japan and other Asian countries travel to the Fairbanks region to partake in northern lights viewing.

Over 900,000 passenger segments involved FAI during 2009, evenly split between arrivals and departures (see Table 30). Anchorage and Seattle/Tacoma accounted for 50 percent and 28 percent of total passenger segments, respectively, followed by Minneapolis (6 percent) (see Figure 17). This connection reflects summer service during the tourist season. Another 17 percent of passenger traffic through FAI is associated with communities in northern Alaska: Barrow, Deadhorse, Galena, Fort Yukon, Tanana, Anaktuvuk Pass, and Barter Island. Passenger traffic between FAI and all these city pairs had a balanced split between arrivals and departures of passengers, except for Deadhorse (see Figure 17). About 93 percent of the passengers traveling between the two cities departed FAI towards Deadhorse and only 7 percent traveled from Deadhorse to Fairbanks. Alaska Airlines route departing Deadhorse goes through Barrow or even to Anchorage before arriving at Fairbanks. The main carriers transporting passengers through FAI in 2009 include Alaska Airlines (77 percent), Northwest Airlines (6 percent), Era Aviation (5 percent), Frontier Flying Service (4 percent), Warbelow's Air Ventures (4 percent), and Wright Air Service (3 percent).

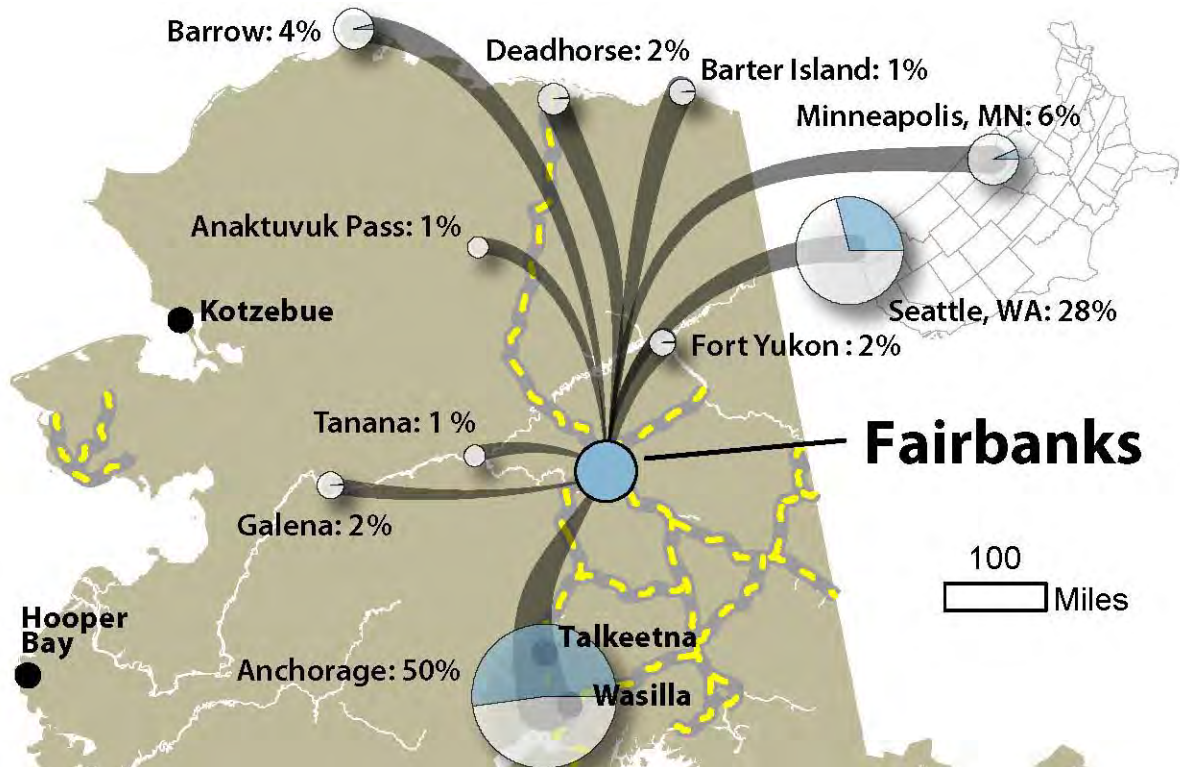
The market is divided amongst the different carriers. Almost all the passengers associated with Anchorage and Seattle traveled through Alaska Airlines. All the passengers associated with Minneapolis traveled through Northwest Airlines during the months of May to September. Alaska Airlines served about 88 percent of the traffic associated with Barrow and Deadhorse, with the remaining 11 percent being served by Era and Frontier, respectively. The communities of Galena, Fort Yukon, Tanana, Anaktuvuk Pass, and Barter Island were served by Frontier, Warbelow's and Wright.

Table 30. FAI Passenger Segments by Airport-City Pair, 2009

City	Passenger Segments		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	239,290	214,166	453,456	49.6
Seattle, WA	125,427	127,356	252,783	27.7
Minneapolis, MN	30,338	26,668	57,006	6.2
Barrow	15,546	19,943	35,489	3.9
Deadhorse	1,558	20,094	21,652	2.4
Galena	7,180	8,482	15,662	1.7
Fort Yukon	7,685	7,789	15,474	1.7
Tanana	4,106	3,895	8,001	0.9
Anaktuvuk Pass	2,741	2,711	5,452	0.6
Barter Island	2,813	2,281	5,094	0.6
All others	22,335	21,514	43,615	4.8
Grand Total	459,019	454,899	913,684	100.0

Note: "All others" includes 108 other communities in Alaska as well as Portland, OR and Moses Lake, WA.
 Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 17. Geographic Location of FAI's Top Partner Communities for Passenger Segments, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

In 2009, 7.5 million pounds of departing mail and 1.9 million arriving pounds moved through FAI (see Table 31 and Figure 18). Unlike almost all of the other communities in this study, FAI see much more departing mail moving through the airport than arriving mail by a 4-to-1 margin. The main

reason is that Fairbanks International Airport and the Ted Stevens Anchorage International Airport are the only two accepting points for bypass mail. Thus, while mail for communities in the FNSB is likely to arrive via land transport, FAI itself acts as a departure point for mail bound for roadless rural communities in Alaska's interior. Almost all the mail associated with Galena, Kotzebue, Fort Yukon, Anaktuvuk Pass, Deadhorse, Allakaket, Tanana, Venetie and other communities corresponds to mail departing from FAI. The one exception where FAI receives more mail from a village than it ships out to it is Barrow (see Table 31).

The carriers transporting most mail through FAI in 2009 include Alaska Airlines (25 percent), Frontier Flying Service (24 percent), Warbelow's (15 percent), Wright Air Service (11 percent), Tatonduk Flying Service (10 percent), Northern Air Cargo (7 percent), Arctic Circle Air Service (5 percent), and Era Aviation (2 percent).

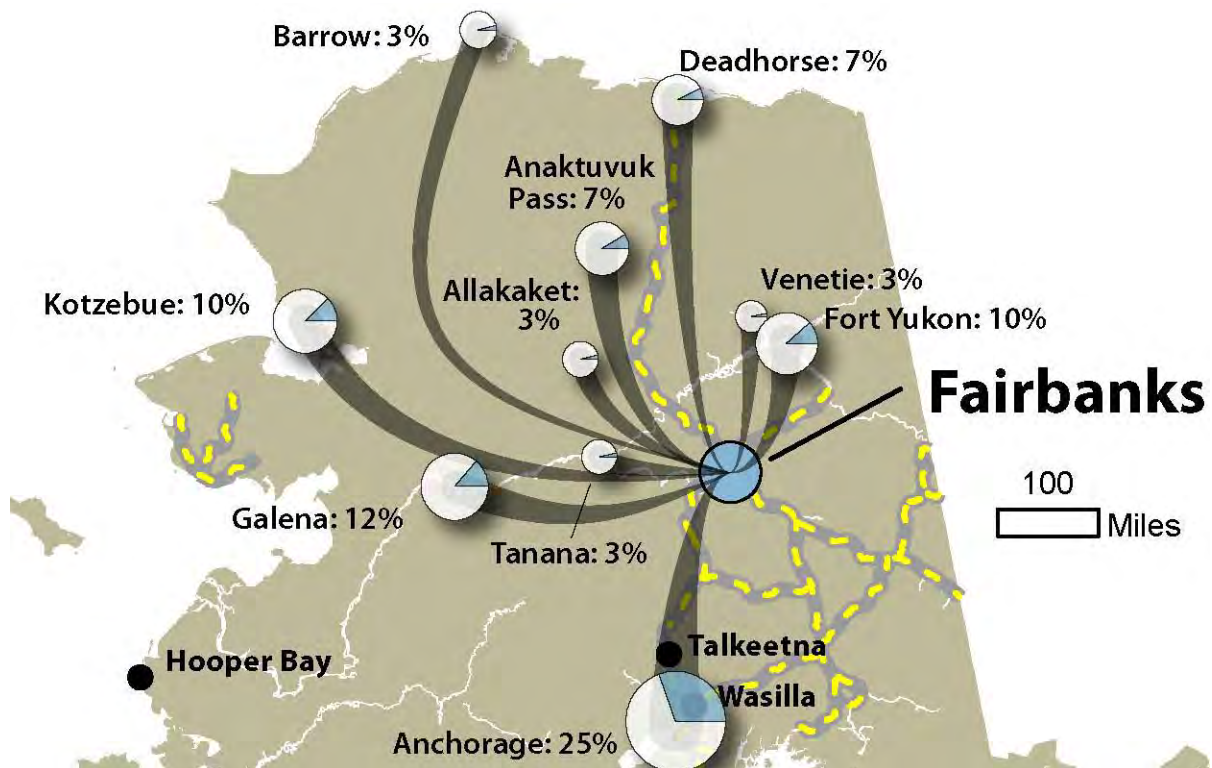
Table 31. FAI Mail Volumes by Airport City Pair (in Pounds), 2009

City	Mail		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	1,345,193	1,015,457	2,360,650	25.3
Galena	63,042	1,013,409	1,076,451	11.5
Kotzebue	916	963,658	964,574	10.3
Fort Yukon	22,458	893,813	916,271	9.8
Anaktuvuk Pass	13,637	669,688	683,325	7.3
Deadhorse	3,370	605,239	608,609	6.5
Barrow	218,955	96,652	315,607	3.4
Allakaket	7,113	292,847	299,960	3.2
Tanana	19,580	264,661	284,241	3.0
Venetie	7,695	234,021	241,716	2.6
All others	160,301	1,414,957	1,575,258	16.9
Grand Total	1,862,260	7,464,402	9,326,662	100

Note: "All others" includes 41 other communities in Alaska.

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 18. Geographic Location of FAI's Top Partner Communities for Mail, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

In 2009, FAI handled about 37.5 million pounds of cargo (including cargo moving through the airport without leaving the plane), ranking second among Alaska airports after the Ted Stevens Anchorage International Airport.

Unlike almost all of the other communities in this study, FAI handles more departing cargo than arriving cargo by a nearly 1.6-to-1 margin. In 2009, the airport shipped almost 23 million pounds of cargo and received about 14.5 million pounds (see Table 32). Air cargo arriving to FAI predominantly originates in Anchorage (37 percent) (see Figure 19). Air cargo departing from FAI has a more diversified pool of city pair destinations. These destinations include major hubs such as Anchorage (13 percent), Chicago (11 percent), and Los Angeles (9 percent), as well as Barrow (10 percent) and Deadhorse (9 percent) in the North Slope, and various other Alaskan communities (see Figure 19).

There are various explanations for the dominance of cargo departing FAI. In general, goods are transported to Fairbanks by truck, air, and the Alaska Railroad and then transported by air to interior Alaskan communities. Fairbanks' relative proximity to the North Slope gives it an advantage as a supply point for the oil fields, which is reflected in the importance of departing cargo to Barrow and Deadhorse. Cargo departing from FAI to Chicago, Los Angeles, Louisville, and Wilmington accounted for a sizeable 6.7 million pounds. Although this volume is important, it is related to infrequent flights carrying exclusively cargo (seven flights to Chicago, seven to Los Angeles, four to Louisville and one to Wilmington).

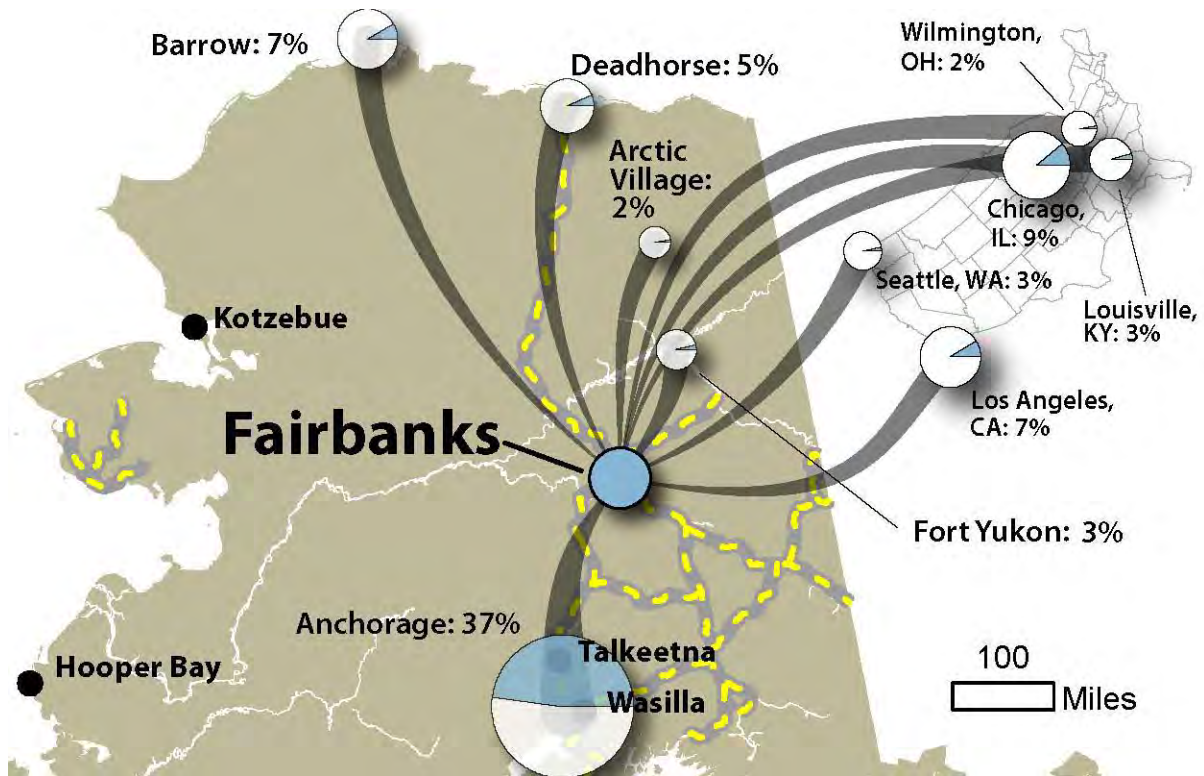
The carriers that transported cargo through FAI in 2009 include Alaska Airlines (26 percent), followed by Tatonduk Flying Service (11 percent), Federal Express Corporation (10 percent), Empire Airlines (9 percent), Kalitta Air (7 percent) and Southern Air (7 percent).

Table 32. FAI Cargo Volumes by Airport City Pair (in Pounds), 2009

City	Cargo		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	10,916,351	2,974,064	13,890,415	37.0
Chicago, IL	546,714	2,625,573	3,172,287	8.5
Los Angeles, CA	457,583	2,076,283	2,533,866	6.8
Barrow	142,896	2,364,422	2,507,318	6.7
Deadhorse	6,541	1,998,494	2,005,035	5.3
Louisville, KY	0	1,258,161	1,258,161	3.4
Fort Yukon	67,921	1,035,868	1,103,789	2.9
Seattle, WA	799,227	210,996	1,010,223	2.7
Wilmington, OH	142,740	700,772	843,512	2.2
Arctic Village	224,082	476,917	700,999	1.9
All others	1,222,464	7,268,621	8,489,557	23
Grand Total	14,526,519	22,990,171	37,515,162	100

Note: "All others" includes 95 other communities in Alaska and 8 city pairs in the Continental U.S.
 Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 19. Geographic Location of FAI's Top Partner Communities for Cargo, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

6.4 Enplanement, Cargo, and Mail Expenditures for FAI

International and domestic air cargo and passenger service are the main components of FAI's role in the economy. The study estimates that the total initial (first retail) expenditures related to domestic passenger, mail, and cargo transported through the airport were approximately \$220.5 million in 2009 (Table 33). This amount includes only enplaned and deplaned units, and is a conservative estimate of the value of "first retail" equivalent expenditures (i.e., what people and organizations spent to move goods and people to and from the airport) and is based only on domestic segments.

Passenger enplanements contribute about \$196.0 million (89 percent), not including what passengers spent in Fairbanks or paid for baggage fees and associated services. Air cargo and mail transported through the airport contribute \$15.7 million (7 percent) and \$8.7 million (4 percent), respectively.

Table 33. Estimates of Enplanement, Cargo, and Mail Expenditures for FAI, 2009

Expenditures Category	Flow (Segment) Volume	Enplane/ Deplane Volumes	2009 Economic Activity (M\$)
Passenger Enplanements	913,684	839,376	196.0
Mail (Pounds)	9,326,662	8,113,545	8.7
Cargo (Pounds)	37,515,162	22,671,854	15.7
Total			220.5

Source: Northern Economics Inc. using BTS (2011a, 2011b) and OST (2010a, 2010b)

Unlike the other airports in this study, FAI serves a role in international passenger and freight transport. The availability of competitively priced jet fuel from local refineries, delay-free operations, and strategic global position, gives FAI an advantage to serve as a refueling stop for international air cargo flights. In particular, the airport serves as a backup to Ted Stevens Anchorage International Airport when that airport experiences inclement weather conditions. In 2009, FAI ranked 92nd place in the world in the weight of total mail and freight (including in transit) and 121st in the world in passenger traffic (Airports Council International 2009). According to BTS data from 2009, more than 13,000 passengers enplaned or deplaned in FAI in international flights, representing 1.5 percent of total passenger traffic at the airport. FAI handled over 1.5 million pounds of international cargo, representing 4 percent of the total cargo traffic (domestic and international) during 2009 (Table 34).

Table 34. International Air Traffic at FAI, 2009

Category	Arriving	Departing	Number	Percentage of Total Traffic (%)
Passengers (Number)	6,815	6,682	13,497	1.5
Mail (Pounds)	-	-	-	-
Cargo (Pounds)	241,980	1,336,597	1,578,577	4.0

Source: Northern Economics Inc. using BTS (2011a, 2011b) and OST (2010a, 2010b)

6.5 Direct and Indirect Economic Contributions of On-Airport Activity

The study estimates that the on-site operations at FAI by leaseholders and ADOT&PF resulted in 1,430 direct on-site jobs in 2009. When these jobs are combined with the study's estimates of the associated multiplier effects the analysis concludes that on-site operations at FAI in 2009 resulted in roughly 2,140 total jobs statewide including approximately 1,900 direct, indirect, and induced jobs in

the FNSB. These jobs generated \$102 million in in-state labor income, contributing to a total of \$225 million in state-wide economic output in 2009.

6.5.1 Employment and Expenditures by Airport Leaseholders and Airport Management and Operations

Working with ADOT&PF staff at FAI, the study surveyed nearly 140 leaseholders at the airport; 60 percent of the leaseholders completed the survey. This extremely high response rate means that the study’s estimates for FAI should have smaller potential for error. The analysis estimates that in 2009, leaseholders at FAI employed 1,220 individuals in on-site operations and spent nearly \$56 million on wages and benefits (see Table 35). More than 60 percent of those employed were Alaskans in non-contract, full-time jobs. The next largest group (20 percent of the total) was Alaskans employed in part-time jobs. Non-Alaskans accounted for just over 10 percent of leaseholder employees. Alaskans held all of the contract jobs located by the study.

Table 35. Jobs Provided by Leaseholders at FAI, 2009

Category	Full-Time		Part-Time		Total	2009 Wages and Benefits (\$Millions)
	Alaskans	Non-Alaskans	Alaskans	Non-Alaskans		
Leaseholder Employees	770	100	250	30	1150	53.6
Contract Employees	50	0	20	0	70	2.2
Total	820	100	270	30	1220	55.8

Source: Northern Economics, Inc., 2011

The data from the leaseholders indicate that they spent roughly \$154 million in capital and non-wage and benefit operating expenditures in 2009. Roughly one-fifth of this amount was spent in state while the remainder was spent out of state, primarily in support of Alaska Airlines corporate operations in the State of Washington. The portion of capital expenditures spent in-state was larger than the portion spent in-state for the combined figure; one-third of the capital expenditures were spent in state.

Table 36. Geographic Distribution of Leaseholder Capital & Operating Expenditures at FAI, 2009

Category	In-Borough Census Area	Other Alaska	Total Alaska	Outside Alaska	Total
	(\$Millions)				
Capital Expenditures	1.7	1.8	3.6	8.7	12.3
Operating Expenditures	7.1	21.3	28.3	113.4	141.7
Total	8.8	23.1	31.9	122.1	154.0

Source: Northern Economics, Inc., 2011.

ADOT&PF operations at FAI generated 210 jobs, \$11 million in wages and benefits, \$39 million in capital expenditures and \$1.8 million in other operating expenditures.

Table 37. Airport Operations and Management Jobs and Expenditures at FAI, 2009

Category	Number of Jobs	Wages/Benefits ³¹	Capital Expenditures	Other Operating Expenditures
		(\$Millions)		
Operations/Management	210	11.2	39.0	1.8

Source: Northern Economics, Inc. 2011.

Together, leaseholder activities and airport operations resulted in approximately 1,430 on-site jobs in 2009 with roughly \$67 million spent on wages, salaries, and benefits. Capital expenditures added just over another \$51 million and other operating expenditures totaled just over \$143.5 million; thus non-wage and benefit (i.e., capital and operating) expenditures from operations at FAI were nearly \$200 million during the study year.

Table 38. FAI Leaseholder and Airport Operations Jobs Expenditures Summary 2009

Category	Number of Jobs	Wages/Benefits	Capital Expenditures	Other Operating Expenditures	Total Expenditures
		(\$Millions)			
Leaseholders	1,220	55.8	12.3	141.7	209.8
Airport Operations	210	11.2	39.0	1.8	52.0
Total	1,430	67.0	51.3	143.5	261.8

Source: Northern Economics, Inc., 2011.

6.5.2 Estimates of Total On-Airport Related Employment and Expenditures

When the 1,430 direct on-site jobs are combined with the study's estimates of the associated multiplier effects, the analysis concludes that on-site operations at FAI in 2009 resulted in roughly 2,140 total jobs statewide including approximately 1,900 direct, indirect, and induced jobs in the FNSB. These jobs generated \$102 million in in-state labor income, contributing to a total of \$225 million in state-wide economic output.

Table 39. FAI's Direct, Indirect, and Induced In-State Economic Effects, 2009

Category	Number of Jobs		Labor Income		Output	
			(\$Millions)			
	In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska
Airport Operations	590	20	27	1	90	3
Leaseholder	1,300	230	61	14	73	57
Subtotals	1,900	250	87	15	164	61
Total In-State Effect	2,140		102		225	

Source: Northern Economics, Inc. and IMPLAN, 2011.

³¹ The wage/benefits component is estimated by multiplying 160 full time positions and 50 part-time positions (25 FTEs) against an average "government" sector job of \$60,390 per ADOLWD estimates.

7 Haines Airport

The Haines airport (HNS) is small, yet provides key services that raise the quality of life for nearby residents. The airport generated approximately 40 jobs attributable to airport activity, and these activities in turn generated \$860,000 in labor income, contributing to a total of \$1.5 million in economic output around the state. According to key informant interviewees, HNS is an important component to the success of the Haines visitor industry. Furthermore, it serves as the primary vehicle for transporting mail and cargo to the area, and provides vital medevac services, which were expanded in 2010 to accommodate greater demand.

The following sub-sections describe the study's results for Haines Airport in greater detail.

7.1 Community Description

Haines is a small community situated between the Chilkoot and Chilkat rivers on the Chilkoot Inlet, located 600 miles southeast of Anchorage. Originally known by a Tlingit name "Dei Shu" meaning "end of the trail," Haines was renamed in honor of Francina Haines, a secretary who helped raise funding for the first missionary arrival in 1879. Although Haines is now a predominately non-native community, two Chilkat Indian villages remain nearby and provide a connection to Haines' cultural past. Haines began to grow as a mining supply center in the 1890s as the Klondike Gold Rush began to pick up steam and the town offered an easier route for gold prospectors. In 1899, gold was discovered in Haines, which coincided with concern over border disputes with Canada. In response, the United States commissioned the first permanent military installation in Alaska in 1903, which remained active until 1947 (ADCCED 2011). Since the early 20th century, Haines has become a major transshipment point for Southeast Alaska, and continued to diversify its economy, despite its relatively small size.

The City of Haines currently has 1,624 residents (ADCCED 2011), but the population can swell to 2,450 in the summer as people flock to the area for jobs in seasonal industries (ACS 2011). Most employment in Haines revolves around local government, fishing, timber, and construction industries; although tourism continues to grow as part of the local economy (HCOC 2011). Top employers for Haines include the Haines School District, state and local government agencies, and the Southeast Alaska Regional Health Consortium. Haines also boasts a highly educated population, with 40.3 percent of residents over 25 possessing a bachelor's degree or higher (ACS 2011).

According to the U.S. Census in 2009, the median age for Haines was 47.6 years and the median family income was \$58,325. This median age and income are significantly higher than are found in many communities in Western Alaska, including those included in this study.

Haines' climate is considered maritime, with temperatures ranging from 10 °F to 66 °F (ADCCED 2011). Due to the moderate climate, ice-free deep-water port, and year-round road access, Haines also serves as a trans-shipment point for Alaska and Canada. Although small in human population, Haines boasts the largest concentration of bald eagles in the world in the Chilkat Bald Eagle Preserve. The preserve is located approximately 10 miles away from Haines along 48,000 acres of river bottom land of the Chilkat, Kleheni, and Tsirku Rivers, and provides a critical habitat to 200 to 400 eagles throughout the year (DNR 2011).

7.2 Airport Description

Haines has two facilities: a small seaplane base and HNS, a state-owned airport. HNS, the focus of this study, is just 15 feet above sea level and located three miles west of the central business district. The runway was originally built in the 1950s and is currently equipped with one asphalt runway that is 4,000 feet in length and 100 feet wide (FAA 2010a).

The terminal building was constructed in 1982, and operated by the City of Haines until August 1996, when it was purchased by a local resident. The private owner has since re-sold the facility to Wings of Alaska, a local commuter airline, who continues to make the building available to the public through an agreement with the Borough (Haines Borough 2004). Wings of Alaska currently accounts for the vast majority of non-charter air traffic at HNS, about 94 percent in 2009, while Air Excursions, LLC accounts for the remaining 6 percent. An analysis of FAA data reveals that in 2006, the majority of air traffic at HNS (78.8 percent) derived from air-taxi operations, while local flights (17.5 percent) accounted for a smaller, but significant amount. The remaining air traffic was the result of either itinerant flights (1.8 percent), or military operations in Haines (1.8 percent) (FAA 2010a).

