APPENDIX B: ECONOMIC IMPACT ANALYSIS

INTRODUCTION

The 75 public-use airports included in the Idaho Airport System Plan (IASP) are important transportation resources as well as critical economic catalysts. Airports in Idaho support the air travel needs of Idaho residents, businesses, and visitors. This appendix highlights the important economic contributions that Idaho realizes from its airports by quantifying employment, annual payroll, and total annual economic activity associated with these airports. The analysis presented in this appendix considers the annual economic benefits associated with airport operations, on-airport construction, visitors who arrive via commercial airlines, and visitors who arrive on privately-owned general aviation aircraft that use Idaho's airports.

The IASP's system of 75 public-use airports generates $2.1 billion of economic activity and supports tens of thousands of quality jobs. In addition, Idaho residents increasingly depend on civil aviation to support their health, welfare, and safety needs. In brief, the 75 public-use airports included in the IASP:

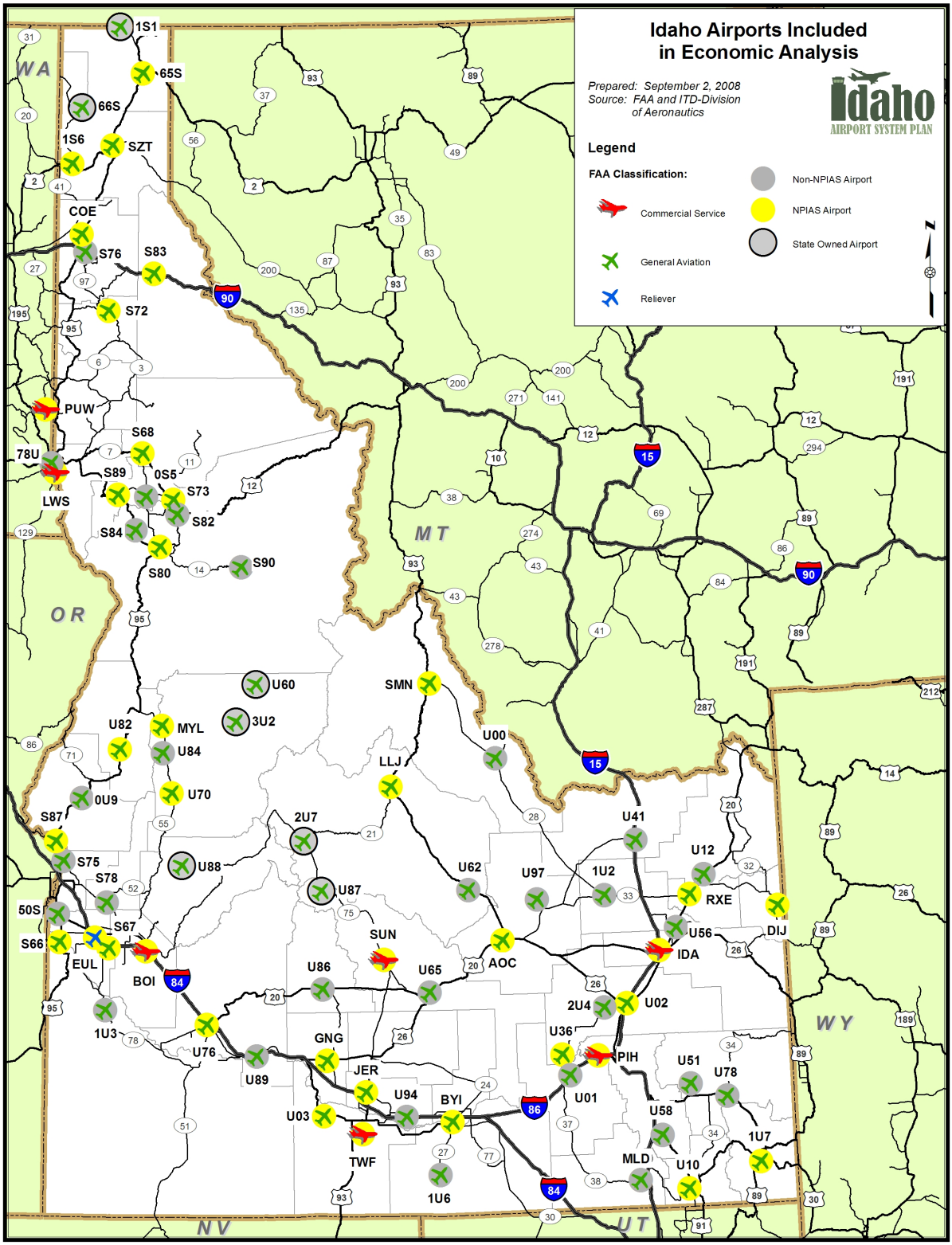
- Approximately 23,000 jobs
- Generate $718.5 million in annual payroll
- Produce $2.1 billion in annual economic activity

Idaho's IASP airports are a major catalyst to the state's growing economy. In 2007, the economic value of aviation in the state was estimated at $2.1 billion. This includes expenditures by hundreds of on-airport businesses and millions of visitors, as well as the multiplier effect associated with this spending. In total, approximately 23,000 jobs, with an annual payroll of $718.5 million, are attributable to airports in Idaho. Other findings include:

- Aviation's total economic output from the airports and visitors who arrive by air comprise 4.0 percent of the state's estimated gross domestic product.
- Approximately 23,000 Idaho residents owe their jobs, directly or indirectly, to aviation. This employment represents 2.9 percent of all jobs in the state.
- Idaho's airports serve as vital business links and support critical services such as medical care, agriculture support, search and rescue, forest fire fighting, law enforcement, recreation, and environmental services.

In 2007, Idaho's system of IASP airports was comprised of seven commercial service and 68 general aviation airports. Technical assistance and funding for these 75 airports are provided by the Idaho Transportation Department (ITD) Division of Aeronautics and the Federal Aviation Administration (FAA). Figure B-1 shows the location of each of these airports.

Figure B-1: Idaho Airports Included In Economic Impact Analysis



STUDY APPROACH

The total economic impact of each airport in this analysis is quantified in terms of employment, payroll, and output. Output represents total spending or economic activity and accounts for the total value of aviation-related activities supported by the airports included in this analysis. This section presents the economic impact of the airports in terms of three aviation-dependent groups:

1. Airport operations and on-airport activities
2. Visitors traveling to Idaho via commercial airlines
3. Visitors traveling to/within Idaho via general aviation aircraft

Airport operations and on-airport activities, as well as Idaho visitors, are responsible for a significant percentage of the economic activity or benefit associated with the airports. Through a separate non-aviation business survey, analysis also identified the importance of aviation to non-aviation employers throughout the state. In addition, taxes contributed by airports are also estimated in this analysis.

The Economic Modeling Process

All economic impacts or benefits from the 75 airports considered in this analysis were calculated using an input-output model. The input-output model considers three impact categories to assess the economic benefits associated with on-airport activities, commercial service visitors, and general aviation visitors arriving at the airports. These categories are:

- First Round Impacts: First round impacts include both direct and indirect impacts. Direct impacts are the benefits associated with businesses located at the airport, which are directly related to the provision of general aviation services. Direct impacts include the employment, payroll, and spending of businesses such as fixed base operators (FBOs), flight schools, aircraft repair facilities, and on-airport government entities.

  Indirect impacts occur as a result of air travel (both scheduled commercial and general aviation), but generally take place off-airport. These impacts are attributed to the expenditures of visitors who arrive in Idaho by air. Visitor expenditures support employment and payroll in service-related industries such as lodging, food and beverage, retail, and entertainment. Visitor spending for aviation-related goods and services is not accounted for in the visitor expenses; instead, it is included in the appropriate tenant's economic impacts.

  For this analysis, all first-round impacts were identified through survey efforts of airport tenants and visitors, interviews with airport managers throughout the Idaho system, and business databases for organizations that did not respond to survey requests.

- Secondary Impacts: Secondary impacts consist of induced impacts. Induced impacts are the benefits resulting from the recirculation of direct and indirect impacts within the economy. This recirculation is typically referred to as the

multiplier effect. For example, as airport employees spend their salary for housing, food, and services, those expenditures circulate through the economy resulting in increased spending, payroll, and employment throughout Idaho. As this money is spent over and over again, some of it leaks beyond the boundaries of Idaho, and thus no longer benefits the state's citizens. The economic model uses parameters specific to Idaho to estimate the leakage effect associated with these secondary impacts.

- Total Impacts: Total impacts or benefits are the sum of all first round (direct and indirect) and secondary (induced) economic activities attributable to an airport or the system of airports.

The Impact Analysis for Planning (IMPLAN) model was used to measure the multiplier effect and to quantify induced impacts. An input-output model, in its most basic form, is a linear model that estimates purchases and sales between various sectors of the economy. This modeling process is considered to be one of the leading methods available for estimating the total economic impact of an industry (in this case, airports).

The IMPLAN model contains a large economic database that is used to generate input-output tables. IMPLAN multipliers and data tables specific to Idaho's industrial sectors were obtained and used in this analysis. The IMPLAN input-output model used for this analysis requires impact estimates for three separate components of the economy. These categories are:

- Employment: Employment is based on the total of full-time jobs plus part-time jobs. In this analysis, two part-time positions are the equivalent of a single full-time position.

- Payroll: Payroll represents the annual salary, wages, and benefits paid to all employees.

