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and Economic Analysis

The Economic Impact of
Spokane International
Airport

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For
The Board of Spokane
International Airport

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1. Executive Summary

Spokane International Airport (GEG or Airport) is the third largest airport in the Pacific Northwest and the 69th largest in the U.S., as measured by passenger & cargo volume. For the over 950,000 residents of a 16-county area in Eastern Washington and Northern Idaho, GEG represents a key part of their civic infrastructure.

The Airport allows regional businesses to sell to national and international markets, for their staff to travel conveniently and for them to meet their customers face-to-face. For businesses with perishable goods or with products and services demanding quick deliveries, the cargo connections offered by GEG are essential. Visitors arriving by air are increasingly important to the convention and tourism sector. The Airport also contributes to the quality of life in the Inland Northwest. Residents use GEG for personal travel or to arrange visits from guests.

To better understand its full economic impact, the Airport contracted with Eastern Washington University's Institute for Public Policy & Economic Analysis (the Institute). Little to no current information exists on how large the Airport looms in the regional economy, here defined as the Spokane and Kootenai counties. In this study, the Institute looked at the five components of significant Airport activity, listed in descending order of size: 1) visitors, 2) facility tenants, 3) business park tenants, 4) capital spending and 5) internal operations.

The study used a variety of methods to locate the necessary input data. Critical to this effort were intercept surveys of visitors departing the Airport, conducted at three times throughout the year by Strategic Research Associates of Spokane. These surveys established levels of visitor spending. Surveys were also given to businesses in the airport facility and in the GEG business park. The study did not attempt to measure the value of the Airport to locally-based businesses (besides Airport tenants) or to residents traveling for personal reasons.

The Institute research team adopted input-output analysis to assess the economic size of the Airport. As in most input-output studies, the study provides three measures of size: output (sales), wage income and jobs. The contribution of these analyses is to calculate the full, or total, effect of spending attributable to an entity, in this case GEG, throughout a regional economy.

Total effect is defined as the sum of activity over the many rounds of spending that typically occur after the first round, or direct spending. The relationship between that total and the initial round is commonly referred to as the multiplier. Input-output studies maintain an important assumption: all other, first-round economic activity is presumed to stay the same; in this case, only activities of the Airport are allowed to expand.

The results of the surveys and initial data-gathering established the following for direct effects of the GEG on the regional economy. The data refer to 2004.

Direct output (sales):	\$533.5 million, or 1.8% of the regional total
Direct wages & salaries:	\$200.2 million, or 1.8% of the regional total
Total jobs associated:	8,033, or 2.6% of the regional total

Via input-output calculations for the five separate components of GEG activity, the full or total impact of the Airport via additional spending, was estimated to be:

Total output (sales):	\$896.5 million, or 3.1% of the regional total
Total income	\$319.0, or 2.9% of the regional total
Total jobs associated	12,243, or 4.0% of the regional total

The values of the multipliers for output, wages and jobs were: 1.68, 1.59 and 1.52, respectively.

In addition, the Institute calculated taxes generated by the full, or total, impact of the Airport. These were estimated to be nearly \$51 million annually. The Federal portion was the smallest, at \$4.9 million. The bulk of taxes generated by Airport activity generally flowed evenly to state and local governments: \$23.9 million and \$22.0, respectively.

In general, the size of the multipliers calculated for GEG conform to ranges reported in recent studies on the economic impact of airports of approximately comparable size. When evaluating the numerical results of this study, it is important to consider, in light of the importance of visitor spending, that the results are survey based. To have greater confidence in the results, these surveys should be repeated over time. Additionally, the Airport cannot claim to cause visitor spending. Other industries, especially those in tourism and convention sales, play a significant role in attracting visitors to the area.

2. Analytical Framework

2.1 Introduction

The Spokane International Airport (SIA or Airport) is jointly owned and operated by the City and County of Spokane through an interlocal operating agreement with oversight by an Airport Board. As described in a recent Washington State Auditor's Report [p 11], it "encompasses over 5,000 acres," consisting of "two runways with an FAA operated control tower and ground facilities" with related "cargo handling, maintenance hangars and fixed base for general aviation as well as fueling, taxiway and aircraft parking facilities." Figure 2.1, a reproduction of the official Federal Aeronautics Administration diagram, shows the general layout of SIA including the terminal and adjacent parking garages, cargo handling facilities, and hangars [FAA]. Currently, 113 aircraft are based at the airport, including 69 single engine, 36 multi engine, 2 jets, 3 helicopters and 3 military. Airport operations involved 44 percent commercial usage, 22 percent air taxi, 20 percent transient general aviation, 14 percent local general aviation and 1 percent military. [Airnav]

SIA provides domestic and international air service to the Pacific Northwest. It is located five miles southwest of the Spokane, Washington, a city of about 200,000 which provides major financial, commercial and transportation services to a 60,000 square mile area broadly encompassing eastern Washington, northern Idaho and western Montana. According to the state Auditor's Report [p. 11], as measured by operations and passenger traffic, Spokane International is the third largest airport in the Northwest, after Seattle-Tacoma International and Portland International. Currently it ranks 72nd in the U.S. for passenger enplanements and 61st for cargo handling.

Figure 2.2 shows the location of the Airport, both with respect to Spokane and to Interstate I-90 which links Spokane east to Coeur d' Alene, Idaho, a rapidly growing, resort, recreational and retirement town of about 30,000, and western Montana and to the west with central and coastal Washington. Major highways nearby provide access into Canada and south to Boise, Idaho and eastern Oregon.

SIA originated in 1941 when an area known as "Sunset Field" was purchased from Spokane County by the Army Air Corps for use as a World War II B-17 and C-47 training facility [McChord]. Soon after it was renamed Geiger Field to honor Major Harold C. Geiger, an Army aviation and ballooning pioneer. In 1946, part of the airfield became a municipal airport when local commercial air operations were moved from Felts Field, the original municipal airport, located east of the Spokane business center. This latter airport continues, now primarily used for "general aviation, flight instruction schools, aircraft maintenance and charter services [Auditor's Report, 11]." In 1960 the Airport assumed its present name.

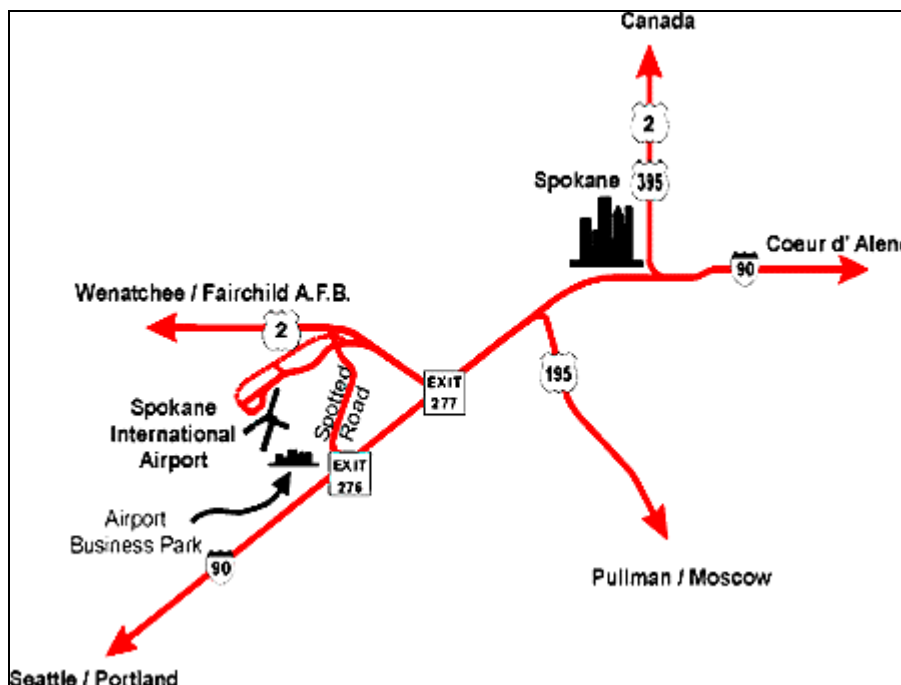


Figure 2.2 Location of Spokane International Airport

Early in 2005, the Institute for Public Policy and Economic Analysis of Eastern Washington University was asked by the Spokane International Airport to conduct an analysis of its economic impact on its major service area, Spokane County, Washington and Kootenai County, Idaho. With a combined population in 2002 of 542,000, employment of 308,000, labor income of \$10.5 billion and output of \$27.7 billion [MIG, 2002], these two counties dominate the region, both in terms of population and economic activity.

While the economic impact of a business or industry is usually indicated by the value of its output as measured by total sales or revenues, wages and benefits paid, or employment, SIA has no real output and relatively few employees. Rather than selling air travel and transportation services, it provides facilities and support for the use of these services. To this end, it has recently undertaken significant capital spending for runways and taxiways, terminal expansion, parking facilities and general airport improvements. It acts as a landlord by leasing its terminal facilities for passenger ticketing and processing and for aircraft fueling and maintenance as well as for car rentals, food services and related travel concessions. It also owns and operates an adjacent Business Park of over 600 acres which includes a regional U. S. Post Office “sorting facility, a regional waste-to-energy facility, and a variety of corporate offices as well as warehouses, manufacturing and shipping facilities.” Visitors arriving to the region by air have important economic impacts through their consumption of regional goods and services. Thus, determining the economic impact of the Spokane International Airport involves examining the operation of five different, somewhat unrelated components: airport operations itself, capital spending, leaseholder or tenant output, business park output and visitor spending.

