

Economic Impact Analysis: Fiscal Year 2013



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EXECUTIVE SUMMARY

This report presents an analysis of the economic impacts of Phoenix-Mesa Gateway Airport (Gateway Airport) based on activity during FY 2013 (see table below).

Gateway Airport serves as a portal that welcomes commerce and visitors into the East Valley and Greater Phoenix region. Commercial airline travelers arriving at Gateway Airport can visit friends and relatives, conduct business, or continue on to other destinations in Arizona. General aviation flyers can stop for fuel or stay over in the region for business meetings or sporting events. Cargo flights can avoid more congested airports and readily serve the technology-oriented firms of the area.

Outward bound residents have options to diverse points in the nation from Gateway Airport via commercial air service. These options have increased significantly in recent years with the expansion of Allegiant Air service and the presence of Spirit Airlines during the FY 2013 period.

Following FAA methodology, this study views Gateway Airport as a source of significant economic output (the production of aviation services) that creates revenues for firms, and employment and earnings for workers on and off the airport. Business spending on the airport injects revenues into the community when firms buy products from local and regional suppliers and again when employees of the airport spend for goods and services in their communities.

Summary of Economic Impacts FY 2013 Gateway Airport

	Revenues	Payrolls	Employment
On-Airport Activity	\$373,152,000	\$118,276,000	2,042
Air Visitor Spending	393,974,000	106,306,000	4,383
Direct Impacts	767,126,000	224,582,000	6,425
Secondary Impacts	544,106,000	167,454,000	4,045
Total Impacts	1,311,232,000	392,036,000	10,470

Note: On-Airport activity includes private firms, public agencies and capital improvement projects; air visitor spending includes commercial airline passengers and general aviation, air taxi and military travelers. Secondary impacts computed from IMPLAN input-output model with Maricopa County coefficients

In addition, spending by air visitors produces revenues for firms in the hospitality sector as well as employment and earnings for workers in tourism-related industries.

To measure the economic impact of the airport, information on revenues and employment was obtained from suppliers and users of aviation services including private sector firms on the airport, government agencies, and Airport Authority staff. Surveys and phone contacts with employers and visitors were used to obtain estimates of direct spending employment. Visitor survey results were obtained through the cooperation of the Mesa Convention and Visitors Bureau and the Behavior Research Center, Inc.

To measure the secondary impacts of direct spending that recirculates within the region, airport impact studies rely on multiplier factors from input-output models. Secondary spending contributes to regional output, earnings and employment in the form of indirect (supplier) and induced (consumer) impacts.

The indirect and induced spending coefficients used for this study were from the IMPLAN input-output model based on data from the Arizona Department of Administration and the U. S. Bureau of Economic Analysis.

The highlights of the FY 2013 economic impact analysis are set out below.

• The total economic impact (including all multiplier effects) of Gateway Airport summed to \$1.3 billion in FY 2013, supporting a total of 10,470 jobs in the regional economy

- The direct economic impact (not including multiplier effects) of combined on-airport activity and offairport visitor spending summed to \$767.1million in FY 2013
- On-airport economic activity generated revenues of \$373.1 million, creating employment for 2,042 onairport workers, with payrolls of \$118.3 million
- On-airport businesses purchased \$182.4 million of intermediate goods and services from suppliers in the region in FY2013
- Air visitors arriving at Gateway Airport spent \$394 million, creating 4,383 jobs in the regional economy in FY 2013
- A typical departing airliner carried 86 visitors, who collectively spent \$80,066 during their stay in the area

Gateway airport has experienced significant growth since the previous impact study was completed in FY 2010 (see table on next page).

- Compared to FY 2010, on-airport employment rose by more than 75 percent in FY 2013
- Regional spending created by air visitors rose by more than 400 percent
- The total revenue impact, including multiplier effects, rose by 79 percent (in 2013 dollars), while total regional employment supported by Gateway Airport increased by 150 percent compared to FY 2010

Comparison of Economic Impacts: FY 2013 vs. FY 2010 Gateway Airport

On-Airport Activity	Revenues	Payrolls	Employment
FY 2010 (in 2013\$)	\$331,624,000	\$72,980,000	1,145
FY 2013	373,152,000	118,276,000	2,042
Percent Change	13%	62%	78%
Air Visitor Spending*	Revenues	Payrolls	Employment
FY 2010(in 2013\$)	73,871,000	26,014,000	1,024
FY 2013	393,974,000	106,306,000	4,383
Percent Change	433%	309%	328%
Direct Impacts	Revenues	Payrolls	Employment
FY 2010 (in 2013\$)	405,495,000	98,994,000	2,169
FY 2013	767,126,000	224,582,000	6,425
Percent Change	89%	127%	196%
Total Economic Impacts	Revenues	Payrolls	Employment
FY 2010 (in 2013\$)	733,885,000	201,134,000	4,191
FY 2013	1,311,232,000	392,036,000	10,470
Percent Change	79%	95%	150%
*Airline Passengers	Total Number	Enplanements	Visitors
FY 2010	682,771	342,047	211,915
FY 2013	1,455,778	728,155	436,893
Percent Change	113%	113%	106%

SECTION 1: METHODOLOGY AND OVERVIEW

The presence of an airport creates multiple impacts for a community. Measurement of these impacts is often complex, as the influence of the airport on the pace of economic development and quality of life is complicated to quantify.

Airports bring essential services, including enhanced medical care (such as air ambulance service), support for law enforcement and other government services and agencies (such as the U.S. Forest Service), as well as courier delivery of mail and high value parcels. These services raise the quality of life for residents and maintain a competitive environment for economic development.

Increasingly, metropolitan airports are also prime locations for activity not directly related to aviation, including high technology firms. As a leader in this national trend, Gateway Airport is developing into a major employment locus for the East Valley region.

1.1 Quantitative Impact Measures

Although qualitative advantages created by an airport are important, they are also challenging to measure. In studying airport impacts, regional analysts have emphasized indicators of economic activity for airports that can be quantified, such as dollar value of output, number of jobs created, and wages and salaries received by workers.