- Economic Output (Spending): Output for on-airport activities is typically assumed to be the sum of annual gross sales and average annual capital expenditures. While this assumption works well for profit-oriented tenants, it must be modified for organizations that do not generate sales, such as government tenants, or corporate flight departments. In order to estimate the impact of these important tenant-related activities, output is assumed to be the sum of payroll, operating expenditures, and average annual capital improvement outlays. While airlines do generate sales, ticket revenue is usually transferred outside the area being modeled. This makes it difficult to assign that revenue to specific airports, so airlines are treated in a similar manner. For visitors using an airport, output is assumed to equal visitor spending.

It is important to note that payroll and output cannot be combined because elements of economic benefit related to payroll are also contained, to some extent, in the output estimate. Each of the three impact components (employment, payroll, and output) stands alone as a measure of an airport's or the airport system's total economic impact.

Data Requirements for the Economic Modeling Process

A number of data collection efforts were undertaken to gather information related to economic activity occurring at the Idaho airports considered in this analysis. These data were inputs to the modeling process to identify total economic impact. The following groups were part of the data gathering effort to estimate first round impacts:

- Airport Operations: This group includes airport tenants or businesses with employees, such as airlines, FBOs, flight schools, concessionaires, airport restaurants, and governmental agencies. Governmental agencies include public airport sponsors, Federal Aviation Administration (FAA), Transportation Security Administration, (TSA), as well as various other state and federal agencies.

- Commercial Service Visitors: This group includes estimated non-local passengers (visitors) arriving via commercial airlines. Average visitor spending for this group was estimated from passenger surveys conducted for this analysis.

- General Aviation Visitors: Impacts from general aviation visitors are produced by non-local passengers arriving via private or business aircraft. General aviation visitors are associated with that portion of each airport's itinerant general aviation operations that are transient (or visiting) in nature. Itinerant operations are those that leave the airport's local airspace. Some itinerant operations at an airport are attributable to residents of the airport's market area who fly their planes to more distant locations. The remaining itinerant operations are attributed to visitors. Itinerant operations performed by visitors are considered transient operations. Impacts for this group were estimated using survey data from airports across Idaho.

- Construction Impacts: Each year, airports undertake capital improvement projects (CIP), such as runway rehabilitation or terminal improvements. In addition, businesses and other agencies undertake capital improvement projects. These projects employ persons in jobs such as construction, architecture, engineering, and consulting. For this analysis, construction impacts are included in the first round direct impact category. The following methodology was used to estimate construction impacts:

    - CIP data for 2004-2007 was gathered from airport managers as well as aviation-related businesses and government agencies located on each airport.
    - CIP data for the period was averaged to avoid showing peaks or troughs in construction activity.
    - The IMPLAN model indicates that every $1 million spent annually on construction activity supports 6.1 "construction-related" jobs in Idaho. These jobs include construction workers, equipment operators, foremen, engineers, architects, and managers.
    - Data from the U.S. Bureau of Labor Statistics was used to determine average pay for construction workers in Idaho, and this average was applied to each construction-related employee to determine payroll related to CIP activity.

First round (direct and indirect) economic impacts presented in this appendix were estimated primarily through surveys undertaken specifically to support this study. IMPLAN multipliers were then applied to first round impacts to estimate subsequent secondary economic impacts.

SURVEYS, DATA COLLECTION METHODS, AND MODEL ASSUMPTIONS

ITD Division of Aeronautics last performed an economic impact study of Idaho's airports in 1998. This study uses the same overall methodology, but differs in a number of the assumptions and data sources used in the model. This section explains the economic modeling process and points out significant differences from the model used in 1998.

The model requires an extensive data gathering effort in order to estimate first round impacts. Those efforts and their results are explained, along with the assumptions needed to arrive at first round impacts.

First round impacts for airport businesses, on-airport government agencies, commercial service visitors, and general aviation visitors were identified primarily through survey efforts. Airport managers were surveyed to gather data related to airport operations and construction projects undertaken by each airport in recent years.

The methods used to collect information from each group considered in this analysis are discussed in the following sections.

Airport Operations and On-Airport Activities (First Round Direct Impacts)

Airport sponsors/owners were contacted to provide names, mailing addresses, and telephone numbers for each airport tenant. All airport tenant/businesses having employees on Idaho airports during 2007 were contacted to collect information regarding their economic activity. A survey was provided to each tenant and follow-up calls were made to obtain responses and to verify information on returned surveys. Airport tenants at each airport were grouped into 24 categories to aid in analysis. These categories consisted of:

- Airlines (passenger only)
- Aerial applicators
- Air ambulances
- Air cargo
- Aircraft maintenance
- Airport management
- Air traffic control (subdivided into public, i.e., FAA, and private ATC)
- Charter
- Concessions (subdivided into categories for GA airports and commercial service airports)
- Corporate Flight Departments
- FBOs (subdivided into small and large FBO categories based on employment)
- Federal government (not including ATC or TSA)
- Flight instruction
- Ground transportation
- Hangar rental/development

- Military
- Parking
- Rental Car
- State/local government
- Transportation Security Administration

The 1998 study made use of seven analysis categories. The greater number of categories used in this study provides greater differentiation among airport tenants.

The survey sent to each airport tenant, including airport sponsors/managers, requested the following information:

- Type of aviation activity conducted by the business/tenant
- Number of full-time and part-time employees
- Estimated total annual wages and benefits paid to employees in 2007
- Estimated total capital improvement expenditures for each year, 2004 through 2007
- Estimated total operating expenses (excluding payroll and capital improvements previously identified) for 2007
- Estimated total gross sales (where applicable) by the business on the airport in 2007

In addition, on-airport entities were asked to identify any businesses that sub-lease property from them so that they could be included in the analysis.

As stated earlier, the average annual capital improvement expenditures were used to estimate average annual construction employment and payroll through the use of IMPLAN multipliers. While the 1998 study included average annual capital improvement expenditures as part of economic output, it did not include any estimate of employment and payroll associated with this output.

A high response rate was desired for the airport tenant/business survey. Several rounds of follow-up telephone calls were made to non-responding entities and to airport managers to obtain the greatest response rate possible for on-airport employment. For airport tenant/businesses who did not supply complete information on payroll and output, estimates were developed using ratios of payroll per employee and output per employee. These ratios were developed from survey data obtained from those tenants and businesses who did respond to the survey. For those categories of tenants that did not have sufficient Idaho data to provide reliable averages, additional data was used from economic studies conducted in nearby states, such as Colorado.

For purposes of estimating secondary impacts, airport tenants were classified into one of three categories, based upon the nature of their business. This was done to facilitate subsequent IMPLAN modeling of secondary impact multipliers. For this analysis, a set of aviation multipliers was used for airlines, aircraft maintenance, FBOs, air cargo, flight schools, and corporate flight departments. Retail, food and beverage, car rental, and parking tenants had a set of concession multipliers applied to estimate secondary impacts. Government related entities, including military units, received their own set of multipliers for estimating secondary

impacts. Impacts stemming from construction projects were broken out from each tenant so a set of construction-related multipliers could be used before adding those impacts back into the on-airport benefits.

Commercial Service Visitors

Airline flights to and from Idaho's commercial service airports provide access for thousands of business- and pleasure-related visitors. Visitors using commercial service airports as a gateway to the state contribute to the economy through their expenditures for food, lodging, entertainment, transportation, retail sales, and other goods and services. Numerous service industries also benefit from the multiplier or spin-off effects stemming from visitor spending. Among the commercial service airports in Idaho, Boise Air Terminal clearly draws the largest number of visitors. These travelers are a mix of business and leisure travelers to the area. Other commercial service airports in Idaho provide access to the many outdoor recreation activities available in Idaho as well as resort locations that cater to tourists and second-home owners.

The spending patterns of commercial service visitors to Idaho were estimated based on the results of departing passenger surveys. During passenger surveys, departing passengers were interviewed prior to boarding and asked several questions. Departing passengers were first asked to indicate whether they were a resident of the airport area or a visitor. Those passengers who indicated that they were visitors were asked several questions to determine the following:

- The purpose of their trip (business or personal)
- Duration of their stay
- Total expenditures during their stay in each of the following categories: lodging, food and beverage, ground transportation, entertainment/recreation, retail, and other
- The total number of people that accounted for the expenditure estimates they identified

For each commercial service airport, the following methodology was used to estimate commercial service visitor impacts.

Enplanement data for 2007 for each of the commercial service airports was obtained from the FAA database of passenger traffic. The percentage of visiting passengers was estimated for each airport, using a sampling of FAA origin and destination data from 2007. This data for each airport is shown in **Figure B-2**. Visiting passengers ranged from 40 percent at Lewiston-Nez Perce Airport to 64 percent at Friedman Memorial Airport, an airport that helps support the tourism industry of Hailey. The 1998 study assumed an average visitor percent of 46 percent for all airports (50 percent for Friedman Memorial).

Figure B-2: Enplanements & Percent Visitors at Idaho's Commercial Service Airports - 2007

Airport Name	*Associated City*	*Enplanements*	*Percent Visitors*
Commercial Service Airports			
Boise Air Terminal/Gowen Field	Boise	1,689,046	46%
Friedman Memorial	Hailey	67,469	64%
Idaho Falls Regional	Idaho Falls	166,503	47%
Joslin Field-Magic Valley Regional	Twin Falls	33,523	42%
Lewiston-Nez Perce County	Lewiston	69,726	40%
Pocatello Regional	Pocatello	29,491	42%
Pullman-Moscow Regional	Pullman	24,856	49%
Commercial Service Airports Total		2,080,614	

Source: FAA, Idaho Air Passenger Demand Study, and FAA O&D data.
Prepared: September 2009.