Figure 20. The Airport in Haines, Alaska



Source: Alaska Department of Transportation & Public Facilities

7.3 Role in the Community

Haines is accessible by Alaska Marine Highway System or through the road system. While access to these modes of transportation creates an overlap in many services, HNS provides some unique benefits which increase the quality of life for residents. Thomas Ely, President of Sockeye Cycle Co. in Haines noted that the airport “brings in freight in an expedient manner; UPS, FedEx, and mail too.” Without the continuous support of HNS, much of the mail or freight required for business would have to travel through the ferry system, or by road. This routing would slow down delivery times and possibly increase costs for residents.

In addition to mail, the visitor industry accounts for a significant portion of air traffic at HNS, which then spills into the local economy through sightseeing, accommodation, and increased retail activities. The convenience of air travel provides business owners with a customer base that may otherwise be significantly smaller; “the ease of getting to Haines would be compromised” Ely indicated. Tourism allowed by the existence of the airport creates benefits that extend beyond the city. The leisure and hospitality sector accounted for 11.8 percent of borough wages in 2009 (ADOLWD 2010). Residents aren’t just reliant on the airport for tourism customers; key informant interviews indicated that HNS remains a lifeline for critical access to healthcare.

In 2009, approximately 65 Haines residents were medically evacuated through the airport, but the number has been higher than that in recent years (Chilkat 2010). Angie Robinson, who works at the Haines Convention and Visitors Bureau, confirmed during an interview that without access to the airport, “[residents] would essentially be without any type of hospital, unless [they] drove the three and a half hours to Whitehorse.” (Robinson 2011) In response to the growing need for medevac services, the Haines Fire Department upgraded their coverage in 2010 (Chilkat 2010) to accommodate the growing demand.

While mail delivery and providing medical care remain major functions of HNS, passenger travel also accounts for a significant portion of traffic through the airport. Major air carriers only offer service into Juneau, where travelers must then find their way by ferry, or through a regional airline. Year-round air service is provided by Wings of Alaska, which offers daily flights between Juneau, Skagway, and Haines. Air Excursions, LLC., Earth Center Adventures, Inc., and Alaska Mountain Flying & Travel provide year-round charter services that not only provide sight-seeing opportunities, but keep local residents connected throughout Southeast Alaska.

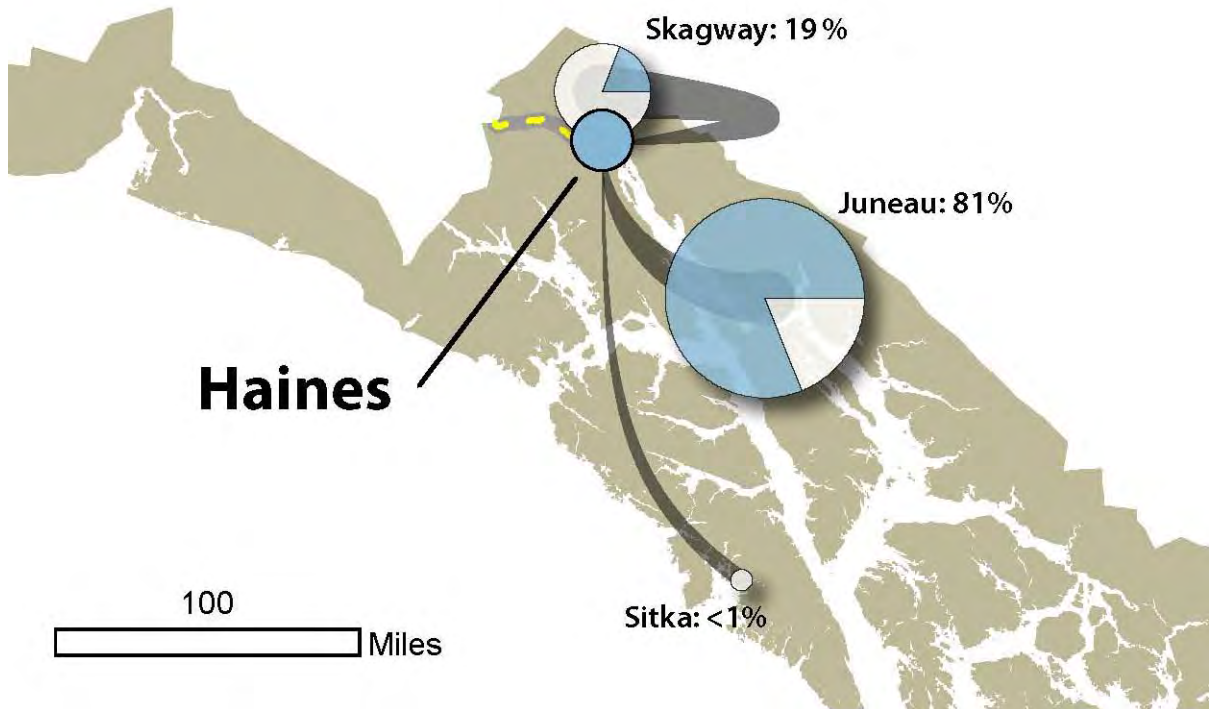
The passenger segments for HNS are summarized below in Table 40 and Figure 21. In 2009, HNS had a total of 14,877 segments with arrivals and departures closely balanced. Juneau, being a regional hub for Southeast Alaska, accounted for 81 percent of those segments and Skagway accounted for 19 percent, primarily through charter flights and flight-seeing services (Figure 21). The seasonal tourism in the area is reflected in that more than 66 percent of HNS’ passenger segments in 2009 were concentrated during the summer months. Actual enplanements totaled roughly 11,500 passengers: just over 75 percent of total passenger segments.

Table 40. HNS Passenger Segments by Airport-City Pair, 2009

City	Passenger Segments		Total	
	Arriving	Departing	Number	Percentage (%)
Juneau	6,235	5,821	12,056	81.0
Skagway	1,372	1,447	2,819	18.9
Sitka	2		2	0.0
Grand Total	7,609	7,268	14,877	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 21. Geographic Location of HNS’ Partner Communities for Passenger Segments, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

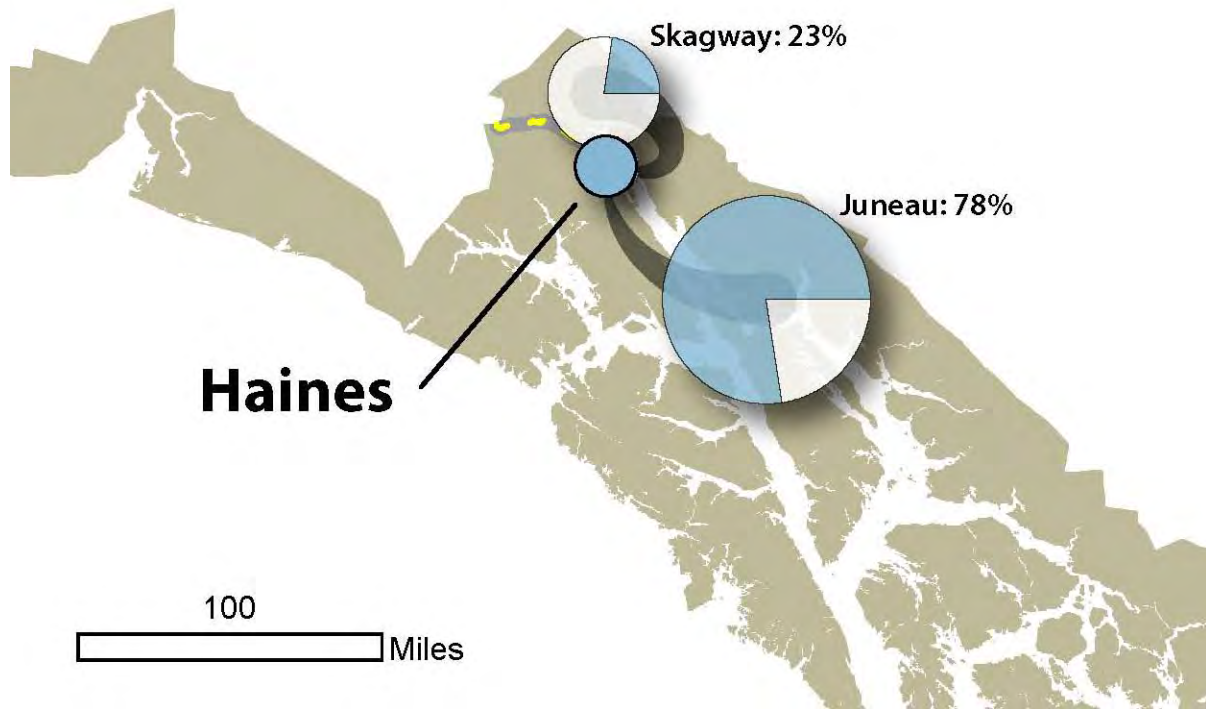
The relative importance of Juneau and Skagway in mail transport follows a similar pattern as that of passenger segments. Table 41 and Figure 22 illustrate the volume and geographic distribution of mail that traveled through HNS in 2009. Juneau accounted for nearly 467,000 pounds (77.5 percent) and Skagway accounted for 136,000 pounds (22.5 percent).

Table 41. HNS Mail Volumes by Airport City Pair, 2009 (in Pounds)

City	Mail		Total	
	Arriving	Departing	Number	Percentage (%)
Juneau	365,332	101,602	466,934	77.5
Skagway	65,860	69,986	135,846	22.5
Grand Total	431,192	171,588	602,780	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 22. Geographic Location of HNS' Partner Communities for Mail, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

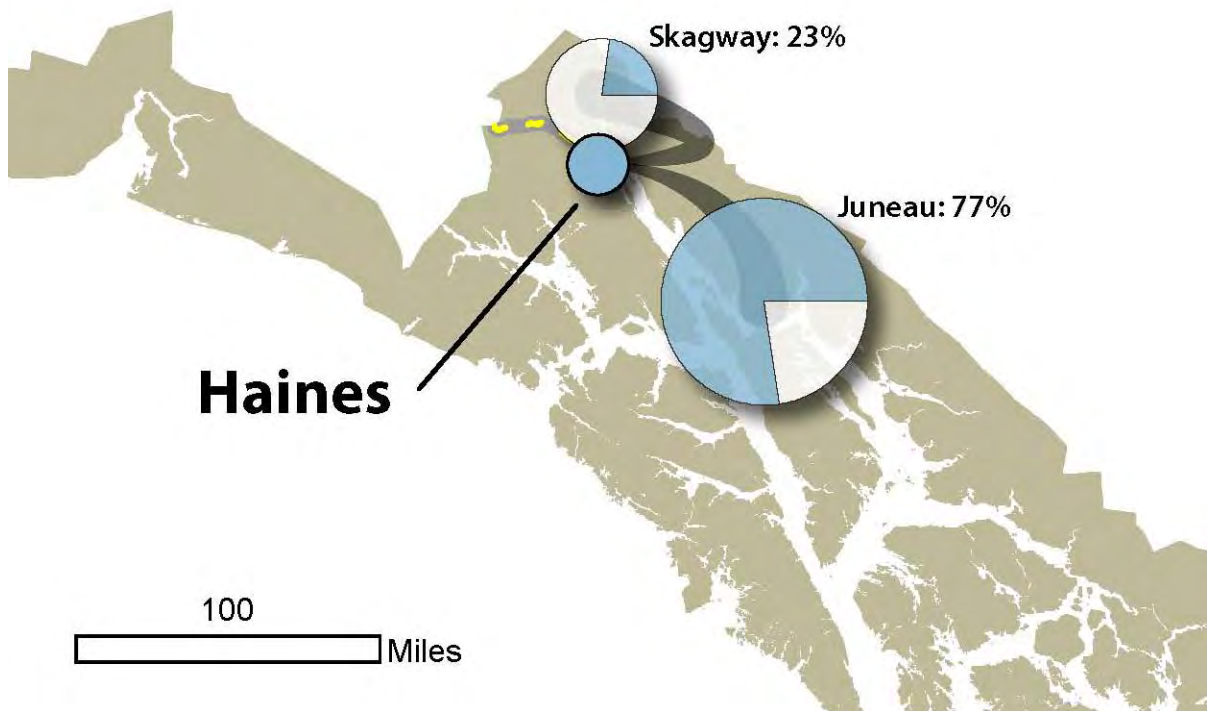
The amount of air cargo that traveled through HNS in 2009 is illustrated in Table 42 and the geographic distribution is illustrated in Figure 23. Approximately 373,000 pounds of cargo was transported through HNS in 2009. Juneau accounted for 288,000 pounds (77.3 percent) of cargo arriving or departing HNS. Skagway accounted for the remaining 85,000 pounds (22.7 percent) of cargo traffic.

Table 42. HNS Cargo Volumes by Airport City Pair, 2009 (in Pounds)

City	Cargo		Total	
	Arriving	Departing	Number	Percentage (%)
Juneau	236,119	52,482	288,601	77.3
Skagway	18,810	65,799	84,609	22.7
Grand Total	254,929	118,281	373,210	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 23. Geographic Location of HNS' Partner Communities for Cargo, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

7.4 Enplanement, Cargo, and Mail Expenditures for HNS

The study estimates that the total initial (first retail) expenditures related to enplanements, mail, and cargo associated with HNS was nearly \$0.5 million in 2009. Table 43 summarizes the volume and corresponding expenditures associated with transporting passengers and mail to HNS during 2009. This estimate includes only actual enplaned and deplaned passengers, mail, and cargo. Mail shipping accounts for 63 percent of the expenditures, which is consistent with the reliance of residents on HNS as a primary mechanism for mail and cargo delivery to Haines.

Table 43. Estimates of Enplanement, Cargo, and Mail Expenditures for HNS, 2009

Expenditures Category	Flow (Segment) Volume	Enplane/ Deplane Volumes	2009 Economic Activity (M\$)
Passenger Enplanements	14,877	11,509	0.0
Mail (Pounds)	602,780	413,916	0.3
Cargo (Pounds)	373,210	254,081	0.1
Total			0.5

Source: Northern Economics, Inc. using BTS (2011a, 2011b) and OST (2010a, 2010b)

7.5 Direct and Indirect Economic Contributions of On-Airport Activity

Through leaseholder surveys, operations survey, and I-O analysis, the study estimates that on-site activity at HNS generated a total of 40 in-state jobs including 35 jobs directly on the airport. It also generated \$860,000 in labor income, which contributed to a total of \$1.5 million in economic output around the state.

7.5.1 Employment and Expenditures by Airport Leaseholders and Airport Management and Operations

This study was able to identify 11 unique leaseholders at HNS using data provided by ADOT&PF. One leaseholder was designated as “missing” or no longer contactable; 55 percent of the remaining identified leaseholders responded to the survey. The study used data from the respondents from HNS and other similar airports to estimate the economic contribution of the non-respondents.

The analysis estimates that in 2009, HNS leaseholders provided roughly 30 jobs directly into the local community. Table 44 below summarizes the type of employment provided by HNS leaseholders. The majority, approximately 67 percent, were non-contract jobs directly for leaseholders. Due to the seasonal nature of employment at HNS, part-time employment generated a slightly higher proportion of jobs for 2009.

Table 44. Jobs provided by Leaseholders at HNS, 2009

Category	Full-Time		Part-Time		Total	2009 Wages and Benefits (\$Millions)
	Alaskans	Non-Alaskans	Alaskans	Non-Alaskans		
Leaseholder Employees	<10	<10	10	<10	20	0.64
Contract Employees	<10	0	<10	<10	<10	0.02
Total	<10	<10	20	<10	30	0.66

Source: Northern Economics, Inc. 2011

Leaseholders also contribute to the local, state, and national economies through capital and operating expenditures.³² The results from the study suggest that in 2009, \$1.07 million from HNS operations expenditures flowed through the economy. Approximately \$310,000 remained in the borough, while \$170,000 flowed through areas throughout the state. The analysis reveals that the bulk of operating expenditures from HNS leaked outside of the state in 2009, likely through aircraft maintenance and services purchased directly from outside of Alaska.³³

Table 45. Geographic Distribution of Leaseholder Capital & Operating Expenditures at HNS, 2009

Category	In-Borough Census Area	Other Alaska	Total Alaska	Outside Alaska	Total
	(\$Millions)				
Capital Expenditures	0.01	0.01	0.02	0.01	0.03
Operating Expenditures	0.31	0.17	0.48	0.56	1.04
Total	0.31	0.19	0.50	0.57	1.07

Source: Northern Economics, Inc. 2011

The cost of operating and maintaining the airport itself is an additional method of measuring the level of contribution airports can make on their local and regional economies. Table 46 below summarizes jobs and expenditures associated with ADOT&PF airport M&O in 2009. In this case, the data from airport managers reveal that there were five jobs associated with managing and operating the airport in 2009, but that these employees also conduct road work for ADOT&PF in the area. The amount of wages and salaries reported by the airport manager fell below the reportable amount for this study. Additionally, no capital expenditures or operating expenditures associated with M&O were reported for 2009.

Table 46. Airport Operations and Management Jobs and Expenditures at HNS, 2009

Category	Number of Jobs	Wages/Benefits	Capital Expenditures	Other Operating Expenditures
		(\$Millions)		
Operations/Management	5	0.02	0.00	0.00

Source: Northern Economics, Inc. 2011.

³² Capital expenditures represent long-term investments in equipment and infrastructure. In this case, operating expenditures are all other non-wage and benefit expenditures required for day-to-day operations.

³³ There is a higher than average uncertainty for the Haines Operating Expenditures relative to other data, due to the low number of respondents.

Altogether, the analysis estimates that leaseholders and airport operations at Haines Airport directly generated 35 jobs in 2009, with an estimated \$680,000 in wages and benefits (See Table 47). In total, leaseholders and ADOT&PF reported just \$30,000 in capital expenditures for 2009. It is not uncommon for capital expenditures to be highly variable from year-to-year while operating expenditures tend to be more stable. Thus, this result should not necessarily be taken as indicative of yearly capital expenditure investments in the airport. Total operating expenditures are estimated to be \$1.75 million.

Table 47. HNS Leaseholder and Airport Operations Expenditures Summary 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures	Total Expenditures
		(\$Millions)			
Leaseholders	30	0.66	0.03	1.04	1.73
Operations	5	0.02	0.00	0.0	0.02
Total	35	0.68	0.03	1.04	1.75

Source: Northern Economics, Inc. 2011

7.5.2 Estimates of Total On-Airport Related Employment and Expenditures

As with all of the airports in this study, the wages and expenditures created by on-airport leaseholders and ADOT&PF cycle through the economy as workers spend their wages and businesses and government entities buy goods and services from off-airport businesses. This multiplier effect generates other economic activity that can be attributable to jobs and other output within the community. This study estimates that the airport generated approximately 40 direct, indirect, and induced jobs, as well as \$860,000 in labor income, which contributed to a total in-state economic output of \$1.5 million.

Table 48. HNS' Direct, Indirect, and Induced In-State Economic Effects, 2009

Category	Number of Jobs		Labor Income		Output	
	In-Borough/ Census Area	Other Alaska	(\$Millions)			
			In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska
Airport Operations	<10	0	0.03	0.00	0.03	0.00
Leaseholders	30	<10	0.74	0.09	1.10	0.38
Subtotals	40	<10	0.77	0.09	1.13	0.38
Total In-State Effect	40		0.86		1.51	

Source: Northern Economics, Inc. and IMPLAN, 2011.

8 Hooper Bay Airport

The Hooper Bay Airport (HPB) is Hooper Bay's lifeline to the outside world and its importance is extremely difficult to express through quantitative measures. For example, this study estimates that fewer than 10 jobs statewide result from on-airport economic activities. At the same time, the study estimates that individuals, communities, businesses, and government are paying nearly \$14 million annually to move people and vital goods such as perishable foods and medical supplies through HPB. The inability to bring in these supplies year-round "would seriously jeopardize the health of the community" (Filipczak 2011). Thus, the amount of economic activity occurring on the airport itself as measured by jobs and wages is not indicative of the role that HPB plays in its community. The airport is more a vital link and artery for essential goods than a generator for on-site economic activity.

8.1 Community Description

Hooper Bay is a traditional Yup'ik Eskimo community located in the Yukon-Kuskokwim Delta. The city lies 500 miles west of Anchorage and falls within the Bethel Recording District. Originally known as "Akinuk" or "Askinaghamiut" by the local native population, Hooper Bay, is currently referred to as "Naparyarmiut," an Eskimo name meaning, "stake village people" (ADCCED 2011).

Cultural ties remain central to the Hooper Bay population, with 99.7 percent residents being of Alaska Native heritage and 80 percent speaking a language other than English (ACS 2011). Traditional subsistence activities also remain a central cultural and lifestyle component to the local population, who utilize land preserved in the Yukon Delta National Wildlife Refuge for hunting and fishing activities (ADCCED 2011).

Although incorporated in 1966, Hooper Bay first appeared in the U.S. Census in 1890 with a population of 136 residents. Since the 2000 census, which showed a population of 1,014, the city had grown to 1,158 by 2009 (ADCCED 2011). Hooper Bay also has a relatively young population, with a median age of 21.8 years as compared to the statewide median age of 32.4 (ACS 2011).

Most private-sector employment in the city is seasonal, with income supplemented through subsistence activities. In the private sector, the fishing industry remains important to the area, with 64 residents working directly for, or through subsidiaries of the CVRF (CVRF 2011). Local government, however, remains the largest sector of the workforce, accounting for 46 percent of employment in Hooper Bay (ALARI 2011). As of 2009, the median income for Hooper Bay residents was \$30,125 (ACS 2011).

The climate in Hooper Bay is considered maritime, with temperatures ranging from -25 °F to 79 °F. Bordering the Yukon Delta National Wildlife Refuge, vast expanses of low-lying wetlands and tundra characterize the physical environment, which supports a diverse population of mammals, fishes, and birds (US Fish and Wildlife 2011; Alaska Geographic 2011). Being off the main Alaska road system, residents of Hooper Bay are reliant on water and air transportation to move beyond local villages. However, during the winter months nearby rivers freeze, making ground transport possible to other communities in the Yukon-Kuskokwim Delta.

8.2 Airport Description

HPB is the only air facility in the community. ADOT&PF is the owner/manager of the facility. It is located two miles southwest of town center via an access road, at only 13 feet above sea level. The airport is publicly owned and equipped with one asphalt and gravel runway that is 3,300 feet long

and 75 feet wide (FAA 2010a). A private hanger is located on a parking ramp attached to the runway (ADOT&PF 2005).

No operations data were listed in the FAA database, and are therefore absent in this description for Hooper Bay. An analysis of data provided by the BTS, however, reveals that there were 12 air carriers providing passenger, mail, and freight services to HPB in 2009. Three air carriers generate the majority of the traffic: Hageland Aviation (53.8 percent), Grant Aviation (29.4 percent), and Arctic Transportation (9.3 percent). Nine other aviation companies split the remaining 7.5 percent (BTS 2010).

Figure 24. Hooper Bay Airport



Source: Alaska Department of Transportation & Public Facilities

8.3 Role in the Community

Similar to most of Alaska's communities, Hooper Bay is accessible only by air and water during the summer months and by air and ice during the winter. While barge lines provide deliveries of fuel and bulk supplies during the summer, aircraft provide the only year-round public transportation in the community (ADOT&PF 2005). Because of the critical nature of air travel in Hooper Bay, the ability to move people and freight into or out of the community can have large effects on the accessibility to goods and services. Bosco Olson, Sr. the City Administrator for Hooper Bay confirmed this role in a letter, describing the airport as "a lifeline to the community."

Businesses, for example, rely on HPB to keep their shelves stocked for consumers. Barges deliver a small portion of goods arriving in Hooper Bay in the summer; however, these will typically be heavy, non-perishable goods with a long shelf life. In addition, barge transport involves certain hazards. For example, Larry Nutter, the manager at the AC store in Hooper Bay points out that for many

businesses in the community, goods arriving via barge must be taken over a bumpy mile-long stretch on a 4-wheeler before they get to the store.

In order for local businesses to stay in operation, air carriers must fly in freight on a daily basis. For business owners and managers, the airport is the only method of getting fresh produce and perishable food to market in Hooper Bay. As stated by Larry Nutter “Without [the airport], there’d be no food.” However, the airport provides a greater service than ensuring the material health of Hooper Bay; residents’ physical health, too, is dependent on air travel.

Hooper Bay residents are heavily reliant on the airport for medical services. Robert Filipczak, the Operations Manager for the Hooper Bay Sub-Regional Clinic, stresses the importance of HPB: “[it] is critical to access for medical care.” Nevertheless, he also believes its small size is also a potential issue for patients. “The need for [medevacs] has grown six-fold over the past two years...a larger airport is imperative.” Filipczak suggests that an airport that could support direct flights to Anchorage could have a “dramatic effect on medical outcomes” in Hooper Bay.

Direct patient transport and care are only part of the medical services provided through the airport. The delivery of medical supplies greatly enhances the care residents can get in Hooper Bay and nearby villages. Two or three times a year, the Hooper Bay Sub-Regional Clinic receives a mobile mammography-screening device; allowing the clinic a more efficient method of detecting breast cancer in residents. According to Filipczak, the lack of these supplies “would seriously jeopardize the health of the community.”

Near-daily deliveries of school supplies, too, are essential to keeping the operations of educators afloat. Everything from school lunches to pencils are funneled through the airport. Mike Jump, the Co-Principal at the Hooper Bay School describes the airport as “crucial to the survival of the school.” As Jump explains, “Air connects us to the rest of the world...we get 125 trips every month with freight, supplies, and mail. We use it for conferences, everything! We’d have to shut down without it.” Although less quantifiable than mail and freight, Jump sees the airport as a key component to the success of his students, through field trips and other experiences that they would otherwise not be granted access.

Daily supplies and medical care only represent a portion of the airport’s benefits. Carriers like Hageland Aviation and Grant Aviation connect Hooper Bay to Bethel, Scammon Bay, and Chevak without requiring overland travel by snow machine in the winter. In addition to connecting the Yukon-Kuskokwim Delta, HPB grants residents access to locations in the rest of Alaska that would otherwise be complicated, time-consuming, or impractical.

HPB relies on flights from Bethel, Chevak, and Scammon Bay for passenger arrivals and departures (see Table 49 and Figure 25). In 2009, HPB had 15,762 passenger segments with the number almost evenly split between arrivals and departures. The City of Bethel is the regional hub for the Yukon-Kuskokwim Delta and accounted for 7,287 passenger segments: 46.2 percent of passenger travel to and from HPB in 2009.³⁴ Chevak and Scammon Bay are nearby communities important to the region and made up 22.8 and 21.8 percent of passenger segments respectively, for 2009. The remaining communities listed in the table are nearby locations, with all but Nome and Dillingham localized to the Wade-Hampton Census area.

³⁴ See Section 3 for a detailed report on the economic contributions of the Bethel airport.