Economic impact studies differ from costbenefit analyses, which are often used to support the decision to undertake a proposed project. Study of economic impact is related to measurement of economic contribution of an industry, an activity, or a particular component of the economy. The methodology as applied to airport impacts was standardized in the publication by the Federal Aviation Administration, *Estimating the Regional Economic Significance of Airports*, Washington, D.C., 1992.

Following FAA methodology, this study views Gateway Airport as a source of measurable economic output (the production of goods and services) that creates revenues for firms, and employment and earnings for workers on and off the airport.

Business spending on the airport injects revenues into the community when firms buy products from suppliers and again when employees of the airport spend for household goods and services. In addition, spending by air visitors produces revenues for firms in the hospitality sector as well as employment and earnings for workers.

The quantitative measures of economic impacts of the Gateway Airport are each described below.

Revenue is the value in dollars of the output of goods and services produced by businesses. For government units, the budget is used as the value of output. Revenue is equivalent to purchases, spending, or sales. From the perspective of the business that is the supplier of goods and services, the dollar value of output is equal to the revenues received by that producer. From the viewpoint of the consumer, the dollar value of the output is equal to the amount that the consumer spent to purchase those goods and services from the business.

Payrolls are a second impact measure, made up of employee compensation (the dollar value of payments received by workers as wages and benefits).

Employment is the third impact measure, the number of jobs supported by the revenues created by the airport.

The Airport Authority staff at Gateway Airport was very helpful in providing data in support of this study. Data collected included current and historical information on airport operations and activity, as well as information on types of airport businesses and number of employees. Telephone surveys were conducted to follow up with individual on-airport employers.

1.2 Economic Impact Components

The components of economic impacts include both **on-airport and off-airport** economic activity. These impacts encompass the revenues of firms, budgets of government agencies, their employment, and the payroll outlays to workers.

1.2.1 Direct Impacts

The on-airport and off-airport activity creates **direct impacts** which measure the initial revenues, employment, and earnings associated with the presence of the airport.

The on-airport direct impacts occur when businesses and agencies on the airport generate sales and revenues, hire workers, and make payments to employees. Off-airport direct impacts result when visitors that arrive by air spend for goods and services in the region such as lodging, restaurants, auto rental, or retail items. These expenditures create revenues for businesses and jobs and income for workers.

1.2. 2 Secondary Impacts

In addition to the initial benefits from direct impacts, **secondary impacts** (involving multiplier effects) are created when the initial spending by airport employers or visitors circulates and recycles through the regional economy. The secondary impacts measure the magnitude of successive rounds of this re-spending process.

1.2.2.1 Indirect Impacts

There are two components that make up secondary impacts. One of these is known as the **indirect impact** of spending. This is a measure of the intermediate goods required to produce a volume of output. Indirect impacts measure the purchase of goods and services from suppliers and vendors by airport businesses, along with their employment and compensation paid to workers by suppliers.

1.2.2.2 Induced Impacts

An additional secondary impact is known as the **induced impact**. Induced impacts measure the consumer spending of workers who produced both the direct impact and the indirect impact. For example, when an aircraft technician's salary is spent for consumer goods, this contributes to additional employment and income for those businesses and workers in the general economy providing goods and services.

Airport impact studies rely on multiplier factors from input-output models to estimate the impact of secondary spending on output, earnings and employment to determine indirect and induced impacts.

The indirect and induced spending coefficients used for this study were from the IMPLAN input-output model based on data from the Arizona Department of Administration and the U. S. Bureau of Economic Analysis. This model is frequently used for studying the economic contribution of airports across the nation.

1.2.3 Total Economic Impacts

Total economic impacts are the combined sum of direct and secondary impacts created both on and off the airport.

1.3 Economic Impacts FY 2013

The economic impacts created by Gateway Airport for FY 2013 are shown in Table 1.1.

1.3.1 On-Airport Direct Impacts

Gateway Airport employers include private and public organizations and construction firms. All on-airport economic units contributed direct impacts of:

- \$373.1 Million Revenues
- \$118.3 Million Payrolls
- 2,042 On-Airport Jobs

1.3.2 Air Visitor Direct Impacts

When air travelers make off-airport expenditures, these outlays create revenues (sales) for firms that supply goods and services to visitors. Visitor spending created annual direct impacts of:

- \$394.0 Million Revenues
- \$106.3 Million Payrolls
- 4,383 Off-Airport Jobs

1.3.3 Combined Direct Impacts

The combined direct impacts represent the sum of on-airport and off-airport (visitor) revenues, earnings, and employment due to the presence of the airport. The direct impacts were:

- \$767.1 Million Revenues
- \$224.6 Million Payrolls
- 6,425 Jobs

1.3.4 Indirect Impacts

The initial direct revenue stream of \$767.1 million created by the presence of Gateway Airport was estimated to stimulate additional (indirect) activity by suppliers of intermediate goods and services of:

- \$234.8 Million Revenues
- \$73.9 Million Payrolls
- 1,684 Jobs

1.3.5 Induced Impacts

When employees of airport businesses and agencies, regional hospitality firms, and suppliers spend their paychecks as consumers, this creates induced impacts of:

- \$309.3 Million Revenues
- \$93.5 Million Payrolls
- 2,361 Jobs

1.3.6 Combined Secondary Impacts

The combined secondary impacts are the sum of supplier activity (indirect impacts) and the spending by employees as consumers (induced impacts):

- \$544.1 Million Revenues
- \$167.4 Million Payrolls
- 4,045 Jobs

The indirect and induced secondary impacts represent revenues, payrolls and jobs created in the general economy, other than aviation and visitor services, including manufacturing, finance, health care, and other industries.