Average length of stay and average daily expenditures for visitors to each of the airports was based on survey data gathered from airline passengers departing from each of the Idaho commercial service airports. These estimates were applied to the number of annual visitors for each airport to determine total economic activity (or output) generated by commercial airline visitors on an annual basis.

The following example demonstrates the calculations used to estimate commercial service visitor impacts.

- Idaho Falls Regional Airport reported 166,503 enplanements during 2007. FAA data indicates that 47 percent of these enplanements were visitors to the area, or approximately 78,100 visitors traveling through Idaho Falls Regional Airport.
  - 166,503 enplanements x 47 percent visitors = 78,100 visitors

- Survey data from Idaho Falls Regional Airport provided estimates of average length of stay (9.5 days) and average spending ($60 per visitor per day). These averages are used to calculate visitor's annual spending (or output) of approximately $44.5 million.
  - 78,100 visitors x $60 per visitor per day x 9.5 days = $44.5 million

- In order to estimate employment associated with commercial service visitor expenditures, Idaho specific employment ratios per $1 million of visitor output were developed using the IMPLAN model. It was estimated that approximately 13.9 persons are employed in Idaho as a result of every $1 million in commercial service visitor output. That results in an estimated 617 visitor-related jobs associated with visitors arriving via Idaho Falls Regional Airport on commercial airlines. The 1998 study used a ratio of 27 jobs per every $1 million in commercial service visitor output.
  - $44.5 million x 13.9 ÷ $1,000,000 = 617 jobs

- In order to estimate payroll impacts associated with employment supported by commercial service visitors, average state wages for appropriate industry sectors were applied to the estimated number of employees supported by commercial airline visitor spending. Most visitor expenditures take place in the hotel/motel,

food/beverage, entertainment, retail, and transportation sectors. Based on data obtained from the U.S. Bureau of Labor Statistics, an average payroll of $20,400 per employee in Idaho was assumed for these job categories.

- 617 jobs x $20,400 = $12.6 million

The same calculation was used for each commercial service airport, using the average stay and spending numbers appropriate for each airport.

General Aviation Visitors

General aviation refers to all segments of aircraft activity that are not related to the commercial airlines or the military. Visitors to Idaho use general aviation aircraft to enjoy both the recreational opportunities available in Idaho as well as to conduct business. For example, Caldwell Industrial Airport near Boise is frequently used by Anheuser-Busch employees conducting business with local barley and hop producers.

Numerous lodges and ranches in Idaho benefit from local airports that provide access to their remote locations. Smiley Creek Airport is an example of an Idaho airport that allows visitors easy access to the Smiley Creek Lodge by aircraft, as well as enhancing the accessibility to Idaho's back country.

The economic activity produced by general aviation visitors in Idaho was determined by surveying transient pilots and passengers. Surveys were delivered to FBO managers throughout the state system of airports. The survey requested the following information:

- The airport where the survey was received
- The number of travelers in the aircraft
- The type of aircraft
- The purpose of the trip
- The length of stay in the airport area
- The estimated expenditures during the trip
- Where the aircraft is based
- The approximate number of annual trips in general aviation aircraft made by the pilot for business, pleasure, and training purposes
- Further comments regarding the value of the Idaho aviation system to the pilot and his or her business

This survey data was used to develop an estimate of visitor expenditures. These estimates included the average number of visitors per aircraft, and the average expenditure per visitor per trip. Recognizing that these averages vary at different types of airports, Idaho's airports were grouped into one of two categories based on the total number of general aviation operations at each airport. It was reasoned that airports with a low number of annual general aviation operations would not have the same level of visitor spending in the nearby community as airports with a high number of annual general aviation operations. Survey data within each group of airports supported this assumption and was used to estimate the average number of visitors per arriving aircraft, how long those visitors stayed, and how much each spent during their stay. The 1998 study treated all general aviation airports the same, using the same average visitor values for all general aviation airports.

Data from the recent system plan, the FAA Terminal Area Forecast, and current master plans were used to develop estimates of itinerant aircraft operations, which are operations by aircraft coming from another airport. Since some of these operations are aircraft that are returning to their home base, an estimate of true transient aircraft was needed. It was assumed that anywhere from 25 percent to 50 percent of itinerant aircraft operations were true transients, based on the airport role assigned in the IASP. The 1998 study assumed that 50 percent of itinerant operations were true transients at all airports. Together, all of these estimates were used to assess the amount of general aviation visitor spending at each airport as illustrated in the following example.

- American Falls Airport was estimated to have approximately 13,000 itinerant operations in 2007, or 6,489 annual arrivals (since it is assumed that all arrivals have a corresponding departure). Based on its current system plan role of a Regional Business airport, it was assumed that 50 percent of these itinerant arrivals were true transient arrivals, or:
  - 6,489 itinerant arrivals x 50 percent = 3,245 transient arrivals.

- Transient pilot survey data for the group of airports including American Falls provided estimates of the average number of visitors per aircraft, including the pilot (2.08 visitors), and the average spending ($85 per visitor per trip). These averages are used to calculate total annual visitors (6,735 visitors) and the impacts of those visitors at American Falls, or approximately $572,500 per year.
  - 3,245 transient arrivals x 2.08 visitors per arrival = 6,735 visitors
  - 6,735 visitors x $85 per visitor = $572,500 annual spending by visitors to American Falls

- To determine payroll and employment impacts resulting from this visitor spending (or output), multiplier ratios based on $1 million of output were used. In other words, ratios developed by the input-output model indicate that for every $1 million of general aviation visitor output, approximately 19.5 full-time positions in other industries are created. The 1998 study used a ratio of 27 jobs per $1 million of general aviation visitor output. Most of these jobs are in the service and retail sectors. Visitors using general aviation at American Falls would then support approximately 11 full-time positions.
  - $572,500 x 19.5 jobs ÷ $1,000,000 = 11.1 jobs

- The average annual statewide salary for service/retail industries ($20,400) was then applied to the estimate of employment to calculate the payroll impacts associated with general aviation visitors. In this example, visitor-related payroll created by the 11 full-time positions is estimated to total approximately $228,000
  - 11.1 jobs x $20,400 = $228,000

The operational and visitor impact data for each system airport can be found at the end of this appendix.

Study Multipliers/Secondary Impacts

Employment, payroll, and output impacts derived from airport businesses/tenants and on-airport activities, as well as visitors, comprise each airport's first round direct and indirect economic impacts. As these impacts enter the economy, they circulate among other sectors, creating successive waves of additional spending. This phenomenon is referred to as the multiplier effect. Multiplier effects are also referred to as secondary impacts.

Multiplier effects arise from various interdependencies within an economic system. For example, the operation of an airport requires inputs in the form of supplies, equipment, and maintenance. These inputs generate a boost in sales for those firms or businesses providing these services and products. Moreover, the goods and services themselves require inputs for their production. The process continues as a large number of impacts re-circulate through the economy. The total requirement for goods and services is the multiple of the initial needs of the airports considered in this analysis; hence it is referred to using the term "multiplier."

Multipliers for estimating secondary impacts were derived from the IMPLAN model. The multipliers used in this analysis were developed specifically to measure economic impacts in Idaho. Individual multipliers for each sector of the economy being modeled were used. The multipliers for the sectors of the economy used for modeling on-airport impacts and visitor impacts in this analysis are depicted in Figure B-3.

Figure B-3: Idaho IMPLAN Multipliers by Economy Sector

Economy Sector	*Employment Multiplier*	*Payroll Multiplier*	*Output Multiplier*
Government	1.85	1.63	1.66
Construction C.I.P.[1]	2.34	1.61	1.63
Concessions[2]	1.29	1.53	1.62
Aviation[3]	2.34	1.90	1.55
Commercial Service Visitor Expenditures[4]	1.56	1.82	1.66
General Aviation Visitor Expenditures[4]	1.36	1.60	1.63

Sources: Wilbur Smith Associates and IMPLAN multipliers.

Notes: 1. Construction multipliers are the weighted average of the Construct Other New Nonresidential Structures, Asphalt Manufacturing, Cement Manufacturing, Concrete Manufacturing, Maintenance of Nonresidential Structures,
and Architectural-Engineering Services multipliers.

2. Concessions multipliers are the weighted average of the Food Services and Drinking Places, Hotels and Motels – Including Casino Hotels, Business Support Services, and Miscellaneous Retail Store multipliers.

3. Aviation multipliers are the weighted average of the Aircraft Manufacturing, Aircraft Engine and Engine Parts Manufacturing, Other Aircraft Parts and Auxiliary Equipment Manufacturing, and Transport by Air multipliers.

4. Visitor expenditures multipliers are the weighted average of the Food Services and Drinking Places, Hotels and Motels – Including Casino Hotels, Automotive Equipment Rental and Leasing, and Miscellaneous Retail Store
multipliers. Weightings were different for commercial service and general aviation visitor multipliers to reflect the
difference in their spending habits.

Prepared: September 2009.

The multipliers presented in Figure B-3 were used to estimate secondary impacts in this analysis. For example, $100 in first round expenditures (output) in the aviation sector supports a total output impact equivalent to $234. In this example, secondary impacts would be $134 ($234 minus $100).

The multipliers used in 1998 were similar to those used in this study. Overall, the 1998 employment multipliers were approximately 9 percent lower than those used in this study,

while the 1998 payroll multipliers were 7 percent lower. The 1998 output multipliers were 3 percent higher on average than this study's output multipliers.