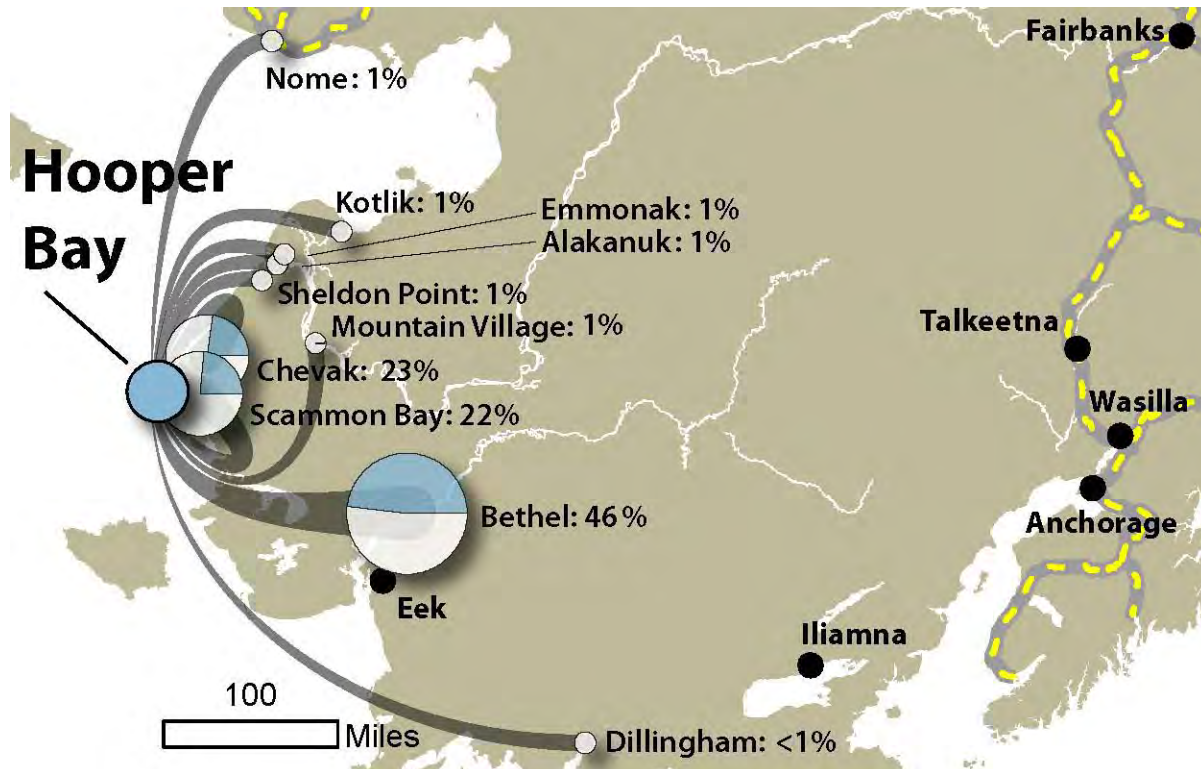
Table 49. HPB Passenger Segments by Airport-City Pair, 2009

City	Passenger Segments		Total	
	Arriving	Departing	Number	Percentage (%)
Bethel	4,142	3,145	7,287	46.2
Chevak	1,855	1,734	3,589	22.8
Scammon Bay	1,354	2,084	3,438	21.8
Mountain Village	93	135	228	1.4
Emmonak	58	53	111	0.7
Alakanuk	55	55	110	0.7
Kotlik	50	58	108	0.7
Nome	56	46	102	0.6
Sheldon Point	42	46	88	0.6
Dillingham	39	39	78	0.5
All Others	271	352	623	4.0
Grand Total	8,015	7,747	15,762	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 25 shows the geographic distribution of HPB passenger segments. As can be seen, Bethel, Scammon Bay, and Chevak make up the most significant origins and destinations for HPB passenger segments. The “All Others” category includes 31 different communities, representing 623 segments, or about four percent of the total amount.

Figure 25. Geographic Location of HPB’s Partner Communities for Passenger Segments, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

Bethel is the primary source of, and initial destination for, Hooper Bay’s mail. Table 50 and Figure 26 below illustrate the volume of mail that traveled through HPB in 2009. The relative importance of Bethel, Chevak, and Scammon Bay follow a similar, but significantly different pattern than that of passenger travel. Mail traveling to or from Bethel accounted for 1,928,199 pounds, or 77.8 percent of mail through HPB in 2009. Chevak and Scammon Bay were closely split, generating 11.9 and 10.1 percent respectively, of mail traffic through HPB. The remaining mail volumes through HPB were generated through smaller communities and villages located in the Yukon-Kuskokwim Delta.

The 2.2 million pounds of incoming mail to HPB shown in Table 50 are attributable, at least in part, to the USPS Bypass Mail program, which as noted previously, uses federal funds to subsidize the cost of sending goods to rural Alaska. The program uses specific air carriers authorized by the USPS to transport mail shipments of 1,000 pounds or more, and is credited with keeping the cost of goods and foodstuffs affordable in many remote Alaskan locations.

Increased mail traffic has created the possibility of establishing Hooper Bay as a sub-regional mail hub in the Yukon-Kuskokwim Delta. Forecasts of increased usage helped generate a 2005 study, which would expand HPB’s runway to accommodate the additional traffic (ADOT&PF 2005).

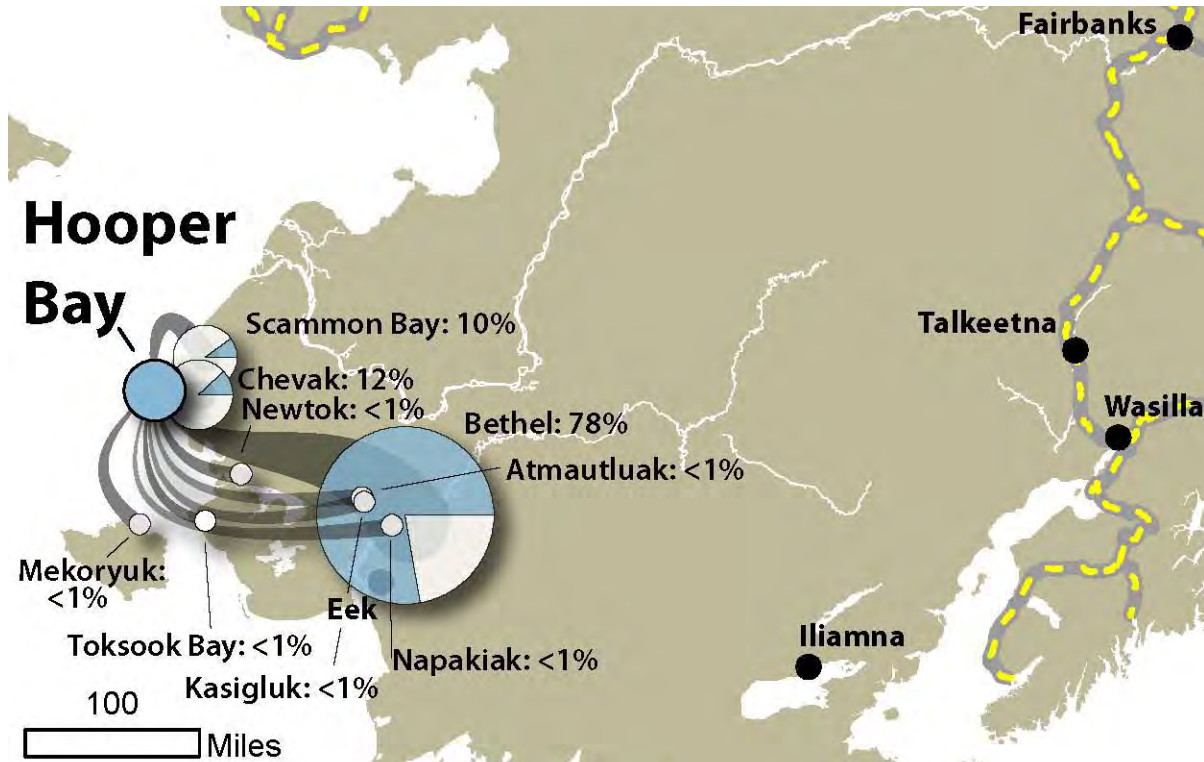
Table 50. HPB Mail Volumes by Airport City Pair, 2009 (in Pounds)

City	Mail		Total	
	Arriving	Departing	Number	Percentage (%)
Bethel	1,913,519	14,680	1,928,199	77.8
Chevak	176,240	118,970	295,210	11.9
Scammon Bay	159,368	91,876	251,244	10.1
Atmautluak	1,754	0	1,754	0.1
Mekoryuk	0	1,216	1,216	0.0
Toksook	0	972	972	0.0
Kasigluk	500	0	500	0.0
Newtok	0	451	451	0.0
Napakiak	0	19	19	0.0
Grand Total	2,251,381	228,184	2,479,565	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 26 shows the geographic relationship of mail moving through HPB. As noted above, Bethel accounts for nearly 80 percent of the mail volume.

Figure 26. Geographic Location of HPB's Partner Communities for Mail, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

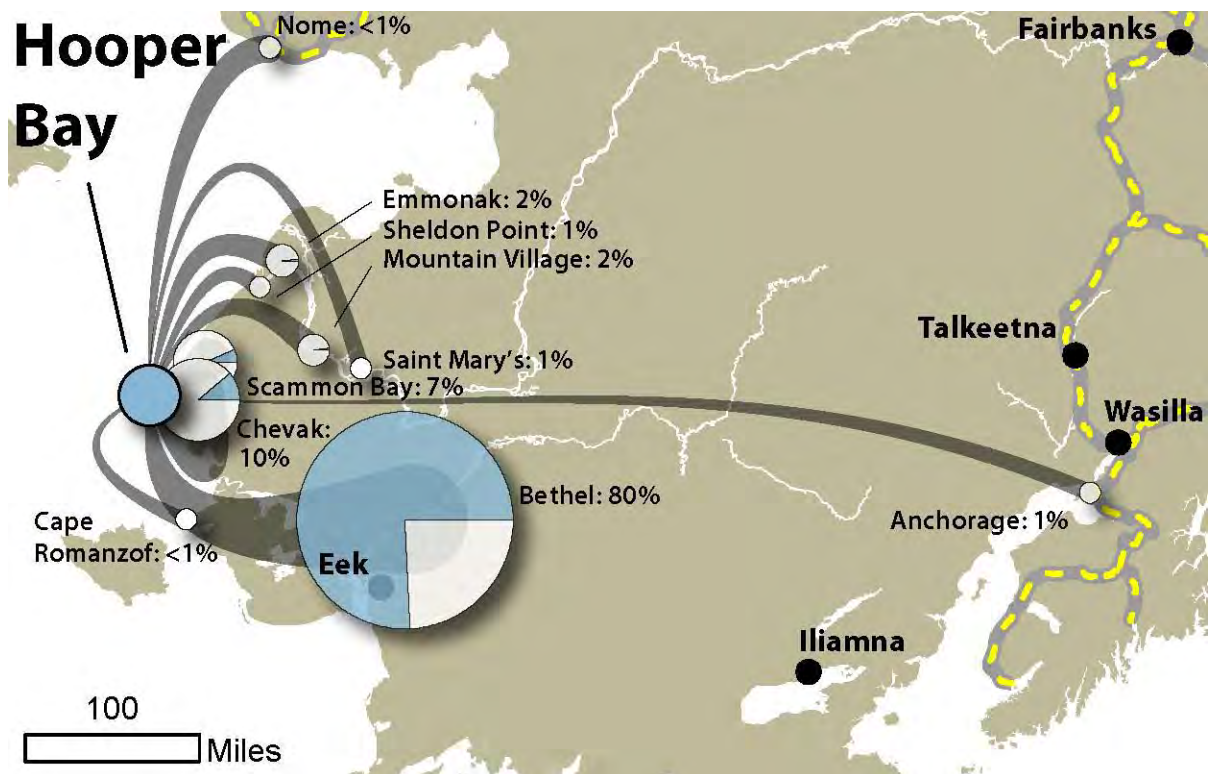
In total, nearly 670,000 pounds of cargo moved through HPB in 2009. Almost all of this cargo arrived at the airport as opposed to departing from the airport. In fact, arriving cargo accounted for more than 80 percent of total cargo volume. More than 75 percent of all cargo moved to or from BET, the Bethel airport. Cargo associated with Chevak accounted for 11.0 percent of total cargo volume, while Scammon Bay accounted for a smaller 6.6 percent in 2009. Air cargo followed a slightly different pattern than passenger or mail traffic in 2009, with a proportionally higher amount of cargo traveling to other communities throughout the state.

Table 51. HPB Cargo Volumes by Airport City Pair (in Pounds), 2009

City	Cargo		Total	
	Arriving	Departing	Number	Percentage (%)
Bethel	470,577	32,744	503,321	75.2
Chevak	37,927	35,537	73,464	11.0
Scammon Bay	25,411	18,797	44,208	6.6
Emmonak	47	11,490	11,537	1.7
Mountain Village	3,941	7,025	10,966	1.6
St. Mary's	3,346	4,594	7,940	1.2
Sheldon Point	92	5,360	5,452	0.8
Anchorage	3,506	0	3,506	0.5
Cape Romanzof	0	2,466	2,466	0.4
Nome	350	1,065	1,415	0.2
All Others	1,473	3,863	5,336	0.8
Grand Total	546,670	122,941	669,611	100

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 27. Geographic Location of HPB's Partner Communities for Cargo, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

8.4 Enplanement, Cargo, and Mail Expenditures for HPB

The study estimates that the total initial “first retail” expenditures related to enplanements, mail, and cargo associated with HPB were \$10.2 million in 2009. Table 52 summarizes the volume and corresponding expenditures associated with transporting passengers and mail through HPB during 2009. This amount is a conservative estimate for the value of “first retail” equivalent expenditures (i.e., what people and organizations spent to move enplaned and deplaned goods and people to and from HPB in 2009). It does not include other expenditures such as baggage fees, dining, or other expenses incurred during travel. Passenger enplanements account for 72 percent of the economic activity, which is consistent with the reliance of residents on HPB as a primary mechanism for travel into, or out of Hooper Bay.

Table 52. Estimates of Enplanement, Cargo, and Mail Expenditures for HPB, 2009

Expenditures Category	Flow (Segment) Volume	Enplane/ Deplane Volumes	2009 Economic Activity (M\$)
Passenger Enplanements	15,762	11,244	7.4
Mail (Pounds)	2,479,565	2,053,445	2.2
Cargo (Pounds)	669,611	530,839	0.6
Total			10.2

Source: Northern Economics, Inc. using BTS (2011a, 2011b) and OST (2010a, 2010b)

8.5 Direct and Indirect Economic Contributions of On-Airport Activity

HPB is an airport that does not lend itself easily to a traditional I-O analysis. Descriptions of direct jobs and direct, indirect, and induced economic impacts do not accurately describe HPB’s actual importance to the community. The study estimates that on-site activity at HPB generated fewer than 10 direct, indirect, and induced jobs statewide and very little direct employment on-site. Further, the study estimates that total direct expenditures by leaseholders and airport operations, including expenditures flowing out of state, were just over \$100,000. Unlike almost all of the other airports where leaseholders generate the most expenditures, the operations of HPB itself are the primary driver of economic activity.

The following sub-sections describe the study’s analysis of on-airport economic activities in greater detail.

8.5.1 Employment and Expenditures by Airport Leaseholders and Airport Management and Operations

As noted earlier, the study team surveyed airport leaseholders to identify operations and estimate employment and expenditures. Currently, there are no leaseholders conducting business at HPB. Therefore, Table 53 and Table 54 below only mirror the absence of on-airport leaseholder operations and are not indicative of all economic activity that may occur through airport operations.

Table 53. Jobs Provided at HPB, 2009

Category	Full-Time		Part-Time		Total	2009 Wages and Benefits (\$Millions)
	Alaskans	Non-Alaskans	Alaskans	Non-Alaskans		
Leaseholder Employees	0	0	0	0	0	\$0.00
Contract Employees	0	0	0	0	0	\$0.00
Total	0	0	0	0	0	\$0.00

Source: Northern Economics, Inc. 2011.

Table 54. Geographic Distribution of Leaseholder Capital & Operating Expenditures at HPB, 2009

Category	In-Borough Census Area	Other Alaska	Total Alaska	Outside Alaska	Total
	(\$Millions)				
Capital Expenditures	0	0	0	0	0
Operating Expenditures	0	0	0	0	0
Total	0	0	0	0	0

Source: Northern Economics, Inc., 2011.

As an additional measure of economic activity, the study team contacted the airport management in Hooper Bay to glean any economic activity generated via the ongoing operations at HPB. According to airport management, only one contract job is associated with the ongoing operations at HPB. The result is that both wages and benefits, and operating expenditures for 2009 fall below the one million dollar benchmark set by the study.

Table 55. Airport Operations and Management Jobs and Expenditures at HPB, 2009

Category	Number of Jobs	Wages/Benefits	Capital Expenditures	Other Operating Expenditures
		(\$Millions)		
Operations/Management	1	0.00	0.00	0.06

Source: Northern Economics, Inc. 2011.

Note: The single employee is a contract employee and the labor income shown may not be representative of his/her full salary.

Table 56 summarizes leaseholder and airport operations expenditures for 2009. Due to the lack of leaseholder activity and minimal staff required to operate HPB, this table only provides the operations and management data from Table 55.

Table 56. HPB Leaseholder and Airport Operations Expenditures Summary 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures	Total Expenditures
		(\$Millions)			
Leaseholders	0	0.00	0.00	0.00	0.00
Operations	1	0.00	0.00	0.06	0.00
Total	1	0.00	0.00	0.06	0.06

Source: Northern Economics, Inc., 2011.

Note: The single employee is a contract employee and the labor income shown may not be representative of his/her full salary. In addition, we include wage/benefit data into “other operating expenditures” to respect his/her confidentiality.

8.5.2 Estimates of Total On-Airport Related Employment and Expenditures

As with all of the airports in this study, the wages and expenditures created by on-airport leaseholders and ADOT&PF cycle through the economy as workers spend their wages and businesses and government entities buy goods and services from off-airport businesses. This multiplier effect generates other economic activity that can be attributable to jobs and other output within the community. This study estimates that fewer than 10 jobs statewide are attributable to on-site activity at HPB for 2009. In addition, these on-airport activities generated roughly \$30,000 in labor income, which contributed to just under \$100,000 in economic output around the state.

Table 57. HPB’s Direct, Indirect, and Induced Economic Effects, 2009

Category	Number of Jobs		Labor Income		Output	
	In-Borough/ Census Area	Other Alaska	(\$Millions)			
			In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska
Airport Operations	<10	<10	0.01	0.02	0.04	0.05
Leaseholders	0	0	0.00	0.00	0.00	0.00
Subtotals	<10	<10	0.01	0.02	0.04	0.05
Total In-State Effect	<10		0.03		0.09	

Source: Northern Economics, Inc. and IMPLAN, 2011.

9 Iliamna Airport

The Iliamna Airport (ILI) provides for the provision of much-needed goods, supplies, and services such as medical care into a region that is not connected to the rest of Alaska by road. ILI also provides residents with opportunities to interact with other communities in the region and in the rest of Alaska. Furthermore, the airport acts as an economic cornerstone; it allows for access to, and exploration of, the area's rich natural resources, while also employing a comparatively large portion of the local residents directly. If each direct job at the airport were held by a unique, permanent Iliamna/Newhalen resident worker, then the study estimates that ILI could provide direct employment to over one-third of the local residents. The analysis shows that much of this employment is likely seasonal and it is highly likely that the activity at the airport provides employment to both permanent and seasonal residents.

9.1 Community Description

Iliamna is a community of approximately 100 residents located 225 miles southwest of Anchorage on the northwest side of Iliamna Lake. Iliamna is home to a vibrant Alaska Native community and 50 percent claim some Alaska Native heritage (ADCCED 2011). Iliamna is part of the Lake and Peninsula Borough, and is only accessible from other regions via air and water; it has one intra-regional road extending to the nearby community of Newhalen, and a second road to Nondalton is under construction (ADCCED 2011; Lake and Peninsula Borough 2010). The nearby community of Newhalen does not have its own airport and relies on ILI for service.

The area around Iliamna is rich in natural resources and the community boasts several hunting and fishing lodges. The community relies on commercial fishing, sport fishing, and tourism as major sources of income. The Bristol Bay fishery draws many of the local fisherman each year; in 2009 about 20 percent of residents held commercial fishing permits. Locally harvested resources include salmon, trout, moose, caribou, bear, rabbit, and seal (ADCCED 2011).

The Iliamna area is also rich in mineral resources, and exploration of the local gold, copper and other metals and minerals that are available may lead to the development of a commercial mine (ADCCED 2011). The Pebble prospect, located near Iliamna, is estimated to contain over 80 billion pounds of copper, 5 billion pounds of molybdenum and 107 million ounces of gold. The Pebble Partnership, a company formed by Anglo-American and Northern Dynasty Minerals Ltd, is currently at an advanced exploration and pre-permitting stage of development (The Pebble Partnership 2010).

Most of Iliamna's working residents are employed in the private sector, though employment in the state and local government account for more than 20 percent of local jobs. Top employers include the Iliamna Development Corporation (IDC), which is a local Alaska Native Claims Settlement Act corporation, the Lake and Peninsula School District, and Iliamna Air Taxi, Inc. (ALARI 2011).

9.2 Airport Description

ILI is one of three air transportation hubs within the Lake and Peninsula Borough. Passengers to communities within the Borough typically transit through Iliamna or King Salmon from where air taxis and charter services bring them to their final destinations. Perishable goods and time-sensitive cargo shipped by air may transit through King Salmon, Iliamna, or Port Heiden (ADCCED 2011).

ILI has two asphalt runways, one 5,086 feet in length and 100 feet wide, the other 4,800 feet in length and 100 feet wide, and two water runways of 2,998 and 2,892 feet in length. In 2009, the

airport received an AIP grant to construct a new sand and chemical storage building (FAA 2010c). The airport and its facilities are state owned and are maintained by ADOT&PF (FAA 2010a).

Figure 28. An Overhead of Iliamna Airport



Source: ADOT&PF 2011

9.3 Role in the Community

ILI is a regional transportation hub and serves as an essential link to the outside world for communities in the Iliamna Lake area. Residents of both Iliamna and Newhalen rely on the facility for direct mail and flight service, as well as shipments of foodstuffs, cargo and fuel delivery when marine transportation is unavailable. The IDC provides lighterage services to the Iliamna region, delivering fuel and freight to local homes, businesses and organizations (IDC 2011). Lorene (Sue) Anelon, both Operations Manager for IDC and an Iliamna community member notes, “If we didn’t have an airport we’d be living in a desolate and isolated community,” (L. Anelon 2010).

Debbie Anelon, Administrator for the City of Newhalen expressed a similar viewpoint when asked how life in Newhalen would be affected if ILI disappeared, “It would greatly affect the Lake area. It would have a deep impact. How would we travel out for medical services and such? We would be lost without ILI,” (D. Anelon 2011). In addition to being a transportation hub, Iliamna serves as a regional healthcare hub; outlying villages such as Igiugug, Pedro Bay, Nondalton, Kokhanok, and Port Alsworth rely on ILI for access to medical services available at the Nilavena Subregional Clinic (Johnson 2010; D. Anelon 2010). Patients who require a level of care beyond what the clinic can provide are transported to Anchorage or Seattle through ILI.

In addition to serving as an instrumental link in the local cargo and healthcare networks, the airport is also valuable to regional community building. Children on sports teams at the Iliamna area schools are flown from ILI to other Alaskan communities for sporting events. In a key informant interview, Nancy La Porte, a co-owner of Iliamna Air Taxi, noted that groups are brought to and from Iliamna, often in a coordinated effort. For example, the Iliamna boys’ basketball team may be brought to a community, and that community’s girls’ basketball team may be brought back on the return flight. Similarly, during another key informant interview, Ed Lester, Athletic Director for the Lake and Peninsula School District notes “The airport is the only means of transportation we have for students to travel in our region. For us to do anything between communities and villages, we have to use the airports. It’s very important for students to socialize and meet and talk to other students. To meet and interact with other communities,” (Lester 2010).

In 2009, more than 11,000 passenger enplanements and segments involved ILI, or more than 40 enplanements and segments per citizen of Iliamna and Newhalen combined.³⁵ This high ratio reflects the area’s dependence on air travel, ILI’s and Iliamna’s roles as sub-regional hubs, and ILI’s role in regional mineral exploration. ILI’s connection with Anchorage accounted for over half of those enplanements (see Table 58 and Figure 29), as the Ted Stevens Anchorage International Airport is the major aviation hub for Alaska, functioning as a distribution point for both in-state and out-of-state flights. Many of the passengers coming from and going to Anchorage may actually have other origin or final destination points within the region. For example, passengers originating on a regional carrier such as Iliamna Air Taxi can transfer to a larger airline like Alaska Air or Delta in Anchorage for flights abroad or to the Lower 48. The remaining communities accounting for the largest portions of Iliamna-related enplanements include Kokhanok, Nondalton, Pedro Bay, King Salmon, Igiugig, Kenai, Dillingham, Koliganek, and New Stuyahok. These ten communities accounted for over 96 percent of ILI enplanements.

The importance of seasonal tourism in the area is reflected in that 40 percent of ILI’s passenger enplanements in 2009 were concentrated during the months of July, August and September. Iliamna Air Taxi was responsible for almost all of the 2009 passenger enplanements and segments.

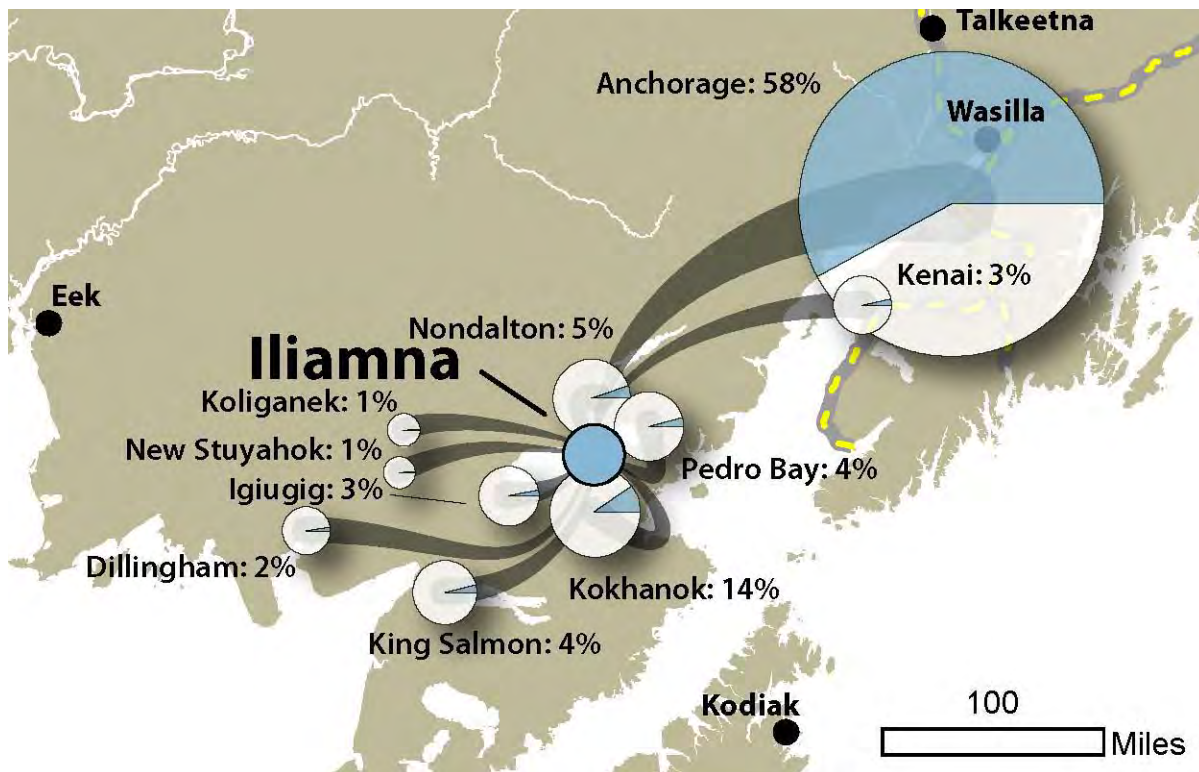
³⁵ In ILI’s case, there is very little difference between enplanements and segments. Thus, the data show that very few people pass through ILI on their way to/from another location. Activity at ILI is very specific to localized activity.