1.3.7 Total Economic Impacts

The total economic impacts created by the

presence of Gateway Airport are the sum of direct impacts and secondary impacts, and in FY 2013 were:

- \$1.3 Billion Revenues
- \$392.0 Million Payrolls
- 10,470 Jobs

TABLE 1.1 Economic Impact Measures: FY 2013 Gateway Airport

	ECONOMIC IMPACT MEASURES			
Source	Revenues Payrolls		Employment	
On-Airport Private Firms, Government Agencies & Capital Improvement Projects	\$373,152,000	\$118,276,000	2,042	
Air Visitors	393,974,000	106,306,000	4,383	
Direct Impacts: Sum of On-Airport & Air Visitor Activity	767,126,000	224,582,000	6,425	
Indirect Spending by Suppliers & Vendors	234,763,000	73,945,000	1,684	
Induced Spending by Workers & Proprietors of Businesses	309,343,000	93,509,000	2,361	
Secondary Impacts (Multiplier Effects)	544,106,000	167,454,000	4,045	
TOTAL IMPACTS	1,311,232,000	392,036,000	10,470	

SECTION 2: ON-AIRPORT IMPACTS

This section provides details on the economic impacts associated with activity on site at Gateway Airport.

Table 2.1 illustrates the annualized employment, payrolls and value of output (revenues) produced by airport tenants in FY 2013. Only firms and public agencies within the airport property boundaries are included. Values shown for revenues, employment, and earnings are the direct impacts and do not include multiplier effects of secondary impacts.

2.1 On-Airport Revenues

On-airport economic activity created annual revenue flows of \$373.1 million (including \$16.4 million for capital improvement projects). The value of output (revenues) for private companies on the airport was \$330.4 million. Operating budgets reported by governmental units were \$26.3 million.

Businesses at Gateway Airport offer passenger services including airline transport and other travel services, such as auto rental. Expansion of service by Allegiant, now serving 34 destinations, and the presence of Spirit Airlines in the market resulted in an increased passenger count in FY 2013 to 1.4 million, an all-time high figure for Gateway Airport.

Full support services available for the aviation community include aircraft maintenance, avionics, aircraft storage, and fueling for various categories of aircraft including piston, turboprop, jet, and rotary.

The airport attracts many aviation customers and clients from the region and nation seeking high-level technical and maintenance support available from major firms such as Cessna, Embraer, Lockheed Martin and Able Engineering and Component Services.

The airport has become a locus for advanced aviation related research. Aviation education opportunities are available on the airport, extending from applied courses in aeronautics to formal flight training and advanced study.

Government agencies include the Gateway Airport Authority staff, police and fire, the Transportation Security Administration (TSA) and the airport contract tower. In addition, the airport houses U.S. Customs and Border Protection, U.S. Immigration & Customs Enforcement and the U.S. Interagency Fire Center.

2.2 Employment and Payrolls

There are 51 private employers on the airport and 8 public, administrative, or government units. Surveys and interviews with on-airport employers provided a tally of 2,042 jobs (including an average of 130 workers for capital improvement projects). The ratio of private sector jobs to overall jobs was 1,749/2,042 or 86 percent of the total. Airport employers reported annual payrolls of \$118.3 million received by workers. The average overall wage for workers on the airport was \$57,922, including full and part time employees.

TABLE 2.1 On-Airport Impacts: Revenues, Payrolls and Employment Gateway Airport

	IMPACT MEASURES		
Sources of On-Airport Impacts	Revenues	Payrolls	Employment
On-Airport Private Employers (51) Commercial Airlines Auto Rental, Food Service, Retail Avionics & Maintenance Major Overhaul & Repairs Aviation Education & Training Air Medical Transport Aircraft Storage & Corporate Aviation Aviation Simulation & Research Industrial & Commercial Facilities	\$330,406,000	93,890,000	1,619
Capital Improvement Projects (5 Year Average Value)	16,421,000	6,900,000	130
Government Agencies/Services (8) Gateway Airport Authority Customs & Border Protection Interagency Fire Center Immigration & Customs Enforcement Transportation Security Administration Air Traffic Control Tower City of Mesa Police & Fire Protection	26,325,000	17,486,000	293
ON-AIRPORT IMPACTS	373,152,000	118,276,000	2,042

Source: Survey of Employers and Gateway Airport Authority, FY 2013

On-airport employment classified by broad industry groups is shown in Table 2.2. The largest category (602 jobs) is related to aircraft services, particularly major maintenance, overhaul and refurbishing.

TABLE 2.2 Employment by Industry Group Gateway Airport

Industry	Employment	
Aircraft Parts, Overhaul & Refurbishing	602	
Transport of Passengers & Cargo	403	
Professional, Business & Technical Services	186	
Air Transportation Support Services	139	
Air Passenger Services (Food, Retail, Auto Rental)	130	
Capital Projects, Design & Construction	130	
Education/Training	109	
All Other Private Firms	50	
Government Services	293	
TOTAL	2,042	
Source: Survey of Employers and Gateway		

Source: Survey of Employers and Gateway Airport Authority, FY 2013

Second in importance is transport of cargo and passengers (403 jobs). This industry group includes not only commercial airlines,

but cargo carriers and firms with government and private contracts for moving people, goods and equipment by air. The professional, business and technical services group (186 iobs) includes consulting, research and communication firms that serve on-airport clients as well as other off-airport markets in the metro area and nationally.

Air transportation support firms (139 jobs) primarily serve aircraft and support aircraft operations, while air passenger service firms (130 jobs) provide retail goods and services such as food and auto rental to passengers. Average annual construction employment (130 jobs) includes design, remodel, and new buildings as well as maintenance of runways, facilities, other structures, fencing, and drainage. Training activity (109 jobs) serves beginning and advanced flyers.

All other private firms (50 jobs) include both aviation and non-aviation businesses, ranging from fitness and real estate to model aircraft manufacturing and sales.

The 1,749 private sector jobs (including construction) plus the 293 government service jobs combine for the total of 2,042 jobs on the airport in FY 2013.

2.3 Outlays by Private Firms

Revenues received by private firms on the airport recycle through the regional economy as illustrated in Table 2.3. Gross sales by on-airport businesses were \$330.4 million in FY 2013. Through analysis of inputs and outputs for industries on the airport, estimates can be derived for the amount paid to suppliers and vendors for purchase of intermediate goods and services used during the year.

The analysis showed that private businesses on the airport injected \$182.4 million into the local economy for purchases of goods and services from suppliers.