The methodology discussed in this section was applied to each of the study airports. By following this methodology, estimates of total employment, annual payroll, and annual output/spending associated with each airport were developed.

EMPLOYMENT, PAYROLL, AND OUTPUT IMPACTS FOR STUDY AIRPORTS

The airports in this analysis help to accommodate the travel needs of business and leisure visitors to Idaho. The airports themselves are also significant generators of economic activity. Airports help to support jobs, payroll, and output for Idaho's economy. The following sections discuss economic impacts associated with employment, annual payroll, and total annual economic activity (output) for study airports. The combined impact of all of Idaho's 75 IASP airports is shown in each section. Detailed tables showing the impacts of each individual airport can be found at the end of this appendix.

Employment Impacts

The findings of this analysis indicate that airports in Idaho are an important source of jobs. Employment, as defined in this analysis, is based on estimates where part-time jobs are treated as half of a full-time job. Employment impacts are calculated for on-airport businesses/tenants and visitors. On-airport activity includes private businesses and government agencies. For on-airport military units, their employment was also considered. Spending for capital improvement projects (CIP) and other improvement and construction projects also contributes to on-airport employment.

Employment from On-Airport Activity

Figure B-4 identifies the total number of jobs supported by on-airport aviation-related tenants and businesses at system airports. These jobs comprise those people who are engaged in the provision of aviation-related services on the airport, such as aircraft fuel sales, aircraft maintenance, flight training, aircraft manufacturing, and charter services. In the case of the Idaho National Guard at Boise Air Terminal, the full and part-time military personnel and the military-related civilian employees associated with aviation-related activities were also included. In addition, construction workers supported by airport CIPs were included in this analysis.

In total, there are 6,144 first round jobs supported by the operation of Idaho's airports. It is important to note that this employment estimate does not include jobs associated with non-aviation businesses which, for various reasons, are located on an airport. For instance, some airports have industrial or business parks that include companies that are not related to the airport or aviation in any way. Employment related to these businesses is not included in the employment estimate shown in Figure B-4.

Figure B-4: Idaho On-Airport Employment

	First Round Employment	Secondary Employment	Total Employment
Commercial Service Airports On-Airport Employment	4,717	4,530	9,247
General Aviation Airports On-Airport Employment	1,427	1,685	3,112
Total On-Airport Employment	**6,144**	**6,215**	**12,359**

Source: Wilbur Smith Associates and IMPLAN multipliers.
Prepared: September 2009.

Secondary impacts are those jobs that are created by multiplier effects stemming from first round jobs associated with tenants and businesses at Idaho's airports. For example, an employee of a fuel distributor may owe a portion of his job to an airport since the distributor sells fuel to the airport's FBO. As a result of on-airport tenant activity, additional secondary employment is created. Secondary impacts associated with the day-to-day operation of Idaho's airports add 6,215 positions to the economy. When first round and secondary employment is considered, Idaho's airport tenants contributed 12,359 jobs to Idaho's employment base. Of this total, 9,247 jobs are associated with the commercial service airports and 3,112 jobs are associated with the general aviation airports.

Employment from Commercial Service Visitor Spending

Visitors arriving via commercial airlines spend money, which supports jobs beyond those found at the airport. Figure B-5 identifies the number of employees in Idaho whose jobs are supported by the spending of visitors arriving on commercial airlines via Idaho's seven airports with commercial service.

Figure B-5: Idaho Employment from Commercial Service Visitor Spending

	First Round Employment	Secondary Employment	Total Employment
Commercial Service Visitor Employment	5,715	3,215	8,930

Sources: Wilbur Smith Associates and IMPLAN multipliers.
Prepared: September 2009.

As previously discussed, it is possible to calculate visitor spending, and subsequently, the number of jobs supported by visitors. First round jobs supported by visitor spending are attributed to a variety of sectors; however, most of the jobs are concentrated in the hotel/motel, restaurant, recreational and entertainment, and retail sectors.

There are an estimated 5,715 first round jobs supported by commercial service visitor spending. Secondary impacts include those jobs that exist due to the multiplier effect. Secondary impacts result in 3,215 additional positions supported by the spending of commercial service visitors. When first round and secondary visitor-related employment impacts are combined, approximately 8,930 jobs are supported by spending from visitors to Idaho who arrive via the commercial airlines.

Employment from General Aviation Visitor Spending

Similar to visitors using commercial airline service, intra-state and inter-state visitors using general aviation aircraft typically spend money while visiting, thereby helping to support additional employment. Figure B-6 identifies the number of Idaho jobs supported by spending from visitors using general aviation aircraft to travel to the state.

Figure B-6: Idaho Employment from General Aviation Visitor Spending

	First Round Employment	*Secondary Employment*	*Total Employment*
Commercial Service Airport General Aviation Visitor Employment	536	191	727
General Aviation Airport General Aviation Visitor Employment	729	255	984
Total General Aviation Visitor Employment	**1,265**	**446**	**1,711**

Source: Wilbur Smith Associates and IMPLAN multipliers.
Prepared: September 2009.

First round jobs associated with general aviation visitor spending are usually found off-airport and are attributed to a variety of sectors; however, most of these jobs are concentrated in the hotel/motel, restaurant, recreational and entertainment, and retail sectors. As a result of general aviation visitor expenditures in Idaho, there are 1,265 first round jobs supported in Idaho.

Secondary employment includes those jobs that exist due to continued circulation (multiplier impact) of general aviation visitor expenditures. Secondary impacts result in 446 additional jobs. When first round and secondary general aviation visitor-related employment impacts are combined, 1,711 jobs are supported by the spending of visitors using general aviation aircraft in Idaho.

Total Employment

Figure B-7 identifies the total number of jobs supported by activities at study airports. As a result of on-airport activities and spending by visitors using the study airports, there are 13,124 first round jobs. The multiplier effect (secondary impact) adds 9,876 additional jobs. In total, 23,000 jobs are supported in Idaho by aviation-related operators, businesses, and visitors to the study airports.

Figure B-7: Idaho Total Airport Employment

	Total First Round Employment	*Total Secondary Employment*	*Total Employment*
Commercial Service Airport Employment	10,968	7,936	18,904
General Aviation Airport Employment	2,156	1,940	4,096
Total Employment	**13,124**	**9,876**	**23,000**

Source: Wilbur Smith Associates and IMPLAN multipliers.
Prepared: September 2009.

Payroll Impacts

Employment linked to study airports results in a significant annual payroll benefit to Idaho. Payroll impacts relate to the previously identified employment benefits associated with on-airport businesses and their activities, commercial service visitors, and general aviation visitors.

Payroll from On-Airport Activity

Figure B-8 identifies annual payroll benefits associated with on-airport activity at each of the study airports.

Figure B-8: Idaho On-Airport Activity Payroll

	First Round Payroll	*Secondary Payroll*	*Total Payroll*
Commercial Service Airports On-Airport Payroll	$ 205,785,400	$ 150,014,700	$ 355,800,100
General Aviation Airports On-Airport Payroll	$ 60,337,600	$ 49,332,200	$ 109,669,800
Total On-Airport Payroll	**$ 266,123,000**	**$ 199,346,900**	**$ 465,469,900**

Sources: Wilbur Smith Associates and IMPLAN multipliers.
Prepared: September 2009.

As previously noted, this payroll includes on-airport businesses. Payroll supported by airport construction projects, and on-airport payroll from the Idaho National Guard (if associated with aviation activity) at Boise Air Terminal is also included.

This study shows that first round annual payroll impacts are more than $266.1 million. This payroll impact ripples throughout the Idaho economy, creating secondary payroll impacts that can be measured through the IMPLAN model. The secondary annual payroll impact related to on-airport tenants and businesses at the study airports, estimated through the IMPLAN multipliers, is more than $199.3 million. Total payroll impacts produced by airports, which include first round and secondary annual payroll, reach nearly $465.5 million annually.

Payroll from Commercial Service Visitor Spending

Figure B-9 identifies the annual payroll impact attributed to employees whose jobs are supported by spending by commercial service visitors using the study airports.

Figure B-9: Idaho Annual Payroll from Commercial Service Visitor Spending

	First Round Payroll	*Secondary Payroll*	*Total Payroll*
Commercial Service Airport Visitor Payroll	$ 116,586,000	$ 95,132,000	$ 211,718,000

Sources: Wilbur Smith Associates and IMPLAN multipliers.
Prepared: September 2009.

First round payroll consists of wages and benefits paid to employees working at restaurants, hotels/motels, retail businesses, and other service industries that are used by commercial service visitors. First round annual payroll attributable to spending by commercial service visitors is estimated at nearly $116.6 million.

As employees in the service industries spend their payroll, the money continues to circulate in Idaho, generating additional employment and subsequent payroll. Annual secondary payroll impacts associated with commercial service visitor-supported employment are estimated at more than $95.1 million. When first round and secondary annual payroll impacts stemming from commercial service visitor spending in Idaho are combined, a total annual payroll impact in excess of $211.7 million is produced.

Payroll from General Aviation Visitor Spending

Figure B-10 identifies the payroll impacts attributed to spending by visitors using general aviation to reach Idaho.

Figure B-10: Idaho Annual Payroll from General Aviation Visitor Spending

	First Round Payroll	*Secondary Payroll*	*Total Payroll*
Commercial Service Airport Payroll	$ 10,934,600	$ 6,596,400	$ 17,531,000
General Aviation Airport Payroll	$ 14,844,500	$ 8,954,400	$ 23,798,900
Total General Aviation Visitor Payroll	**$ 25,779,100**	**$ 15,550,800**	**$ 41,329,900**

Sources: Wilbur Smith Associates and IMPLAN multipliers.
Prepared: September 2009.