Table 58. ILI Passenger Segments by Airport-City Pair, 2009

City	Passenger Segments		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	3,111	3,546	6,657	57.9
Kokhanok	847	733	1,580	13.7
Nondalton	305	307	612	5.3
Pedro Bay	272	225	497	4.3
King Salmon	179	253	432	3.8
Igiugig	223	165	388	3.4
Kenai	296	73	369	3.2
Dillingham	121	141	262	2.3
Koliganek	66	70	136	1.2
New Stuyahok	62	69	131	1.1
All Others	230	250	432	3.8
Grand Total	5,712	5,832	11,496	100

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011.

Figure 29. Geographic Location of ILI’s Top Partner Communities for Passenger Segments, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

Total mail volumes moving through ILI in 2009 reached 1.9 million pounds (see Table 59). More than half of this air mail traffic arrived from Anchorage. While incoming and outgoing passenger volumes are split rather evenly, mail volumes show a much higher incoming percentage (65 percent) than

outgoing percentage (35 percent), yielding a net import of nearly 550,000 pounds into ILLI (see Table 59).

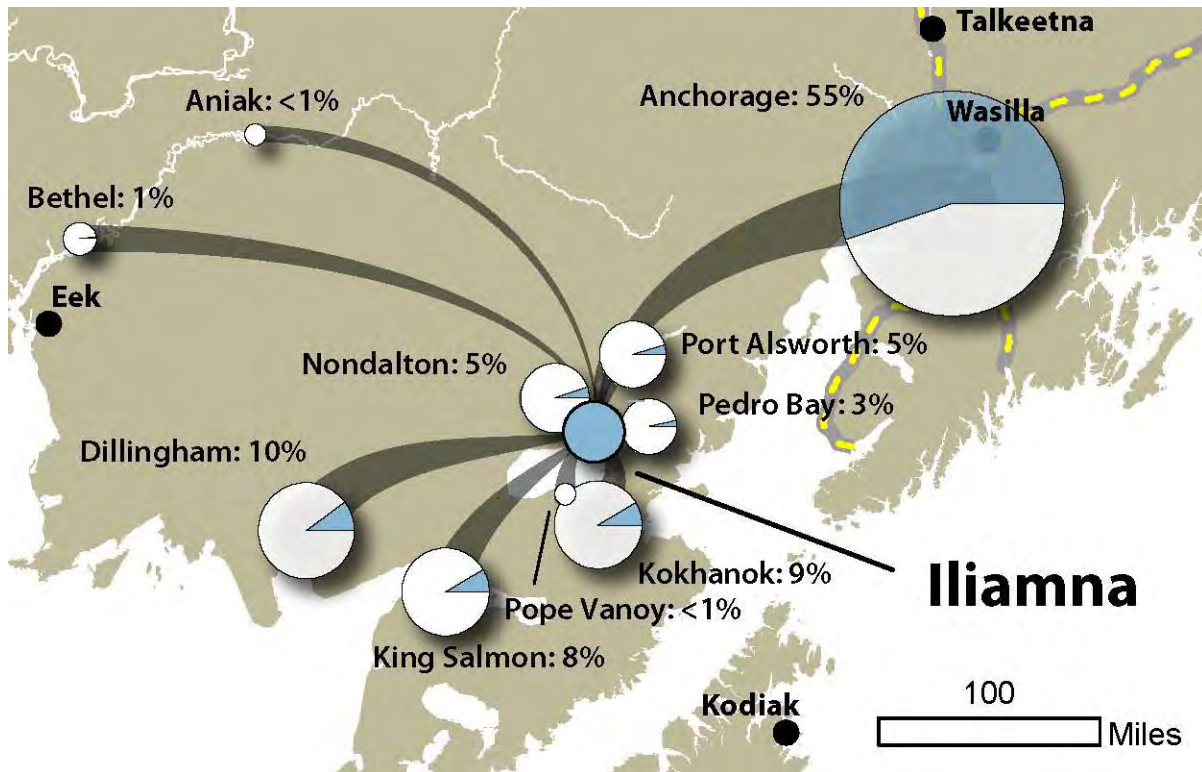
The more than 1.2 million pounds of incoming mail are attributable, at least in part, to the USPS Bypass Mail program. Anchorage operates as the acceptance point for originating bypass mail to ILLI, which in turn operates as a postal hub for bypass mail to the communities of Kokhanok, Nondalton, Pedro Bay, and Port Alsworth. This role is reflected in Table 59 which shows that about 90 percent of the mail associated with these four communities is mail arriving from ILLI. In contrast, air mail traffic associated with Dillingham and King Salmon is relatively balanced between arriving and departing volumes. Alaska Central Express (32 percent), Tatonduk Flying Service (31 percent), Iliamna Air Taxi (24 percent), and Northern Air Cargo (13 percent) provided most of the mail service during 2009.

Table 59. ILLI Mail Volumes by Airport City Pair (in Pounds), 2009

City	Mail		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	991,273	39,243	1,030,516	55.3
Dillingham	84,964	104,040	189,004	10.1
Kokhanok	3,914	172,381	176,295	9.5
King Salmon	89,215	67,365	156,580	8.4
Nondalton	6,804	89,701	96,505	5.2
Port Alsworth	6,874	83,829	90,703	4.9
Pedro Bay	7,913	55,350	63,263	3.4
Bethel	0	22,180	22,180	1.2
Pope Vanoy	93	10,480	10,573	0.6
Aniak	9,335	0	9,335	0.5
All Others	6,617	13,124	19,741	1.1
Grand Total	1,207,002	657,693	1,864,695	100

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011.

Figure 30. Geographic Location of ILI's Top Partner Communities for Mail, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

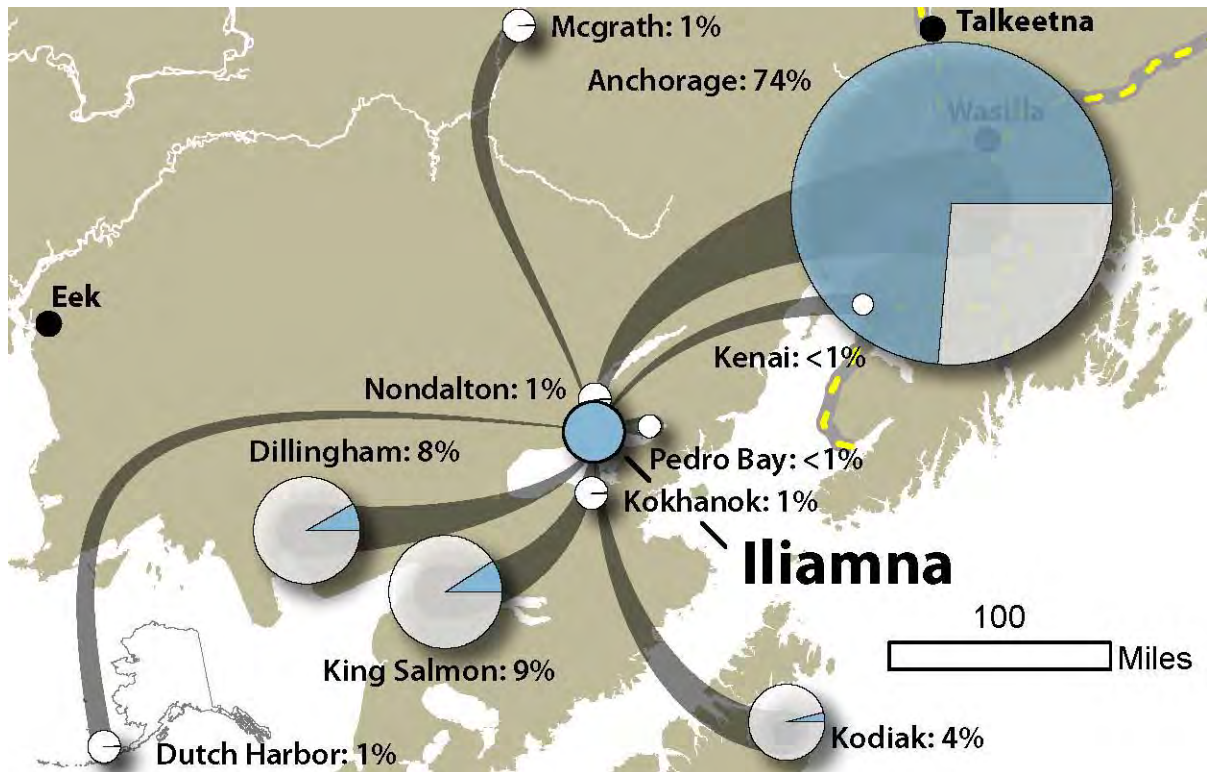
ILI received over 2.2 million pounds of cargo in 2009, an amount over two and a half times the amount of ILI's outgoing cargo. Air cargo traffic through ILI is highly seasonal with 57 percent of the total volume transported during June, July, August and September. This volume reflects the summer exploration season for minerals at the Pebble prospect and the need to store supplies during the summer months, and includes items not eligible for the Bypass Mail program including machinery, supplies, and equipment used to support local business operations such as exploration of the Pebble prospect. ILI's three largest "partner" communities for air transport (Anchorage, King Salmon, and Dillingham) accounted for over 90 percent of the total. The main carriers that transported cargo through ILI in 2009 include Tatonduk Flying Service (46 percent), followed by Northern Air Cargo (26 percent), Alaska Central Express (19 percent), and Iliamna Air Taxi (9 percent).

Table 60. ILI Cargo Volumes by Airport City Pair, 2009 (in Pounds)

City	Cargo		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	1,756,973	494,258	2,251,231	73.6
King Salmon	185,533	95,171	280,704	9.2
Dillingham	200,399	50,399	250,798	8.2
Kodiak	8,504	117,824	126,328	4.1
Kokhanok	22,758	10,158	32,916	1.1
McGrath	73	25,481	25,554	0.8
Dutch Harbor	10,344	9,941	20,285	0.7
Nondalton	10,051	6,716	16,767	0.6
Pedro Bay	7,303	4,205	11,508	0.4
Kenai	9,235	683	9,918	0.3
All Others	13,416	18,669	32,085	1.0
Grand Total	2,224,589	833,505	3,058,094	100

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011.

Figure 31. Geographic Location of ILI’s Top Partner Communities for Cargo, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

9.4 Enplanement, Cargo, and Mail Expenditures for ILI

The study estimates that the total initial (first retail) expenditures related to enplanements, mail, and cargo associated with ILI were approximately \$6.1 million in 2009 (Table 61). This amount is a

conservative estimate of the value of “first retail” equivalent expenditures (i.e., what people and organizations spent to move goods and people to and from the airport). These amounts include only what was spent to enplane/deplane passengers, mail, and cargo for travel to/from ILI. Passenger enplanements contribute about \$3.9 million (64 percent), not including what passengers spent in Iliamna or paid for baggage fees and associated services. Mail and cargo transported through ILI both contributed \$1.1 million (18 percent each) of economic activity.

Table 61. Estimates of Enplanement, Cargo, and Mail Expenditures for ILI, 2009

Expenditures Category	Flow (Segment) Volume	Enplane/ Deplane Volumes	2009 Economic Activity (M\$)
Passenger Enplanements	11,496	11,360	3.9
Mail (Pounds)	1,864,695	1,320,157	1.1
Cargo (Pounds)	3,058,094	1,913,531	1.1
Total			6.1

Source: Northern Economics, Inc. using BTS (2011a, 2011b) and OST (2010a, 2010b)

9.5 Direct and Indirect Economic Contributions of On-Airport Activity

On-site activity by leaseholders and airport operations at ILI generated a total of 100 direct, indirect, and induced in-state jobs including roughly 43 direct jobs on-site. The direct jobs generated roughly \$1.2 million in wages. This amount is slightly less per job than at other airports in this study because ILI seems to have a higher portion of seasonal work. This work is associated with the summer mineral exploration season and the tourism season. The total direct expenditures by leaseholders and airport operations, including expenditures flowing out of state, were just over \$7.8 million in 2009.

Overall, the study estimates that the total in-state economic (post-multiplier) effect of the direct jobs and direct expenditures was approximately \$4.4 million in wages and \$11.7 million in economic output in 2009.

The following sub-sections describe the study’s analysis of on-airport economic activities in greater detail.

9.5.1 Employment and Expenditures by Airport Leaseholders and Airport Management and Operations

As with all of the other airports, the study surveyed the 18 unique leaseholders identified by ADOT&PF’s Division of Statewide Aviation as holding on-airport leases about their airport operation in 2009. The contact information for two of the leaseholders proved inaccurate, and efforts to contact them were unsuccessful. Half of the remaining leaseholders completed the survey, and the analysis estimated the economic activity associated with the non-respondents using data from respondents at ILI and other similar airports.

This analysis estimates that in 2009, ILI leaseholders provided about 40 direct jobs to the community (see Table 62). The study found that half of these jobs (20 of the 40) went to part-time, non-contract Alaskans. The study expects that this high portion is the result of seasonal mineral exploration and tourism activities. While these jobs are seasonal, they are an important component of economic activity at ILI. The remaining jobs were split rather evenly among the remaining categories with the exception of Non-Alaskan contract employees, of which there were none reported or estimated. In

total, the analysis estimates that all of these jobs together generated more than \$1 million in wages and benefits to job holders in 2009.

Table 62. Jobs Provided by Leaseholders at ILI, 2009

Category	Full-Time		Part-Time		Total	2009 Wages and Benefits (\$Millions)
	Alaskans	Non-Alaskans	Alaskans	Non-Alaskans		
Leaseholder Employees	<10	<10	20	<10	40	1.0
Contract Employees	<10	0	<10	<10	<10	<0.1
Total	<10	<10	20	<10	40	1.0

Source: Northern Economics, Inc., 2011

Leaseholders also contribute to the local, state, and national economies through capital and operating expenditures.³⁶ The study estimates that in 2009, leaseholders contributed \$1.7 million to the local, state, and national economies directly through non-wage and benefit expenditures. In the case of ILI, the most significant of the Alaskan impacts were felt locally, as \$0.5 of the total \$0.8 million that was spent in Alaska was spent within the borough.

Table 63. Geographic Distribution of Leaseholder Capital & Operating Expenditures at ILI, 2009

Category	In-Borough Census Area	Other Alaska	Total Alaska	Outside Alaska	Total
	(\$Millions)				
Capital Expenditures	0.0	0.0	0.0	0.0	0.0
Operating Expenditures	0.5	0.3	0.7	0.9	1.6
Total	0.5	0.3	0.8	0.9	1.7

Source: Northern Economics, Inc., 2011

Management and operations of the airport by ADOT&PF is an additional contributor to the local, regional, and state economies. In 2009, airport operations provided three jobs generating \$0.2 million in wages and benefits, \$4.4 million in capital expenditures, and \$0.4 million in other operating expenditures (Table 64).

Table 64. Airport Operations and Management Jobs and Expenditures at ILI, 2009

Category	Number of Jobs	Wages/Benefits	Capital Expenditures	Other Operating Expenditures
		(\$Millions)		
Operations/Management	3	0.2	4.4	0.4

Source: Northern Economics, Inc. 2011.

Altogether, the analysis estimates that direct leaseholder and airport operations resulted in 43 direct jobs, approximately \$1.2 million in wages and benefits, and total non-wage and benefit expenditures

³⁶ Capital expenditures represent long-term investments in equipment and infrastructure. In this case, operating expenditures are all other non-wage and benefit expenditures required for day-to-day operations.

of \$7.8 million in 2009 (see Table 65). To put these numbers in context, the study can compare the direct on-airport employment to data collected by the State of Alaska. According to the ADOLWD’s ALARI database, there were 141 employed resident workers in Iliamna and Newhalen in 2009. The study’s analysis shows that at least 20 of the 40 jobs at the airport were held by Alaskan residents. If each direct airport job were held by a unique Alaskan resident worker from these communities, then ILI could provide direct employment to nearly one in every seven workers in the community.

Table 65. ILI Leaseholder and Airport Operations Expenditures Summary, 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures	Total Expenditures
		(\$Millions)			
Leaseholders	40	1.0	0.0	1.6	2.7
Airport Operations	3	0.2	4.4	0.4	5.1
Total	43	1.2	4.5	2.0	7.8

Source: Northern Economics, Inc., 2011

9.5.2 Estimates of Total On-Airport Related Employment and Expenditures

The direct employment and expenditures described above are fuel for the local, state, and national economies. The wages and expenditures cycle through the economy as workers spend their wages and businesses and government entities buy goods and services from off-airport businesses. The study estimates that there are 100 in-state jobs attributable to ILI after multiplier effects. Further, the analysis estimates that these jobs generated roughly \$4 million labor income in 2009, contributing to a total in-state economic output of nearly \$12 million in 2009.

The study estimates that 70 of the direct and indirect local (i.e., in-borough) jobs are attributable to the airport. ADOLWD data indicate that the average monthly employment in the Lake and Peninsula Borough equaled 735 (wage and salary) individuals in 2009 (ADOLWD 2011). Thus, the jobs tied to the airport were enough to provide nearly 10 percent of the borough’s wage and salary employees with a job.³⁷

Table 66. ILI’s Direct, Indirect, and Induced In-State Economic Effects, 2009

Category	Number of Jobs		Labor Income		Output	
			(\$Millions)			
	In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska
Airport Operations	20	30	1.4	1.1	4.0	5.3
Leaseholders	50	<10	1.2	0.1	1.7	0.6
Subtotals	70	30	2.5	1.9	5.8	5.9
Total In-State Effect	100		4.4		11.7	

Source: Northern Economics, Inc. and IMPLAN, 2011.

³⁷ Not necessarily a full-time equivalent (FTE) position

10 Juneau International Airport

At the heart of the state capital is Juneau International Airport (JNU), a municipal airport that is the primary link between Juneau and the rest of Alaska, as well as a vital transportation hub for Southeast Alaska. This study shows that the airport also plays a vital role in its community. The study estimates that in 2009, the airport provided approximately 980 direct employment jobs and a total of 1,240 jobs when indirect and induced jobs are added to the direct total. If the aviation industry was an official “economic industry” then employment related to JNU would be larger than the following industries in the City and Borough of Juneau: Natural Resources and Mining, Construction, Manufacturing, Information, Finance, and Professional and Business Services. As with all of Alaska’s airports, the numbers are only part of the story. JNU provides vital medevac services, a connection for local school sports teams and community groups, and a transportation hub helping communities that are only reachable by air or water connect not just to the larger world, but to vital services.

In addition to supporting the local and state economy, the airport made a significant contribution to the Lower 48 economy as well. Leaseholders reported spending over \$100 million outside of Alaska on their operations at JNU.

10.1 Community Description

Located on the mainland of Southeast Alaska, opposite Douglas Island, Juneau was built at the heart of the Inside Passage along the Gastineau Channel. It lies 900 air miles northwest of Seattle and 577 air miles southeast of Anchorage. Juneau is accessible only by air and sea. Scheduled jet flights and air taxis are available at the municipally owned JNU. Marine facilities include a seaplane landing area at Juneau Harbor, two deep draft docks, five small boat harbors, and a state ferry terminal. The Alaska Marine Highway System and cargo barges provide year-round services (ADCCED 2011; CBJ 2011).

The City of Juneau was formed in 1900, and the state capital was transferred from Sitka to Juneau in 1906. As the state capital, Juneau is supported largely by state and federal employment and by tourists cruising the Inside Passage. State, local, and federal agencies provide nearly 45 percent of the employment in the community. Juneau is home to state legislators and their staff during the legislative session between January and April. Tourism is a significant contributor to the private-sector economy during the summer months. Support services for logging and fish processing contribute to the Juneau economy. The Green’s Creek Mine produces gold, silver, lead, and zinc, and is the largest silver mine in North America (ADCCED 2011).

The City and Borough of Juneau is the fourth largest Borough in Alaska, with an estimated population of 30,661 in 2009. U.S. Census data for Year 2000 showed that the per capita income was \$26,719 and 5.97 percent of residents were living below the poverty level. The population was predominantly White (75 percent), followed by Native (11 percent), Asian and Pacific Islanders (5 percent), and African American (1 percent); 8 percent of the population identified themselves in the multi/other category.

10.2 Airport Description

JNU is located 7 miles northwest of the Juneau central business district at 21 feet above sea level, and is owned and operated by the City of Juneau. It is one of six air facilities listed for Juneau by the FAA; the remaining five consist of heliports and sea plane bases. Based at the airport are 300 single and multi-engine aircraft, one jet engine aircraft, and more than 30 helicopters (FAA 2010a). The airport is

situated in a mountainous region of Southeast Alaska, which creates limitations on flight operations (USKH 1999).

Figure 32. Summer Operations at Juneau International Airport, 2010



Source: Juneau International Airport, 2011.

JNU is equipped with two parallel runways, one water and one asphalt. The water runway is 4,900 feet in length and 450 feet wide, while the asphalt runway is 8,457 feet long and 150 feet wide. The operations taking place at JNU from December of 2008 to December of 2009 included 73 percent air taxi³⁸, 17 percent local³⁹ and itinerant general operations, 9 percent commercial⁴⁰, and 1 percent military (FAA 2010a).

10.3 Role in the Community

JNU provides an important service to Juneau's key industries. Juneau's top employers ranked by the number of workers are: State of Alaska (excluding the University of Alaska), City of Juneau School District, City & Borough of Juneau, University of Alaska, Bartlett Regional Hospital, Fred Meyer Stores

³⁸ Operators carrying passengers, mail, or cargo for revenue

³⁹ Those operating in the local traffic pattern or within a 20-mile radius of the airport

⁴⁰ Scheduled operations by cab-certificated carriers or intrastate carriers

Inc., Reach Inc., Hecla Greens Creek Mining Company, Southeast Alaska Regional Health Consortium, and Wal-Mart Associates Inc. (ALARI 2011).

Although it is difficult to fully quantify its importance, JNU is a functional necessity for medical evacuation of patients with complex medical conditions. Medevac to the larger hospitals in Seattle or Anchorage requires use of the airport for their specially equipped jets. Although adequate for local helicopter operators, the helicopter landing pad at the hospital is not big enough for the United States Coast Guard (USCG) helicopter, and therefore patients are landed at the airport and then transported to the hospital. In addition, the airport plays a critical role in transporting patients that are not in emergency or near-emergency conditions. For example, when cruise ship passengers get sick, they may get treated at the hospital in Juneau and fly out to “catch up” with the cruise and continue their trip. In other cases, the patient may elect to fly back to their home area to get medical treatment (Strader 2011).

Employees, company officials, contractors, vendors and governmental regulators traveling to and from Greens Creek account for thousands of JNU visits each year. Approximately 40 percent of Greens Creek’s 340 employees use JNU regularly to commute from homes elsewhere in Alaska and the Lower 48 states. In particular, approximately 20 percent of Greens Creek’s employees reside in Alaska cities other than Juneau, including Palmer, Wasilla, and a number of Southeast Alaska towns. These employees use JNU-based carriers such as Alaska Airlines, Wings of Alaska, Air Excursions and Alaska Seaplanes (Plantz 2011).

According to Dale Pernula, Community Development Department Director for the City and Borough of Juneau, state and federal government agencies could not function without dependable air connections with both metropolitan areas and regional communities. He also emphasized that JNU is crucial in supporting the tourism industry (Pernula 2011). The number of passengers approximately doubles during the peak summer months compared to the winter months. Total passenger segments fluctuated between a low of 38,283 in January and a high of 83,105 in August of 2009. This number includes individuals flying through Juneau on “milk runs” that include other Southeast Alaska communities on their way to another non-Juneau location. Without the airport, many visitors, both non-residents of Alaska and Alaska residents from other regions, would not come to the area. The alternative modes of transportation are more costly in time and resources. For example, traveling by air from Juneau to Seattle or Anchorage could take as little as 5 hours (plus commuting time to/from the airport) while the alternatives of traveling by ferry or using a combination of ferry and road would take more than three days.

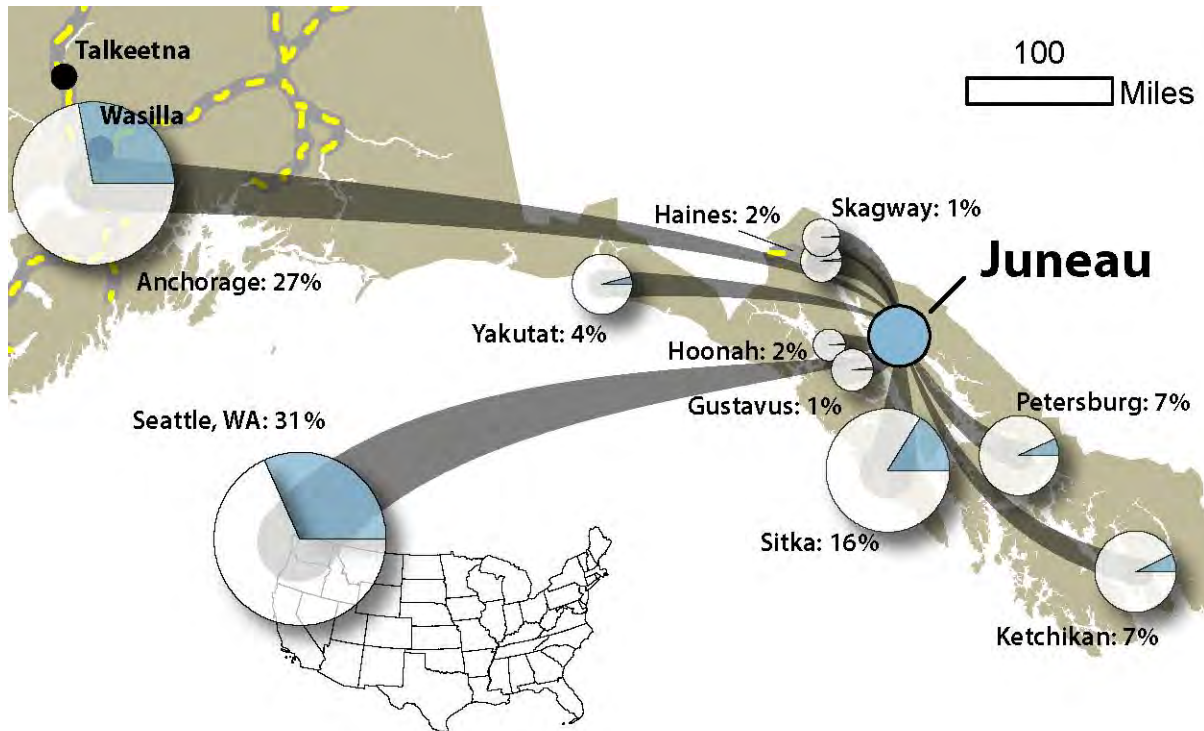
In addition to frequent arrivals and departures from hubs such as Anchorage and Seattle/Tacoma, JNU also has daily and/or weekly service to smaller regional communities. Alaska Airlines is the only major commercial airline that operates in and out of JNU, in addition to a couple of local air carriers such as Wings of Alaska and Alaska Seaplane Service. Table 67 shows passenger segment arrivals and departures for JNU during the year 2009 while Figure 33 shows the geographic distribution of these partner communities. Out of a total of 663,000 passenger segments, Seattle/Tacoma and Anchorage accounted for 31 percent and 28 percent, respectively, followed by Sitka (16 percent) and various other communities in Southeast Alaska. Actual passenger enplanements and deplanements at JNU are roughly 80 percent of total segments. In other words, roughly four out of five passengers enplane and deplane at JNU while the remaining 20 percent are moving through the city on a continuing flight.