TABLE 2.3 On-Airport Private Revenue & Outlays Gateway Airport

Category	Value
Output (Revenues)	\$330,406,000
Paid to Suppliers & Vendors for Inputs	182,402,000
Paid to Employees	93,890,000
Retained by Proprietors & Businesses as Income	38,925,000
Received by Governments For Sales, Excise, and All Other Taxes & Fees	15,189,000

Source: Derived from analysis of input-output relationships obtained from IMPLAN model.

The cost of labor for businesses on the airport was \$93.9 million. The remainder (\$38.9 million) was retained by business or paid as taxes (\$15.2 million) to state, local and federal governments.

2.4 Off-Airport Employment

Following original FAA guidelines, airport economic impact studies do not include activity such as revenues or employment for businesses or agencies located outside airport boundary lines. But in recent years it has been recognized that airports are an important catalyst for regional economic development.

Modern metropolitan airports typically serve

as a magnet for business location. Land near airports is normally zoned for business, and airports with linkage to neighboring industrial parks are a feature of growthoriented communities.

Similarly, educational institutions and public agencies are often found nearby airports, which can provide not only instruction and case studies for students but also part time jobs and practical training.

The following institutions and organizations are not located on airport property, and therefore are not included in the airport economic impact. However, they bear close proximity to Gateway Airport and contribute to the economic footprint of the surrounding area.

- ASU Polytechnic
- Chandler-Gilbert Community College
- East Valley Institute of Technology
- House of Refuge East
- SW Veterans Affairs Health Clinic
- U.S. Department of the Army.

The combined employment (full and part time) of these organizations is 2,865 workers. The educational institutions have 16,944 students, with more than 11,000 accounted for by ASU Polytechnic campus.

2.5 Capital Improvement Projects

Capital projects are vital for airports to maintain safety and meet rigorous aviation standards. At Gateway Airport, increases in aviation activity have required continued improvement of facilities and infrastructure to provide for growth. Capital spending for airport improvements, such as the recent terminal expansion, creates jobs and injects dollars into the local economy. This contribution is especially important at a time when commercial building is still not fully

recovered in the metropolitan area.

The airport spent a total of \$25.4 million in 2013 (Table 2.4). Some of the projects during the year included upgrading a major maintenance, repair and overall facility to attract a large employer, runway improvements, continued terminal design and expansion activity, and various building renovations.

Total airport capital improvement outlays over the past five years sum to \$82.1 million. The average annual expenditure over the period is \$16.4 million. This five

year average was used in the impact analysis to smooth the effect of year-to-year fluctuations in capital spending.

Although specific figures are not available, it should be noted that Gateway Airport has a strong history of private sector investment as well. Major private projects in recent years include hangar and office facilities for new employers who have contributed increases in jobs, payrolls and revenues to the overall economic impact of the airport.

TABLE 2.4
Capital Improvement Projects: Five Year Summary (\$ thousands)
Gateway Airport

Source	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	Total	Average
Airport Authority	\$17,645	\$13,059	\$10,213	\$15,808	\$25,376	\$82,101	\$16,420

Source: Gateway Airport Authority

SECTION 3: AIR VISITOR IMPACTS

Gateway Airport attracts commercial airline and general aviation visitors from throughout the region and the nation who come to the area for business, recreational, and personal travel. The combined impact of airline and general aviation visitors was \$394 million of revenues in FY 2013 (see Table 3.13), an increase of more than 400 percent over FY 2010. The sections below provide detail on the direct economic impacts from commercial and general aviation air travelers arriving at Gateway Airport in FY 2013.

3.1 Airline Visitors

During FY 2013 there were 728,155 airline enplanements at Gateway Airport. Through analysis of passenger origination data from the U. S. Department of Transportation, it was found that 60 percent or 436,893 enplaning passengers were visitors to the area (Table 3.1). The FY 2013 airline visitor figures are more than double those recorded in FY 2010 (211,915) using a similar methodology.

Information on air visitor spending and travel patterns was based on figures compiled by the Behavior Research Center, Inc., from periodic surveys commissioned by the Mesa Convention and Visitors Bureau.

More than one half (58%) of visitors stated that the main purpose of their travel was for visiting friends and relatives. Nearly four out of ten visitors (37%) described the purpose of their trip to Arizona as "pleasure or vacation." An additional five percent of respondents stated they were traveling for business related reasons.

The surveys of airline passengers revealed

that the average party size for travel parties was 2.07 persons, leading to an estimated number of visitor travel parties arriving at Gateway Airport of 210,674 during the FY 2013 study period.

TABLE 3.1 Airline Visitor Travel Patterns Gateway Airport

Category	Value
Enplanements	728,155
Percent Visitors	60%
Number of Visitors	436,893
Visit Friends & Relatives	58%
Pleasure or Personal	37%
Business	5%
Average Party Size	2.07
Number of Parties	210,674
Spending Per Party	\$1,930
Visitor Spending*	\$406,600,000

*Includes on-airport auto rental spending Source: Visitor Survey, Behavior Research Center, Inc., and Mesa Convention and Visitors Bureau; figures are rounded for exposition

The average spending per party per trip was \$1,930 (figures are rounded to simplify tables). Multiplication of \$1,930 by 210,674 annual airline travel parties yields total airline visitor spending of \$406.6 million for FY 2013. (As explained below, this figure includes on-airport spending for auto rental, which is netted out in the following tables in

order to differentiate on-airport and off-airport economic impacts.)

The average length of stay reported in the most recent survey available from the Mesa Convention and Visitors Bureau was 5.8 days. Multiplying length of stay by the number of visitors, there were 2,533,979 visitor days from airline passengers in FY 2013. On a typical day, there were 6,942 airline travelers in the airport service area, contributing visitor spending revenues exceeding \$1 million each day.

The figures for spending per person per trip can be used to derive the economic value of visitor expenditures from a typical passenger aircraft departing Gateway Airport (Table 3.2).