2.2 Impact Analysis

The impact of the SIA on the output, employment, wages and taxes of the combined counties is estimated using operational statistics SIA provided, visitor survey responses, tenant and leaseholder surveys and information from other sources, in conjunction with data and economic impact multipliers compiled and estimated by the Minnesota IMPLAN Group for its IMPLAN analysis program, an economic modeling system incorporating all Spokane and Kootenai County industries. Data for the IMPLAN model are taken in part from the U.S. Economic Census, conducted every five years by the U. S. Census Bureau to compile “facts about the structure and functioning of the nation’s economy [US Census, 2004]” The Census provides measures of inputs, outputs, production and prices to determine short-term changes in economic conditions. Its data are intended to be used by federal, state and local policy makers to monitor and access business activity, by trade associations to identify market trends, and by

individual businesses to evaluate their performance relative to industry or area averages [US Census, 2004].

As indicated, locally developed data in conjunction with county data compiled by the IMPLAN Group are used to estimate SIA's regional impact. Specific estimates are developed using IMPLAN Pro [MIG, 2002], an impact analysis program. As described by the IMPLAN Group [MIG], the

IMPLAN (Impact Analysis for PLANing) program was originally developed by the US Department of Agriculture (USDA) Forest Service in cooperation with the Federal Emergency Management Agency and the USDA Bureau of Land management to assist the Forest Service in land and resource management planning. MIG was formed in 1993 to privatize the development of IMPLAN data and software. Its software performs the necessary calculations, using study area data, to create models and provides an interface to study changes in a region's economic description, create impact scenarios and to introduce changes to the local model. IMPLAN data and accounts closely follow the accounting conventions used by the Bureau of Economic Analysis (BEA) when developing an Input-Output (I-O) model of the U.S. economy as well as formats recommended by the United Nations. [MIG, 2000: i-iii].

According to the Bureau of Economic Analysis, the input-output (I-O) accounts show how the more than

500 industries that comprise the U.S. economy interact; specifically, how industries provide input to, and use output from, each other to produce gross domestic product. These accounts provide detailed information on the flows of the goods and services that make up the production processes of industries. Benchmark I-O accounts are based on detailed data from the economic censuses that are conducted every five years by the Bureau of the Census while annual accounts are prepared for selected years between the benchmarks based on less comprehensive data. The most recent benchmarks, for 1997, use a new classification system that is based on the North American Industry Classification System (NAICS) while the most recent annual account is for 2002.

I-O accounts can be used to study industry production or as a framework for preparing economic statistics. The accounts are an important analysis tool because they show the production functions of individual industries and the interactions among producers and between producers and final users in the economy. Specifically, these accounts can be used to estimate the direct and indirect effects of changes in final uses on industries and commodities; for example, to estimate the effects of a strike or a natural disaster on the economy, or, supplemented with

additional information, to estimate the effects of an increase in U.S. exports on employment. [BEA, 2005]

To develop models to study local economies, IMPLAN reconfigures coefficients and relationships from the national input-output model for local application. Data for this analysis are taken from state and federal sources compiled by the BEA, Bureau of Labor Statistics (BLS), U.S. Department of Commerce and state labor market information agencies such as the Washington State Employment Security Department Labor Market and Economic Analysis (LMEA) Branch and the Idaho Department of Commerce and Labor. Because of missing data, disclosure rules and collection procedures, some of these county data have to be estimated from more aggregate state or national sources. Data currently provided by MIG are for 2002, the most recent year available. Greater details on MIG multiplier estimation procedures and data compilation methods are found in the “Data Guide” section of the IMPLAN Professional Version 2.0 user guide [MIG, 2000].

Three conventional indicators of economic activity, output, labor income, and employment, are used to estimate the economic impact of the Airport. **Output** is the annual value of production, measured either by the total value of purchases by intermediate and final consumers (final sales), or by intermediate outlays plus value added. Output also can be thought of as the value of sales, plus or minus inventory. **Income** is employee compensation, measured by wage and salary payments as well as benefits, including health and life insurance, retirement payments, and any other non-cash compensation. **Employment**, measured by annual average jobs, includes both full and part time wage and salary employees. For the local economy as a whole, employment also includes self-employed and contract workers.

The output, labor income and employment originating from SIA have three types of impacts on the regional economy. **Direct Impacts** are changes in county expenditures arising as a consequence of the airport’s existence, measured in millions of dollars. For example, another runway is built. **Indirect Impacts** are the result of business to business transactions arising from day to day operations. Airport projects utilize local architectural and construction services; daily operations require electricity, equipment and business supplies as well as local travel, financial, and advertising

services. Fuel, services and equipment needed for aircraft maintenance and repair are also required. All these expenditures represent additional local spending that exists as a consequence of the airport. **Induced Impacts** or payroll effects arise from the spending of incomes earned by SIA employees or from incomes earned as a consequence of indirect transactions with the airport.

These different impacts are not one time events. Instead, SIA tenants might require additional technical computer support that could lead to additional employment or require additional service vans that could lead to additional van sales and then on to additional vehicle insurance, fuel, tires and so on. Induced spending has this same “multiplied” effect, in that employees hired as a consequence of additional spending also receive additional income that, when spent, leads to still further output and income.

However, these rounds of spending and re-spending do not continue indefinitely. Instead, the impacts of the initial change and subsequent rise in earnings quickly leak out of the region in the form of imports (purchases of goods and services not locally produced), out-of-area spending, taxes and saving.

When added, the three impacts measure the **Total Impact** of the initial output change. Thus,

Direct Impacts-----> Indirect and Induced Impacts----->Total Impact
and

$$\text{Direct Impacts} + \text{Indirect Impacts} + \text{Induced Impacts} = \text{Total Impact}.$$

The ratio of the total to the direct impact is called a **multiplier**, viz,

$$\text{Multiplier} = \frac{\text{Total Impact}}{\text{Direct Impact}}$$

Obviously, for the same initial change in output, industries with the largest multipliers will have the greatest economic impact on the regional economy. However, large multipliers do not imply large industries. Since the size of a multiplier is determined by the technical production and employee compensation characteristics of an industry, a relatively large industry could have output, employment and income multipliers much smaller than a relatively insignificant one. Because of spending leakages, multipliers are rarely larger than 2.0.

Finally, two technical points require discussion. First, output, income and employment data and the various multipliers provided by IMPLAN are all based on economic activity in 2002. When possible, all data relating to SIA activities were compiled for 2004, the latest year information was available. All calculations involving these data were deflated to 2002 values to match MIG's most recent year, using the Bureau of Labor Statistics Consumer Price Index (CPI), and then, after impact estimates, reflatd back to 2004 values, again using the CPI.

Second, in some instances Airport tenants were either unable or unwilling to provide information regarding their output, income paid or employment. When partial data, usually the number employed or number of jobs, was provided, missing data was estimated using linear relationships embedded in the IMPLAN data system. Using output as a basis, IMPLAN has calculated, or estimated with national data, ratios of income ($\text{Income} = a \cdot \text{Output}$) and employment ($\text{Employment} = b \cdot \text{Output}$) for each industry sector. Tenants for whom appropriate information was not reported were assigned to an IMPLAN sector and the ratios of that sector were used to estimate the unreported data based on information that was reported. In some instances, missing information was compiled using the company databases maintained by Polk's City Directories to identify output or employment, followed by the IMPLAN ratios to estimate the remaining information.

2.3 Current Trends

Currently, SIA is served by ten passenger carriers, Alaska Airlines, America West Airlines, Big Sky Airlines, Delta Airlines, Frontier Airlines, Horizon Air, Northwest Airlines, Skywest Airlines, Southwest Airlines, and United/United Express and four air cargo carriers, DHL Express, Menlo Worldwide Forwarding, Federal Express and United Parcel Service.

Basic information regarding the Airport's cargo volume, number of passengers, visitors arriving through the air terminal, visitor spending and assets for various years are found in Table 2.1 with sources and definitions. This data is discussed and further explained throughout this report.

**Table 2.1
Cargo, Passengers, Visitors and Assets**

Year	Cargo Tons (000)	Passengers		Visitors		Assets (\$M)
		Num. (M)	Enplanements (M)	Num.	Spending (\$M)	
1992	33.11	1.86	.93			
1993	34.04	2.33	1.17			
1994	39.36	2.69	1.35			
1995	42.80	2.99	1.50			
1996	48.52	3.26	1.63			105.78
1997	54.70	3.04	1.52			114.30
1998	59.28	2.95	1.48			132.00
1999	66.56	3.04	1.52			129.60
2000	67.26	3.07	1.53	492,250	262.15	135.70
2001	54.25	2.88	1.44	461,982	246.03	181.65
2002	53.28	2.75	1.37	440,424	244.38	196.99
2003	54.28	2.79	1.39	447,437	244.38	198.76
2004	57.34	3.06	1.53	490,771	261.09	211.70
2005	57.62	3.20	1.60	512,869	263.91	237.07

Source/definition:

Cargo: SIA; arriving and departing

Passengers: SIA; arriving and departing

Enplanements: Passengers/2

Visitors: (to Spokane & Kootenai Counties):.32*Enplanements

Visitor Spending:\$532 x Visitors (2004 dollars)

Assets: SIA (2004 dollars)

After sharply growing during the 1990s, Airport passenger and air cargo growth has slightly increased since 2001, largely as a consequence of local economic conditions and population growth as well as international political events. As Figure 2.3 indicates, the number of passengers leaving or arriving Spokane rose rapidly from 1.9 million in 1992 to 3.3 million in 1996, stagnated around 3.0 million to 2000, declined to 2.8 million during the next three years, reflecting the general air travel malaise produced by the 9/11 attacks, and then increased to 3.1 million passengers in 2004. The growth of air cargo was even sharper as Figure 2.4 shows, doubling from 33,100 tons in 1992 to 67,300 tons in 2000 but then sharply declining to 53,300 tons by 2002 before rising to 57,300 tons in 2004.