Table 67. JNU Passenger Segments by Airport-City Pair, 2009

City	Passenger Segments		Total	
	Arriving	Departing	Number	Percentage (%)
Seattle, WA	102,514	103,735	206,249	31.1
Anchorage	87,580	94,642	182,222	27.5
Sitka	51,361	53,917	105,278	15.9
Ketchikan	22,782	23,168	45,950	6.9
Petersburg	25,410	18,795	44,205	6.7
Yakutat	15,054	10,403	25,457	3.8
Hoonah	6,398	6,002	12,400	1.9
Haines	5,821	6,235	12,056	1.8
Skagway	4,789	5,043	9,832	1.5
Gustavus	3,363	3,717	7,080	1.1
All others	6,589	6,071	12,535	1.9
Grand Total	331,661	331,728	663,264	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 33. Geographic Location of JNU's Top Partner Communities for Passenger Segments, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

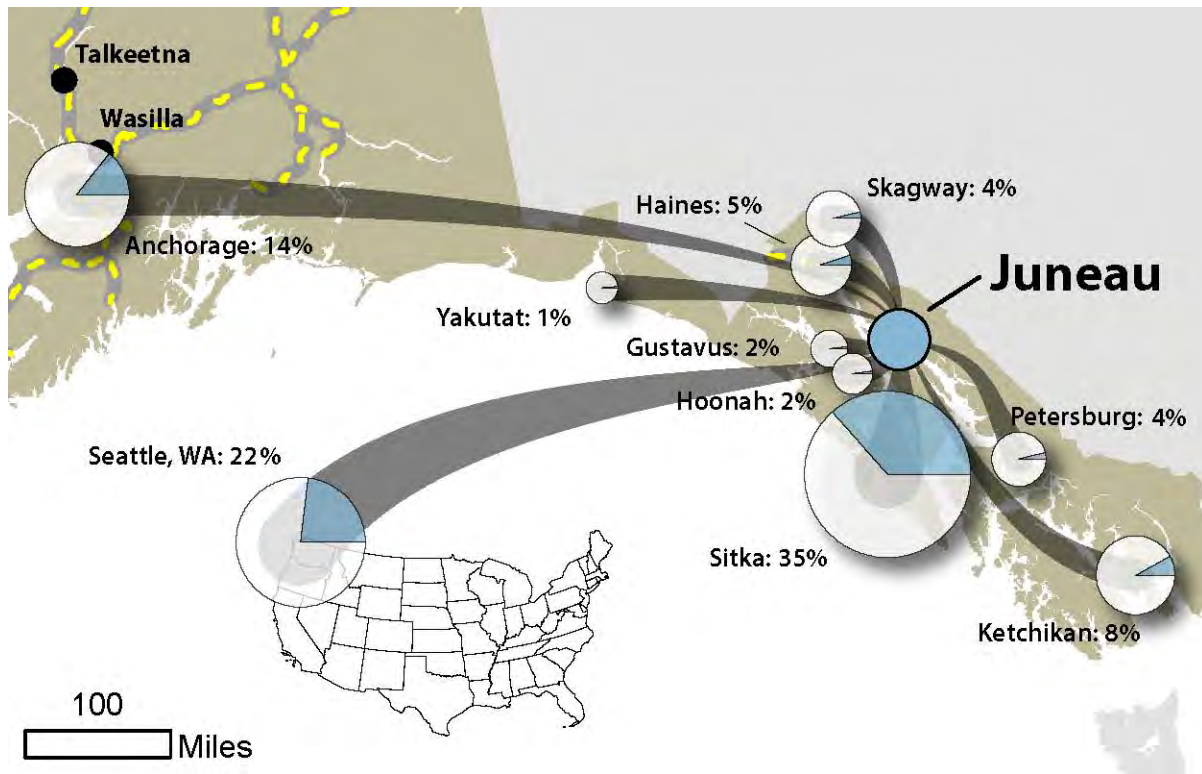
The delivery of priority mail to JNU follows a similar pattern, but with Sitka taking a more prominent role in the mail routing, especially for arriving mail. Table 68 and Figure 34 show the volumes and geographic distribution of air mail arriving from and departing to JNU's top ten city pairs in 2009. Almost 10 million pounds of total air mail were transported to and through JUN in 2009. A little over 80 percent of this mail physically enplaned or deplaned at JNU, while the remaining amount moved on to other communities on the Alaska Airlines route system without leaving the plane at the airport. For mail moving through JNU, 36 percent, 22 percent and 14 percent, respectively, involve the communities of Sitka, Seattle, and Anchorage. The volume of air mail received from Sitka and Ketchikan is about three times the amount sent out from JNU to those communities. Conversely, about 70 percent of the mail transported by air between Seattle and Juneau corresponds to mail sent to Seattle, part of it to be redistributed to the rest of the Continental U.S.

Table 68. JNU Mail Volumes by Airport City Pair (in Pounds), 2009

City	Mail		Total	
	Arriving	Departing	Number	Percentage (%)
Sitka	2,618,601	833,288	3,451,889	35.3
Seattle, WA	669,540	1,465,970	2,135,510	21.8
Anchorage	700,947	659,723	1,360,670	13.9
Ketchikan	662,727	103,452	766,179	7.8
Haines	101,602	365,332	466,934	4.8
Skagway	100,454	281,254	381,708	3.9
Petersburg	239,729	130,438	370,167	3.8
Hoonah	52,421	153,293	205,714	2.1
Gustavus	28,809	145,017	173,826	1.8
Yakutat	69,799	57,995	127,794	1.3
All others	78,299	273,526	351,825	3.6
Grand Total	5,322,928	4,469,288	9,792,216	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 34. Geographic Location of JNU’s Top Partner Communities for Mail, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

Unlike mail, which is most likely to arrive via Sitka, cargo is most likely to arrive from Anchorage while departing cargo is most likely to fly to Seattle. Seattle’s role as the largest “first order” recipient of cargo reflects JNU’s role in shipping out perishable seafood goods (see Table 69 and Figure 35). Out of a total 31 million pounds, Seattle and Anchorage accounted for more than half and Sitka accounted for more than 20 percent, followed by seven smaller communities in the Southeast located less than 100 miles from Juneau—Yakutat, Petersburg, Ketchikan, Haines, Hoonah, Skagway and Gustavus.

With the shift from a forest industry-based economy to a mining, specialty seafood, and visitor-based economy, efficient and reliable air freight is essential throughout the Southeast region. As Ron Plantz, Human Resource & Community Relations Manager at the Hecla Greens Creek Mining Company notes, “Without the airport, many emergency and time sensitive freight orders for critical replacement parts could not be facilitated” (Plantz 2011).

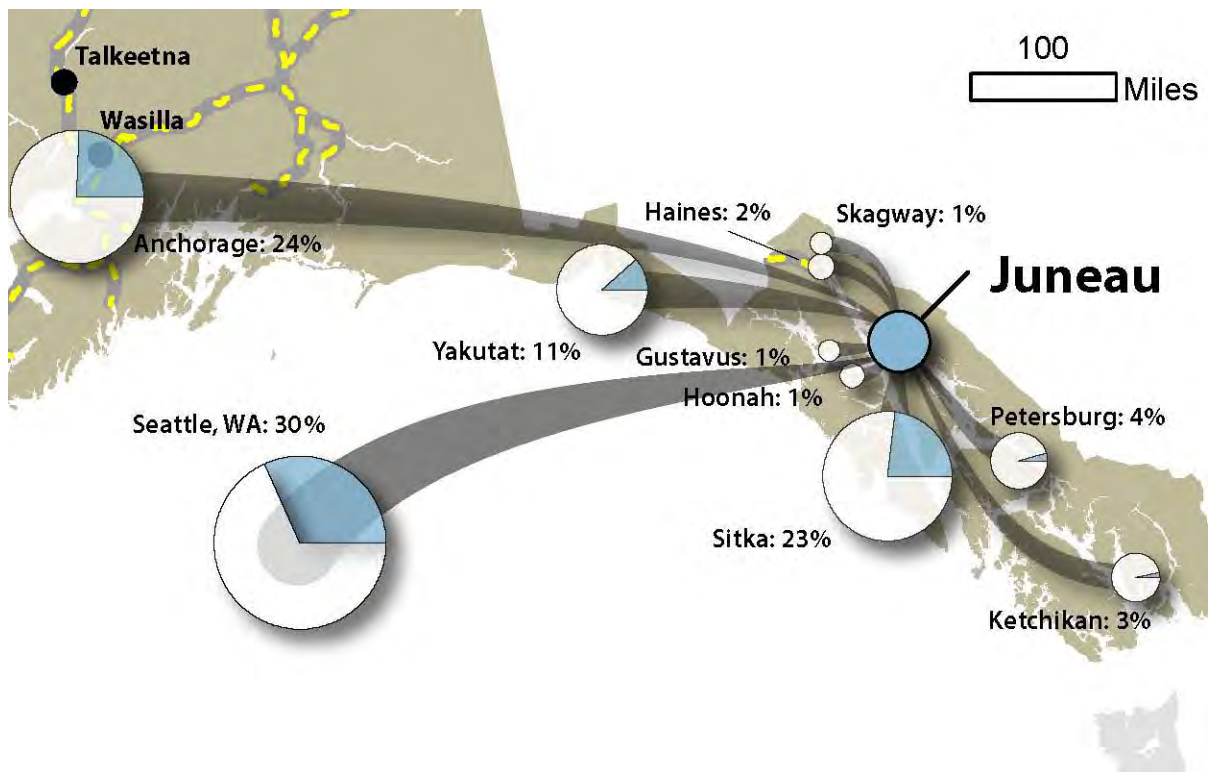
Alaska Airlines, Empire Airlines, Federal Express, and Wings of Alaska provided the majority of air cargo service during 2009. The majority of JNU’s air cargo is transported in one direction—it arrives from Anchorage and Sitka and it departs to Seattle.

Table 69. JNU Cargo Volumes by Airport City Pair (in Pounds), 2009

City	Cargo		Total	
	Arriving	Departing	Number	Percentage (%)
Seattle, WA	2,683,649	6,642,884	9,326,533	29.5
Anchorage	5,620,236	1,968,007	7,588,243	24.0
Sitka	4,902,523	2,261,780	7,164,303	22.7
Yakutat	2,006,667	1,550,749	3,557,416	11.3
Petersburg	348,975	1,024,019	1,372,994	4.3
Ketchikan	607,168	405,403	1,012,571	3.2
Haines	52,482	236,119	288,601	0.9
Hoonah	93,372	164,740	258,112	0.8
Skagway	31,528	184,652	216,180	0.7
Gustavus	18,726	175,872	194,598	0.6
All others	159,012	467,745	625,205	2.0
Grand Total	16,524,338	15,081,970	31,604,756	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 35. Geographic Location of JNU's Top Partner Communities for Cargo, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

10.4 Enplanement, Cargo, and Mail Expenditures for JNU

The study estimates that the total initial (first retail) expenditures related to enplanements, mail, and cargo associated with JNU were nearly \$139.7 million in 2009. Table 70 shows the volume and corresponding expenditures associated with transporting passengers, freight, and mail through JNU during 2009. The expenditure estimate includes only enplaned/deplaned passengers, mail, and cargo. Passenger enplanements contribute more than 85 percent of this total, which is consistent with the importance of the tourism and government sectors and their reliance on the airport's services. This amount does not include what passengers spent in Juneau or paid for baggage fees and associated services. This amount is a conservative estimate of the value of "first retail" equivalent expenditures (i.e., what people and organizations spent to move goods and people to and from JNU in 2009).

Table 70. Estimates of Enplanement, Cargo, and Mail Expenditures for JNU, 2009

Expenditures Category	Flow (Segment) Volume	Enplane/ Deplane Volumes	2009 Economic Activity (M\$)
Passenger Enplanements	663,264	529,370	118.6
Mail (Pounds)	9,792,216	8,776,465	7.3
Cargo (Pounds)	31,604,756	18,290,572	13.8
Total			139.7

Source: Northern Economics Inc. using BTS (2011a, 2011b) and OST (2010a, 2010b)

10.5 Direct and Indirect Economic Contributions of On-Airport Activity at JNU

The study estimates that on-site activity by leaseholders and airport operations at JNU generated a total of 1,490 direct, indirect, and induced in-state jobs. Locally, the airport generated approximately 1,240 related jobs including 980 direct jobs. If the aviation industry was an official "economic industry" then employment related to JNU would be larger than the following industries in the City and Borough of Juneau: Natural Resources and Mining (306 employed), Construction (813 employed), Manufacturing (227 employed), Information (291 employed), Finance (600 employed), and Professional and Business Services (756 employed).⁴¹ Jobs related to JNU are roughly the same size as the Leisure and Hospitality industry (1,146 employed) and the Educational and Health Services Industry (1,386 employed). The total in-state economic effect of the direct jobs and direct expenditures is approximately \$75 million in wages and \$150 million in economic output (see Table 75).

The following sub-sections describe the study's analysis of on-airport economic activities in greater detail.

⁴¹ The traditional economic industries as governed by the North American Industrial Classification System (2-digit level) are natural resources and mining; construction; trade, transportation, and utilities; information, financial activities; professional and business services; education and health services; leisure and hospitality; government; and other. In reality, employment related to JNU (or any airport) pulls from many of these industries. However, the study team finds the comparison useful as many readers can relate to the importance of these sectors in their communities.

10.5.1 Employment and Expenditures by Airport Leaseholders and Airport Management and Operations

The study surveyed the nearly 40 unique leaseholders identified by JNU management as holding on-airport leases about their airport operation in 2009. During this process, the study identified that roughly 10 percent of the identified leaseholders no longer existed as contactable entities; 40 percent of the contactable entities responded to the survey.

The analysis estimates that JNU leaseholders provided roughly 950 direct jobs to the community in 2009 (see Table 71). The bulk of these jobs, 560 of the 950 (59 percent), were full-time, non-contract jobs held by Alaskans. The second largest group, 230 of the 940 (24 percent), were part-time non-contract jobs held by Alaskans. Non-Alaskans held just under 10 percent of all jobs and contract employees held just under 7 percent of jobs. In total, the analysis estimates that all of these jobs together generated roughly \$44 million in wages and benefits to job holders in 2009.

Table 71. Jobs Provided by Leaseholders at JNU, 2009

Category	Full-Time		Part-Time		Total Jobs	2009 Wages and Benefits (\$Millions)
	Alaskans	Non-Alaskans	Alaskans	Non-Alaskans		
Leaseholder Employees	560	50	230	40	880	41.1
Contract Employees	50	0	20	0	70	2.7
Total	610	50	250	40	950	43.8

Source: Northern Economics, Inc., 2011.

Leaseholders also contribute to the local, state, and national economies through capital and operating expenditures.⁴² The study estimates that in 2009 leaseholders at JNU poured just over \$139 million into the local, state, and national economies directly. In the case of operations at JNU, the Alaska economy received an injection of roughly \$38 million. The predominant “outside Alaska” portion is being driven by Alaska Airlines allocation of their corporate operating expenditures, which largely take place in the State of Washington, to their JNU-related operations (see Table 72).

Table 72. Geographic Distribution of Leaseholder Capital & Operating Expenditures at JNU, 2009

Category	In-Borough Census Area	Other Alaska	Total Alaska	Outside Alaska	Total
	(\$Millions)				
Capital Expenditures	12.9	0.2	13.1	0.5	13.6
Operating Expenditures	6.3	18.8	25.1	100.5	125.6
Total	19.2	19.0	38.2	101.0	139.3

Source: Northern Economics, Inc. using IMPLAN

Management and operations of the airport by the City and Borough of Juneau is an additional contributor to the local, regional, and state economies. In 2009, airport operations provided 31 jobs generating \$1.6 million in wages and benefits, \$12.5 million in capital expenditures, and \$3.5 million in other operating expenditures (see Table 73).

⁴² Capital expenditures represent long-term investments in equipment and infrastructure. In this case, operating expenditures are all other non-wage and benefit expenditures required for day-to-day operations.

Table 73. Airport Operations and Management Jobs and Expenditures at JNU, 2009

Category	Number of Jobs	Wages/Benefits ⁴³	Capital Expenditures	Other Operating Expenditures
		(\$Millions)		
Operations/Management	31	1.6	12.5	3.5

Source: Northern Economics, Inc. 2011.

The analysis estimates that, taken together, leaseholders and airport operations resulted in 981 direct jobs, \$45.4 million in wages and benefits, and total non-wage and benefit expenditures of \$155.2 million in 2009 (see Table 74). These estimates indicate that JNU has grown substantially since 2000, when a report by the McDowell Group estimated direct employment by leaseholders at 523 jobs with a direct payroll (not including benefits) of \$17 million. While this increase is quite large on a percent basis (nearly 90 percent), the study data indicate that this increase comes primarily from more airline-related jobs. While the underlying analysis estimates a total of 625 airline-related jobs; nearly 580 of these jobs are direct reports from survey respondents. In other words, in the case of this particular sector, the non-direct report (estimated) portion of the analysis is less than 10 percent of the total estimated jobs for this sector. In short, JNU airline leaseholders had a far greater than average response rate for JNU as a whole, and their data tell us that they've grown substantially since 2000. In fact, the number of airline jobs directly reported to the study by airline leaseholders is greater than the 2000 estimates of all jobs at the airport. The study team believes that much of this growth comes from tourism-related flight seeing and increased flights to outlying communities.

To put these numbers in context, the study can compare the direct on-airport employment to data collected by the State of Alaska. According to the ADOLWD's ALARI database, there were 15,334 resident workers in the City and Borough of Juneau in 2009. Our analysis shows that 891 of the 981 jobs at the airport were held by Alaskan residents. If each direct airport job were held by a unique Alaskan resident worker, then JNU could provide direct employment to almost six percent of the resident workers in the City and Borough of Juneau. Conceptually, almost 1 in every 15 workers in the community could depend directly on the airport.

Table 74. JNU Leaseholder and Airport Operations Jobs Expenditures Summary, 2009

Category	Number of Jobs	Wages/Benefits	Capital Expenditures	Other Operating Expenditures	Total Expenditures
		(\$Millions)			
Leaseholders	950	43.8	13.6	125.6	183.1
Operations	31	1.6	12.5	3.5	17.6
Total	981	45.4	26.1	129.1	200.7

Source: Northern Economics, Inc. 2011.

10.5.2 Estimates of Total On-Airport Related Employment and Expenditures

The direct employment and expenditures described above are fuel for the local, state, and national economies. The wages and expenditures cycle through the economy as workers spend their wages

⁴³ The wage/benefits component is estimated by multiplying 27 full time positions and 8 part-time positions (4 FTEs) against an average "government" sector job of \$60,390 per ADOLWD estimates.

and businesses and government entities buy goods and services from off-airport businesses. The study estimates that the total number of in-state jobs attributable to JNU is 1,490, including direct, indirect, and induced jobs. Further, labor income was approximately \$75 million in 2009 contributing to total economic output of roughly \$150 million. The study estimates that 1,240 direct and indirect local (i.e., in-borough) jobs are attributable to JNU. ADOLWD’s Quarterly Census of Wage and Employment indicate that in 2009 the average monthly employment in the City and Borough of Juneau equaled just over 17,500 and peak employment was over 18,200 jobs (ADOLWD 2011). Thus, at the summer employment peak, the jobs tied to the airport were enough to provide nearly seven percent of the borough’s peak monthly wage and salary employment.

Table 75. JNU’s Direct, Indirect, and Induced In-State Economic Effects, 2009

Category	Number of Jobs		Labor Income		Output	
	In-Borough/ Census Area	Other Alaska	(\$Millions)			
			In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska
Airport Operations	100	70	6	4	18	14
Leaseholders	1,140	180	54	11	78	40
Sub-Totals	1,240	250	60	15	96	54
Total In-State Effect	1,490		75		150	

Source: Northern Economics, Inc. and IMPLAN, 2011.

Note: Jobs are not FTE equivalents.

11 The Kodiak Airport

Kodiak's airport (ADQ) serves a dual-role as the primary transportation hub for the people of the Kodiak Island Borough and an important gateway for fresh seafood products moving from Bristol Bay and the Kodiak area to markets in the Lower 48. Quantitatively, this study finds that on-site activity by leaseholders and airport operations at ADQ generated a total of 210 in-state jobs including roughly 139 direct jobs on-site. At the same time, total direct expenditures by leaseholders and airport operations, including expenditures flowing out of state, were approximately \$20 million in 2009 and the total in-state economic effect of the direct jobs and direct expenditures is \$17 million in economic output including \$9 million in labor income.

The rest of this chapter provides more details about the role ADQ plays in the Kodiak Island Borough and Alaska's economy.

11.1 Kodiak Community Description

The City of Kodiak is a community of 6,600 located on the east side of Kodiak Island in the Gulf of Alaska. The city is the largest in the Kodiak Borough; its population makes up almost half of the total population (ALARI 2011). Kodiak is about 250 air miles southwest of Anchorage and, though it does have an internal road network which connects communities on the east side of the island, it is only accessible from the mainland via air and sea (ADCCED 2011). Despite the absence of a highway connection, it has developed into a major commercial and transportation hub for Southwest Alaska.

ADQ is located just south of the City of Kodiak, adjacent to Air Station Kodiak, a military community of about 1,300 residents. Having been an army and a naval base, the property is now used as a USCG station and is one of the largest in the nation. It is part of the Seventeenth Coast Guard District (D17), one of four in the Pacific Area (USCG 2011a). Air Station Kodiak residents are housed both on-base and off-base in the surrounding area and consist of military personnel, civilian support personnel, and their families (ADCCED 2011).

Kodiak's role as a regional hub is explained, at least in part, by its advantageous location and access to rich marine resources. Kodiak Island is the second largest island in the United States, and is part of an archipelago that parallels the Alaska Peninsula (KICVB 2011). The island was inhabited by native peoples for thousands of years before it was colonized by Russians lured by otter pelts in the late 1700s. Kodiak became the first permanent Russian settlement in Alaska, which also made it 'the capital of Russian America' for a period of time.

Today Kodiak's economy remains heavily dependent upon fish harvesting and processing. In 2009, more residents were employed as 'meat, poultry, and fish cutters and trimmers' than any other profession, and five of the city's top six employers were seafood companies (International Seafoods of Alaska Inc., Trident Seafoods Corporation, Ocean Beauty Seafoods LLC, North Pacific Seafoods Inc., and Westward Seafoods Inc.), (ALARI 2011). In 2009, Kodiak ranked third in the nation for fishery landings, bringing in an estimated catch value of \$103.8 million (NMFS 2010). In addition to seafood harvesting and processing, Kodiak has active transportation, tourism, and aerospace industries that also contribute to the local economy (HDR 2004). For example, in 2009, the Alaska Aerospace Corporation provided long-term employment to 31 Kodiak-based employees, paid about \$1.8 million in wages, and attracted 499 mission-related and 650 non-mission related visits to Kodiak (Northern Economics 2010).

11.2 Airport Description

ADQ was originally constructed by the U.S. military in 1940 as part of Air Station Kodiak (HDR 2004). The airport is now a publicly operated facility owned by the USCG and leased to the State of Alaska; it is located 4 miles southwest of central Kodiak, and is equipped with three grooved asphalt runways, all 150 feet wide, and 7,542 feet, 5,399 feet, and 5,013 feet in length. The Airport is the base for single and multi-engine general aircraft, helicopters, and operational military aircraft (FAA 2010a).

Currently, ADQ is working to improve the Runway Safety Areas (RSAs) on two of its runways, and is in the process of publishing an Environmental Impact Statement (EIS) on the project. An RSA is "...an area free of objects on the sides and ends of runways that acts as a buffer if an aircraft deviates from the runway due to an accident or emergency," (Grey 2008). In the case of ADQ, the RSA would provide a buffer between an aircraft and the ocean. At this time, multiple alternatives are still being considered, and the EIS is scheduled for release in early 2011.

As mentioned previously, ADQ is adjacent to the USCG Air Station. Air Station Kodiak has three hangars and houses four HC-130H fixed wing aircraft, four MH-60J helicopters, and four HH-65C helicopters (Wilkerson 2011). The USCG maintains and stores their aircraft on base property, but uses ADQ runways to launch them (see Figure 36). Air Station Kodiak is the largest USCG command in the Pacific Area and its operations cover four million square miles of area, including the Gulf of Alaska, Bristol Bay, the Bering Sea, and the Pacific Ocean above 40N latitude. The station provides a number of services to its region, including the provision of aircraft and crews for search and rescue operations, the enforcement of laws and treaties, logistical support of other D17 units, marine environmental protection, aids to navigation, and more (USCG 2011).

Figure 36. A Coast Guard C-130 Takes Off from Kodiak Airport



Source: James Amundsen, ADOT&PF.

11.3 Role in the Community

Given its close relationship with the USCG station, ADQ is instrumental not only to the provision of emergency response capabilities locally, but also to the rest of Alaska. Vessels and crew throughout the state depend on the USCG's ability to respond in times of distress. As USCG Public Affairs Officer Lieutenant Scott Wilkerson explains, "The Kodiak Airport is absolutely essential for our operations at the air station. It is key for providing coverage to our area of responsibility," (Wilkerson 2011).

ADQ also plays a critical role in supporting the surrounding communities on Kodiak Island. Communities like Larsen Bay, Ouzinkie, and Port Lions are not on the Kodiak road system and are accessible via air and water only. They depend heavily on regular flights to and from ADQ for goods and services that are not offered in their small communities (each has less than 100 residents). Grocery shopping, doctor's appointments, and business matters frequently pull local travelers through ADQ (Stanford 2011; Livingston 2011). As Bob Stanford, owner of Island Air notes, "We don't have roads; we don't have the same options," (Stanford 2011).

In addition to providing access to resources on the island, ADQ provides access to locations in the rest of Alaska and outside of the state. Major Alaskan carriers like Era Aviation and Alaska Airlines have regular service between Anchorage and Kodiak, but do not fly into all of the smaller towns on other parts of the island. ADQ is the interface between inter-island and off-island carriers, and is the gateway for passengers, priority mail, and cargo coming from and going to most Kodiak Island destinations by Island Air Service and Servant Air.