TABLE 3.2 Economic Value of Departing Airliner Gateway Airport				
Average Visitor Spending Pe	er Aircraft			
Air Carrier Departures	5,063			
Enplaning Passengers	728,155			
Average Passengers/Aircraft	144			
Percent Visitors	60%			
Average Visitors/Aircraft	86			
Trip Expenditures/Person	\$931			
Value of Departing Airliner \$80,066				
Source: Visitor Survey Data				

Based on current characteristics of Gateway Airport passenger aircraft, the average

number of visitors per aircraft is 86, who spent an average \$931 per person per trip while in the area. Total airline visitor spending of \$80,066 has been injected into the local economy for each departing airliner, on average. The top 20 airports of origination for visitors at Gateway Airport are shown in Table 3.3.

TABLE 3.3

Top Airline Visitor Originations by City
Gateway Airport

Rank	Visitors	Origination City
1	21,120	Bellingham, WA
2	19,615	Las Vegas, NV
3	19,275	Fargo, ND
4	18,740	Cedar Rapids, IA
5	18,380	Sioux Falls, SD
6	17,860	Oakland, CA
7	14,900	Bismarck, ND
8	14,805	Dallas/Ft. Worth, TX
9	14,740	Great Falls, MT
10	14,115	Minot, ND
11	14,005	Rockford, IL
12	13,035	Grand Forks, ND
13	12,505	Peoria, IL
14	11,895	Billings, MT
15	11,110	Rapid City, SD
16	11,005	Missoula, MT
17	10,860	Moline, IL
18	9,855	Grand Island, NE
19	9,845	Grand Rapids, MI
20	9,760	Eugene, OR
~	~	

Source: U. S. Dept. of Transportation, Origin & Destination Data Base

These top 20 originating airports accounted for more than two-thirds (68%) of visitors. In all, visitors originated at 72 airports across the nation in FY 2013. These figures were compiled from origination and destination ticket information made available through the Origin and Destination Data Base of the U. S. Department of Transportation. Bellingham, Washington was the originating airport for the greatest number of visitors (21,120) followed closely by Las Vegas and Fargo, North Dakota.

Four North Dakota airports appeared in the listing of top 20 visitor origination airports, which contributed to the ranking of North Dakota as the state with the most originating visitors to Gateway Airport in FY 2013 (Table 3.4). With 61,335 visitors, North Dakota exceeded second-ranked Montana by more than 30 percent. These top 10 states accounted for three-fourths of all visitors.

TABLE 3.4

Top Airline Visitor Originations by State
Gateway Airport

Visitors	Origination State
61,335	North Dakota
46,595	Montana
42,810	Illinois
29,760	Washington
29,490	South Dakota
19,615	Nevada
18,975	Colorado
18,740	Iowa
17,970	California
15,795	Texas
	61,335 46,595 42,810 29,760 29,490 19,615 18,975 18,740 17,970

Source: U. S. Dept. of Transportation, Origin & Destination Data Base

Spending by category and resulting economic impacts from all airline visitors are shown in Table 3.5.

(Note: The ground transportation category has been adjusted to net out rental car spending outlays directly on the airport. Before adjustment, ground transportation spending by airline visitors from survey results was calculated as \$29.9 million. However, revenue reports from auto rental firms indicate that more than one half of this amount was paid out for on-airport rental cars and therefore this component of visitor spending (\$15.7 million) has already been accounted for in the on-airport spending totals set out in Table 2.1)

After the adjustment for on-airport car rental, total off-airport spending by airline passengers was \$391.2 million.

The largest spending category was food and drink (\$324 per person per trip), leading to total revenues for restaurants and bars of \$141.3 million. Food and drink was also the category with the most jobs created (2,255) by airline visitor spending within the region.

Retail goods and services was the second largest spending category with outlays of \$129.3 million, creating 773 jobs.

The visitor surveys consistently show that at least 60 percent of visitors stay with friends or relatives rather than in paid lodging. The spending figures shown in Table 3.5 for lodging outlays per person per trip (\$159) are based on all respondents, not just those who stayed at hotels, resorts, or other paid lodging. It should be noted that all other values in the per person spending column also include responses from those who reported no spending in a specific category.

TABLE 3.5
Economic Impacts of Airline Visitors: Revenues, Payrolls and Employment
Gateway Airport

Category	Per Person Per Trip	Revenues	Payrolls	Jobs
Lodging	\$159	\$69,214,000	\$21,751,000	574
Food/Drink	324	141,354,000	48,588,000	2,255
Retail Sales	296	129,299,000	15,084,000	773
Entertainment	85	37,365,000	17,593,000	687
Ground Transport	67	13,941,000	2,502,000	64
TOTAL	931	391,173,000	105,518,000	4,353

Note: Visitor spending from Behavior Research Center, Inc., and Mesa Convention and Visitors Bureau surveys. Payrolls and employment figures were derived from the IMPLAN input-output model based on data from the Arizona Department of Administration and the United States Bureau of Economic Analysis. Ground Transportation figures do not include on-airport auto rental spending of \$15.7 million included in On-Airport Impacts in Table 2.1.

3.2 General Aviation Visitors

In order to analyze general aviation traffic patterns at the airport, a database of 5,500 general aviation flight plans involving Gateway Airport as either destination or origin for travel was obtained from the FAA.

In this sample, the most frequent source of itinerant flights arriving at Gateway Airport was Ryan Field in Tucson. Second in importance was Tucson International, followed by Love Field, Sierra Vista, and Montgomery Field rounding out the top five (Table 3.6). Overall, arriving general aviation aircraft originated at more than 150 airports around the nation.

Excluding activity by commercial and chartered airliners, there were 66,604 itinerant operations at Gateway Airport in FY 2013. Most of these (54,292) were accounted for by private general aviation aircraft. (Note: in order to calculate economic impacts, operations by air taxi and military flights were included in the analysis below, since each includes passengers or crews that potentially make expenditures visiting the region. while they are Calculations in the following tables for General Aviation or GA include air taxi and military visitors also.)

An operation is a take-off or a landing. Local operations typically involve based aircraft performing take-offs and landings for training or other local flying activity. Itinerant operations involve an origination or destination airport other than Gateway Airport.