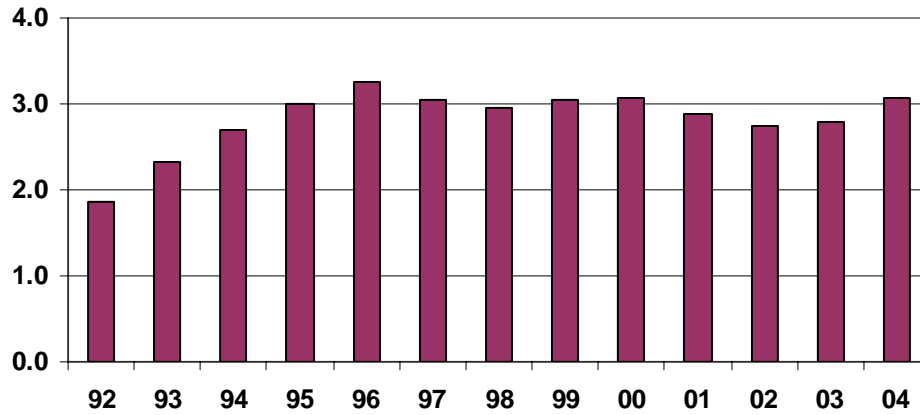


Figure 2.3 Passengers (Millions)

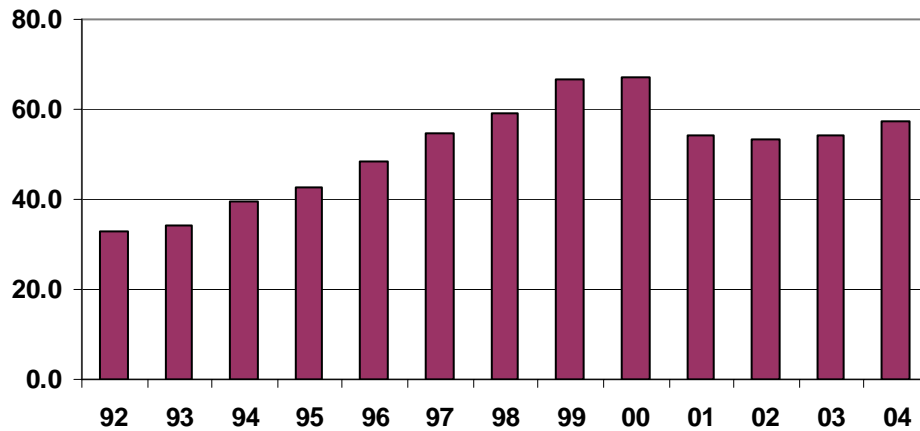


Figure 2.4 Air Cargo (Thousand Tons)

Because expenditures by nonresidents represent new spending injections into the local economy, the share of passengers who are visitors is an important factor when measuring the Airport’s economic impact. Visitors are defined as nonresident passengers boarding a departing aircraft. Information regarding the number and spending of visitors is presented in Part 3. Figure 2.5 shows that visitors arriving by air have ranged from about 450,000 to slightly more than 500,000 since 2000. The pattern of these numbers follows that of all Airport passengers generally, declining after 2000 and then rising after 2002.

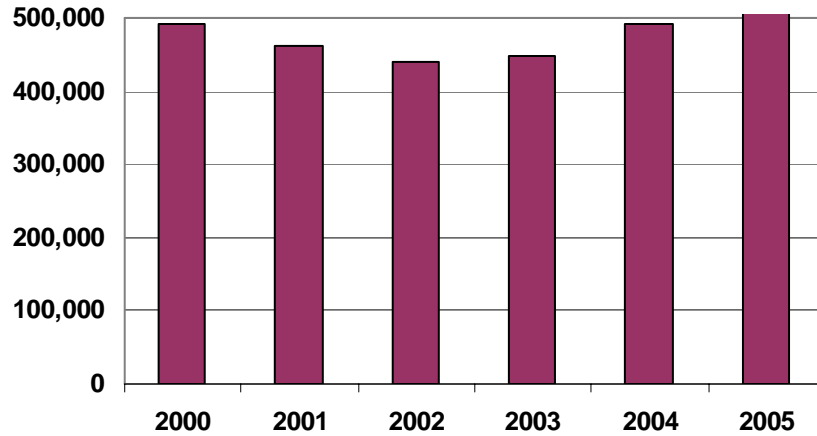


Figure 2.5 Air Passenger Visitors

Figure 2.6 shows that air passenger visitor direct local spending, after conversion to 2004 dollars, has remained about around \$250 million annually, declining from \$261 million in 2000 to \$234 million in 2002 and then rising to \$272 million in 2005.

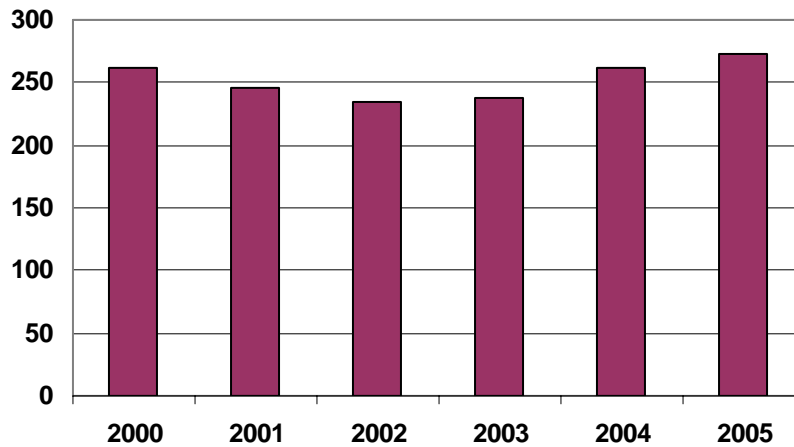


Figure 2.6 Air Passenger Visitor Local Spending (\$M)

As shown in Table 2.2, SIA income and expenses during the past five years as reported by the Washington State Auditor [Auditor’s Report] reflect recovery from recent passenger and cargo declines. Since 2000, Airport income has increased nearly 14 percent, from \$18.55 to \$21.08 million while operating expenses rose 12 percent, from \$12.69 to \$14.25 million. The major source of income growth has been the passenger terminal with revenues increasing from \$6.7 million and to \$8.0 million, while the largest operating expenses increase was in administration and operations.

Table 2.2
SIA Income and Expenses (\$ Thousands)

Operating Results	2004	2003	2002	2001	2000
Income:					
Airfield	3,587	3,217	3,204	3,713	3,558
Passenger Terminal	8,035	7,530	7,000	6,826	6,686
Leased Buildings	1,393	1,383	1,313	1,246	1,218
Leased Areas	1,052	964	912	816	824
Parking	6,741	6,146	6,017	5,606	6,094
Other	272	176	169	137	169
Total Income	21,080	19,416	18,615	18,344	18,549
Expenses:					
Salaries	5,266	5,243	5,417	5,716	5,480
Airfield	2,197	1,954	1,412	1,999	1,763
Passenger Terminal	2,235	2,028	2,046	2,481	1,850
Leased Buildings	336	333	325	282	361
Parking	437	588	349	376	640
Admin and Operations	3,784	3,432	3,196	2,887	2,592
Total Expenses	14,255	13,578	12,745	13,741	12,686
Depreciation	7,773	7,611	7,265	5,782	5,429
Operating Income (Loss)	(948)	(1,773)	(1,395)	(1,179)	434

Source: WA State Auditor's Report

In recent years the Airport has undertaken a significant increase in capital spending. Based on information provided by SIA or found in the Washington State Auditor's Report [p13, 15], Table 2.3 shows that during the past three years capital expenditures averaged \$17.1 million annually which, based on current projects underway or expected should increase to an annual average of about \$25 million between 2005 and 2008. Recent capital spending includes terminal renovations to accommodate security equipment, construction of an aircraft apron and road improvements in a planned expansion area. Projects underway include a new air traffic control tower, while planned projects include, among others, runway and taxiway improvements and extensions, facilities for aircraft servicing and improved road access and additional tenant and passenger accommodations.