First round payroll includes salaries paid to employees working in visitor-related businesses and other service industries that are utilized by general aviation visitors. First round annual payroll attributable to spending by general aviation visitors is estimated at nearly $25.8 million.

As employees in the visitor-related industries spend their payroll, this spending continues to circulate, generating additional employment and subsequent payroll. The secondary annual payroll impact associated with general aviation visitor spending is estimated at approximately $15.6 million. When first round and secondary payroll impacts stemming from general aviation visitor spending are combined, a total payroll impact of more than $41.3 million is produced.

Total Annual Payroll

The combined benefit of airport businesses/tenants, on-airport activities, commercial service visitor, and general aviation visitor-related payroll in Idaho is identified in Figure B-11. The collective first round annual payroll impact supported by the study airports is nearly $408.5 million. With more than $310.0 million in secondary annual payroll benefits, approximately $718.5 million in total annual payroll is realized in Idaho as a result of visitor spending and on-airport activity associated with the study airports.

Figure B-11: Idaho Airports Total Annual Payroll

	Total First Round Payroll	Total Secondary Payroll	Total Payroll
Commercial Service Airport Payroll	$ 333,306,000	$ 251,743,100	$ 585,049,100
General Aviation Airport Payroll	$ 75,182,100	$ 58,286,600	$ 133,468,700
Total Payroll	**$ 408,488,100**	**$ 310,029,700**	**$ 718,517,800**

Sources: Wilbur Smith Associates and IMPLAN multipliers.
Prepared: September 2009.

Output Impacts

Output, or economic activity, is defined as annual gross sales and average annual capital expenditures for on-airport businesses and activities. The exceptions are organizations such as corporate flight departments and government agencies that do not generate revenue. Airlines are also exceptions since it is difficult to attribute revenues to specific airports. Output for these types of organizations is defined as the sum of annual capital expenditures, payroll, and operating expenses. Output related to commercial service and general aviation visitors is defined as expenditures made during their visits. Annual economic output benefiting Idaho's economy is discussed in this section.

Output from On-Airport Activity and Businesses

Figure B-12 identifies first round, secondary, and total annual output for all on-airport activities. As aviation-related businesses and government entities located on each study airport spend money, these expenditures ripple through Idaho's economy. For example, if an airport were to improve or expand its terminal to provide additional services, money would be spent on construction materials, labor, and other services.

Figure B-12: Idaho On-Airport Activity Output

	First Round Output	Secondary Output	Total Output
Commercial Service Airports On-Airport Output	$ 591,207,100	$ 350,358,000	$ 941,565,100
General Aviation Airports On-Airport Output	$ 234,027,800	$ 132,115,500	$ 366,143,300
Total On-Airport Output	**$ 825,234,900**	**$ 482,473,500**	**$ 1,307,708,400**

Sources: Wilbur Smith Associates and IMPLAN multipliers.
Prepared: September 2009.

Total first round annual output from on-airport businesses and activities is estimated at more than $825.2 million. Secondary airport related output or spending impacts are estimated using IMPLAN multipliers. Using the IMPLAN model, secondary annual output is estimated at $482.5 million. When first round and secondary impacts are combined, the total annual output for the study airports attributed to the airports exceeds $1.3 billion.

Output from Commercial Service Visitor Spending

Figure B-13 identifies the output attributed to commercial visitor spending.

Figure B-13: Idaho Output from Commercial Service Visitor Spending

	First Round Output	*Secondary Output*	*Total Output*
Commercial Service Airports Visitor Output	$ 411,968,900	$ 272,296,900	$ 684,265,800

Sources: Wilbur Smith Associates and IMPLAN multipliers.
Prepared: September 2009.

First round output is comparable to total annual visitor expenditures. First round output from commercial service visitor spending is estimated at nearly $412.0 million. As the service industries re-spend this output, the spending continues to circulate resulting in secondary impacts. Secondary annual impacts related to commercial service visitor output or spending are estimated at approximately $272.3 million. In total, the combined annual output from commercial service visitor spending is nearly $684.3 million.

Output from General Aviation Visitor Spending

Figure B-14 identifies the output attributed to general aviation visitors using airports in Idaho. First round annual output is comparable to all general aviation visitor expenditures at these airports and is estimated at more than $64.7 million.

Figure B-14: Idaho Output from General Aviation Visitor Spending

	First Round Output	*Secondary Output*	*Total Output*
Commercial Service Airport Output	$ 27,456,400	$ 17,288,700	$ 44,745,100
General Aviation Airport Output	$ 37,273,400	$ 23,470,500	$ 60,743,900
Total General Aviation Visitor Output	**$ 64,729,800**	**$ 40,759,200**	**$ 105,489,000**

Sources: Wilbur Smith Associates and IMPLAN multipliers.
Prepared: September 2009.

As the service industries re-spend first round output, money continues to circulate, resulting in secondary impacts. The secondary impacts related to general aviation visitor output are estimated at nearly $40.8 million each year. The total annual output from spending by visitors arriving via general aviation visitors at Idaho's airports is approximately $105.5 million.

Total Annual Output

The total combined annual output related to on-airport businesses/activities and commercial service and general aviation visitor spending is presented in Figure B-15. First round annual output measures more than $1.3 billion. Secondary output impacts are estimated at more than $795.5 million annually. Combined first round and secondary output from airport activities, visitors, and the multiplier effect produce a total annual output estimate of nearly $2.1 billion for Idaho's economy which comprises 4.0 percent of Idaho's estimated gross domestic product of $52.1 billion.

Figure B-15: Idaho Airports Total Annual Output

	Total First Round Output	Total Secondary Output	Total Output
Commercial Service Airport Output	$ 1,030,632,400	$ 639,943,600	$ 1,670,576,000
General Aviation Airport Output	$ 271,301,200	$ 155,586,000	$ 426,887,200
Total Output	**$ 1,301,933,600**	**$ 795,529,600**	**$ 2,097,463,200**

Sources: Wilbur Smith Associates and IMPLAN multipliers.
Prepared: September 2009.

While the economic output of Idaho's airports is significant, there are additional benefits that Idaho's airports provide its citizens. The next sections describe some of these other benefits and the impacts they have on the state and its people.

AERIAL APPLICATOR ANALYSIS

The economic impact of aerial applicators in Idaho is significant, yet difficult to quantify. This is largely due to a lack of data available for estimating the impact of aerial applicators, but also because of the wide variety of quantifiable benefits provided by aerial applicators. In addition to enhancing the yield of agricultural crops, aerial applicators also improve national and state forests through weed suppression missions and seeding efforts. The U.S. Bureau of Land Management (BLM) also contracts with aerial applicators to protect BLM lands against insect outbreaks. Aerial applicators spray large amounts of rangeland, both privately owned and BLM-managed rangelands, which in turn support cattle.

Because of the lack of reliable data for any given year, this section quantifies the benefits Idaho commercial agriculture derives from aerial applicators for a typical year instead of a specific year. Every year, a variety of pesticides are applied by aerial applicators to crops in Idaho. Some, such as herbicides, are typically applied every year, while others, such as fungicides and insecticides, are applied only as needed. Outbreaks of crop-damaging bugs or plant-killing fungus may only occur every few years, but can threaten the economic viability of an entire crop.

Because of this large variance in pesticide application, this analysis examined agricultural data from 2000 to 2008 and derived an estimated range of benefits that the Idaho commercial agriculture industry can expect to gain from aerial applicators in a typical year. It is important to remember that aerial applicators provide other benefits in Idaho beyond those enjoyed by the agriculture industry.

In order to estimate the value aerial applicators add to Idaho's commercial crops, it is necessary to estimate the number of acres aerial applicators spray in a typical year, the types of crops grown in that acreage, and the increase in yield due to the aerial application. The U.S. Department of Agriculture (USDA) periodically surveys farmers on their use of pesticides for various crops, but data on the method of application is not made available. However, the National Agricultural Aviation Association (NAAA) estimates that 25 percent of all commercially applied pesticides are applied by aircraft. Using this information along with the USDA data, minimum and maximum estimates of acres sprayed by aircraft were derived for six

major crops[1] grown in Idaho. Other crops grown in Idaho benefit from aerial application of chemicals, but their acreage was not significant compared to the total acreage of these six crops. The data from these six crops over the period 2000 to 2008 indicates that between 840,800 acres and 1.3 million acres are sprayed by aircraft in a typical year.

To check the reasonableness of this acreage estimate, two other methods of estimating acres sprayed by aircraft were used. The first involved assuming that each Idaho aerial applicator sprayed a certain number of acres (based on conversations with an Idaho aerial applicator). The number of Idaho aerial applicator businesses was determined from the membership of the Idaho Aerial Agricultural Association (IAAA). Since not all aerial applicators are members, this estimate was expected to yield a conservative estimate of acres sprayed. Based on each company needing to spray between 30,000 and 50,000 acres per year to generate enough revenue to stay in business (and only half of those acres being agricultural), it was estimated that Idaho aerial applicators sprayed approximately 900,000 acres per year.