TABLE 3.6 GA Aircraft Origination Gateway Airport

Rank and Origin	State
1. Ryan Field	AZ
2. Tucson International	ΑZ
3. Earnest A. Love Field	ΑZ
4. Sierra Vista	AZ
5. Montgomery Field	CA
6. Scottsdale	AZ
7. John Wayne Airport	CA
8. El Paso International	TX
9. McCarran International	NV
10. Nogales	AZ
11. Boise Air Terminal	ID
12. Wichita Mid Continental	KS
13. Yuma MCAS	AZ
14. North Las Vegas	NV
15. Centennial	CO

Source: FAA Flight Plan Data Base and Airport IQ Data Base/Flight records.

Both based and non-based aircraft contribute to itinerant activity on any given day. When a based aircraft returns to Gateway Airport from Orange County, California, for example, that is an itinerant operation.

When an aircraft based at another airport arrives at Gateway Airport, that aircraft is classified as a transient itinerant. It is these transient aircraft that represent outside spending brought to the airport service area, and are therefore an important source of

economic impacts.

According to analysis of flight records, there were 15,787 transient aircraft arrivals at Gateway Airport in FY 2013. Of these, 2,526 brought overnight visitors and the remaining 13,261 stayed for one day or less. Separate analyses were conducted for those GA visitors with an overnight stay and those whose visit was one day or less in duration.

To compute a conservative estimate of economic impacts of GA visitors, one day aircraft were further partitioned into those staying less than 4 hours and 4 hours or more (Table 3.7).

TABLE 3.7 General Aviation Transient Aircraft Gateway Airport

Item	Annual Value	
Itinerant AC Arrivals	33,302	
Transient AC Arrivals	15,787	
Overnight Transient AC	2,526	
One Day Transient AC	13,261	
Stayed 4 Hrs. or More	2,842	

Source: Derived from FAA Flight Plan Data Base and Gateway Airport records. Includes private GA aircraft, air taxi and military.

Visitor spending estimates were computed only for those aircraft staying 4 hours or longer at Gateway Airport, reflecting the fact that many aircraft stop only for fuel and travelers do not spend for food, retail shopping, or ground transportation off the airport. There were 2,842 general aviation aircraft that stayed on the ground 4 hours or more during the year.

3.2.1 Overnight GA Visitors

Information on visiting general aviation aircraft was obtained from a survey of visiting aircraft owners and pilots. Visitors were asked about the purpose of their trip, the size of the travel party, length of stay, type of lodging, and outlays by spending category.

TABLE 3.8				
General Aviation Overnight Visitors				
Gateway Airport				

Item	Annual Value
Transient AC Arrivals	15,787
Overnight Transient AC	2,526
Avg. Party Size	2.8
Number of Visitors	7,073
Average Stay (days)	2.1
Visitor Days	14,853
Spending per Aircraft	\$1,073
Total Expenditures	\$2,710,000

Source: Derived from FAA Flight Plan Data Base, Gateway Airport Records and GA Visitor Survey.

The travel patterns underlying the calculation of overnight GA visitor economic impacts are shown in Table 3.8 for the 2,526 transient overnight aircraft arrivals during the year.

The average party size was 2.8 persons and the average overnight travel party stayed in the area for 2.1 days. There were 7,073 overnight visitors for the year with a

combined total of 14,853 visitor days. Spending per travel party per aircraft averaged \$1,073. Total spending by all GA overnight visitors summed to \$2.7 million for the year.

Table 3.9 shows the percentage distribution of outlays by overnight travel parties at Gateway Airport. Lodging accounts for 31 percent of visitor spending, averaging \$329 per aircraft travel party. Food and drink, at \$299 per overnight aircraft, made up 28 percent.

Retail, at \$195 and 18 percent, was next in importance, followed by ground transport spending per aircraft at \$161, and 15 percent for the average travel party.

Entertainment was the smallest expenditure category, at \$89 for each visiting overnight general aviation travel party.

TABLE 3.9 Spending Per Overnight GA Aircraft Gateway Airport

Category	Spending	Percent
Lodging	\$329	31
Food/Drink	299	28
Retail	195	18
Entertainment	89	8
Transportation	161	15
TOTAL	\$1,073	100
TOTAL Source: GA Visit		100

Source: GA Visitor Survey

3.2.2 Day GA Visitors

During the year, there were an estimated 13,261 aircraft that stopped at the airport for one day. Some were only on the ground for a few minutes while others were parked several hours when the travel party had their aircraft serviced, pursued a personal activity, or conducted business.

The economic impacts from arriving aircraft travel parties are of two types. Those pilots or aircraft owners that buy fuel or have their aircraft serviced on the airport are making purchases which contribute to the revenue stream received by aviation businesses on the airport. That type of spending creates output, employment, and earning on the airport. Those economic impacts are shown in Table 2.1 as on-airport impacts.

TABLE 3.10 General Aviation Day Visitors Gateway Airport

Item	Annual Value
One Day Transient AC	13,261
Stay >/= 4 Hours	2,842
Average Stay (Hours)	7.0
Avg. Party Size	2.4
Number of GA Visitors	6,820
Spending per Aircraft	\$135
Total Expenditures	\$384,000

Source: Derived from FAA Flight Plan Data Base and GA Visitor Survey.

However, if the aircraft travel party leaves the airport to visit a corporate site, conduct a business meeting, or attend a sporting or cultural event, these off-airport activities will generate spending that creates jobs and earnings in the local community.

For the purposes of this study, those travel parties that arrived and departed in less than four hours were assumed to have not left the airport and not contributed any significant spending off the airport, although they may have purchased goods or service on-site.

Of the 13,261 transient aircraft that stopped at Gateway Airport for a day during the past year, there were 2,842 that were parked for more than four hours but not overnight (Table 3.10). The average stay in the area for those travel parties was 7.0 hours, according to arrival and departure records, with a range of 4 to 12 hours.

The four hour day trip aircraft brought 6,820 visitors to the airport service area during the year. The average spending per one-day aircraft was \$135. The total economic impacts created by off-airport spending by one-day general aviation visitors tallied to \$384,000 of output (revenues or sales off the airport).