**Table 2.3
Capital Expenditures 2002 - 2008 (\$ Millions)**

Year	Capital Project	Cost	Total
Completed			
2002	Total		18.5
2003	Total		14.8
2004	Total		18.1
Projects Underway or Expected			
2005	264-Foot Air Traffic Control Tower	23.0	
2005	Other	7.0	30.0
2006	TRACE Project	18.0	
2006	Spokane Airways Facility	3.5	
2006	Empire Airways, Absolute Aviation Facilities	1.7	
2006	New Taxiways, U.S. Customs Facility	.9	24.1
2007	Resurface 9000 foot Runway	7.0	
2007	Old Facilities Demolition	3.0	
2007	New Hangar	2.5	
2007	New Apron	2.5	
2007	Add New Perimeter Road	1.2	
2007	New Gas Station, Convenience Store	1.0	
2007	Other	.8	18.0
2008	Main Runway Extension	26.0	
2008	Land Acquisition	2.0	
2008	Refurbish Apron Outside Main Terminal	2.4	30.4

Source: SIA; WA State Auditor's Report

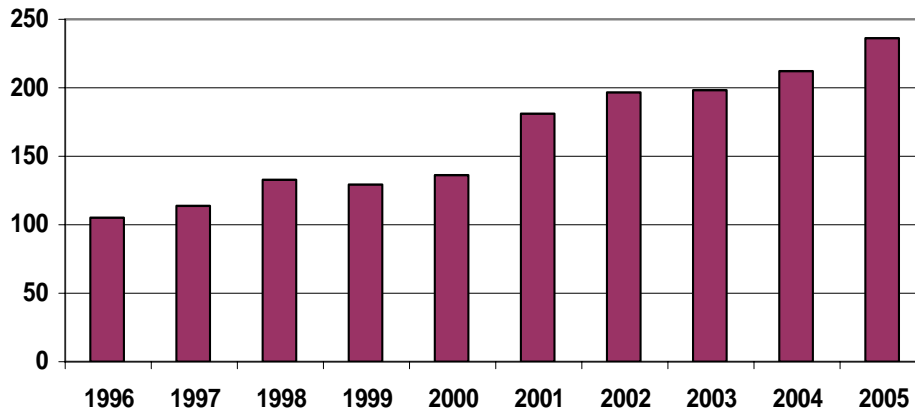


Figure 2.7 Total Assets (\$M)

As Figure 2.7 shows, the total assets of the Airport have more than doubled since 1996, increasing in 2004 dollars from \$106 million to \$237 million. Most of this growth was the result of a spurt in capital spending beginning in 2001. As compared to

the year before, total assets increased by \$47 million, from \$135 Million to \$182 million. As the table shows, this growth has continued as assets increased by another \$55 million by 2005.

3. Direct Impacts

3.1 Introduction

The direct economic impact of the five components associated with Spokane International Airport (SIA or Airport) reflects the size of these components as measured by their total output, by the income they pay as wages and benefits and by the number of people they employ. Additional output, income and employment arise from transactions with business suppliers and services to support these components in their day-to-day activities and from the spending of incomes received by component employees and those involved in component related transactions. When summarized, all these effects measure the Airport's *total* economic impact. As previously noted, SIA is involved in much more than simply facilitating air freight or travel and maintaining or refueling aircraft. Since these other activities involve largely unrelated regional industries, they must be examined separately, focusing on results for 2004.

3.2 Airport Operations

Operating expenses of \$14.26 million as reported by the Washington State Auditor [Auditor's Report], are used to measure the direct output impact of SIA. This figure excludes both depreciation charges since they represent payments for past rather current expenses and operating income which represents a surplus over expenses. The operating results found in the Auditor's report also include those for SIA's Business Park and its predecessor airport, Felts Field, now a small, general aviation airport oriented towards instruction and charter services.

For purposes of this study, the park is considered an integral part of SIA operations while Felts Field, separately located 10 miles distant, is excluded. As Tables 3.1 and 3.2 show, neither enterprise represents a significant share of the Airport's overall operations. However, because the Auditor's summary data does not permit separate identification of Felts Field, the output, income and employment of the Airport is reduced by 2.65 percent, reflecting the Field's output share. This adjustment causes the direct output impact to fall to \$13.88 million from \$14.26 million. Direct Airport employment operations in 2004 was 200, a figure consistent with that for the prior two

years of 206 and 228 while the direct income paid was \$5.27 million. After adjustment, these figures become 195 and \$5.13 million, respectively.

**Table 3.1
Business Park Income and Expenses (\$)**

Year	Operating				Share of SIA Expenses
	Income	Expenses	Income	Depreciation	
2002	998,540	671,179	327,361	194,080	5.27
2003	1,075,649	650,785	424,864	238,059	4.79
2004	1,131,688	714,500	417,188	241,741	5.01

Source: WA State Auditor's Report

**Table 3.2
Felts Field Airport Income and Expenses (\$)**

Year	Operating				Share of SIA Expenses
	Income	Expenses	Income	Depreciation	
2002	346,503	386,031	-39,528	196,989	3.03
2003	339,520	416,084	-76,564	293,804	3.06
2004	484,034	378,220	105,814	378,220	2.65

Source: WA State Auditor's Report

3.3 Airport Capital Expenditures

During the past three years, annual capital spending ranged from a low of \$14.8 million to a high of \$18.8 million, averaging \$17.56 million in 2004 dollars. Using IMPLAN industry ratios, employment associated with this spending is estimated to be 208 jobs while income from these jobs is estimated to be \$7.69 million.

3.4 Airport Tenants

Rather than directly providing air transportation services, SIA has created the infrastructure to provide these services. This infrastructure includes not only runways for aircraft landing and departures as well as facilities for fueling, maintenance and cargo handling but also a passenger terminal and concessions for parking, dining and ground transportation. As indicated by Table 3.3, various SIA facilities were rented to 36 tenants who employed a total of 1,312 people in 2004. These tenants included not only those directly involved with air transportation but also those concerned with travel security (Federal Non-Military and Investigation and Security Services) and passenger

services such as car rentals and overnight accommodations. The total output of these tenants was \$159.15 million.

**Table 3.3
Airport Tenants 2004**

Sector	Number	Employees
Auto Leasing and Rental	8	192
Transit, Ground passenger Transportation	1	D
Facilities Support Services	2	D
Federal Non-Military	2	D
Food Services and Drinking Places	1	D
Hotels and Motels	1	D
Air Transportation	14	452
Investigation and Security Services	2	D
Other Educational Services	1	D
Couriers and messengers	4	70
Total	36	1,312

Source: SIA

D = Not disclosed to ensure anonymity

Information regarding the output, income and employment of tenants was compiled by using the survey Appendix A, or in instances of initial non-response, from follow-up phone calls and emails. Since survey responses could result in disclosure of business sensitive information, data categories with three or less respondents were not disclosed to ensure anonymity. Ultimately, 22 of 36 the tenants (63 percent) provided at least employment figures. Missing data was estimated using IMPLAN industry ratios. Databases maintained by Polk's City Directory were used to compile information for the 14 non-respondents. As shown in the extraction example found in Appendix B, these databases allow searches by a number of different company specific characteristics such as name, address, type of business, phone number or radius to some location to extract company SIC code, sales volume and number of employees [Polk's Directories]. Data from the Polk's database was verified using IMPLAN industry ratios.

3.5 Visitor Spending

Ignoring relocations, air travel involves enplaning to visit to some destination for business related reasons, to see friends and relatives or to enjoy vacation and tourist attractions, followed by, after a period of time, deplaning after returning from the business or pleasure visit. For Spokane International Airport, facilitating the travel of visitors constitutes a significant share of its economic impact because spending by nonresidents temporarily in the region for business or pleasure represents important injections into the local economy.

To determine impact of visitors, Airport intercept surveys were conducted by Strategic Research Associates (SRA) during the summer and fall of 2005. Departing (enplaning) passengers were asked about the purpose of their trip, the area where they spent most of their time and their spending on broad expenditure categories. As expected, because of the vacation attractions of the region, 61 percent of the summer travelers were visitors while in fall this fraction fell to 36 percent.

Table 3.4 shows that 65.9 percent of travelers during the summer and 79.7 percent during the fall were identified as “local” visitors, spending most of their time in the Airport’s service area.

Visitors were asked about their spending on broad categories of items. With 2005 responses deflated to 2004 values, Table 3.5 shows that during the summer departing visitors spent an average of \$723 per visit while averaging \$442 per visit in the fall. Summer survey respondents indicated that more than 80 percent of their spending was for lodging, eating and drinking and local transportation while in the fall this share fell to 59 percent as spending on unknown “other” items rose to 26 percent.

Table 3.4
SIA Air Passenger Regional Locations
Most Visited (%)

Location	Summer	Fall
Spokane County	51.7	64.3
Kootenai County	14.2	15.4
Other Northern Idaho	13.8	5.7
Other NE Washington	4.2	2.5
Other Eastern Washington	4.2	1.8
Canada	3.4	0.4
Pullman WA	0.8	3.9
Other	7.6	6.1
Total	100.0	100.0

Source: SRA Survey

Table 3.5
SIA Visitor Spending Per Visit

Type	Summer		Fall	
	Amount (\$)	Percent	Amount (\$)	Percent
Lodging	285	39.4	114	25.8
Eating and Drinking	175	24.2	83	18.8
Shopping	88	12.2	45	10.2
Entertainment	28	3.9	18	4.0
Recreation	16	2.2	7	1.6
Local Transportation	125	17.3	61	13.8
Other	6	.8	114	25.8
Total	723	100.0	442	100.0

Source: SRA Survey

The direct impact of visitor spending was estimated using the fraction of enplanements who were local visitors, multiplied by spending per visit. For example, as found in Table 3.6, of 577,686 departures during the months of January through May, 36 percent were estimated to be visitors. Of this group, 80 percent or 166,374 were local visitors. During their visit each member of this group spent an average of \$442 for a total direct spending impact of \$73.46 million.