The other method used to check the reasonableness of acreage estimate involved estimating the number of acres sprayed based on the number of aerial application aircraft registered in Idaho. Like the business-based estimate, this estimate assumed that only half of the acres sprayed were agricultural in nature (the other half being forest, rangeland, etc.) and found that Idaho's 186 aerial applicator aircraft sprayed approximately 3.4 million acres every year. Since this estimate took into account every aerial application aircraft in Idaho (including any that weren't part of a commercial aerial spraying business), it was assumed this estimate established an upper limit on the number of acres sprayed by aircraft.

These two estimates bracketed the number of acres sprayed by aircraft between 900,000 and 3.4 million. The estimated range of acres sprayed using USDA data fell on the lower end of this estimate, providing some assurance that these estimates are reliable, and probably conservative.

Once the number of acres sprayed was determined with some confidence, the next step was to evaluate the value of the crops grown on these acres. The total value of these crops was determined by applying the minimum and maximum crop price reported by the USDA since 2000.

The portion of this crop value that was attributed to aerial spraying was based on estimates of yield increases provided by Professor Don Morishita of the University of Idaho, Twin Falls Research and Extension Center. These estimates ranged from the pesticide having no impact on the crop yield to 100 percent of the crop yield, (i.e., if the pesticide were not applied by aircraft, it would not be economically viable to harvest the crop). The results of these estimates are shown in Figure B-16, with the crop value attributed to aerial applicators ranging from a low of approximately $43 million to a high of $276 million. Those figures correspond to between 4 percent and 10 percent of the total value of the six crops analyzed.

1 Those six crops are alfalfa, barley, oats, potatoes, spring wheat and sugarbeets.

Figure B-16: Typical Aerial Applicator Benefits to Crops in Idaho

	Acres Sprayed by Aircraft		Total Crop Value		Value Attributed to Aerial Applicators		Percent of Total Crop Value	
Crop	Minimum	Max	Minimum	Max	Minimum	Max	Minimum	Max
Alfalfa Hay	140,000	281,300	$362,600,000	$770,000,000	$7,550,000	$77,000,000	2.1%	10.0%
Barley	510,000	730,000	$101,300,000	$278,700,000	$4,760,000	$23,200,000	4.7%	8.3%
Oats	1,000	1,600	$1,700,000	$4,500,000	$20,000	$100,000	1.2%	2.2%
Potatoes	57,000	96,000	$444,400,000	$940,600,000	$16,670,000	$109,300,000	3.8%	11.6%
Spring Wheat	103,500	131,100	$72,800,000	$310,700,000	$2,790,000	$26,800,000	3.8%	8.6%
Sugarbeets	29,300	52,500	$102,100,000	$320,700,000	$10,940,000	$40,100,000	10.7%	12.5%
Total	**840,800**	**1,292,500**	**$1,084,900,000**	**$2,625,200,000**	**$42,730,000**	**$276,500,000**	**3.9%**	**10.5%**

Sources: Wilbur Smith Associates.
Prepared: September 2009.

TAX AND REVENUE ANALYSIS

Idaho and many counties and municipalities in Idaho benefit from tax revenues derived directly from airport activity. This section examines direct state, county and municipal tax revenue impacts[2] from airport activity; this analysis does not take into account tax revenue impacts of aviation and aerospace businesses resulting from induced or secondary impacts.

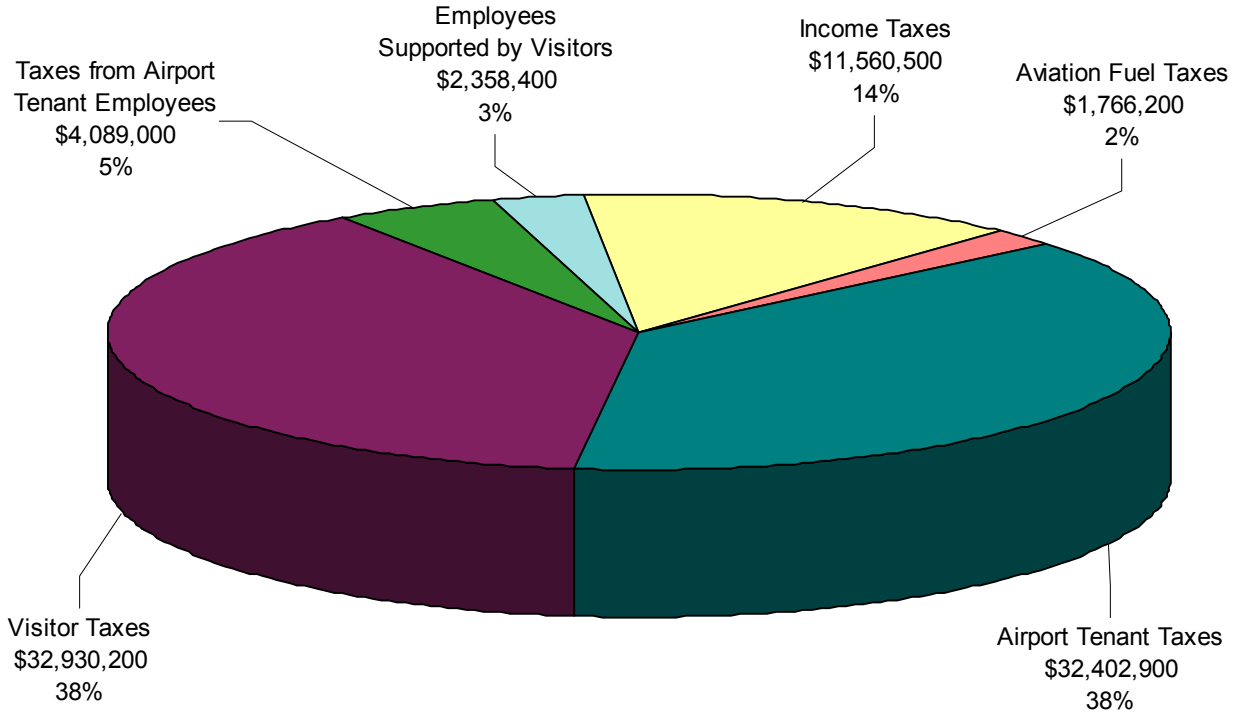
In 2007[3], Idaho's airports contributed $85.1 million to the tax base. The sources of these taxes are well diversified. Airport tenants provided the largest tax input through fuel sales and other commerce that is subject to sales tax. Taxes from airport tenants comprised 38 percent of all aviation-related state taxes. Visitors to Idaho, using commercial airlines and general aviation aircraft, approximately the same in taxes as airport tenants did, contributing 38 percent of all taxes.

Idaho's state income tax collected 14 percent of all the aviation-related taxes in the state. This tax is paid by workers employed by airport businesses, and workers supported by visitor spending. In addition to paying income taxes, employees also pay sales taxes when they purchase goods and services. Airport tenant employees paid 5 percent of all taxes, while those supported by visitor spending contributed another 3 percent. Finally, aviation fuel taxes, consisting of $0.055 per gallon of aviation gasoline and $0.045 per gallon of jet fuel in 2007, added another 2 percent of tax revenue. Figure B-17 shows the relative distribution of tax revenues by group.

2 Direct tax impacts is the first round of impacts. No multiplier effect was applied. Total direct and indirect tax revenues attributable to all aviation/aerospace activity in the state would be much higher.

3 Companies reported tax information based on the most recent 12 months. The year 2007 refers to all companies most recent 12 month fiscal year.

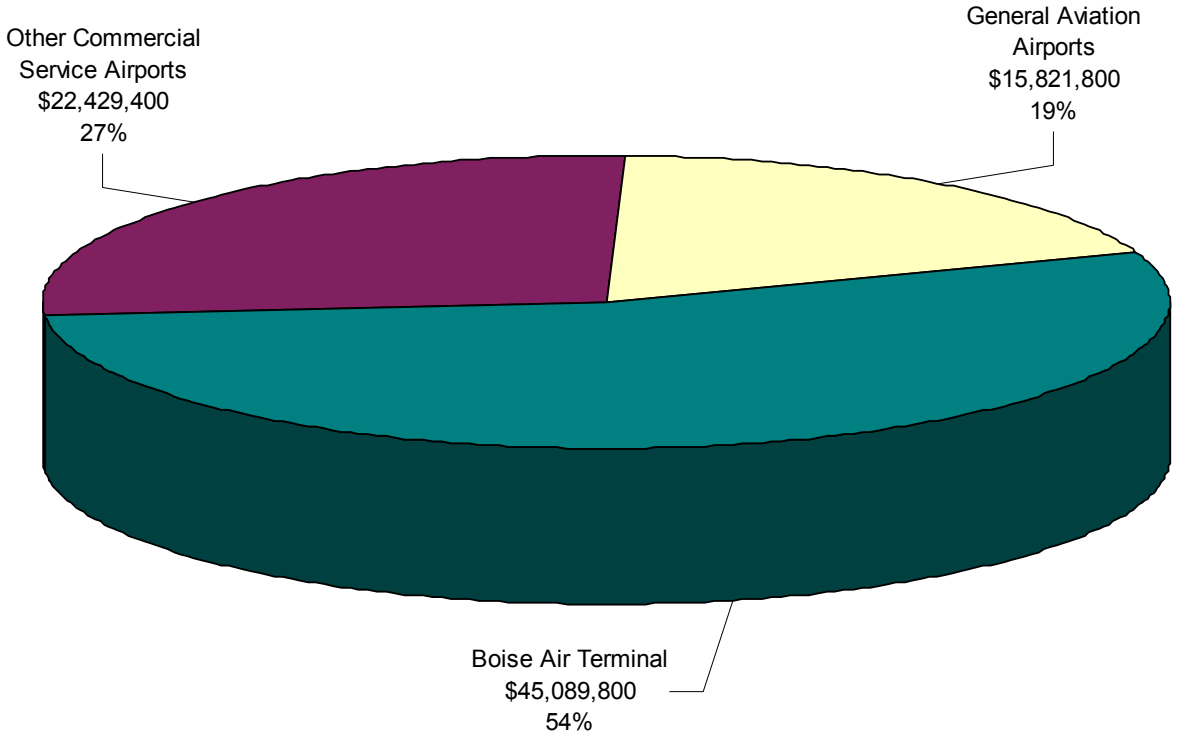
Figure B-17: Total Direct Tax Impacts by Revenue Source – 2007



Source: Wilbur Smith Associates.
Prepared: September 2009.