In 2009 ADQ experienced over 160,000 passenger segments involving over 158,000 enplaning and deplaning passengers (see Table 76). Anchorage accounted for 80 percent of the community's incoming and outgoing commercial passenger segments. The Ted Stevens Anchorage International Airport is the major aviation hub for Alaska, functioning as a distribution point for both in-state and out-of-state flights. Many of the passengers coming from Kodiak to Anchorage may actually have other origin or final destination points. These data are consistent with the fact that in 2009 more than 4,700 (or 17 percent of) passengers enplanements at Kodiak Airport were associated with other communities located on Kodiak Island—Old Harbor, Ouzinkie, Larsen Bay, Port Lions, Akhiok, and Karluk. Though the volumes of passengers traveling to and from the non-Anchorage communities shown in Table 76 look small when compared to Anchorage, they are significant when compared to the local population. For example, in 2009, the total passenger volumes for Old Harbor were 34 times the total number of residents in Old Harbor (population of 193). The high ratio of enplanements to segments shows that passengers flying through Kodiak to smaller communities must change planes/carriers before continuing onward. Very few passengers remain on their arriving/departing plane as they pass through ADQ.

The communities of Kenai, Homer, and King Salmon, accounted for more than 2,300 (or 1.4 percent) passenger enplanements.

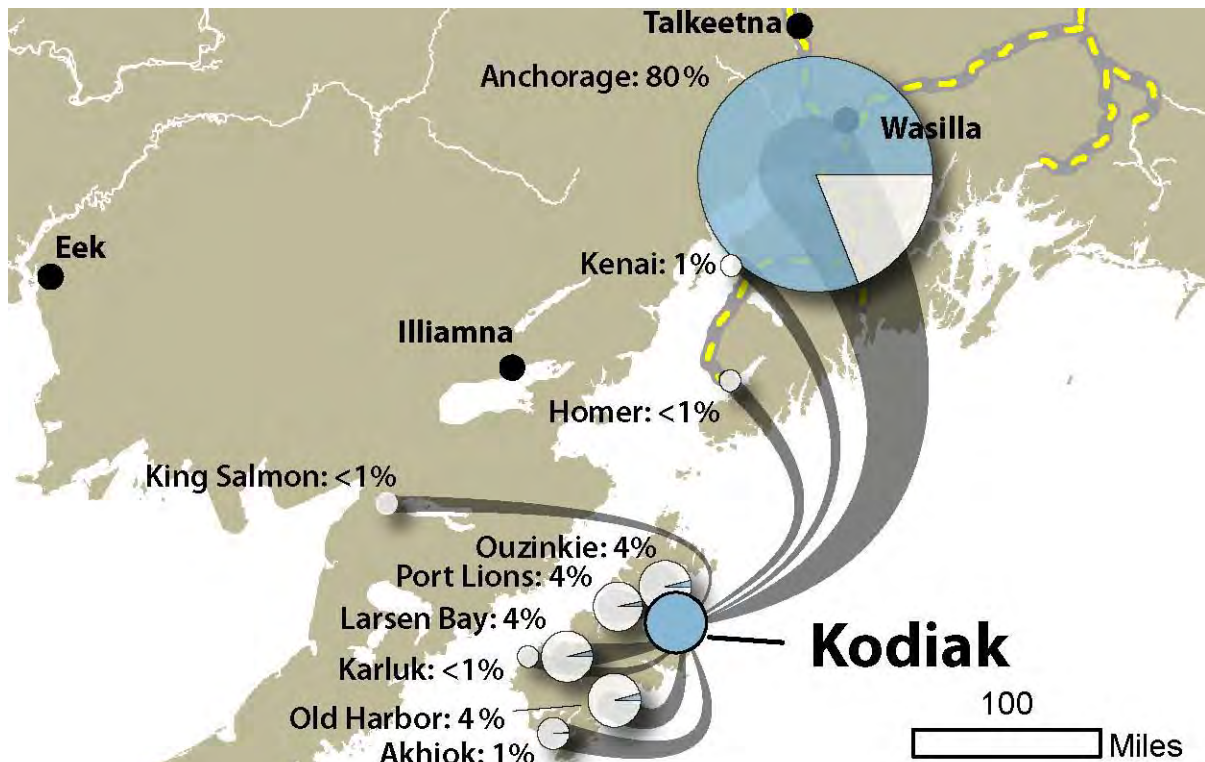
Table 76. ADQ Passenger Segments by Airport-City Pair, 2009

City	Passenger Segments		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	64,143	64,162	128,305	80.1
Old Harbor	3,202	3,436	6,638	4.1
Ouzinkie	2,920	3,455	6,375	4.0
Larsen Bay	2,996	3,128	6,124	3.8
Port Lions	3,056	2,591	5,647	3.5
Akhiok	1,198	1,180	2,378	1.5
Kenai	676	590	1,266	0.8
Karluk	332	401	733	0.5
Homer	392	302	694	0.4
King Salmon	206	142	348	0.2
All Others	707	950	1,635	1.0
Grand Total	79,828	80,337	160,143	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 37 shows the geographic distribution of the top ten partner communities for passenger movements involving ADQ.

Figure 37. Geographic Location of ADQ's Top Partner Communities for Passenger Segments, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

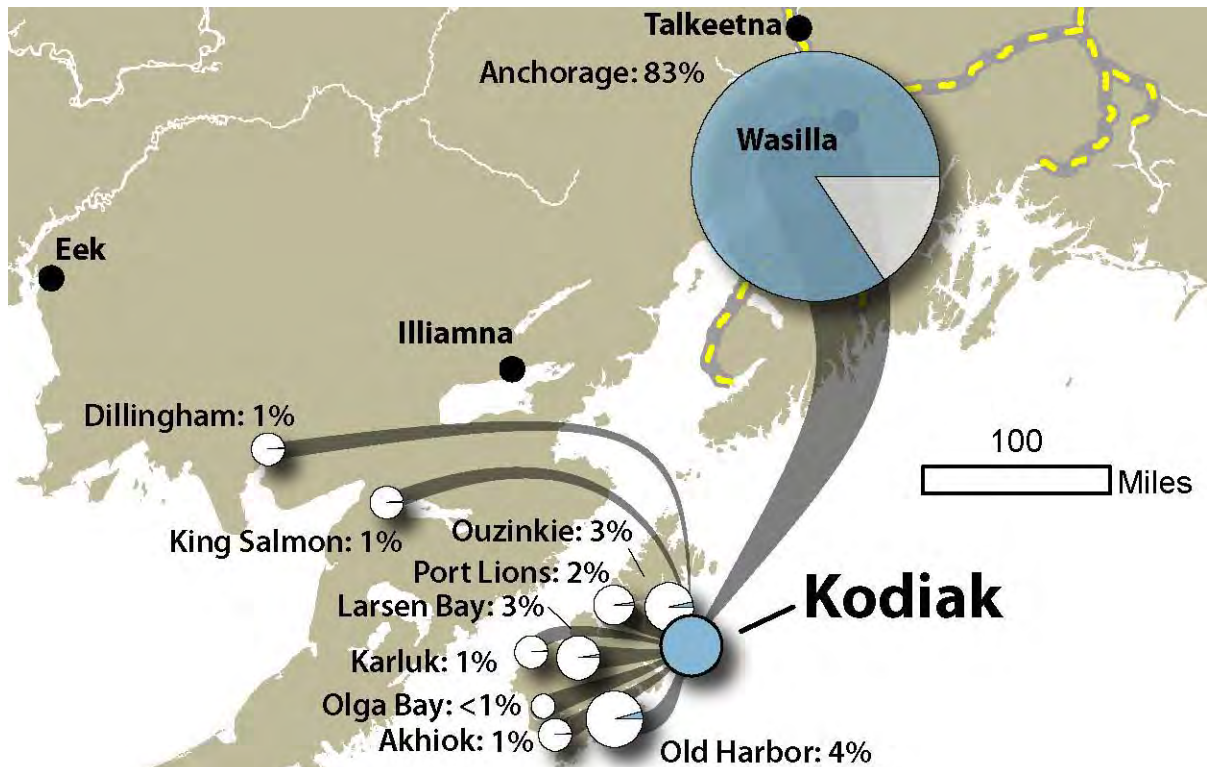
More than 2.6 million pounds of air mail were transported through ADQ in 2009, with approximately 83 percent of this total either coming from or going to Anchorage (see Table 77 and Figure 38). In addition, 91 percent of the mail enplaned/deplaned at ADQ itself. While incoming and outgoing passenger volumes are split rather evenly, mail volumes transported through ADQ were much more likely to be incoming (63 percent) than outgoing (37 percent). The only mail transported by air to ADQ is priority rate mail, almost all of which comes from Anchorage. All non-priority mail is transported by barge (McDonald 2011).

The relative importance of ADQ's city pairs in air mail transport follows a similar pattern as that of passenger enplanements. Out of the remaining 17 percent of air mail volume not associated with Anchorage, 14 percent corresponds to six other communities located on Kodiak Island. For all these communities, more than 85 percent of their air mail traffic is coming in from ADQ.

Table 77. ADQ Mail Volumes by Airport City Pair (in Pounds), 2009

City	Mail		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	1,606,006	567,827	2,173,833	83.0
Old Harbor	9,567	102,339	111,906	4.3
Ouzinkie	10,578	71,793	82,371	3.1
Larsen Bay	7,966	59,866	67,832	2.6
Port Lions	7,659	48,681	56,340	2.1
King Salmon	8,552	12,364	20,916	0.8
Akhiok	618	19,217	19,835	0.8
Karluk	1,326	17,455	18,781	0.7
Dillingham	4,979	10,937	15,916	0.6
Olga Bay	7	10,049	10,056	0.4
All Others	6,123	36,686	42,809	1.6
Grand Total	1,663,381	957,214	2,620,595	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 38. Geographic Location of ADQ's Top Partner Communities for Mail, 2009

Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

Unlike almost all of the other communities in this study, ADQ handles more departing cargo than arriving cargo by a nearly 2.5-to-1 margin. In 2009, the airport shipped over 8 million pounds of cargo and received just 3.36 million pounds; 96 percent of this volume enplaned/deplaned at the airport. There are two primary reasons for this key difference:

- The community of Kodiak is a major seafood processing hub. Fresh seafood processed in Kodiak is shipped to local and Lower 48 markets via Anchorage. According to key informant interviews, more than 95 percent of Kodiak fresh seafood production flows through ADQ and as noted by Darren Rodger, Sales Director at Western Alaska Fisheries, "Airfreight is a necessity since fresh fish products have a limited shelf life and they can spoil quickly. The airport in Kodiak is served by large jets and is utilized to transport 95 percent of the fresh fish into domestic and international markets. Without the airport we would have to cut our market immensely. We could send some volume by ferry but it would be very difficult." There is no direct flight from Kodiak to these markets and all the cargo must go through Anchorage (see Figure 39). Cargo traveling from ADQ to Anchorage was nearly 58 percent of the total cargo handled by the airport in 2009 and over 80 percent of departing cargo volume.
- The community of Kodiak and ADQ also serve a role as a regional transportation hub for surrounding communities located on the island and along the eastern shore of the Alaska Peninsula. Cargo coming from Anchorage routes through ADQ on its way to smaller communities.

Routing and seafood also play an important role in the arriving cargo volumes. Communities that ship more to ADQ than they receive from ADQ are shipping fresh fish via airplanes that arrive, pick up

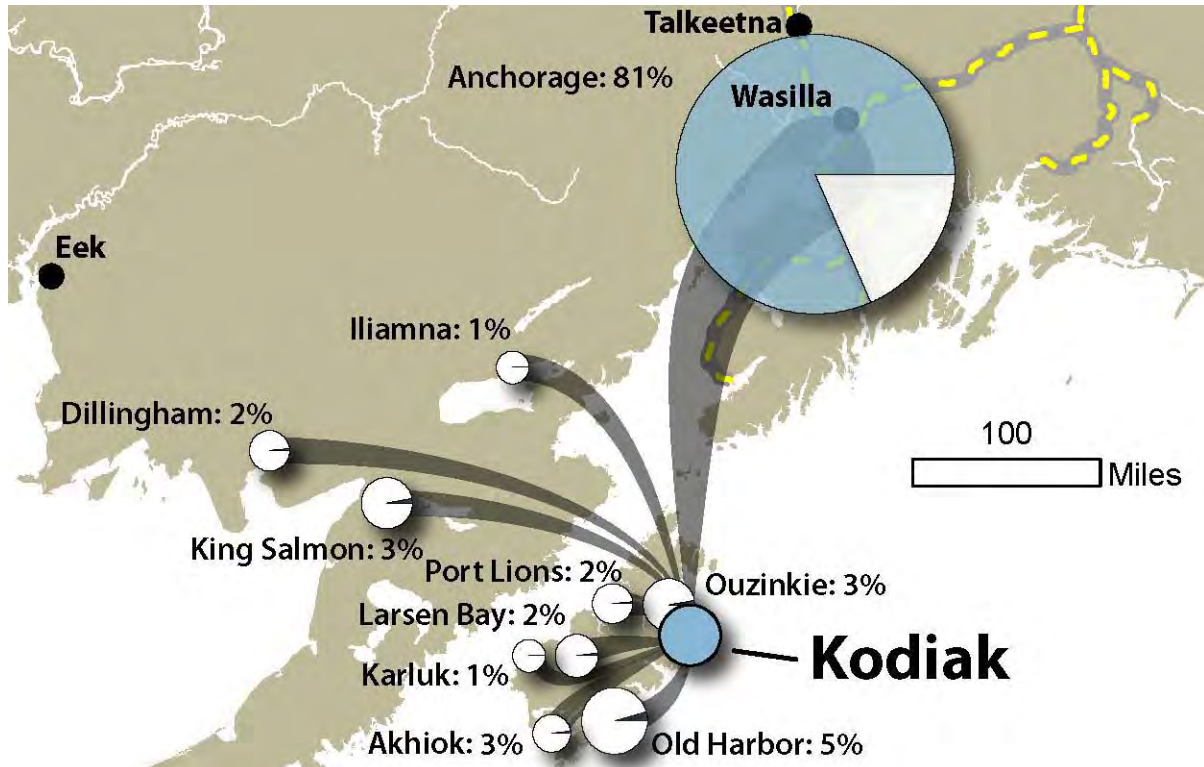
more fresh fish, and then move on to Anchorage. These “fish buses” are critical for processors in communities such as Dillingham, King Salmon, and Kodiak to get fish to market.

Table 78. ADQ Cargo Volumes by Airport City Pair (in Pounds), 2009

City	Cargo		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	2,594,440	6,668,391	9,262,831	80.8
Old Harbor	61,581	461,772	523,353	4.6
Ouzinkie	24,470	292,789	317,259	2.8
King Salmon	278,627	32,058	310,685	2.7
Larsen Bay	25,394	191,236	216,630	1.9
Dillingham	183,347	9,067	192,414	1.7
Port Lions	18,650	171,976	190,626	1.7
Akhiok	23,737	145,542	169,279	1.5
Iliamna	117,824	8,504	126,328	1.1
Karluk	2,069	52,080	54,149	0.5
All Others	29,461	74,156	103,617	0.9
Grand Total	3,359,600	8,107,571	11,467,171	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 39. Geographic Location of ADQ’s Top Partner Communities for Cargo, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

11.4 Enplanement, Cargo, and Mail Expenditures for ADQ

The study estimates \$32.7 million as the total initial (first retail) expenditures related to enplanements, mail, and cargo associated with ADQ in 2009 (see Table 79). This amount is a conservative estimate of the amount that people and organizations spent to move goods and people to and from the airport. Passenger enplanements contribute about \$26.3 million (80 percent), not including what passengers spent at Kodiak or paid for baggage fees and associated services. Mail and cargo transported through the airport contribute \$0.6 million (2 percent) and \$5.8 million (18 percent), respectively. Mail is a relatively smaller portion of the overall estimate for ADQ than it is for many of the other rural communities in this study because Kodiak’s non-priority mail is shipped to the island by water. This arrangement leaves only priority-rate items to travel by air (McDonald 2011).

Table 79. Estimates of Enplanement, Cargo, and Mail Expenditures for ADQ, 2009

Expenditures Category	Flow (Segment) Volume	Enplane/ Deplane Volumes	2009 Economic Activity (M\$)
Passenger Enplanements	160,143	158,012	26.3
Mail (Pounds)	2,620,595	2,375,409	0.6
Cargo (Pounds)	11,467,171	11,037,614	5.8
Total			32.7

Source: Northern Economics, Inc. using BTS (2011a, 2011b) and OST (2010a, 2010b)

11.5 Direct and Indirect Economic Contributions of On-Airport Activity

The study’s leaseholder survey, operations survey, and I-O analysis estimate that on-site activity at ADQ by leaseholders and airport operations generated a total of 210 in-state jobs, including roughly 139 direct jobs on-site (see Table 82 and Table 83). In addition, this activity generated total direct expenditures by leaseholders and airport operations, including expenditures flowing out of state, of approximately \$20 million in 2009 (see Table 83). The total in-state economic effect of the direct jobs and direct expenditures is \$17 million in economic output including \$9 million in wages (Table 83).

The following sub-sections describe the study’s analysis of on-airport economic activities in greater detail.

11.5.1 Employment and Expenditures by Airport Leaseholders and Airport Management and Operations

As noted above, the study surveyed the 22 unique leaseholders identified by ADOT&PF’s Division of Statewide Aviation as holding on-airport leases regarding their airport operations in 2009. Exactly half of the identified leaseholders completed the survey. The analysis estimates that in 2009, ADQ leaseholders provided roughly 130 direct jobs to the community (see Table 80). The study found that 60 of the 130 (46 percent), were full-time, non-contract jobs held by Alaskans. The second largest group, 30 of the 130 (23 percent), are part-time, non-contract jobs held by Alaskans. Non-Alaskans held less than 10 percent of all jobs. Contract employees, all of whom respondents reported as Alaskans, held nearly one-quarter (23 percent) of all jobs. This percentage is higher than at other airports in the study. In total, the analysis estimates that all of these jobs together generated roughly \$5 million in wages and benefits to job holders in 2009.

Table 80. Jobs Provided by Leaseholders at ADQ, 2009

Category	Full-Time		Part-Time		Total	2009 Wages and Benefits (\$Millions)
	Alaskans	Non-Alaskans	Alaskans	Non-Alaskans		
Leaseholder Employees	60	10	30	0	100	3.2
Contract Employees	20	0	10	0	30	2.2
Total	80	10	40	0	130⁴⁴	5.4

Source: Northern Economics, Inc. 2011

As with all leaseholders, ADQ leaseholders also contribute to the local, state, and national economies through capital and operating expenditures.⁴⁵ The study estimates that in 2009, leaseholders at ADQ directed \$11.5 million into the local, state, and national economies directly; approximately \$3 million of this amount went into Alaska’s economy (see Table 81). As with many airports that host Alaska Airlines, the “outside Alaska” portion is being driven by the airline’s allocation of its corporate operating expenditures, which largely take place in the State of Washington, to their ADQ-related operations. Thus, as with many of the other study airports, ADQ is important to more than just Kodiak, the surrounding communities, and the state of Alaska; it is an important contributor to workers and communities in Washington State and the Lower 48 as well.

Table 81. Geographic Distribution of Leaseholder Capital & Operating Expenditures at ADQ, 2009

Category	In-Borough/ Census Area	Other Alaska	Total Alaska	Outside Alaska	Total
	(\$Millions)				
Capital Expenditures	0.9	0.3	1.2	1.6	2.8
Operating Expenditures	0.4	1.3	1.7	7.0	8.7
Total	1.3	1.6	3.0	8.6	11.5

Source: Northern Economics, Inc. 2011

ADQ is an ADOT&PF airport, and management and operations of the airport by ADOT&PF is an additional contributor to the local, regional, and state economies. In 2009, airport operations provided nine jobs generating approximately \$600,000 in wages and benefits, \$1.5 million in capital expenditures, and \$700,000 in other operating expenditures (see Table 82).

⁴⁴ This study rounds its estimates of leaseholder jobs to the nearest ten jobs in order to avoid indicating a higher level of accuracy than is appropriate. Normally, this rounding tends to balance out between numbers that are rounded up and those that are rounded down. However, in the case of ADQ, all of the numbers round down. Thus, the study team feels it should mention that without rounding the estimate of leaseholders jobs at ADQ would be near 140; roughly an eight percent difference from the current estimate.

⁴⁵ Capital expenditures represent long-term investments in equipment and infrastructure. In this case, operating expenditures are all other non-wage and benefit expenditures required for day-to-day operations.

Table 82. Airport Operations and Management Jobs and Expenditures at ADQ, 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures
		(\$Millions)		
Operations/Management	9	0.6	1.5	0.7

Source: Northern Economics, Inc. 2011.

Altogether, the analysis estimates that ADQ leaseholders and airport operations resulted in 139 direct jobs, \$6 million in wages and benefits, and total non-wage and benefit expenditures of nearly \$14 million in 2009 (see Table 83). According to the ADOLWD’s ALARI database there were 3,195 workers in the City of Kodiak in 2009. Our analysis shows that 120 of the 139 jobs at ADQ were held by Alaskan residents. If each direct airport job were held by a unique Alaskan resident worker, then ADQ could provide direct employment to just under four percent of the workers in the City of Kodiak. This percentage is lower than some other airports serving similar sized communities (such as Bethel). BET serves as a hub for a much larger number of rural communities than does ADQ, a difference which results in a comparatively larger airport with more economic activity. While this distinction is important to understand, it does not diminish ADQ’s importance to the communities, businesses, and people who depend on it.

Table 83. ADQ Leaseholder and Airport Operations Jobs Expenditures Summary, 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures	Total Expenditures
		(\$Millions)			
Leaseholders	130	5.4	2.8	8.7	16.9
Operations	9	0.6	1.5	0.7	2.8
Total	139	6.0	4.3	9.4	19.7

Source: Northern Economics, Inc. 2011

11.5.2 Estimates of Total On-Airport Related Employment and Expenditures

Leaseholder activities and airport operations at ADQ provide fuel for the local, state, and national economies. As with all of the airports in this study, the wages and expenditures cycle through the economy. The study estimates that the total number of in-state jobs attributable to ADQ is 210 including direct, indirect, and induced jobs. Further, in-state labor income in 2009 was approximately \$9 million, contributing to a total in-state economic output of \$17 million. The study estimates that 180 direct and indirect local (i.e., in census area) jobs are attributable to the airport. This number means that roughly 4 percent of those working in the Kodiak Island Borough could find their job directly or indirectly dependent on ADQ (ADOLWD 2011).

Table 84. ADQ's Direct, Indirect, and Induced In-State Economic Effects, 2009

Category	Number of Jobs		Labor Income		Output	
	In-Borough/ Census Area	Other Alaska	(\$Millions)			
			In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska
Airport Operations	20	10	1	1	3	2
Leaseholders	160	20	6	1	8	3
Subtotals	180	30	7	2	11	6
Total In-State Effect	210		9		17	

Source: Northern Economics, Inc. and IMPLAN, 2011.

12 Kotzebue-Ralph Wien Memorial Airport

The Ralph Wien Memorial Airport (OTZ) serves as a primary transportation hub for the Northwest Arctic Borough (NWAB), providing food, health and social care, and school supplies to 28 communities relying on air delivery of these goods and services. Additionally, the economic activity generated at the airport creates significant employment in the region and around the state. This study finds that in 2009, leaseholder and airport activities at OTZ created roughly 290 direct, indirect, and induced jobs. In-borough employment amounted to roughly 210 jobs. ADOLWD data indicate that in 2009, the average monthly employment in the NWAB equaled 2,892. Thus, OTZ generated just over seven percent of average monthly employment in the borough in 2009. These on-airport activities generated \$12 million in labor income, contributing to a total in-state economic output of \$24 million.

12.1 Community Description

Kotzebue, located 549 air miles northwest of Anchorage and 26 miles north of the Arctic Circle on the Baldwin Peninsula, is the transportation, economic and political hub for the NWAB. The city is located near the discharges of the Kobuk, Noatak, and Selawik Rivers.

Goods are flown or shipped by barge to Kotzebue and are typically re-flown to final destinations in the region, although they may also be transported by boat during the short season in which the sound and rivers are ice-free. The season lasts only about 100 days, from early July to early October. Waterborne transportation is further complicated by the fact that Kotzebue's harbor is shallow due to river sediments deposited by the Noatak River four miles above the city. There is also no road access connecting Kotzebue with the other villages in the borough. These factors combine to make air transport to and from Kotzebue vital to the region (ADCCED 2011).

The City of Kotzebue, incorporated in 1958, has a population of 3,154 residents—by far the largest of the twelve communities in the NWAB. Kotzebue is Alaska's largest Eskimo community with 70.8 percent of its residents being Alaska Native, predominantly Inupiat. Residents rely heavily on subsistence hunting and fishing activities to supplement income. In 2009, 115 residents held commercial fishing permits. The average per capita income during 2005 – 2009 in Kotzebue was \$22,535, substantially higher than other villages in the borough (ACS 2011; ALARI 2011).

Kotzebue is the headquarters for both the NWAB and the NANA Regional Corporation. The largest sectors for employment by resident workers in Kotzebue include education and health services (27 percent), local government (24 percent) and trade, transportation and utilities (19 percent). The largest employers include the Manilaq Association (health and social services), the borough school district, Alaska Commercial Company (retail trade), and the City of Kotzebue. Located on NANA land, the Red Dog Mine is the world's largest producer of zinc. Teck Alaska Incorporated, the operator of the Red Dog Mine, is the third largest employer in the region. However, a substantial portion of their workforce resides outside of the borough (44 percent) and the state (24 percent). Transport related to the mine is conducted largely through a private port and airport located near the site (ALARI 2011).

12.2 Airport Description

The City of Kotzebue and the state-owned OTZ lie on a narrow, three-mile-long spit extending into the Kotzebue Sound, underlain by permafrost and wetlands. OTZ supports daily jet service to Anchorage and Nome as well as air taxis to the region's villages. It has a 5,900 feet long by 150 feet wide main asphalt runway and a 3,876 feet long by 90 feet wide gravel runway (FAA 2010a). The

airport runway is built on permafrost with a six-inch insulating layer between the frozen ground and the airfield surface (Fodor's 2009).

Figure 40. Winter Operations at OTZ



Source: Northern Economics, 2011.

There are 40 single-engine and 12 multi-engine airplanes based at the airport. The operations taking place at the airport for the 12-month period ending April 2009⁴⁶ included 50 percent transient general operations, 33 percent air taxi, 12 percent local general operations, 3 percent commercial, and 2 percent military (FAA 2010a).⁴⁷

12.3 Role in the Community

The Northwest Alaska Transportation Plan identifies the NWAB as a subregion and Kotzebue as the subregion's hub (ADOT&PF 2004). The lack of road access and the challenges for waterborne

⁴⁶ We use this period as the FAA-ATADS database lacks data for the period of January 2009 – January 2010.

⁴⁷ "Transient general operations" are civil aircraft, excluding air carriers, operating on other than local flights; "air taxis" are operators carrying passengers, mail or cargo for revenue; "local" are those operating in the local traffic pattern or within a 20-mile radius of the airport; "commercial" are scheduled operations by cab-certificated carriers or intrastate carriers.

transportation imply that other villages' residents rely heavily on OTZ for access to goods and services not available in their local communities.

Most cargo and fuel arrives in the area via barge service; however, there are several communities that fly in cargo and fuel. Some communities have been forced at times to rely entirely on air transportation for all their cargo. During four out of the last eight years, the Kobuk River was too shallow due to insufficient rain and snow melt, and the barge was not able to get to Ambler, Shungnak, and Kobuk (three villages located upriver). In addition, the Noatak River changed course and there are no longer barge services to Noatak, which is now primarily accessed by air (Saito 2011).