These calculations were repeated for other two time periods in the year with the result that an estimated 491,473 people were local visitors who spent a total of \$266.72 million in 2005. Since this spending was by nonresidents, it represents injections into the local economy. After allocating each type of spending such as lodging, eating and

drinking and so on to its appropriate IMPLAN industry, industry output ratios were used to estimate income generated and job supported. In total, SIA-facilitated visitor spending directly supported an estimated \$103.42 million in income and 5,485 jobs.

**Table 3.6
SIA Visitor Spending**

Period	Departures	Percent Visitors	Local Visitors		Visitor Spending	
			Percent	Number	Per Visit	Total (\$M)
Jan-May	577,686	36	80	166,374	442	73.46
Jun-Aug	438,730	61	66	176,633	723	127.71
Sep-Dec	515,511	36	80	148,467	442	65.56
Total/Ave	1,531,927	43	74	491,473	543	266.72

Source: SRA Survey

Table 3.6 also provides some summary figures that can be used to estimate direct impact of visitor spending on other years. About 32 percent of the enplanements or departures (43 percent x 74 percent) were local visitors during 2005. During their visit, spending by this group averaged \$543 per person.

3.6 Airport Business Park

In 2004, the SIA Business Park had 19 tenants who, as shown in Table 3.7, were engaged in a wide variety activities ranging from a U.S. Post Office sorting facility to business support services, commercial enterprises and the county correctional facility. Total output of these tenants was \$76.15 million, total wages and benefits were \$43.93 million and total employment was 833.

Information regarding the names of business park tenants and the number of their employees was provided by the business park manager. To prevent disclosure of business sensitive information, individual tenant figures were not disclosed to ensure anonymity. Tenants were assigned to specific IMPLAN industries and their output and income was estimated using IMPLAN industry ratios.

**Table 3.7
Airport Business Park 2004**

Sector	Number	Employees
Mining Support Activities	1	D
Construction	2	D
Wine Importers	1	D
Fabricated Structural Metal Mfg	1	D
Industrial Machinery Mfg.	1	D
Air Transportation	1	D
Truck Transportation	2	D
Postal Service	1	D
Gasoline Stations	1	D
Commercial Banking	1	D
Real Estate	1	D
Architectural and Engineering Services	1	D
Business Support Services	1	D
Waste Management and Remediation	2	D
State and Local Non-Education	2	D
Total	19	833

Source: SIA

D = Not disclosed to disclose anonymity

3.7 Summary of SIA Direct Impacts

When all of its operating components are considered, the direct output economic impact of Spokane International Airport as shown in Table 3.8 in 2004 was \$533 million, largely accounted for by the output of Airport and Business Park tenants and spending by visitors. These three components also accounted for most of the \$200 million paid as income and for most of the 8,033 jobs directly created by the operation of the Airport.

**Table 3.8
Airport Direct Impacts**

Component	Output (\$M)	Income (\$M)	Employment (Jobs)
Operations	13.88	5.13	195
Capital Spending	17.59	7.69	208
Tenants	159.15	40.53	1,312
Visitors	266.72	103.42	5,485
Business Park	76.15	43.39	833
Total	533.48	200.16	8,033

4. Indirect, Induced and Total Impacts

4.1 Indirect Impacts

Spending by the Airport for operations and capital projects, by terminal and business park tenants, and by visitors arriving by air not only directly affects output, income and employment. It also has indirect and induced impacts. Indirect impacts represent the economic consequences of third party transactions, whereby local businesses provide goods and services required by the Airport, its tenants or visitors. Both the Airport and its tenants require financial, legal, insurance and technical services as well as petroleum products, food and traveler items for resale, and avionic and information processing equipment. Some of these items are purchased at wholesale, others at retail. Transportation and warehousing is usually required. Visitors require accommodations and food services; they utilize transportation and administrative support services. Construction, buildings and facilities involve real estate transactions. In total, transactions with the Airport, its tenants or visitors influence the output, income and employment of a wide range of local businesses.

Overall, in 2004 third party transactions with SIA-facilitated activities produced an additional \$162.43 million in output, increased incomes by \$53.76 million and supported an additional 1,824 jobs. As Table 4.1 shows, not all industrial sectors, representing related industries, were equally affected by these increases. Over 40 percent of the output increases were in administration and support with 12.2 percent of the total, followed by real estate (with 11.6 percent), transportation and warehousing (10.9 percent) and professional, scientific and technical services (9.2 percent).

The mix of industries with the largest indirect income increases was somewhat different. Four industries accounted for more than half of this increase, led by professional, scientific and technical services with 16.4 percent of the total, followed by administration and support (14.5 percent), transportation and warehousing (14.2 percent), and wholesale trade (8.9 percent). Over 50 percent of the jobs indirectly supported by the Airport were in administration and support services with 20.3 percent of the total, followed by professional, scientific and technical services (12.2 percent) transportation, accommodation and food services (11.2 percent) and warehousing (10.6 percent).

**Table 4.1
SIA Indirect Impacts by Industry**

Industrial Sector	(\$M)	(\$M)	Empl	Percent		
	Output	Income		Output	Inc	Empl
Administration & Support	19.84	7.77	371	12.2	14.5	20.3
Real Estate, Rental & Leasing	18.82	2.58	146	11.6	4.8	8.0
Transportation & Warehousing	17.73	7.62	193	10.9	14.2	10.6
Prof, Scientific, & Technical	14.97	8.84	223	9.2	16.4	12.2
Finance & Insurance	14.89	4.61	90	9.2	8.6	5.0
Wholesale Trade	12.57	4.80	117	7.7	8.9	6.4
Manufacturing	12.26	2.47	71	7.5	4.6	3.9
Information	9.60	2.46	63	5.9	4.6	3.5
Other State & Local	8.66	2.34	55	5.3	4.4	3.0
Accommodation & Food Services	7.56	2.54	203	4.7	4.7	11.2
Other	25.52	7.73	291	15.7	14.4	15.9
Total	162.43	53.76	1,824	100.0	100.0	100.0

Details of the indirect impact of the components of the Airport are found in Tables 4.2, 4.3 and 4.4. Table 4.2 shows indirect output impacts. Over 80 percent of these were the result of tenant activities (41.5 percent) and visitor spending (40.7 percent), followed by the Business Park (9.8 percent), operations (4.1 percent) and capital spending (3.9 percent). The industry output impacts are not consistent across all of the components. For example, visitor spending had the greatest impact on real estate output while financial and insurance was the major beneficiary of Business Park activities.

Table 4.2
SIA Indirect Output Impacts by Industrial Sectors (\$M)

Industrial Sector	SIA Component					Total	Share
	Operations	Capital	Tenants	Visitors	Business Park		
Administration & Support	1.53	.39	12.34	4.01	1.57	19.84	12.2
Real Estate, Rental & Leasing	.45	.60	6.14	9.91	1.71	18.82	11.6
Transportation & Warehousing	1.17	.34	8.85	4.93	2.44	17.73	10.9
Prof, Scientific & Technical	.63	1.59	5.89	5.40	1.45	14.97	9.2
Finance & Insurance	.36	.54	4.72	6.78	2.49	14.89	9.2
Wholesale Trade	.34	.57	3.87	6.77	1.02	12.57	7.7
Manufacturing	.35	.86	4.32	5.81	.92	12.26	7.6
Information	.37	.21	4.09	4.32	.61	9.60	5.9
State & Local	.37	.10	3.95	3.38	.85	8.66	5.3
Accommodation & Food Services	.68	.06	5.08	1.20	.54	7.56	4.7
Subtotal	6.25	5.26	59.27	52.51	13.62	136.91	84.3
Other	.45	1.04	8.20	13.59	2.24	25.52	15.70
Total	6.70	6.30	67.47	66.10	15.86	162.43	100.0
Share	4.1	3.9	41.5	40.7	9.8	100.0	

While the mix of sectors impacted by income or job increases vary somewhat as Tables 4.3 and 4.4 show, the dominate influence of tenant activities and visitor spending is apparent. For both income and jobs, 77.1 percent of the indirect impact was accounted for by these two components.