Another way to view tax revenues generated by Idaho's airports is to look at the contributions of tax revenue among airports. Figure B-18 presents a different view of tax generation. This graph shows Boise Air Terminal generates $45.1 million in tax revenues (more than half of all tax revenues), other commercial service airports generate $22.4 million, and general aviation airports generate $15.8 million in tax revenues each year. This graph does not include the nearly $1.8 million of aviation fuel taxes since this tax is paid when it is imported into Idaho, not when it is dispensed at the airport. As a result, data is not available to allocate this aviation tax to individual airports.

Figure B-18: Total Direct Tax Impacts for BOI and Other Airports in Idaho



Source: Wilbur Smith Associates.
Prepared: September 2009.

The remainder of this section presents an overview of the structure of aviation taxes in Idaho and examines the various sales taxes that are levied by Idaho, its counties, and its municipalities. It also briefly describes the aviation fuel taxes levied by the state and the income tax workers in Idaho pay.

Special Idaho Tax Highlights

To set the context for the tax analysis there are several features of Idaho tax structure and tax policy that influence the amount of tax revenues collected and how it is collected.

Idaho Sales Tax

Idaho levies a 6 percent sales tax on the sale, rental, or lease of tangible personal property and some services. For example, the sale of food is taxed, but the sale of prescription drugs is not.

Travel & Convention Tax

In addition to the 6 percent state sales tax, a 2 percent travel and convention tax must be collected on the rental of all sleeping accommodations in the state, such as: hotels, motels, bed and breakfast accommodations, and campground spaces.

Local Option Sales Tax

Idaho is one of several states to authorize a Local Option Sales Tax. The "LOST" tax enables local governing bodies to implement and collect a local option sales tax in addition to the state sales tax. It is used as a means of directly raising funds for specific local projects and applies only within the city or county in which it was implemented. In Idaho it is primarily used in resort cities or areas with high levels of tourism to offset the extra burden placed on the infrastructure. The "LOST" must be passed by the general public before it can be implemented, and must be set for a period of 10 years or less.

In the case of local option sales tax, the state through the Idaho Tax Commission has no jurisdiction over local sales and use taxes imposed. Taxes collected in these areas must be remitted directly to the "LOST" jurisdiction. The state sales tax is 6 percent. At the local level, total sales and use tax varies, as city and county taxes are added to the state sales tax. There may also be special use taxes approved by voters. For example, the City of Hailey is a "LOST" city with a sales tax of 11 percent for lodging. The sales tax is built up by a city lodging tax of 3 percent, plus the state sales tax of 6 percent and state travel tax of 2 percent. This is not typical of most localities in Idaho as the local option sales tax is limited to cities and counties where resort activity is a major portion of the local economy.

Auditorium Districts

Two cities in Idaho, Boise and Pocatello, are unique in that a majority of their metropolitan areas lie within what is called an auditorium district. The auditorium district is a special tax district designed to build, operate, maintain, market, and manage public auditoriums, exhibition halls, convention centers, sports arenas and other facilities of a similar nature. The Greater Boise Auditorium District has only one function, that of economic development. To that end, the Board of the District is responsible for the operations of the Boise Centre on the Grove and the Boise Convention and Visitors Bureau. The only source of funds for an auditorium district is through the collection of room taxes. All lodging properties, such as hotels, motels, bed and breakfasts, collect a room tax from visitors staying with them. Current legislation allows for a maximum collection of 5 percent. A room rate in Boise will have a 5 percent tax in addition to the 6 percent sales tax and 2 percent travel tax. In 2007, room tax revenues were slightly more than $4.2 million dollars throughout the state.

Idaho's Legislature Influences Aviation Tax Receipts and Disbursements

Idaho's legislature has played an important role to secure funding for aviation related activities across the state. Recent legislation was passed in 2008 to increase aviation fuel excise tax by 1.5 cents, for both aviation gas and jet fuel. Previously aviation fuel taxes had not been increased since 1991. Stagnant aviation tax revenues coupled with inflation forced the ITD Division of Aeronautics to reduce support to airports and aviation activities throughout

the state. The new legislation was expected to generate additional revenue for the State Aeronautics Fund and allow the Division of Aeronautics to resume suspended aviation support programs. However, the additional revenue failed to materialize.

Aviation-Related Tax Collection in Idaho

Idaho generates tax revenues from both the provision of aviation products and services. The tax analysis prepared for the economic impact study considers the first round contributions to the tax base. The induced or secondary effects were not added. Consequently estimates of tax revenues are likely to underestimate the full contribution of airport activity to Idaho's tax base.

Taxes Generated by Visitor Expenditures

Air passengers using Idaho airports contribute a significant portion of the state tax revenues. The three visitor expenditures that result in tax receipts to the state are lodging, retail sales, and rental cars. In 2007, both general aviation and commercial service visitors contributed $32.9 million in tax revenues and accounted for more than a third of the tax receipts attributable to airport activity. Taxes generated by visitor expenditures were separated out by airport and by type of aviation activity. Taxes collected as a result of general aviation visitor expenditures and commercial airline visitor expenditures from travelers arriving in Idaho by air are shown at the end of this appendix.

Income Tax Receipts

Idaho also levies an income tax on individuals. This section estimates individual income taxes generated from wages earned in association with activity at Idaho's airports. This includes employment at airports and employment supported by visitor spending. State income tax rates in Idaho range from a low of 1.6 percent to a high of 7.8 percent. According to Idaho's FY 2006 *State and Local Tax Burden Analysis*, the effective income tax rate for individuals in Idaho was 2.9 percent. This was the rate used to estimate income tax collections. State income tax collection associated with airports in 2007 was estimated at $11.6 million.

Figure B-19 summarizes estimates of taxes related to airports in Idaho. These taxes, in order from left to right, are:

- Airport Tenant Taxes – the taxes paid by airport businesses when they purchase goods and services to run the business.
- Visitor Taxes – the taxes paid by visitors arriving via general aviation aircraft or commercial service airlines when they pay for food, lodging, travel, and entertainment.
- Employee Taxes from Airport Tenants – the taxes paid by employees of on-airport businesses when they purchase goods and services (e.g., groceries).
- Employee Taxes from Visitors – the taxes paid by employees supported by visitor spending (both general aviation and commercial service related visitors) when they purchase goods and services (e.g., groceries).
- Income taxes – the taxes paid by all airport-related employees in Idaho (on-airport business employees as well as employees supported by visitor spending).
- Total Taxes – the sum of all previously mentioned taxes.

Figure B-19: Summary of Estimated Taxes Generated by Airport Activity

	Airport Tenant Taxes	*Visitor Taxes (GA and CS)*	*Employee Taxes from Airport Tenants*	*Employee Taxes from Visitors (GA and CS)*	*Income Taxes*	*Total Taxes*
Boise Air Terminal	$ 17,613,700	$ 16,024,800	$ 2,690,300	$ 1,398,700	$ 7,362,300	$ 45,089,800
Other Commercial Airports	$ 4,776,100	$ 14,349,000	$ 487,300	$ 714,000	$ 2,103,000	$ 22,429,400
General Aviation Airports	$ 10,013,100	$ 2,556,400	$ 911,100	$ 245,700	$ 2,095,200	$ 15,821,800
Total	**$ 32,402,900**	**$ 32,930,200**	**$ 4,089,000**	**$ 2,358,400**	**$11,560,500**	**$ 83,341,000**

Note: Approximately $1.8 million in Idaho aviation fuel taxes are not included in this table.
Source: Wilbur Smith Associates.
Prepared: September 2009.

Boise Air Terminal is shown separately as it generates 54 percent of taxes paid. Other commercial service airports contribute 27 percent and general aviation airports 19 percent. The figures at the end of this appendix show income tax receipts estimated by airport.

Tax Analysis Summary

The State of Idaho, its counties, and municipalities benefit from taxes levied on civil aviation activities. These benefits include taxes on visitor and tenant expenditures, aircraft, fuel sales, and income.

Idaho is considered a moderate tax state. Nevertheless, the total tax contribution directly flowing from airport activity exceeds $85.1 million. This does not include downstream multiplier effects so actual total contributions to the tax base are much larger. Activity at Boise Air Terminal generates the largest contribution of $45.1 million, but other commercial service airports contribute an additional $22.4 million. General aviation airports add $15.8 million. Aviation fuel taxes, paid by fuel distributors when the fuel enters the state and not by individual airports, contribute another $1.8 million in taxes.

As noted, airport-related tax benefits shown at the end of this appendix are related to first round airport, CIP, and visitor impacts only. Tax benefits from induced or secondary impacts were not included in this analysis. Further, tax benefits stemming from value-added airport dependent jobs discussed in the next section of this report were not included in this tax analysis. Figures found at the end of this appendix also summarize total estimated tax receipts associated with individual airports.