The largest expenditure category for one-day visiting travel parties was food and drink, which averaged \$72 per aircraft travel party for the day and accounted for 53 percent of outlays (Table 3.11). Spending for ground transportation was the second largest category, at \$51 per aircraft.

3. 3 Combined GA Visitor Spending

Table 3.12 shows the economic impacts resulting from spending in the region by combined overnight and day general aviation visitors arriving at Gateway

Airport. To recap, there were 15,787 transient general aviation aircraft that brought visitors to the airport during the year. Of these, 2,526 were arriving overnight general aviation aircraft and 2,842 were one- day visiting aircraft parked long enough to make off-airport expenditures.

TABLE 3.11 Spending Per Day Visitor Aircraft Gateway Airport

Category	Spending	Percent		
Lodging	\$0	0		
Food/Drink	72	53		
Retail	7	5		
Entertainment	5	4		
Transportation	51	38		
TOTAL	135	100		
Source: GA Visitor Survey				

Each overnight travel party spent an average of \$1,073 during their trip to the airport service area and travelers on each day visitor aircraft spent a reported \$135 per trip. Multiplying the expenditures for each category of spending by the number of aircraft yields the total outlays for lodging, food and drink, entertainment, retail spending, and ground transportation due to GA visitors during the year.

However, since a major portion of auto rental was accounted for by on-airport rental firms, total spending by GA visitors was adjusted to reflect off-airport ground transport spending only. Therefore, GA visitor spending, net of on-airport auto rental, was \$2.8 million (on-airport auto rental is included in Table 2.1).

There were 21,673 visitor days attributable to general aviation travelers during the year. Sixty-eight percent of visitor days (14,853) were due to overnight GA travelers and thirty- two percent (6,820) were from one-day visitors.

On an average day, there were 59 visitors in the service area that had arrived by general aviation aircraft. Average daily spending by all GA air travelers was \$6,900 within the regional economy. The average economic impact of any arriving transient aircraft (combined overnight and day visitors staying more than 4 hours) was \$505.

Spending for food and beverages accounted for 36 percent of GA visitor spending, with outlays of \$959,000 for the year. Spending by general aviation visitors for lodging was \$831,000 or 31 percent of the total. Taken together, these two categories accounted for two-thirds of the economic impacts from GA visitors to Gateway Airport.

Of total off-airport spending of \$2.8 million created by GA visitors, an average of 30 cents of each dollar was used within the region by employers as earnings paid out to workers. Wages taken home by tourism/visitor sector workers for spending in their own community summed to \$824,000 during the year. Payrolls in the food and drink services industry accounted for one third of total earnings from GA visitor spending. Expenditures by GA visitors created 31 direct jobs in the tourist sector in the service area. Food and drink spending created the greatest number of jobs followed by lodging (7) and entertainment (5).

TABLE 3.12 Economic Impacts from GA Visitors - Revenues, Payrolls and Employment Gateway Airport

	Spending per AC			- "	
Category	Overnight	Day	Revenues	Payrolls	Employment
Lodging	\$329		\$831,000	\$261,000	7
Food/Drink	299	\$72	959,000	330,000	15
Retail Sales	195	7	509,000	59,000	3
Entertainment	89	5	239,000	128,000	5
Ground Trans.	161	51	253,000	46,000	1
TOTAL	1,073	135	2,791,000	824,000	31

Note: Payrolls and employment figures were derived from the IMPLAN input-output model based on data from the Arizona Department of Administration and the United States Bureau of Economic Analysis. Employment is not necessarily full time equivalents; includes full and some part time workers, figures rounded to head counts. Ground Transportation figures do not include on-airport auto rental spending included in On-Airport Impacts in Table 2.1.

3.4 Combined Airline and GA Visitors

Airline and general aviation visitors combined to spend \$394 million in the service area during the year, creating 4,383 jobs off the airport with earnings to workers of \$106.3 million (see Table 3.13).

There were 2.5 million visitor days attributable to commercial and general aviation travelers during the year. Ninety-nine percent of visitor days were due to commercial air travelers and one percent of days were from general aviation transient visitors.

On an average day, there were 7,002 air visitors in the service area. Average daily spending by all air travelers was \$1.1 million.

Table 3.13 shows that the largest spending category by aviation visitors was expenditures for food and drink, with outlays of \$142.3 million, or 39 percent of the total. Spending for retail goods accounted for 36 percent of visitor spending and was the second largest category, with outlays of \$129.8 million.

TABLE 3.13
Economic Impacts of Airline and GA Visitors: Revenues, Payrolls and Employment
Gateway Airport

Category	Revenues	Payrolls	Employment
Lodging	\$70,045,000	\$22,016,000	581
Food/Drink	142,313,000	48,911,000	2,270
Retail Sales	129,808,000	15,143,000	776
Entertainment	37,604,000	17,695,000	691
Ground Transport	14,204,000	2,541,000	65
TOTAL	393,974,000	106,306,000	4,383

Note: Payrolls and employment figures were derived from the IMPLAN input-output model based on data from the Arizona Department of Administration and the United States Bureau of Economic Analysis. Employment is not necessarily full time equivalents; includes full and some part time workers. Ground Transportation figures do not include on-airport auto rental spending included in On-Airport Impacts in Table 2.1.

SECTION 4: A DAY AT GATEWAY AIRPORT

Airports serve the flying public and support the regional economy every day of the year. On a typical day at Gateway Airport, there are more than 400 overall operations and 28 airliners arrive and depart. Including all direct and secondary sources, Gateway Airport contributes a daily economic impact of \$3.6 million to the local economy (Table 4.1).

During each day of the year, businesses and other tenants at Gateway Airport generate \$1.0 million of revenues. Revenues and production support jobs, not only for the

suppliers and users of aviation services, but throughout the economy. Each day Gateway Airport provides 2,042 jobs directly on the airport and in total supports 10,470 area workers.

On an average day during the year, 3,988 passengers (residents and visitors) move through the airport. Each day there are 7,002 Gateway Airport air visitors in the region. Spending by these visitors on a typical day injects \$1.1 million into the local economy.