Table 4.3
SIA Indirect Income Impacts by Industrial Sectors (\$M)

Industrial Sector	SIA Component					Total	Share
	Operations	Capital	Tenants	Visitors	Business Park		
Prof, Scientific & Technical	.65	1.02	2.88	3.38	.92	8.84	16.4
Administration & Support	1.02	.21	4.08	1.79	.68	7.77	14.5
Transportation & Warehousing	.94	.15	3.40	2.14	.99	7.62	14.2
Wholesale Trade	.22	.23	1.22	2.72	.41	4.80	8.9
Finance & Insurance	.19	.17	1.23	2.17	.84	4.61	8.6
Real Estate, Rental & Leasing	.11	.09	.75	1.37	.26	2.58	4.8
Accommodation & Food Services	.40	.02	1.46	.45	.20	2.54	4.7
Manufacturing	.14	.19	.80	1.13	.21	2.47	4.6
Information	.17	.06	.89	1.17	.17	2.46	4.6
Management of Companies	.09	.04	.54	1.54	.15	2.36	4.4
Subtotal	3.92	2.18	17.26	17.84	4.83	46.04	85.7
Other	.24	.38	2.29	4.05	.76	7.72	14.44
Total	4.16	2.56	19.55	21.90	5.59	53.76	100.0
Share	7.8	4.8	36.4	40.7	10.4	100.0	

**Table 4.4
SIA Indirect Employment (Jobs) Impacts by Industrial Sector**

Industrial Sector	SIA Component					Total	Share
	Operations	Capital	Tenants	Visitors	Business Park		
Admin & Support	57	11	189	85	29	371	20.3
Prof, Scientific & Technical	21	19	77	85	21	223	12.2
Accommodation & Food Services	43	1	119	29	12	203	11.2
Transportation & Warehousing	26	3	79	63	22	193	10.6
Real Estate, Rental & Leasing	9	4	45	75	13	146	8.0
Wholesale Trade	8	5	33	63	9	117	6.4
Finance & Insurance	5	3	25	41	16	90	5.0
Retail Trade	2	8	37	34	4	85	4.6
Manufacturing	5	5	24	32	5	71	3.9
Other Services (exc Pub Adm.)	2	4	20	31	11	68	3.7
Subtotal	178	64	648	537	142	1,568	86.0
Other	14	4	71	152	15	256	14.05
Total	192	68	719	688	157	1,824	100.0
Share	10.5	3.7	39.4	37.7	8.6	100.0	

4.2 Induced Impacts

The induced impact of the Airport reflects the spending of incomes received through employment by one of the Airport's components or in one of the industrial sectors it indirectly affects. This spending does not depend on the business or spending characteristics of a particular component. Instead, it reflects general household spending.

For example, people directly or indirectly employed by the Airport purchase groceries, clothing, cars, and homes. They require health care, they dine at local restaurants and enjoy local entertainments. Similarly, others are employed to accommodate visitors arriving by air who stay at local hotels, rent cars, dine at local restaurants and enjoy local entertainment. This spending leads to the employment of still others to provide the goods and services demanded as the direct or indirect consequence of the Airport. In turn, this second round of jobs leads to additional incomes which support employment of still further people. However, this induced impact, the payroll effect produced by the spending of incomes earned as the result of

some Airport related activity does not continue forever. Ultimately, the spending “leaks” out of the area as people save, pay taxes or import items not locally produced.

The induced impacts of activities facilitated by the Airport shown in Table 4.5 indicate the spending of incomes directly or indirectly received as a consequence of the Airport activities increased regional *output* by \$200.56 million, *incomes* by \$64.84 million and supported an additional 2,386 *jobs*. This spending reflects household spending in general. Almost 50 percent of the output increases were accounted for by spending patterns on health care (16.9 percent of the total), owner owned housing (12.0 percent), retail trade (11.9 percent) and finance and insurance services (9.7 percent). More than 40 percent of the income increases were in two sectors, health care with 27 percent and retail trade with 16.2 percent. Induced employment or job effects were also concentrated in these two sectors, with health care received 20.9 percent of the jobs supported by payroll spending, followed retail trade with 17.4 percent and accommodation and food services with 12.5 percent.

**Table 4.5
SIA Total Induced Impacts**

Industrial Sector	(\$M)	(\$M)	Empl	Percent		
	Output	Income		Output	Inc	Empl
Health Care & Social Assistance	33.89	17.51	498	16.9	27.0	20.9
Owner Occupied Dwellings	24.11	.00	0	12.0	.0	.0
Retail Trade	23.87	10.48	414	11.9	16.2	17.4
Finance & Insurance	19.49	5.60	119	9.7	8.6	5.0
Real Estate, Rental & Leasing	12.87	1.97	119	6.4	3.0	5.0
Accommodation & Food Services	11.92	4.17	298	5.9	6.4	12.5
Wholesale Trade	11.53	4.41	106	5.7	6.8	4.5
Other Services (except Pub Admn)	10.45	4.40	239	5.2	6.8	10.0
Manufacturing	9.26	1.76	50	4.6	2.7	2.1
Information	7.87	1.90	73	3.9	2.9	3.0
Other	35.29	12.64	469	17.6	19.5	19.7
Total	200.56	64.84	2,386	100.0	100.0	100.0

4.3 Summary of SIA Indirect and Induced Impacts

When all the components are considered, the indirect and induced economic impacts of the Airport supported an increase in output of \$362.98 million. As Table 4.6 shows, these impacts also supported \$118.60 million in increased incomes and 4,210

additional jobs. More than 75 percent of these increases were accounted for by the output of tenants and spending by visitors.

**Table 4.6
SIA Indirect and Induced Impacts**

Component	Output (\$M)	Income (\$M)	Employment (Jobs)
Operations	11.00	6.54	316
Capital Spending	14.10	5.21	161
Tenants	125.02	34.90	1,350
Visitors	160.35	53.91	1,816
Business Park	52.52	18.04	567
Total	362.98	118.60	4,210

4.4 Total Impacts

In 2004 the total output impact of activities facilitated by the Spokane International Airport was \$896.47 million. As Table 4.7 shows, this impact was composed of \$533.48 million in direct spending, indirect third party transactions of \$162.43 million and \$200.56 million from the spending of incomes induced by direct or indirect transactions. The major contributors to this total impact were visitor spending of \$266.72 million which resulted in total output of \$427.07 million, and tenant output of \$159.15 million which produced \$284.17 million in total output.

**Table 4.7
Output Total Impact by SIA Component (\$M)**

Indicator	Direct	Indirect	Induced	Total
Operations	13.88	6.70	4.30	24.87
Capital Spending	17.59	6.30	7.80	31.69
Tenants	159.15	67.47	57.55	284.17
Visitors	266.72	66.10	94.25	427.07
Business Park	76.15	15.86	36.65	128.67
Total	533.48	162.43	200.56	896.47

Because of indirect and induced impacts, direct spending by each of the Airport's components has a "multiplier" effect which results in a larger total impact. Table 4.8 shows this relationship. For example, every million dollars of capital spending produced indirect spending of .36 million dollars and induced spending of .44 million dollars for a

total output increase of 1.8 million dollars. Overall, any output increase by any component of the Airport increased local output by at least 1.6 times.

**Table 4.8
Output Impact Multipliers**

Indicator	Direct	Indirect	Induced	Total
Operations	1.00	.48	.31	1.79
Capital Spending	1.00	.36	.44	1.80
Tenants	1.00	.42	.36	1.79
Business Park	1.00	.21	.48	1.69
Visitors	1.00	.25	.35	1.60
Overall	1.00	.30	.38	1.68

Another way to illustrate the impact of Airport related activities is to consider its operations and capital spending as necessary preconditions for any of its economic contributions. Table 4.9 traces the impact of these two components on Airport tenants, visitors arriving by air and the Business Park. Every million dollars spent for operations and capital projects is associated with 5.06 million dollars in direct tenant output, 8.48 million dollars in visitor spending and 2.42 million dollars in direct Business Park activities. In terms of total output impacts, every million dollars spent for operations and capital is associated with 9.03 million dollars in total tenant output, 13.57 million dollars in total visitor output and 4.09 million dollars in total Business Park activities. Overall, every million dollars directly spent for Airport operations and capital projects is associated with an output increase of 28.49 million dollars.

**Table 4.9
Output Multipliers**

Indicator	Direct	Indirect	Induced	Total
Operations & Capital	1.00	.41	.38	1.80
Tenants	5.06	2.14	1.83	9.03
Visitors	8.48	2.10	3.00	13.57
Business Park	2.42	.50	1.16	4.09
Overall	16.95	5.16	6.37	28.49

Table 4.10 shows the direct, indirect, induced and total income impacts while the income impact multipliers are found in Table 4.11. Direct income payments by any Airport component combined with the indirect and induced incomes resulting from third

party transactions and employee spending ultimately resulted in local incomes 1.4 to 2.3 times larger. Because of the linear nature of the IMPLAN modeling system, the income multipliers are similar to those for output as Table 4.12 indicates.

**Table 4.10
Income Total Impacts by SIA Component (\$M)**

Indicator	Direct	Indirect	Induced	Total
Operations	5.13	4.16	2.38	11.67
Capital Spending	7.69	2.56	2.65	12.90
Tenants	40.53	19.55	15.35	75.43
Visitors	103.42	21.90	32.01	157.32
Business Park	43.39	5.59	12.45	61.44
Total	200.16	53.76	64.84	318.76

**Table 4.11
Income Impact Multipliers**

Indicator	Direct	Indirect	Induced	Total
Operations	1.00	.81	.46	2.27
Capital Spending	1.00	.33	.34	1.68
Tenants	1.00	.48	.38	1.86
Business Park	1.00	.13	.29	1.42
Visitors	1.00	.21	.31	1.52
Overall	1.00	.27	.32	1.59

**Table 4.12
Income Multipliers**

Indicator	Direct	Indirect	Induced	Total
Operations & Capital	1.00	0.52	0.39	1.92
Tenants	3.16	1.53	1.20	5.88
Visitors	8.07	1.71	2.50	12.27
Business Park	3.39	0.44	0.97	4.79
Overall	15.61	4.19	5.06	24.87

Employment or job impacts are consistent with those for output or income. As Table 4.13 shows, a total of 8,033 jobs were directly supported by some aspect of the Airport. Third party transactions supported another 1,824 jobs while the spending of incomes directly or indirectly earned supported an additional 2,386 jobs. Together, these three impacts supported 12,243 jobs.