VALUE ADDED BENEFITS FROM AVIATION DEPENDENT BUSINESSES

The economic impacts associated with aviation in Idaho extend beyond on-airport activities and commercial service and general aviation visitors. Many employees in Idaho, and the companies that provide their jobs, rely heavily on Idaho's airports. Without these airports, many companies in the region would experience adverse effects in business activity levels.

Because of the efficiencies gained by the availability of aviation, many businesses receive additional benefits and these "value-added" impacts are associated with air transportation supported at airports in Idaho. A separate survey was developed to gather data from

employers to identify additional value-added benefits. This section identifies the benefits that businesses in Idaho derive from the day-to-day operation of these airports.

Methodology

A non-aviation business survey sought information from Idaho businesses on topics such as reliance on commercial airline service and air cargo. The survey also collected information on factors important to businesses when they consider expanding or relocating. Other survey questions asked businesses to provide information regarding reliance on general aviation aircraft and services. In addition, basic business data such as employment and payroll were collected.

Approximately 1,000 businesses in the state received surveys designed to assess their dependence on Idaho's airports. While it is impossible to make exact estimates of all the additional benefits that businesses in Idaho derive from use of the airports, it is possible to make some broad assumptions as to how the airports benefit the region's non-aviation business community. Approximately 18 percent of the businesses surveyed responded, which was adequate for the purposes of this study. While the survey sampled all types of businesses, it targeted businesses in the state that have a propensity to use aviation services.

The survey confirmed that many businesses in the region depend on the state's airports for the transport of employees, clients and suppliers as well as goods. Without access to these airports, some companies would be forced to cut employment or possibly locate outside of Idaho.

According to U.S. Department of Commerce, Bureau of Economic Analysis (BEA) data, there are over 782,900 private (i.e. non-government) employees in the state. The industrial sectors surveyed above account for over 22,000 employees. Based on the survey data approximately 35 percent of the business activity in the sampled industrial sectors is linked to the availability of general aviation or commercial airline service in Idaho. In order to estimate the additional regional benefit from the availability of the state's airports, one can assume that approximately 35 percent of the 782,900 employees (approximately 274,000 jobs) can attribute their employment to the airports and the services they provide.

Key findings of the business survey are as follows:

- 91 percent of the respondents indicated that they utilize commercial airline service related to their routine business functions.
- 58 percent of respondents indicated that their company averages at least one trip per month on a commercial airline.
- 23 percent of the respondents indicated that their company owns, leases, charters, or has fractional ownership of general aviation aircraft.
- 71 percent of the respondents indicated that they have customers or suppliers who travel by scheduled airline service to visit the surveyed company.
- 78 percent of respondents indicated that they use air cargo/package express on a regular basis. Of these businesses, 53 percent indicated that they ship packages weighing two pounds or less; 60 percent indicated that they ship packages

weighing two to 70 pounds; and 26 percent indicated that they ship packages weighing more than 70 pounds.[4]

The final section of the business survey contained questions regarding the importance of various factors considered when a business contemplates relocation or expansion. The top 12 factors, ranked in relative order of importance by Idaho businesses, are as follows:

1. Convenient highway access
2. Available trained workforce
3. Tax incentives
4. Commercial service airport
5. Proximity of input suppliers
6. Universities and high-tech research and development centers
7. Availability of natural resources and raw materials
8. An urban business district
9. General aviation airport
10. Historic Location of Business
11. Rail transportation facilities
12. Water transportation facilities

In addition, approximately 56 percent of all survey respondents indicated that the presence of a commercial service airport was of importance to the decision of business location; while approximately 27 percent of respondents indicated that the proximity to a general aviation airport is of importance in the their location decision.

QUALITATIVE AIRPORT BENEFITS

The preceding sections of this study discussed the quantitative benefits derived from aviation in Idaho. Beyond the quantitative aspects of aviation benefits, there are also qualitative benefits that deserve consideration when the total value of an airport system is analyzed. Qualitative benefits are those activities which take place at an airport on a regular basis that add to the quality of life, but are difficult to assign a dollar value. Qualitative benefits typically enhance the health, welfare, or safety of individuals in the airport's market area. While it may be difficult to place a dollar value on such impacts, these benefits improve the quality of life of Idaho's residents in a variety of ways.

The activities contributing to the qualitative benefits vary throughout the airport system, yet each airport contributes in some way to the quality of life for the residents of Idaho. Some examples of the qualitative benefits of aviation at Idaho system airports include:

- Facilitating emergency medical transport
- Providing police support
- Conducting search-and-rescue operations
- Providing access to back country areas for camping and other outdoor activities
- Supporting the U.S. military and other government organizations
- Assisting with prisoner transport

[4] Percentages do not add to 100% because some respondents indicated that they use more than one category of shipping service.

- Supporting forest and rangeland firefighting efforts
- Supporting statewide agricultural activities
- Providing entertainment opportunities (e.g., museums, air shows)
- Hosting school field trips and other educational events
- Serving as a staging area for community events

Information supplied by the airports themselves has highlighted some of the more notable examples of the qualitative benefits derived from Idaho's airport system. Numerous life-saving emergency medical evacuations and operations occur at airports throughout the state. Airports in Idaho play an important role in wildfire suppression each year. As just one example, Murphy Airport provides a training ground for the Bureau of Land Management's smoke jumpers. The Aeroplanes Over Idaho Museum at Caldwell Industrial Airport focuses on aviation education through historic aircraft restoration and preservation. The Warhawk Air Museum at Nampa Municipal Airport pursues a similar mission with its emphasis on World War II aviation history. The turf strip at Dubois Municipal Airport provides C-130 pilots of the Idaho Air National Guard with the opportunity to practice soft-field landings in preparation for operations from unimproved strips.

What is most notable is no matter how large or small the contributions, all airports contribute in some way to the quality of life of Idaho residents.

ECONOMIC IMPACT SUMMARY

The 75 IASP airports considered in this analysis are a major catalyst for Idaho's economy. In 2007, the annual economic activity of the airports was estimated at $2.1 billion. This includes expenditures and operations associated with on-airport businesses and activities and spending by thousands of visitors using general aviation and commercial airlines to reach Idaho. This estimate also includes secondary impacts measured using study multipliers from the economic input-output model.

It should be noted that the $2.1 billion of economic impact from the IASP airports does not include additional impacts that were evaluated outside of the economic model. These impacts include the benefits to commercial agriculture from aerial applicators (estimated between $42.7 million and $276.5 million in any given year), tax revenues (estimated at $85.1 million), and the hard to quantify benefits provided by airports, such as life-saving medical flights. These estimates were not included in the overall impacts, because very broad assumptions were used in their calculation. Despite the lower confidence level in these estimates, it is certain that they contribute positively to Idaho's economy.

Figure B-20 provides a summary of economic impacts for the 75 Idaho airports analyzed in this study. As shown, the airports help to support a total of 23,000 jobs that have an annual payroll of more than $718.5 million. The airports in Idaho account for a total of approximately $2.1 billion in total annual economic activity or output.
In addition to these quantifiable benefits, there are numerous quality of life benefits, such as medical flights, that Idaho's airports provide.

Figure B-20: Economic Impact Summary Table for Airports in Idaho

	First Round Impacts	Secondary Impacts	Total Impacts
Employment			
On-Airport Impacts	6,144	6,215	12,359
Commercial Service Visitor Impacts	5,715	3,215	8,930
General Aviation Visitor Impacts	1,265	446	1,711
Total Employment	**13,124**	**9,876**	**23,000**
Payroll			
On-Airport Impacts	$ 266,123,000	$ 199,346,900	$ 465,469,900
Commercial Service Visitor Impacts	$ 116,586,000	$ 95,132,000	$ 211,718,000
General Aviation Visitor Impacts	$ 25,779,100	$ 15,550,800	$ 41,329,900
Total Payroll	**$ 408,488,100**	**$ 310,029,700**	**$ 718,517,800**
Output			
On-Airport Impacts	$ 825,234,900	$ 482,473,500	$ 1,307,708,400
Commercial Service Visitor Impacts	$ 411,968,900	$ 272,296,900	$ 684,265,800
General Aviation Visitor Impacts	$ 64,729,800	$ 40,759,200	$ 105,489,000
Total Output	**$ 1,301,933,600**	**$ 795,529,600**	**$ 2,097,463,200**

Sources: Wilbur Smith Associates and IMPLAN multipliers.
Prepared: September 2009.

Key study findings are as follows:

- More than 1.4 million visitors use the study airports to travel to Idaho, with the majority coming through Idaho's commercial service airports.
- Of the 1.4 million visitors who arrived in Idaho via the study airports, more than 400,000 arrived on general aviation aircraft.
- More than 23,000 Idaho residents owe their jobs, directly or indirectly, to the study airports. These employees represent 3.0 percent of all the estimated 782,900 jobs in Idaho[5].
- The 23,000 jobs tied to the study airports have an estimated annual payroll of $718.5 million.
- The total economic impact identified in this analysis ($2.1 billion) comprises 4.0 percent of Idaho's estimated gross domestic product of $52.1 billion[6].

As this economic impact analysis has shown, airports in Idaho are major economic catalysts for the state and for the communities they serve. In addition to economic benefits, airports provide communities with links to the national air transportation system, and they support many health, welfare, and safety services which improve the quality of life for all residents, businesses, and visitors.

5 US Bureau of Labor Statistics

6 US Bureau of Economic Analysis