About 90 percent of the food served in schools across the borough is brought in by air, as well as many books and school supplies. OTZ is also essential for extracurricular activities and sports tournaments, such as wrestling, cross country, volleyball and basketball. During the season, students fly nearly every weekend between communities, mostly by charter planes that originate from OTZ. When flying to Anchorage or outside, students travel through OTZ on main air carriers. Students also travel about 15 times a year for educational extracurricular activities such as spelling bee, geography bee, leadership seminars, and other activities (Stoops 2011).

OTZ supports the provision of health and social services for about 6,500 people within the NWAB and the village of Point Hope in the NSB. The Maniilaq Health Center in Kotzebue is a high-quality primary care medical facility. The nearest health care facility that offers comparable service is about 500 miles away. Patients, providers, and medical supplies rely primarily on air transport. For example, almost every pregnant woman from the villages in the region travels through OTZ between 14 to 18 times during the 9 months of pregnancy to receive prenatal care. About half are patients of low risk that deliver their children at the Maniilaq Health Center and another half fly to Anchorage in their 36th week for the delivery. Specialized doctors, dentists, and eye doctors make regularly scheduled visits to the village clinics using OTZ's air transport services. The Maniilaq Association also contracts with a Licensed Air Carrier to provide reliable, safe, and timely medevac services (Gregg 2011; Maniilaq Association 2011).

OTZ serves the entire NWAB, the Red Dog Mine, and the NSB village of Point Hope. There were more than 151,000 passenger segments through OTZ in 2009 (Table 85). The majority traveled through the hubs of Anchorage (32.2 percent), Nome (26.5 percent), and Fairbanks (2.6 percent). The remaining 41 percent is associated with smaller communities in the region for which Kotzebue serves as the regional hub—Selawik, Noorvik, Noatak, Kivalina, Buckland, and Kiana—as well as the communities of Ambler, Deering, Red Dog, Kobuk, and Shungnak, which are included in the category "all others" in Table 85.

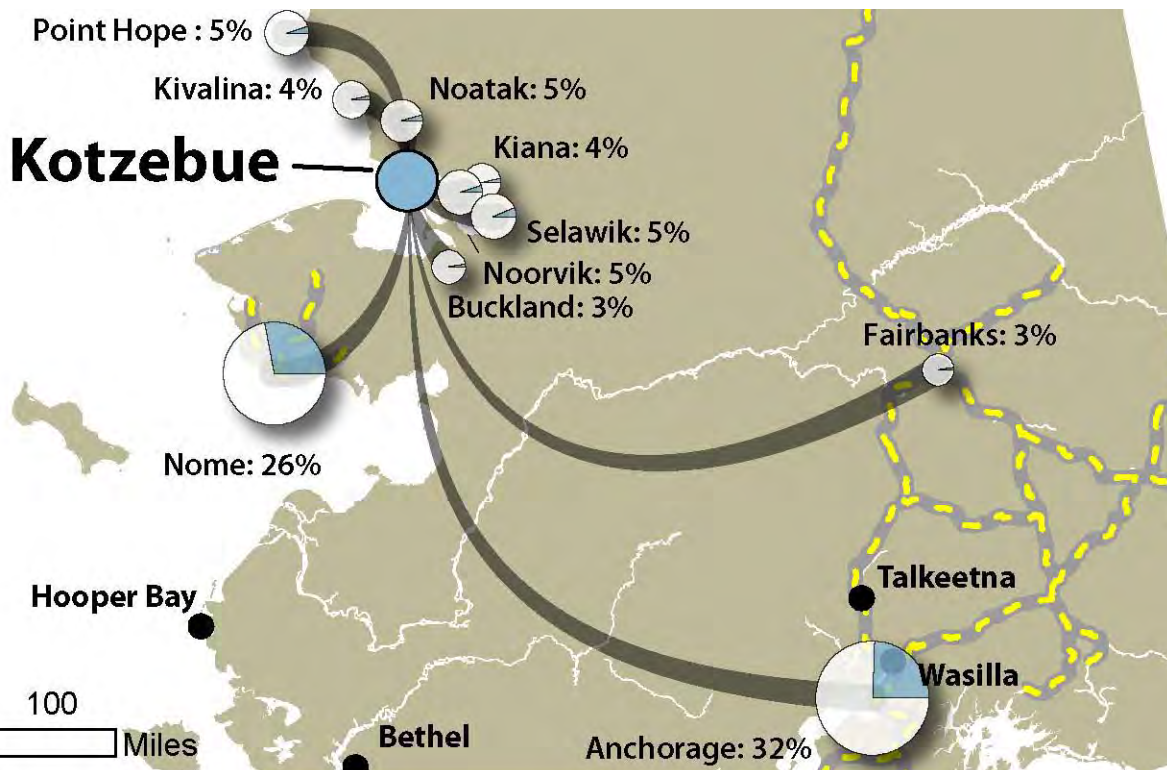
Primary access to the region is by daily commercial jet service from Anchorage to OTZ (either direct or through Nome with all flights either continuing on to, or coming through, Nome). This routing explains the seemingly unbalanced pattern in arriving versus departing passengers for Anchorage and Nome. There are two flights per day heading to Nome through OTZ and back to Anchorage and one flight per day coming through Nome and then back to Anchorage. Approximately 113,000 passengers enplaned/deplaned at OTZ in 2009; this number is approximately 74 percent of total passenger segments and reflects the "circular" nature of the Anchorage-Kotzebue-Nome flight service provided by Alaska Airlines. When the two city pairs are added together, the total number of passengers enplaned is evenly distributed between arriving and departing passengers. Passenger enplanements within the region are relatively balanced between arrivals and departures (Table 85) and are evenly split across the different villages (see Figure 41). The carriers responsible for transporting the largest number of passengers were Alaska Airlines, Bering Air, and Hageland Aviation Service. Combined, those three carriers transported over 140,000 passengers, or 94 percent of the total.

Table 85. OTZ Passenger Segments by Airport-City Pair, 2009

City	Passenger Segments		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	30,300	18,451	48,751	32.2
Nome	14,167	25,892	40,059	26.5
Selawik	3,879	3,843	7,722	5.1
Noorvik	3,495	4,182	7,677	5.1
Point Hope	3,569	3,809	7,378	4.9
Noatak	3,493	3,340	6,833	4.5
Kivalina	2,654	2,797	5,451	3.6
Kiana	2,935	2,448	5,383	3.6
Buckland	1,870	2,499	4,369	2.9
Fairbanks	2,072	1,811	3,883	2.6
All Others	7,093	6,685	13,750	9.1
Grand Total	75,527	75,757	151,256	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 41. Geographic Location of OTZ's Top Partner Communities for Segments, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

Mail volumes moving through OTZ in 2009 reached almost 30 million pounds, with arriving mail exceeding departing mail by 7 million pounds, yielding a net import into Kotzebue (Table 86). Except for BET, OTZ has the highest total volume of mail traffic of all the airports in this study. On a per-

capita basis, approximately 9,000 pounds of mail per person were sent through OTZ in 2009, more than double the volume of about 4,000 pounds per person in 2000.

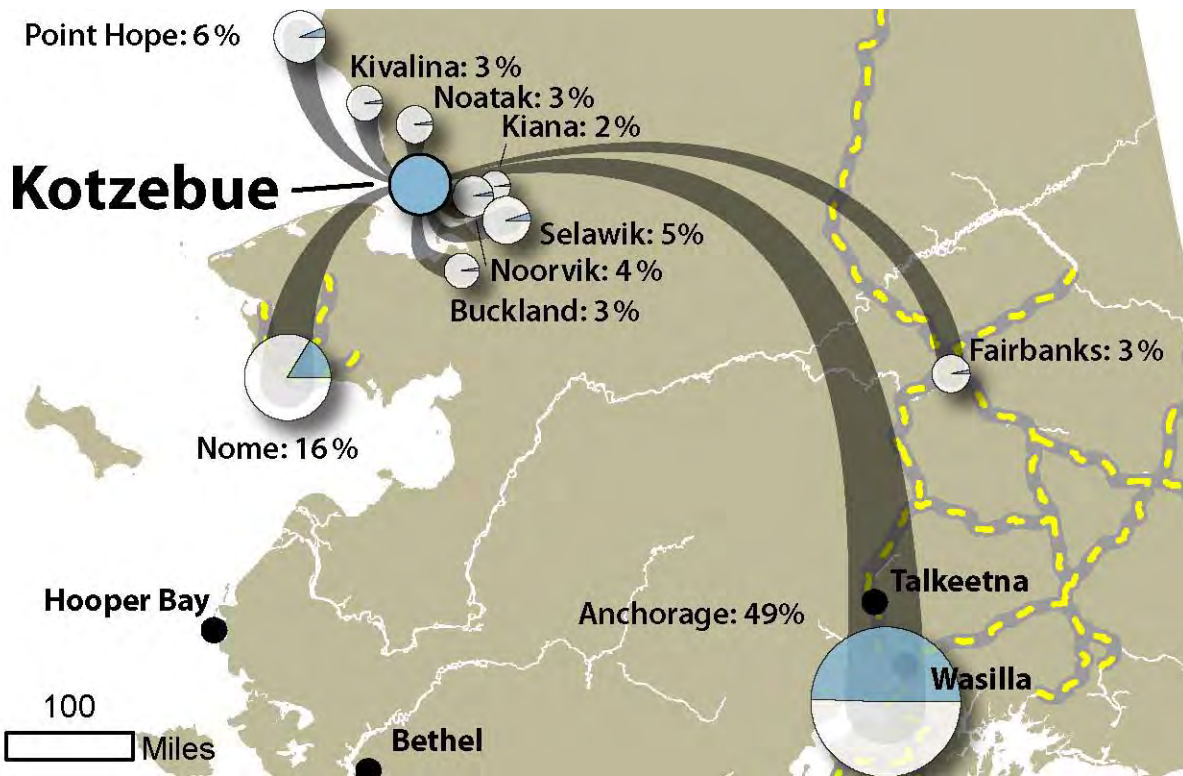
Table 86. OTZ Mail Volumes by Airport City Pair (in Pounds), 2009

City	Mail		Total	
	Arriving From	Departing To	Number	Percentage (%)
Anchorage	14,560,461	185,175	14,745,636	49.4
Nome	2,588,410	2,317,093	4,905,503	16.4
Point Hope	21,579	1,718,003	1,739,582	5.8
Selawik	26,917	1,479,792	1,506,709	5.0
Noorvik	16,119	1,097,601	1,113,720	3.7
Fairbanks	963,658	916	964,574	3.2
Noatak	18,887	896,836	915,723	3.1
Kivalina	15,803	825,825	841,628	2.8
Buckland	8,498	791,434	799,932	2.7
Kiana	19,030	654,939	673,969	2.3
All Others	177,110	1,468,669	1,644,606	5.5
Grand Total	18,416,472	11,436,283	29,851,582	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

OTZ operates as the regional postal hub and most of its mail traffic is likely goods moved through the Bypass Mail program. Figure 42 provides evidence of OTZ's role as a subregional distribution hub. In general, mail arrives from Anchorage (either directly or through Nome) and is then distributed to smaller communities in the region. Departing mail heading to Anchorage for sorting and distribution to other locations in Alaska and the Lower 48 would appear to head out on the Nome-bound flights and continue on to Anchorage; relatively small amounts of mail fly on the direct flight from OTZ to Anchorage. In addition, while a large amount of mail arrives from Fairbanks (a bypass mail collection point) very little mail flies back to Fairbanks. This mail would appear to go to Anchorage first. The carriers that transported mail through OTZ in 2009 include Alaska Airlines (30 percent), followed by Tatonduk Flying Service, Lynden Air Cargo Airlines, Northern Air Cargo and Bering Air (each with 13 percent), Hageland Aviation Service (10 percent), Arctic Transportation (7 percent) and Frontier Flying Service (3 percent).

Figure 42. Geographic Location of OTZ's Top Partner Communities for Mail, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

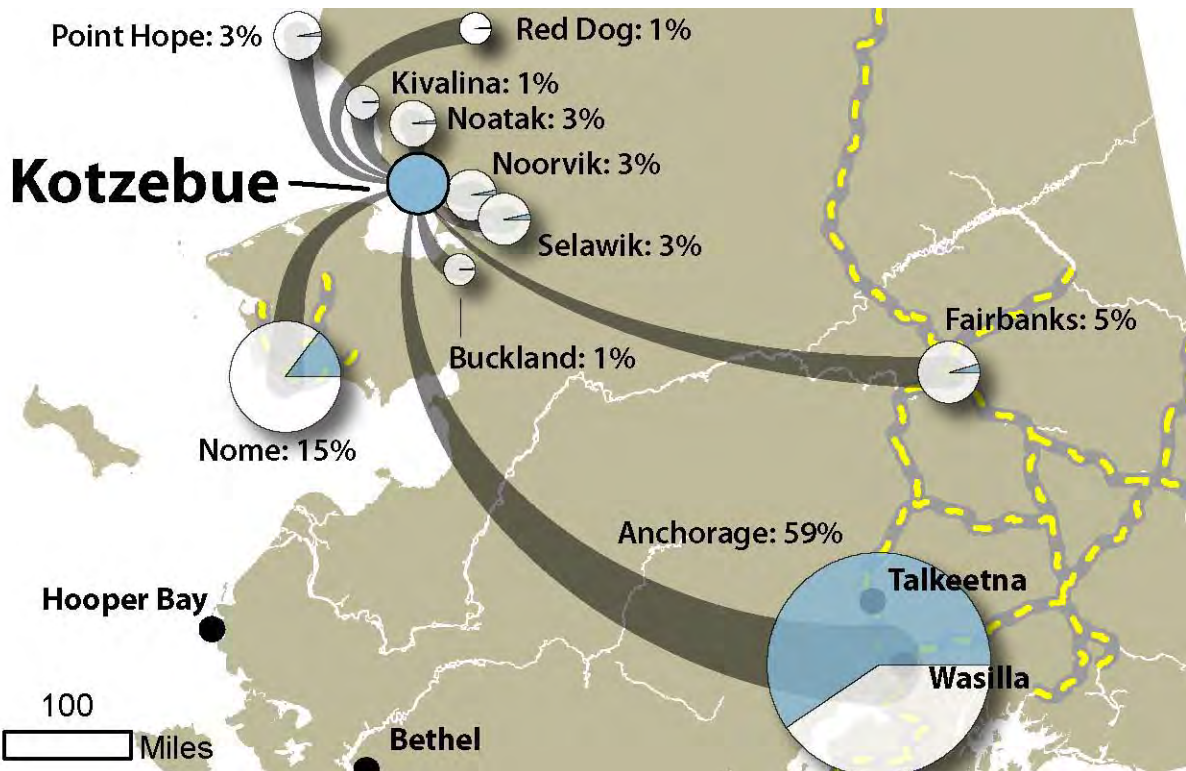
OTZ received almost 15 million pounds of cargo in 2009, balanced between arriving and departing volumes (Table 87). Air cargo volumes likely represent items sent by air that were too large to be sent through the bypass mail and had to be sent through a carrier as freight at a higher cost. The total volume of air cargo is about half of the total volume of mail transported through OTZ, which reflects the importance of the Bypass Mail program and the role of OTZ as a hub point. As with mail volumes, most of the incoming cargo was transported from Anchorage, and some from Nome and Fairbanks, through OTZ to other rural villages in the region (Figure 43). More than half of the cargo was transported by two carriers, Northern Air Cargo (29 percent) and Alaska Airlines (26 percent).

Table 87. OTZ Cargo Volumes by Airport City Pair (in Pounds), 2009

City	Cargo		Total	
	Arriving	Departing	Number	Percentage (%)
Anchorage	6,075,639	2,777,826	8,853,465	59.4
Nome	836,619	1,355,231	2,191,850	14.7
Fairbanks	543,709	136,650	680,359	4.6
Selawik	19,740	465,021	484,761	3.3
Noorvik	87,596	377,067	464,663	3.1
Point Hope	20,068	392,452	412,520	2.8
Noatak	46,661	336,383	383,044	2.6
Kivalina	15,062	190,782	205,844	1.4
Buckland	5,545	175,296	180,841	1.2
Red Dog	26,885	153,806	180,691	1.2
All Others	200,854	660,590	861,437	5.8
Grand Total	7,878,378	7,021,104	14,899,475	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

Figure 43. Geographic Location of OTZ's Top Partner Communities for Cargo, 2009



Source: Alaska Map Company using Bureau of Transportation Statistics, 2011.

12.4 Enplanement, Cargo, and Mail Expenditures for OTZ

The study estimates that the total initial (first retail) expenditures related to enplanements, mail, and cargo associated with OTZ were approximately \$52.6 million in 2009 (Table 88). This amount only includes enplaned/deplaned passengers, mail, and cargo and is a conservative estimate of the value of “first retail” equivalent expenditures (i.e., what people and organizations spent to move goods and people to and from the airport).

Passenger enplanements contribute about \$21.7 million (41 percent), not including what passengers spent in Kotzebue or paid for baggage fees and associated services. Mail and cargo transported through the airport contribute \$22.0 million (42 percent) and \$8.9 million (17 percent), respectively.

Table 88. Estimates of Enplanement, Cargo, and Mail Expenditures for OTZ, 2009

Expenditures Category	Flow (Segment) Volume	Enplane/ Deplane Volumes	2009 Economic Activity (M\$)
Passenger Enplanements	151,256	112,645	21.7
Mail (Pounds)	29,851,582	25,469,853	22.0
Cargo (Pounds)	14,899,475	11,623,833	8.9
Total			52.6

Source: Northern Economics Inc. using BTS (2011a, 2011b) and OST (2010a, 2010b)

12.5 Direct and Indirect Economic Contributions of On-Airport Activity

OTZ is the NWAB’s link to the outside world and a major generator of jobs in the City of Kotzebue and the borough itself. The study estimates in 2009, OTZ created roughly 290 direct, indirect, and induced jobs. In-borough employment amounted to roughly 210 jobs. ADOLWD data indicate that in 2009 the average monthly employment in NWAB equaled 2,892. Thus, OTZ generated just over seven percent of average monthly employment in the borough in 2009. These on-airport activities generated \$12 million in labor income; part of \$24 million in total economic output.

The following sub-sections describe the study’s analysis of on-airport economic activities in greater detail.

12.5.1 Employment and Expenditures by Airport Leaseholders and Airport Management and Operations

The study identified 17 unique leaseholders at OTZ using data provided by the Division of Statewide Aviation. As the data were “cleaned” for analysis, one leaseholder was designated as “missing” or no longer contactable for the purposes of this study. Of the remaining 16 leases, the study team received a response from 8 leaseholders, or a 50 percent response rate for OTZ. The study used data from OTZ and other airports of similar sizes to estimate the economic contributions of non-respondents.

The analysis estimates that in 2009, OTZ leaseholders provided 180 direct jobs at the airport (see Table 89). Additionally, 150 of these 180 direct jobs, greater than 80 percent, were full-time jobs. Full-time jobs are likely to have higher pay and greater benefits than part-time jobs, so having such a

high-ratio of full-time jobs is a benefit for local workers. The study estimates that leaseholders paid workers approximately \$6.5 million in wages and benefits in 2009.⁴⁸

Table 89. Jobs Provided by Leaseholders at OTZ, 2009

Category	Full-Time		Part-Time		Total	2009 Wages and Benefits (\$Millions)
	Alaskans	Non-Alaskans	Alaskans	Non-Alaskans		
Leaseholder Employees	130	10	20	<10	160	6.5
Contract Employees	10	0	10	>0	20	0.4
Total	140	10	30	0	180	6.9

Source: Northern Economics, Inc. 2011.

As with the other airports in this study, OTZ leaseholders also contribute to the local, state, and national economies through capital and operating expenditures. The results of this analysis suggest that in 2009, total expenditures at OTZ amounted to nearly \$28 million, of which roughly \$6 million occurred in state. Capital expenditures amounted to \$3 million, but spending on operations encompassed the vast majority of expenditures in 2009, accounting for nearly \$25 million.

Table 90. Geographic Distribution of Leaseholder Capital & Operating Expenditures at OTZ, 2009

Category	In-Borough Census Area	Other Alaska	Total Alaska	Outside Alaska	Total
	(\$Millions)				
Capital Expenditures	0.1	0.4	0.6	2.4	3.0
Operating Expenditures	1.2	3.7	5.0	19.9	24.8
Total	1.4	4.2	5.6	22.2	27.8

Source: Northern Economics, Inc. 2011.

The cost of operating the airport itself is an additional method of measuring the level of contribution airports can make to their local and regional economies. According to airport management, ADOT&PF's airport operations provided six jobs in 2009, generating \$0.6 million in wages and benefits. In addition, the state's operation had \$1.2 million in capital expenditures and \$1.3 million in other operating expenses.

Table 91. Airport Operations and Management Jobs and Expenditures at OTZ, 2009

Category	Number of Jobs	Wages/ Benefits ⁴⁹	Capital Expenditures	Other Operating Expenditures
		(\$Millions)		
Operations/Management	6	0.6	1.2	1.3

Source: Northern Economics, Inc. 2011.

⁴⁸ There is likely to be a higher degree of variability with the contract wages due to the small number of respondents.

⁴⁹ The wage/benefits component is estimated by multiplying 27 full time positions and 8 part-time positions (4 FTEs) against an average "government" sector job of \$60,390 per ADOLWD estimates.

The analysis estimates that taken together, leaseholders and airport operations accounted for 186 jobs in 2009, with \$7.5 million spent on wages and salaries (see Table 92). Approximately 176 of these jobs were held by Alaskans, meaning that the airport provided a direct job for roughly 12 percent of the City of Kotzebue’s resident employed labor force in 2009.

Leaseholders and airport management also spent approximately \$4.2 million on capital expenditures. This amount can fluctuate year-over-year, however, and should not be assumed to be an estimate for previous or projected expenditures. Operating expenditures tend to be more stable over time; estimates for OTZ are approximately \$26 million in 2009, with 96 percent of those expenditures originating from leaseholder activities. The study estimates that total non-wage and benefit expenditures were nearly \$38 million.

Table 92. OTZ Leaseholder and Airport Operations Jobs Expenditures Summary, 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures	Total Expenditures
		(\$Millions)			
Leaseholders	180	6.9	3.0	24.8	34.7
Operations	6	0.6	1.2	1.3	3.1
Total	186	7.5	4.2	26.2	37.8

Source: Northern Economics, Inc. 2011.

12.5.2 Estimates of Total On-Airport Related Employment and Expenditures

As noted in other chapters, wages and expenditures created by OTZ’s on-airport leaseholders and airport managers cycle through the economy as workers, businesses, and government entities buy goods and services from off-airport firms. This multiplier effect generates other economic activity, creating other jobs and other output within the community and the State of Alaska. This study estimates that in 2009, on-airport activity at OTZ created roughly 290 direct, indirect, and induced jobs. Additionally, airport activities generated \$12 million in labor income as part of \$24 million in economic output around the state.

In-borough employment amounted to roughly 210 jobs. ADOLWD data indicate that in 2009, the average monthly employment in the NWAB equaled 2,892. Thus, OTZ generated just over seven percent of average monthly employment in the Borough in 2009.

Table 93. OTZ’s Direct, Indirect, and Induced In-State Economic Effects, 2009

Category	Number of Jobs*		Labor Income		Output	
	In-Borough/ Census Area	Other Alaska	(\$Millions)			
			In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska
Airport Operations	10	30	1	2	2	4
Leaseholders	190	50	7	2	9	9
Subtotals	210	80	8	4	11	13
Total In-State Effect	290		12		24	

Source: Northern Economics, Inc. and IMPLAN, 2011.

* Number of jobs does not add due to rounding.

13 Talkeetna

The Talkeetna Airport (TKA) is a significant economic driver for the community of Talkeetna through its role in the region's tourism industry. TKA serves as a valuable access point for visitors wishing to visit Denali National Park and view the famous Mt. McKinley. While the joy experienced by visitors may be best described by the photographs they take home, the airport's contribution to the local community can be expressed through its impacts on employment, wages, and output. This study finds that:

- In 2009, 82 direct employment positions were located at the airport in a town where the working age population is just over 800 (ALARI 2011). These positions generated more than \$2 million in wages.
- Total direct expenditures by leaseholders and airport operations, including expenditures flowing out of state, were approximately \$5 million in 2009.
- The total in-state economic effect of the direct jobs and direct expenditures is approximately \$2.9 million in wages, contributing to a total of \$5.6 million in economic output.

The rest of this chapter provides more details about the role TKA plays in the local and state economy.

13.1 Community Description

Talkeetna is located within the Matanuska-Susitna Borough, approximately two hour's drive north of Anchorage on a spur road extending north from the George Parks Highway. The community is home to about 900 residents and sits at the junction of the Talkeetna, Chulitna, and Susitna Rivers, all of which are popular with outdoor enthusiasts seeking rafting and fishing experiences (ADCCED 2011). Though Talkeetna is accessible via air, road, and rail, it still maintains a small-town atmosphere and attracts visitors from both within Alaska and abroad (Talkeetna Chamber of Commerce 2011).

The community boasts a rich history of supporting exploration and development in Alaska. Originally settled as both a mining town and an Alaska Commercial Company trading post in the late 1800s, Talkeetna later became a riverboat steamer station supplying miners and trappers in the region (ADCCED 2011). In 1915, President Woodrow Wilson directed the Alaska Engineering Commission (AEC) to proceed with construction of a railroad extending from Seward to the Alaskan interior, and the large undertaking was divided into districts, one of which was Talkeetna (Bernhardt, 1922). During this time the AEC offices were based in town and the community population peaked at near 1,000 (ADCCED 2011). Today Talkeetna is known as an aviation and supply base for expeditions to Mt. McKinley. Both the town's airstrip and its historic district are listed in the National Park Service's (NPS) National Register of Historic Places (NPS 2011a; NPS 2011b).

Tourism is a leading industry in Talkeetna, and the community's employment profile reflects its influence on the local economy. In 2009, restaurant cooks, retail salespersons, waiters and waitresses, cashiers, tour guides and escorts and commercial pilots all ranked within the top ten occupations (by number of people employed) (ALARI 2011). Of the top 12 employers in Talkeetna, most are involved in tourism and offer transportation, hospitality, or guide services. These companies include CIRI Alaska Tourism Corp. (#2), Latitude 62 (#4), and the Alaska Railroad Corporation (#5), among others (ALARI 2011).

13.2 Airport Description

TKA is a publicly (ADOT&PF) owned facility located one mile east of town center (FAA 2010a). It does not have an air traffic control tower; instead, the FAA provides advisory services through the Talkeetna Flight Service Station (USKH 2001). TKA has one asphalt runway 3,500 feet in length and 75 feet wide (FAA 2010a). TKA does not have airport-owned or operated terminal or passenger facilities. Existing terminal facilities are owned and operated by private lease lot holders (USKH 2001).

In addition to the airport, the community has one airstrip owned by the U.S. Bureau of Land Management, a seaplane base, and many privately owned facilities (FAA 2010a). In 2005, the most recent year for which data are available, approximately 30,000 flights were reported for the Talkeetna airport. More than half of these were itinerant operations, and approximately one-third were air taxi operations. At least one key informant interviewee indicated that the general feeling amongst some in the flying community is that this estimate may be high. One major carrier told the study that they only conduct 1,000 flights per year.