The impact multipliers found in Table 4.14 indicate significant variability in the job consequences of Airport activities. For example, the indirect and induced effects of

visitor spending supported an additional .33 jobs while the same effects from operations supported an additional 1.62 jobs. These differences reflect the type of employment necessary to support the two different activities. Wages in businesses oriented towards visitors such as lodging and food services are most likely much lower than those paid to operate and maintain a modern international airport. Finally, the employment multipliers found in Table 4.15 repeat those previously discussed. Overall, every job in operations and capital projects ultimately supports 30.38 jobs in the local economy.

**Table 4.13
Employment (Jobs) Total Impacts
by SIA Component**

Indicator	Direct	Indirect	Induced	Total
Operations	195	192	124	511
Capital Spending	208	68	93	369
Tenants	1,312	719	631	2,662
Visitors	5,485	689	1,128	7,301
Business Park	833	157	410	1,400
Total	8,033	1,824	2,386	12,243

**Table 4.14
Employment Impact Multipliers**

Indicator	Direct	Indirect	Induced	Total
Operations	1.00	.98	.64	2.62
Capital Spending	1.00	.33	.45	1.77
Tenants	1.00	.55	.48	2.03
Business Park	1.00	.19	.49	1.68
Visitors	1.00	.13	.21	1.33
Overall	1.00	.23	.30	1.52

**Table 4.15
Employment Multipliers**

Indicator	Direct	Indirect	Induced	Total
Operations & Capital	1.00	.64	.54	2.18
Tenants	3.26	1.78	1.57	6.61
Visitors	13.61	1.71	2.80	18.12
Business Park	2.07	.39	1.02	3.47
Overall	19.93	4.53	5.92	30.38

4.5 Tax Impacts

Much of the direct, indirect and induced spending by the Airport, its tenants or visitors arriving through the Airport involves taxable transactions. With income taxes excluded because different income sources can not be separated, activities related to the Airport generated a total of \$50.85 million in federal, state and local taxes in 2004. More than 70 percent of this amount was result of visitor spending, largely as state sales taxes or local business related property taxes. Overall, as Table 4.16 indicates, sales taxes on Airport related activities produced \$20.97 million in state revenues and \$6.44 million in local revenues, while property taxes resulted in \$2.47 million in state revenues and \$11.03 in local revenues.

Of \$50.85 million in total business taxes, \$30.78 million resulted from direct transactions, \$7.54 million from indirect transactions and \$12.52 from induced spending. As Table 4.17 shows, most of these taxes, largely sales and property, resulted from visitor or tenant activities. Because of the small amounts involved, the tax impact multipliers found in Table 4.18 should be considered cautiously. The indirect multiplier for capital spending seems unreasonably large while the induced multipliers for capital, tenants and the Business Park might reflect high sales tax exposure from relatively high wages.

**Table 4.16
Total Business Taxes Generated (\$M)**

Type Tax	Operations	Capital	Tenants	Visitors	Business Park	Total
Federal Total	.10	.08	.99	3.40	.36	4.91
Property Taxes	.05	.04	.50	1.71	.18	2.47
Sales Tax	.42	.34	4.21	14.49	1.52	20.97
Other Taxes	<u>.01</u>	<u>.01</u>	<u>.10</u>	<u>.34</u>	<u>.04</u>	<u>.50</u>
State Total	.47	.39	4.80	16.54	1.73	23.93
Property Taxes	.22	.18	2.21	7.62	.80	11.03
Sales Tax	.13	.10	1.29	4.45	.47	6.44
Other Taxes	<u>.09</u>	<u>.07</u>	<u>.91</u>	<u>3.13</u>	<u>.33</u>	<u>4.53</u>
Local Total	.44	.35	4.41	15.20	1.59	22.00
Total	1.01	.82	10.21	35.14	3.68	50.85

**Table 4.17
Business Taxes Total Impacts by SIA
Component (\$M)**

Indicator	Direct	Indirect	Induced	Total
Operations	.44	.30	.27	1.01
Capital Spending	.06	.27	.49	.82
Tenants	3.47	3.14	3.59	10.21
Visitors	26.05	3.20	5.88	35.14
Business Park	.76	.63	2.29	3.68
Total	30.78	7.54	12.52	50.85

**Table 4.18
Business Taxes Impact Multipliers by SIA
Component**

Indicator	Direct	Indirect	Induced	Total
Operations	1.00	.70	.62	2.32
Capital Spending	1.00	4.21	7.64	12.85
Tenants	1.00	.90	1.04	2.94
Business Park	1.00	.83	3.01	4.84
Visitors	1.00	.12	.23	1.35
Total	1.00	.24	.41	1.65

4.6 Overall SIA Impacts

Table 4.19 shows the overall impact of Spokane International Airport on output, income, employment and business taxes in 2004. In terms of direct impacts, the Airport share of local output was 1.84 percent while its share of income was 1.82 percent, its share of employment 2.61 percent and its share of business taxes 2.63 percent. When indirect and induced impacts are added to the direct impacts, the Airport share of output increases to 3.09 percent while its income becomes 2.89 percent, its share of employment 3.97 percent and its share of business taxes 4.35 percent

**Table 4.19
Economic Impacts of SIA**

Indicator	Total	Direct Impact		Total Impact	
		SIA	% Share	SIA	% Share
Output (\$M)	29,057	533	1.84	896	3.09
Income (\$M)	11,025	200	1.82	319	2.89
Employment	308,317	8,033	2.61	12,243	3.97
Business Taxes (\$M)	1,170	31	2.63	51	4.35

5. Comparisons with Other Studies

The economic impact of airports has been extensively studied. In the mid1990s, the Federal Aviation Administration funded a series of studies such as “The Economic Impact of Airports in Colorado” and “Economics Impacts of Washington Airports” that sought to determine the specific economic impact of every public airport in particular states. Additionally, impacts have been estimated not only for individual airports but also for ones that are part of some regional network as with the “Regional Airports Economic Impact Study” prepared for the Columbus (Ohio) Regional Airport Authority or some other transportation network as with a study of the Seattle-Tacoma International Airport (SeaTac) prepared for the Port of Seattle.

Unfortunately, results from many of these studies are difficult to compare. Not only do estimation techniques, methodologies, airport definitions, and data collection procedures show little uniformity, but findings are also incompletely presented with insufficient detail, omission of important impact statistics and with excessive aggregation.

**Table 5.1
Impact Multipliers and Employment Ratios**

Study Area	State	Study Year	Multiplier			Dir Emp/ Dir Out	Tot Emp/ Dir Out
			Output	Income	Empl.		
<u>Airports:</u>							
Spokane Int'l	WA, ID	2004	1.68	1.59	1.52	15.06	22.95
Spokane Int'l	WA	1998	1.45	1.58	1.38	15.57	21.49
King Co Int'l	WA	2004	1.59	1.93	2.59	3.79	9.82
King Co Int'l	WA	1998	1.46	1.55	1.42	13.66	19.45
Seattle-Tacoma	WA	2000	1.46	1.96	1.54	8.18	12.60
Columbus Int'l	OH	2004	1.78	1.70	1.78	10.73	19.13
G. Bush Intercont'l	TX	2003	2.23	2.24	2.40	5.63	13.53
<u>Commercial Aviation:</u>							
Texas CA	TX	2003	1.73	1.45	1.47	21.73	31.90
Wisconsin CA	WI	1995	1.83	2.05	2.56	12.40	31.74
<u>All Airports:</u>							
Colorado ALL	CO	2003	2.21	2.17	1.87	14.11	26.43
Iowa ALL	IA	1999	1.58	1.57	1.71	10.89	18.68

The economic impact of Spokane International Airport was estimated in 1998 as part of a Washington Department of Transportation study of state airports. As can be seen in Table 5.1, findings of this study are similar to those for the current one. The ratio of direct or total employment to direct output can serve as a validation check, with excessively large or small ratios suggesting fundamental methodological differences across other studies. As shown, the ratios for SIA for the two different studies are nearly identical. The table also includes results from impact studies of all commercial state aviation and for all state aviation generally. The estimates from the studies included in the table cover airports and aviation throughout the U.S. They show a range of possible and probably reasonable multipliers and employment ratios. Overall, the estimates for the Airport are consistent these estimates.

Because of its relative magnitude, visitor spending is an important an aspect of the economic impact of the Airport. The share of enplanements (departures) that were estimated to be visitors at SIA was 32 percent. This figure is consistent with shares used in other studies, such as the 1998 Washington Department of Transportation Airport study which used a figure of 40 percent. Spending per trip is also an important part of estimating visitor impact. Table 5.3 collects some estimates from other studies across the U.S. The average spending per trip estimate is consistent with these estimates.