TABLE 4.1
Activity Measures and Economic Impacts for an Average Day
Gateway Airport

Activity	Average Day (FY 2013)		
All Aircraft Operations	446 Aircraft Arrive and Depart		
Air Carrier Operations	28 Airliner Operations Daily		
On-Airport Direct Revenues	\$1.0 Million Revenues Daily		
On-Airport Direct Employment	2,042 Jobs on the Airport		
Airline Passengers	3,988 Passengers Daily		
Air Visitors (Airline + GA)	7,002 Visitors in the Region Daily		
Air Visitor Spending	\$1.1 Million Visitor Spending Daily		
Total Employment in the Region	10,470 Regional Jobs Supported		
Total Economic Impact of the Airport	\$3.6 Mil. Economic Impact Daily		
Source: Derived from activity reports from Gateway Airport and			

IMPLAN regional input-output model

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SECTION 5: ECONOMIC IMPACT GROWTH

Activity and economic impact measures for Gateway Airport have increased substantially in the five years since FY 2008 and are up strongly since FY 2010. Impact studies utilizing a methodology similar to the current report were completed in FY 2008 and FY 2010, allowing an examination of growth over the recent past.

Table 5.1 compares current FY 2013 direct economic impacts of Gateway Airport with FY 2008. Dollar figures were adjusted from 2008 to 2013 values so the changes shown represent real (inflation-adjusted)

growth. The most striking comparison is in the air visitor spending category, with revenues to firms in the hospitality and tourism sector up by nearly ten times.

The large increase in total spending was primarily due to the much greater number of passengers. Airline visitors increased from 71,407 in the FY 2008 study to 436,893 for FY 2013, an increase of more than six times. In addition, spending per person per trip was greater in FY 2013. In FY 2008, per person spending (in 2013 dollars) was \$496. In the FY 2013 visitor surveys, per person

TABLE 5.1 Comparison of Direct Economic Impacts: FY 2013 vs. FY 2008 Gateway Airport

On-Airport Activity	Revenues	Payrolls	Employment
FY 2008 (in 2013\$)	\$218,371,000	\$79,636,000	1,251
FY 2013	373,152,000	118,276,000	2,042
Percent Change	71%	49%	63%
Air Visitors	Revenues	Payrolls	Employment
FY 2008 (in 2013\$)	39,778,000	14,709,000	527
FY 2013	393,974,000	106,306,000	4,383
Percent Change	890%	623%	732%
All Direct Impacts	Revenues	Payrolls	Employment
FY 2008 (in 2013\$)	258,149,000	94,345,000	1,778
FY 2013	767,126,000	224,582,000	6,425
Percent Change	197%	138%	261%

spending was almost double this amount, at \$931. Since 2008 was the first year of the national recession, it is likely that visitor spending was weaker than would be expected in a normal year.

On-airport revenues increased by 71 percent between FY 2008 and FY 2013. This increase is linked to growth in the number and size of employers on the airport. The number of on-airport jobs increased by 63 percent, from 1,251 to 2,042, along with a sharp increase in payrolls. Because of the strong influence of increased visitor

spending, direct on site and visitor employment related to the presence of Gateway Airport more than tripled over the five year period, rising from 1,778 to 6,425 direct jobs in FY 2010.

Increases in the direct economic impacts between FY 2010 and FY 2013 are set out in Table 5.2. On-airport employment increased over this period as well, rising from 1,145 to 2,042. The recession likely affected on-site employment in FY 2010. The Arizona economy lost jobs in

TABLE 5.2 Comparison of Direct Economic Impacts: FY 2013 vs. FY 2010 Gateway Airport

On-Airport Activity	Revenues	Payrolls	Employment
FY 2010 (in 2013\$)	\$331,624,000	\$72,980,000	1,145
FY 2013	373,152,000	118,276,000	2,042
Percent Change	13%	62%	78%
Air Visitors	Revenues	Payrolls	Employment
FY 2010(in 2013\$)	73,871,000	26,014,000	1,024
FY 2013	393,974,000	106,306,000	4,383
Percent Change	433%	309%	328%
All Direct Impacts	Revenues	Payrolls	Employment
FY 2010 (in 2013\$)	405,495,000	98,994,000	2,169
FY 2013	767,126,000	224,582,000	6,425
Percent Change	89%	127%	196%

both 2009 and 2010, experiencing a percentage decline in employment greater than any state other than Nevada. Therefore, from a low point in FY 2010, airport employers expanded and replaced lost jobs, while new firms brought additional jobs as the economy recovered into FY 2013.

Between FY 2010 and FY 2013, visitor spending rose from \$73.8 million to \$394 million, a four-fold increase. Air visitors more than doubled, from 211,915 in FY 2010 to 436,893 in FY 2013. (It should be noted the survey methodology for visitor spending differed somewhat in the 2010 period. The FY 2013 and FY 2008 surveys asked visitors to list their outlays by

category, while in FY 2010 the survey asked for a lump sum figure per trip. The lump sum methodology could have caused some to forget or leave out certain spending categories.

Inflation-adjusted total economic impacts (incorporating all multiplier effects) increased strongly in FY 2013 compared to both FY 2008 and FY 2010 (Table 5.3). Since FY 2010, total regional employment supported by Gateway Airport has more than doubled, payrolls have nearly doubled, and revenues created in the area have grown by 79 percent.

TABLE 5.3 Comparison of Total Economic Impacts: FY 2013 vs. FY 2010 & FY 2008 (Including All Secondary Impacts) Gateway Airport

Total Economic Impacts	Revenues	Payrolls	Employment
FY 2008 (in 2013\$)	\$580,055,000	\$226,962,000	4,075
FY 2013	1,311,232,000	392,036,000	10,470
Percent Change	126%	73%	157%
Total Economic Impacts	Revenues	Payrolls	Employment
FY 2010 (in 2013\$)	733,885,000	\$201,134,000	4,191
FY 2013	1,311,232,000	392,036,000	10,470
Percent Change	79%	95%	150%