TKA is home to several air taxi and scenic flight services, as well as a flight school. Fly Denali, K2 Aviation, Sheldon Air Service (formerly Hudson Air), Talkeetna Air Taxi, and Talkeetna Aero Services all have businesses based at the airport. These firms advertise scenic flights, as well as support for Denali explorers and climbing teams (Talkeetna Chamber of Commerce 2011).

Figure 44. Flightseeing Aircraft Stationed at Talkeetna Airport



Source: Fly Above Alaska, 2011.

13.3 Role in the Community

Since Talkeetna is on the road system, and is only 115 miles from Anchorage, little to no mail and cargo traffic transits through the airport, arriving by road instead. Rather, the airport's primary commercial use is for tourism and expedition-related transportation. Several of the previously mentioned flight operators offer day flights to Denali National Park, flight-seeing tours, and glacier tours and landings. These flights can be combined with rail, bus, and cruise tours, and are sometimes offered as day excursions in statewide itineraries. In addition to scenic flights, the airport is used by those learning to fly (wheel and float lessons are offered by Above Alaska Aviation) and by others who travel via air to remote, privately owned parcels of land in the Talkeetna vicinity.

Local air service providers fill a valuable niche by catering to climbers entering Denali National Park during the climbing season and to tourists during the summer months. Many firms advertise their ability to provide access to new areas of the park, find advantageous approaches to challenging climbs, and assist with gear and supplies in Talkeetna. In 2010, Denali National Park saw 1,222 climbers attempt to summit North America's tallest peak, Mt. McKinley. The average trip length was 17.5 days, 18.3 days for trips which completed a summit (NPS 2010). Each of these ventures required logistical support, and flights to and from TKA made important supplies, equipment and medical attention accessible.

In order to conduct business operations in Denali National Park, a company must have a concessions agreement in place with the park (Smothers 2011; NPS 2011c). There are currently four concession holders allowed to land their aircraft inside the park, all of which are based at TKA: Talkeetna Air Taxi, K2 Aviation, Fly Denali and Sheldon Air. Besides providing access to climbing areas, these carriers also provide access to medical services. In a key informant interview, Denali Park Service employee Missy Smothers described the relationship between the private carriers and the NPS. She noted that while the NPS has a high-altitude helicopter under contract, the aircraft is intended to support NPS operations on and around the mountain. Medical emergencies resulting from hazardous falls and altitude sickness are not uncommon in the park, and climbers who require evacuation are sent to TKA on commercial carriers when possible. While some are transported via helicopter due to the severity of their conditions, most are flown from base camp to TKA on commercial fixed wing aircraft (Smothers 2011).

Geri Denkewalter, Manager of Fly Denali, feels strongly about the importance of TKA to the local community, stating that, "This airport really makes Talkeetna what it is." She went on to explain that Mt. McKinley is the major draw for tourism, and though some visitors enjoy fishing and other local activities, "They come here because they want to fly McKinley." Ms. Denkewalter also noted that the money generated through local air transportation operations has a significant impact on the community. The firms hire a large number of employees during the summer season, who in turn support local business through purchases of goods and services. If TKA were to disappear, Ms. Denkewalter noted, "I think that the tourism part of Talkeetna would collapse. There would be no flights out of here....The airport is key to Talkeetna's viability. It's critical to the economy—[If there were no airport] I wouldn't be here; my business wouldn't be here."

Trisha Costello, owner of the Talkeetna Roadhouse and member of the Talkeetna Chamber of Commerce, also remarked on TKA's importance in an e-mail that she contributed to the study: "My business is strong because I'm part of the collective that is Talkeetna. Without aviation I can't imagine my business would ever have grown...or Talkeetna would have grown...to the thriving summer destination that it is. And, without aviation our winters would most definitely be devoid of the real drive to attract visitors."

In addition to supporting climbing efforts and attracting tourism-based business, TKA is used as a community-building tool. In 2010, Talkeetna joined with Build A Plane, a nonprofit organization dedicated to promoting aviation and aerospace through giving local high school students the opportunity to build an airplane (Build A Plane 2011). The project was embraced by the community, and local aviation firms including K2 Aviation, Talkeetna Aero Services, and Talkeetna Air Taxi, as well as other community members showed their support by donating both time and funding for the project. Paid internships and employment opportunities were created for participants, and free flight-seeing opportunities were offered to students interested in the project (Build A Plane 2010; Costello 2011). As one interviewee noted, “Aside from providing good paying year round jobs for the core members of various flight operators, the aviation industry in Talkeetna is preparing the next generation for jobs in aviation, either in Talkeetna or elsewhere.” (Costello 2011)

13.4 Enplanement, Cargo, and Mail Expenditures for TKA

Despite the significant role that TKA plays in the Talkeetna community, little to no passenger, mail and cargo volumes are available through the BTS database. The BTS system does not capture the types of activities taking place at this airport. Table 94 shows few (six) passenger segments/enplanements were reported, and that no mail or cargo volumes were reported for 2009. However, the FAA issued a Terminal Area Forecast (TAF) for Talkeetna estimating that TKA saw approximately 30,000 flights in 2009, and will continue to see about this many for the foreseeable future (FAA 2010b). Local carrier research shows that the average Talkeetna air flight costs about \$250 per person per flight. Key informant interviews showed that place capacity and occupation is highly variable; the planes in use at the airport can hold four to ten passengers and flights can be single occupancy up to full occupancy. Without more information, it is difficult for the study to make a reasonable projection of how much passengers are paying to flightsee out of TKA. However, if half of the TAF estimated flights contained two paying passengers, the “first retail” expenditures associated with flight seeing would be roughly \$7.5 million. Clearly, a higher average number of passengers or a higher portion of flight being associated with flight seeing would result in a higher estimate.

Table 94. Estimates of Enplanement, Cargo, and Mail Expenditures for TKA, 2009

Expenditures Category	Flow (Segment) Volume	Enplane/ Deplane Volumes	2009 Economic Activity (M\$)
Passenger Enplanements	6	6	0.0
Mail (Pounds)	0	0	0.0
Cargo (Pounds)	0	0	0.0
Total			0.0

Source: Northern Economics, Inc. using BTS (2011a, 2011b) and OST (2010a, 2010b)

Although the economic activity generated by traditional airport volumes is not significant for TKA, the study shows that the airport has a significant impact on the local economy through employment and spending generated by other airport uses such as scenic flights and climber support. As presented in section 13.5, the 100 jobs and \$2.8 million of labor income, both directly and indirectly related to TKA, are important to Talkeetna and are a key component to the tourism industry that is so important to the community.

13.5 Direct and Indirect Economic Contributions of On-Airport Activity

The study’s leaseholder and operator economic activity analysis estimates that TKA’s on-site activity by leaseholders and airport operations generated a total of 100 in-state jobs including roughly 82 direct jobs on-site (see Table 98 and Table 99) and that total direct expenditures by leaseholders and airport operations, including expenditures flowing out of state, were just over \$5.1 million in 2009 (Table 98). Further, on-site operations at TKA total in-state economic effect of the direct jobs and direct expenditures are approximately \$2.9 million in wages and \$5.6 million in economic output (Table 99).

The following sub-sections describe the study’s analysis of on-airport economic activities in greater detail.

13.5.1 Employment and Expenditures by Airport Leaseholders and Airport Management and Operations

The study surveyed 13 unique leaseholders identified by the ADOT&PF Division of Statewide Aviation as holding on-airport leases, regarding their airport operation in 2009. During this process the study identified that one of the identified leaseholders no longer existed as a contactable entity; 50 percent of the remaining contactable entities responded to the survey.

The analysis estimates that TKA leaseholders provided roughly 80 direct jobs to the community in 2009 (see Table 95). Half of these jobs, 40 of the 80, were part-time non-contract jobs held by Alaskans. The high number of part-time employees reported for Talkeetna may be explained by the seasonal nature of the local aviation industry. Tourist and climber numbers peak in the summer, and local firms hire short-term employees to accommodate the increase in business. In total, the analysis estimates that all of these jobs together generated roughly \$2 million in direct wages and benefits to job holders in 2009.

Table 95. Jobs Provided by Leaseholders at TKA, 2009

Category	Full-Time		Part-Time		Total	2009 Wages and Benefits (\$Millions)
	Alaskans	Non-Alaskans	Alaskans	Non-Alaskans		
Leaseholder Employees	>10	<10	40	>10	70	1.9
Contract Employees	<10	<10	<10	<10	10	0.1
Total	20	<10	50	20	80	2.0

Source: Northern Economics, Inc. using IMPLAN

As noted in the chapter analyses for the other airports in this study, leaseholders also contribute to the local, state, and national economies through capital and operating expenditures.⁵⁰ The study estimates that in 2009, leaseholders at TKA contributed almost \$3 million to the local, state, and national economies directly. The majority of this spending took place within Alaska, and was divided evenly between in-borough and other Alaska locations.

⁵⁰ Capital expenditures represent long-term investments in equipment and infrastructure. In this case, operating expenditures are all other non-wage and benefit expenditures required for day-to-day operations.

Table 96. Geographic Distribution of Leaseholder Capital & Operating Expenditures at TKA, 2009

Category	In-Borough/ Census Area	Other Alaska	Total Alaska	Outside Alaska	Total
	(\$Millions)				
Capital Expenditures	0.0	0.0	0.1	0.0	0.1
Operating Expenditures	0.8	0.8	1.7	1.1	2.8
Total	0.9	0.9	1.7	1.2	2.9

Source: Northern Economics, Inc. using IMPLAN

Management and operations of the airport by ADOT&PF is an additional contributor to the local, regional, and state economies. In 2009, airport operations provided two jobs generating \$0.1 million in wages and benefits and another \$0.1 million in other operating expenditures (see Table 97). These personnel are responsible for maintaining all airfield facilities, the aviation parking apron, the airport lighting system, and general upkeep of the airport (USKH 2001).

Table 97. Airport Operations and Management Jobs and Expenditures at TKA, 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures
		(\$Millions)		
Operations/Management	2	0.1	0	0.1

Source: Northern Economics, Inc. 2011.

The analysis estimates that leaseholders and airport operations resulted in 82 direct jobs, \$2 million in wages and benefits, and total non-wage and benefit expenditures of about \$3 million, for a total of \$5 million in expenditures in 2009 (see Table 98).

To put these numbers in context, the study can compare the direct on-airport employment to data collected by the State of Alaska. According to the ADOLWD's ALARI database, there were 479 employed resident workers in the community of Talkeetna in 2009. The study's analysis shows that 72 of the 82 direct jobs at the airport are held by Alaskan residents. If each direct airport job were held by a unique Alaskan resident worker, then the TKA could provide direct employment to over 15 percent of the resident workers in the community of Talkeetna. Conceptually, about one in seven workers in the community could depend on the airport for a direct job.

Table 98. TKA Leaseholder and Airport Operations Expenditures Summary 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures	Total Expenditures
		(\$Millions)			
Leaseholders	80	2.0	0.1	2.8	4.9
Operations	2	0.1	0.0	0.1	0.3
Total	82	2.1	0.1	3.0	5.1

Source: Northern Economics, Inc. 2011.

Estimates of Total On-Airport Related Employment and Expenditures

13.5.2 Estimates of Total On-Airport Related Employment and Expenditures

The direct employment and expenditures described above are fuel for the local, state, and national economies. The wages and expenditures cycle through the economy as workers spend their wages and businesses and government entities buy goods and services from off-airport businesses. The study estimates that the total number of in-state jobs attributable to TKA is 100 including direct, indirect, and induced jobs. Further, labor income was approximately \$2.9 million, contributing to a total in-state economic output of roughly \$5.6 million in 2009. The study estimates that 90 direct and indirect local (i.e., in-borough) jobs are attributable to TKA, while just fewer than 10 indirect jobs spread throughout the rest of the state would be attributable to the airport.

Table 99. TKA's Direct, Indirect, and Induced In-State Economic Effects, 2009

Category	Number of Jobs		Labor Income		Output	
	In-Borough/ Census Area	Other Alaska	(\$Millions)			
			In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska
Airport Operations	<10	<10	0.1	<0.1	0.3	0.1
Leaseholders	90	<10	2.3	0.4	3.4	1.8
Subtotals	90	<10	2.4	0.5	3.7	1.9
Total In-State Effect	100		2.9		5.6	

Source: Northern Economics, Inc. using IMPLAN

14 Wasilla Municipal Airport

The Wasilla Municipal Airport (IYS) provides charter flying services and light air cargo support to its host community, the City of Wasilla. Since much of the air traffic that comes from IYS is through private flights, the importance of the airport cannot completely be expressed through traditional quantitative methods. This study's analysis shows that just over 20 direct jobs are supported by the airport. Additionally, airport management, local businesses, and government agencies expended \$2.4 million on the airport in wages, capital, and operating expenditures during 2009.

The following sub-sections describe the study's results for IYS in greater detail.

14.1 Community Description

Wasilla is a rapidly growing community located 43 miles north of Anchorage, midway between the Matanuska and Susitna Valleys. Approximately 7,245 residents (ADCCED 2011) live in the community; an increase of 1,776 residents since the 2000 census (ACS 2011). Wasilla's close proximity to Alaska's most populous city, Anchorage, and the nearby nature of many recreational resources mean that it has become a popular home for Anchorage commuters looking to take advantage of the Mat-Su Valley's unique culture and amenities. Wasilla is also home to the Iron Dog, the world's longest snowmobile race, and serves as a checkpoint along the Iditarod Trail.

The Wasilla town site was established in 1917 and may have been named after a well respected Dena'ina Athabascan Indian Chief. There is some dispute over the origin of the name Wasilla, with some sources claiming it to mean "breath of air" in the Athabascan dialect, while others believe it to be a variation on the Russian name "Vasili" (ADCCED 2011). Wasilla was a supply base for mining between 1909 and 1950 as prospectors moved in to search for gold and coal. In 1935, President Roosevelt established the Alaska Rural Rehabilitation Corporation (ARRC), which relocated 200 farming families from the U.S. Midwest to Wasilla and Palmer in an attempt to establish an agricultural base in Alaska (ARRC 2011).

There still remains a significant agricultural community around Wasilla, but the city has diversified its economy since the early homesteaders. Today, the industrial sector of Trade, Transportation and, Utilities is the largest single industry, accounting for 21 percent of workers (ADCCED 2011). The largest employers for Wasilla are the Mat-Su School District, State of Alaska, and Wal-Mart Associates, Inc. Wasilla is also a commuter town, with 30 percent of the Wasilla workforce traveling to Anchorage for work (ADCCED 2011). According to the U.S. Census Bureau's American Community Survey (ACS) Survey, Wasilla residents maintained a median household income of \$53,977 in 2009, slightly below the state median of \$64,635.

Wasilla has a temperate maritime climate with temperatures ranging from -33 °F to 83 °F throughout the year (ADCCED 2011). The community lies on Alaska's road system and is also served by the Alaska railroad, along the Fairbanks-to-Seward route (ADCCED 2011). In addition to road and rail, Wasilla residents have reliable access to passenger air travel through the Ted Stevens Anchorage International Airport.

14.2 Airport Description

IYS was constructed in 1992 by ADOT&PF to replace a sub-standard gravel strip located in downtown Wasilla. Once construction was completed, ownership was transferred from the State of Alaska to the City of Wasilla, which now operates the airport (USKH 2010). The current runway was paved in 1999

and measures 3,700 feet long and 75 feet wide. IYS is an unattended facility and currently has no control tower (USKH 2010). Additionally, there are approximately 144 general aviation tie downs to secure aircraft on the facility.

Figure 45. Taking Flight: Wasilla, Alaska



Source: USKH, 2010.

14.3 Role in the Community

IYS offers residents general aviation and air taxi services. Although the community is hoping to increase airport usage through passenger service, no regularly scheduled service is currently scheduled. Key informant interviews indicate that some air cargo is transported through the airport, but no record of these shipments exists in the BTS data. In addition, as Wasilla is on the road system, there are no mail-handling facilities on the airport. Thus, Wasilla's mail and cargo travel through the road system. (USKH 2010). IYS is also used by the Alaska Army National Guard and the Alaska Division of Forestry for various training exercises (USKH 2010).

The passenger arrivals and departures for IYS are summarized in Table 100. There were a total of nine recorded passengers through the airport in 2009. All were trips to and from the Juneau airport, and each flight was chartered, since no regular passenger travel is offered in Wasilla. This table underestimates activity at IYS as the airport's primary purpose at present is serving general aviation.

Table 100. IYS Passenger Segments by Airport-City Pair, 2009

City	Passenger Segments		Total	
	Arriving	Departing	Number	Percentage (%)
Juneau	4	5	9	100.0
Grand Total	4	5	9	100.0

Source: Northern Economics, Inc. using Bureau of Transportation Statistics, 2011

14.4 Enplanement, Cargo, and Mail Expenditures for IYS

The study team attempted to estimate the initial expenditures related to enplanements, mail and cargo associated with IYS as an additional measure of economic activity. As IYS does not provide mail-delivery services, nor does it currently offer regularly scheduled passenger service, the BTS data were less effective at capturing additional economic activity through IYS. The results in Table 101 are small, as the majority of flights out of IYS are private and therefore not tracked in the data for this report.

Table 101. Estimates of Enplanement, Cargo, and Mail Expenditures for IYS, 2009

Expenditures Category	Flow (Segment) Volume	Enplane/ Deplane Volumes	2009 Economic Activity (M\$)
Passenger Enplanements	9	9	0.0
Mail (Pounds)	0	0	0.0
Cargo (Pounds)	0	0	0.0
Total			0.0

Source: Northern Economics Inc. using BTS (2011a, 2011b) and OST (2010a, 2010b)

14.5 Direct and Indirect Economic Contributions of On-Airport Activity

Through the leaseholder survey, the operations survey, and I-O analysis, this study estimates that on-site activity at IYS generated approximately 20 direct jobs on the airport and a total of slightly fewer than 40 in-state jobs. The total direct, indirect, and induced expenditures from IYS in 2009 were approximately \$1.44 million, including \$600,000 in direct expenditures.

14.5.1 Employment and Expenditures by Airport Leaseholders and Airport Management and Operations

This study was able to identify 10 unique leaseholders at IYS using data provided by the Division of Statewide Aviation. During the analysis, three leaseholders were designated as non-contactable; 57 percent of remaining leaseholders responded to the survey for this study. The study used data from the respondents of IYS and similar airports to estimate the economic contribution of non-respondents.

The type of employment provided by airport leaseholders is summarized in Table 102. Analysis reveals that in 2009, IYS leaseholders provided roughly 20 direct jobs in the local community. Because employment is small across all categories and falls below the benchmark set by this study to prevent non-disclosure, most categories are represented as having fewer than 10 employees in 2009. The analysis does, however, show that a slight majority of employees tended to work directly for

leaseholders, rather than as contract employees that year. Total wages and benefits are estimated at approximately \$370,000 or nearly \$0.4 million.

Table 102. Jobs Provided by Leaseholders at IYS, 2009

Category	Full-Time		Part-Time		Total	2009 Wages and Benefits (\$Millions)
	Alaskans	Non-Alaskans	Alaskans	Non-Alaskans		
Leaseholder Employees	<10	<10	<10	<10	10	0.36
Contract Employees	<10	0	<10	0	<10	0.01
Total	<10	<10	<10	<10	20	0.37

Source: Northern Economics, Inc. 2011.

Leaseholders provide jobs for the community, but also contribute to the local, state, and national economies through capital and operating expenditures.⁵¹ The results from the study show that in 2009, approximately \$600,000 from operations and expenditures flowed through the economy. Approximately one-third of those expenditures, or \$200,000 remained in the borough, while \$100,000 poured into other areas of the state’s economy. In addition, about half of all expenditures leaked outside the state of Alaska; this may have been the result of part-time seasonal jobs, or purchases of goods and materials from outside of Alaska.

Table 103. Geographic Distribution of Leaseholder Capital & Operating Expenditures at IYS, 2009

Category	In-Borough Census Area	Other Alaska	Total Alaska	Outside Alaska	Total
	(\$Millions)				
Capital Expenditures	0.00	0.01	0.01	0.01	0.02
Operating Expenditures	0.18	0.10	0.28	0.33	0.61
Total	0.18	0.11	0.29	0.33	0.63

Source: Northern Economics, Inc. 2011.

The study team contacted the airport management in Wasilla as an attempt to measure additional economic activity generated through the ongoing operations of IYS. For 2009, only one job is associated with operations at IYS; reported wages were below \$100,000. Capital expenditures are estimated at \$1.3 million and operating expenditures are estimated at \$80,000 for 2009.

Table 104. Airport Operations and Management Jobs and Expenditures at IYS, 2009

Category	Number of Jobs	Wages/Benefits ⁵²	Capital Expenditures	Other Operating Expenditures
		(\$Millions)		
Operations/Management	1	0.06	1.30	0.08

Source: Northern Economics, Inc. 2011.

⁵¹ Capital expenditures represent long-term investments in equipment and infrastructure. In this case, operating expenditures are all other non-wage and benefit expenditures required for day-to-day operations.

⁵² The wage/benefits component is estimated by multiplying 1 full time against an average “government” sector job of \$60,390 per ADOLWD estimates.

The analysis estimates that taken together, leaseholders and airport operations at IYS accounted for 21 direct jobs in the community during 2009 (See Table 105) and an estimated \$400,000 in wages and benefits. Additionally, the study estimates \$1.3 million in capital expenditures all coming from the City of Wasilla’s operation of the airport. It is not uncommon for capital expenditures to be highly variable from year-to-year while operating expenditures tend to be more stable. This report only represents a “snapshot” of economic activity in 2009 and is not indicative of previous or projected capital investment.

Table 105. IYS Leaseholder and Airport Operations Jobs Expenditures Summary, 2009

Category	Number of Jobs	Wages/ Benefits	Capital Expenditures	Other Operating Expenditures	Total Expenditures
		(\$Millions)			
Leaseholders	20	0.37	0.02	0.61	1.00
Operations	1	0.06	1.30	0.08	1.44
Total	21	0.44	1.32	0.69⁵³	2.44

Source: Northern Economics, Inc. 2011.

14.5.2 Estimates of Total On-Airport Related Employment and Expenditures

Wages and expenditures created by on-airport leaseholders and airport managers cycle through the economy as workers, businesses, and government entities buy goods and services from off-airport firms. This multiplier effect generates other economic activity that can be attributable to jobs and other output within the community. This study estimates that slightly fewer than 40 direct, indirect, and induced jobs were attributable to IYS in 2009. Additionally, airport activities generated \$1.44 million in labor income, contributing to \$3.73 million in economic output around the state.

Table 106. IYS’ Direct, Indirect, and Induced In-State Economic Effects, 2009

Category	Number of Jobs		Labor Income		Output	
	In-Borough/ Census Area	Other Alaska	(\$Millions)			
			In-Borough/ Census Area	Other Alaska	In-Borough/ Census Area	Other Alaska
Airport Operations	<10	<10	0.45	0.50	1.29	1.56
Leaseholders	20	<10	0.44	0.05	0.66	0.22
Subtotals	30	<10	0.89	0.56	1.95	1.78
Total In-State Effect	<40		1.44		3.73	

Source: Northern Economics, Inc. and IMPLAN, 2011.

⁵³ In this case, both sub-totals round down to the nearest tenth of a million, but together their sums round up to the nearest tenth of a million.

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Appendix A- LEAS Survey Instrument

The survey instrument follows on the next page.



2010 AASP Economic Contributions of Community Airports Survey

1. Lease Contact Information

Business name: _____

Number of Leases At This Airport _____

(Please enter the name of your business or government agency as it appears on your lease. If you are unsure about how it appears on your lease, enter the name your business or agency uses in its daily course of business (e.g., Northern Economics, Inc.)

Check if this is a Sublease:

Contact person: _____ Phone number: _____

2. **Airport where lease is located.** Please select **one** airport from the list below. If you have leases or operations at more than one airport, please complete one survey form for each airport included in this survey.

Bethel (BET) <input type="checkbox"/>	Deadhorse (SCC) <input type="checkbox"/>	Eek (EEK) <input type="checkbox"/>	Fairbanks (FAI) <input type="checkbox"/>	Haines (HNS) <input type="checkbox"/>	Hooper Bay (HPB) <input type="checkbox"/>
Juneau Douglas (JNU) <input type="checkbox"/>	Kodiak (ADQ) <input type="checkbox"/>	Talkeetna (TKA) <input type="checkbox"/>	Kotzebue (OTZ) <input type="checkbox"/>	Iliamna (ILI) <input type="checkbox"/>	Wasilla (IYS) <input type="checkbox"/>

3. Check the box that best describes the primary business type associated with your lease at this airport:

Federal Government <input type="checkbox"/>	State Government <input type="checkbox"/>	Aircraft Services (e.g., fueling, maintenance) <input type="checkbox"/>	Airline: Passenger <input type="checkbox"/>	Airline: Cargo or Freight <input type="checkbox"/>	Other (Please Describe)
Passenger Concession: Non-Air Tour Operator <input type="checkbox"/>	Passenger Concession: Rental Car <input type="checkbox"/>	Passenger Concession: Restaurant <input type="checkbox"/>	Passenger Concession: Retail <input type="checkbox"/>	Passenger Concession: Other <input type="checkbox"/>	

4. In the following table please enter the average monthly number of direct and contract employment positions that you employed in 2009 at this one airport and the percent you believe are not Alaska residents.

Direct employees are persons employed directly by your business in either full-time or part-time positions.

Contract employees are persons directly employed by another business but working full-time or part-time in your on-airport lease operations through a contract arrangement. Please **do not** include individuals you have already reported under the direct employees section of the table.

Percent Non-Alaska residents is the percentage of your employees you do not believe are Alaska residents.

Employee Type	A. Full-Time	B. Part-Time	Total (A+B)	Percent Non-Alaska Resident
Direct Employees				
Contract Employees				

Gross Expenditures

For the following questions please tell us about your 2009 expenditures for the lease operations at the airport for which you are reporting. *All of your responses will be held in the utmost confidence and will only be reported in aggregate for the entire airport. No other project or entity will have access to your information and your survey form will be destroyed at the end of the project.*

5. Approximately how much money did your business at this airport spend in each of the following categories in 2009?

Category	Approximate 2009 Expenditures
Direct Employment Salaries and Benefits	\$ _____
Contract Employment Salaries and Benefits	\$ _____
Capital Project Expenditures	\$ _____
All Other Operating Expenditures	\$ _____

6. Approximately what percentage of your expenditures in the following categories was purchased from vendors located in your local community and in the State of Alaska?

Category	A: Approximate Percentage Spent in Your Borough/Census Area	B: Approximate Percentage Spent in <i>Other</i> Alaska Communities	A+B: Total Percentage Spent in Alaska
Capital Project Expenditures	_____ %	_____ %	_____ %
All Other Operating Expenditures	_____ %	_____ %	_____ %

Thank You

Thank you for completing this survey. All of the individual information you provided will be held in confidence by Northern Economics and will not be shared with anyone. We will aggregate the survey data so that no single respondent is identifiable. Remember: there are three ways to return the survey to us:

- Mail the survey back in the enclosed self-addressed and stamped envelope.
- Fax the survey back (both sides) to 907-274-5601
- Call Joel Ainsworth at Northern Economics at 907-274-5600. You can provide him with the information on the survey form over the phone.

If you have any questions about the survey, please call Northern Economics' Project Manager Jonathan King at 907-274-5600.

And finally, would you like to receive more information about the study? We will be creating informational brochures for each survey airport based on the information you provide. *If you'd like to receive a copy of the brochure for your airport, check this box:*