**Table 5.2
Visitor Spending in Recent Airport Impact Studies**

Airport	State	Study Year	Spending Category (%)					Ave \$ per Trip
			Lodging	Eating, Drinking	Shopping, Other	Entertain, Rec	Local Trans	
Spokane Int'l	WA, ID	2004	32.3	21.4	24.9	5.8	15.4	542
Spokane Int'l	WA	1998	38.6	14.8	12.9	15.9	17.8	750
Columbus Int'l	OH	2004	40.0	25.0	10.0	10.0	15.0	447
Burlington Int'l	VT	2002	40.5	28.5	30.9	--	--	389
G. Bush Intercont'l	TX	2003	15.1	26.8	39.9	18.2	--	502

Appendix A

Spokane International Airport Economic Impact Survey Questionnaire

2004 Fiscal Year

Please Fill in Blanks as Appropriate

Responses to this survey will be treated as confidential. Responses will be combined with other responses to preserve individual confidentiality.

1. Establishment Name:

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2. Contacts:

Name:	Phone:
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3. Major products or services:

4. Total value annual sales or output (2004):

\$

5. Estimated sales to customers residing in Spokane and Kootenai Counties (2004):

%

6. Average annual number of employees (2004)

a. Full-time	b. Part-time:
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7. Total annual employee compensation (payroll including fringes) (2004):

\$

Send completed questionnaire to (email): mwagner@ewu.edu , (fax) 509-359-6983
or mail to:

Institute for Public Policy and Economic Analysis
Patterson Hall 300
Eastern Washington University
Cheney, WA 99004-2429

If you have any questions or concerns please contact:

Mark Wagner, Policy Analyst, (phone) 509-359-6937 or (email): mwagner@ewu.edu

Thank you for your participation

Appendix B

Example of Data Available From Polk's Directory

Search Results

BELLEVUE CABINETS INC

Phone Number:
402-339-6877

SIC Code:
2434-01

SIC Description:
CABINETS-MANUFACTURERS

Address:
5815 S 86TH CIR
OMAHA, NE 68127-4145

Business Sales Volume:
\$500,000 - \$999,000

Number of Employees:
5 - 9



Year First Listed:
87

Census Tract:
007467

Lat / Long:
+41.200012 / -96.046475

References

a. General

- [AirNav] AirNav.Com KEGG, SPOKANE INTERNATIONAL AIRPORT, SPOKANE, WASHINGTON, USA <http://www.airnav.com/airport/KGEG> [Accessed July 2006].
- [Auditor's Report] Washington State Auditor's Office (2005), Financial Statements and Federal Single Audit Report. SPOKANE AIRPORTS SPOKANE COUNTY REPORT NO. 69030. Olympia WA <http://www.sao.wa.gov/Reports/AuditReports/AuditReportFiles/ar69030.pdf>
- [BEA, 2005]. U.S. Bureau of Economic Analysis (2005). Industry Economics Division, "Benchmark Input-Output Accounts, Overview and uses," INDUSTRY ECONOMIC ACCOUNTS INFORMATION GUIDE. www.bea.gov/bea/dn2/iedguide.htm#IA
- [Census, 2004] U.S. Census Bureau. (2004). "Introduction to the Economic Census, Purposes and Uses of the Economic Census," 2002 ECONOMIC CENSUS, EC02-711-03, www.census.gov/prod/ec02/ec02711i03.pdf .
- Darnell, N. [2005]. SPOKANE INTERNATIONAL AIRPORT AND EASTERN WASHINGTON UNIVERSITY: ON-SITE SURVEY OF DEPARTING TRAVELERS. [Spokane, WA :Strategic Research Associates].
- [FAA] FAA 06103 AIRPORT DIAGRAM AL-403 (FAA) SPOKANE INTL (GEG) SPOKANE WASHINGTON, <http://204.108.4.16/d-tpp/0606/00403AD.PDF>
- [McChord] (Paraphrased) McChord Air Museum, Our History, GEIGER AFB, WA. www.mcchordairmuseum.org/REV%20B%20OUR%20HISTORY%20%20GEIGER%20AFB.htm
- [MIG, 2002] Minnesota IMPLAN Group (2002). IMPLAN PROFESSIONAL, VERSION 2.0. Stillwater, MN. www.implan.com.
- [MIG, 2000] Minnesota IMPLAN Group (2000). IMPLAN PROFESSIONAL, VERSION 2.0. USER'S GUIDE. ANALYSIS GUIDE. DATA GUIDE. Stillwater, MN. www.implan.com
- [Polk's Directories] Polk City Directories, SEARCH & FIND, http://www.citydirectory.com/Polk/SearchandFind.aspx?bas_type=plk&bas_vendor=99990
- Sixel Consulting Group, [April 2005] AIRPORT TRAFFIC QUARTERLY: SPOKANE INTERNATIONAL AIRPORT, vol. 044 [Eugene, OR].
- Spokane, WA JOURNAL OF BUSINESS [2006], "Transportation" [Spokane, WA].
- Spokane International Airport, [nd] AIR CARGO OPERATIONS, [Spokane, WA]

b. Impact Studies

- Arizona Department of Transportation Aeronautics Division. ECONOMIC IMPACT OF AVIATION IN ARIZONA. [1999] Arizona Aviation System Plan –Vol. 1 Statewide Economic Impact Brochure http://www.azdot.gov/aviation/library/pdf/ECON_IMPACT_BROCHURE.pdf
- Beyers, W. B. and McMullin, S. [2003]. [King County International Airport Economic Impact Study](http://www.metrokc.gov/airport/2003econimpact011604.pdf) Dept. of Geography, Univ. of Washington Seattle. Prepared for King County Department of Transportation, Airport Division <http://www.metrokc.gov/airport/2003econimpact011604.pdf>
- Colorado Department of Transportation, Colorado Division of Aeronautics, [2003] ECONOMIC IMPACTS OF AIRPORTS IN COLORADO, <http://www.colorado-aeronautics.org/images/EconImpact2003/EI2003.pdf>

- Columbus Regional Airport Authority, [2005] REGIONAL AIRPORTS ECONOMIC IMPACT STUDY.
<http://www.osuairport.org/about/Economic/EconomicImpact2004.pdf>
<http://www.edrgroup.com/pages/pdf/VT-Economic-Impact-Report.pdf>
- Critical Data Inc, [1994] ECONOMIC IMPACT STUDY, SPOKANE AIRPORTS memo [Critical Data Inc, np]
- Houston [Texas], City of, Department of Aviation. [2003] [Economic Impact Study, Houston Airport System](http://system.gocampaign.com/houairportsystem_com/pdfs/2005econ_impact.pdf). http://system.gocampaign.com/houairportsystem_com/pdfs/2005econ_impact.pdf
- Idaho Transportation Department. [1998] THE ECONOMIC IMPACT OF AIRPORTS IN IDAHO.
<http://itd.idaho.gov/aero/Economic%20Impact/Economic%20Impact%20of%20Airports%20-%201998.pdf>
- Russell, B. [1998] THE ECONOMIC SIGNIFICANCE OF THE AVIATION INDUSTRY TO THE OVERALL WISCONSIN ECONOMY 1998 National IMPLAN User's Conference, Proceedings of the Conference, October 15 and 16, 1998 [Washington, DC], Pp 121-128.
<http://www.implan.com/library/documents/1998proceedings.pdf>
- Swenson, D. and Eathington, L. [2000]. [The Economic Values of Iowa's Air Transportation Industries, Iowa State University](http://www.iawings.com/pdfs/av_econ_impact.pdf). Iowa State University, Prepared for the Iowa Dept. of Transportation. http://www.iawings.com/pdfs/av_econ_impact.pdf
- Texas Department of Transportation [2003] THE ECONOMIC IMPACT OF GENERAL AVIATION IN TEXAS, http://www.dot.state.tx.us/publications/aviation/tx_apt_ecn.pdf
- Vermont Agency of Transportation [2002] VERMONT AIRPORTS ECONOMIC IMPACT STUDY, THE ECONOMIC IMPACT OF VERMONT'S PUBLIC-USE AIRPORTS, August 30, 2002 Draft.
<http://www.edrgroup.com/pages/pdf/VT-Economic-Impact-Report.pdf>
<http://www.edrgroup.com/pages/pdf/VT-Economic-Impact-Report.pdf>
- Washington State, Department of Transportation, Aviation Division, [2000] Aviation System Plan - Forecast and Economic Analysis Study, ECONOMIC IMPACTS OF WASHINGTON AIRPORTS [download page] <http://www.wsdot.wa.gov/aviation/EconImpacts/default.htm>
- Washington State, Department of Transportation, [2000] SPOKANE INTERNATIONAL AIRPORT, AVIATION DIVISION SPOKANE COUNTY, WASHINGTON
http://www.wsdot.wa.gov/NR/rdonlyres/125234A5-2968-4211-9F6D-5CCB4AFDFC7A/0/ER_Spokane.pdf
- Washington State, Department of Transportation.[2000] SEATTLE-TACOMA INTERNATIONAL AIRPORT AVIATION DIVISION KING COUNTY, WASHINGTON AIRPORT: SEATTLE-TACOMA INTERNATIONAL (SEA). http://www.wsdot.wa.gov/NR/rdonlyres/2829F10B-E191-4A7A-ABB0-E51D728E533E/0/NWR_SeaTac.pdf
- Washington State, Department of Transportation [2000]. BOEING FIELD/KING COUNTY INT'L AIRPORT AVIATION DIVISION KING COUNTY, WASHINGTON AIRPORT: BOEING FIELD / KING COUNTY INTERNATIONAL (BFI) http://www.wsdot.wa.gov/NR/rdonlyres/13CB1D1A-FA82-4CC0-AE45-D1361573A4A4/0/NWR_BoeingFieldKingCo.pdf