



APPENDIX D

ECONOMIC BENEFIT ANALYSIS

Appendix D

SCOTTSDALE AIRPORT

Economic Benefit Analysis

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HIGHLIGHTS

This report is an analysis of economic benefits created by Scottsdale Airport and aviation-related activity in the adjacent Airpark. Scottsdale Airport serves as a gateway that welcomes commerce and visitors into the region and provides access for outward travel to the nation. Economic benefits (revenues, employment and income) are created when economic activity takes place both on and off the airport. The highlights of the economic benefit analysis for fiscal year (FY) 2014 appear below.

HIGHLIGHTS

**Economic Benefit Analysis
Scottsdale Airport**

Total Economic Benefits of Scottsdale Airport/Airpark

- Aviation activity at the Airport and in the Airpark created \$536 million total economic benefits for the region in FY 2014
- Aviation activity supported 3,462 jobs with incomes of \$186.2 million
- Aviation activity added \$25 million to local and state revenues
- Economic benefits created daily are equivalent to \$1.5 million
- Catalytic (spin-off) non-aviation activity added benefits of \$8.2 billion

Economic Benefits on the Airport

- The 61 private employers on the airport had revenues of \$134 million
- There are 588 aviation jobs on the airport with incomes of \$40 million
- Airport firms and agencies paid out \$31 million to local suppliers
- 385 aircraft arrive and depart Scottsdale Airport on an average day

Economic Benefits on the Airpark

- The 104 aviation-related Airpark firms reported revenues of \$150 million
- The 818 aviation-related jobs on the Airpark create incomes of \$49 million
- Airpark aviation-related firms paid out \$50 million to local suppliers
- There are 129 aircraft based in the Airpark, primarily business jets

Air Visitors to Scottsdale Airport

- Visitors arriving at Scottsdale Airport spent \$43.9 million off the airport
- Air visitor spending supported 452 hospitality industry jobs in the area
- On an average day, air visitors inject \$120,000 into the area economy
- An overnight visiting travel party arriving by private jet will spend an average of \$5,255 during their stay in the Scottsdale area

MEASURING BENEFITS

The presence of an airport creates multiple benefits that extend beyond the aviation community to impact the economy and quality of life of the area served. Increasingly, metropolitan airports are drivers of regional economic development, facilitating growth of firms and commercial activity not directly related to aviation.

As a leader in this national trend, Scottsdale Airport, along with the Scottsdale Airpark, is developing into a major employment locus for the entire region.

General aviation at the airport allows business travelers to reach destinations without the delays and uncertainty of today's airline flights and provides access to more than 5,300 airports in the nation, compared to approximately 565 served by scheduled airlines.

Scottsdale Airport is a portal for expanded commerce and visitor travel into Arizona and the Greater Phoenix metro area. Travelers arriving at Scottsdale Airport can visit friends and relatives, conduct business, or stay at a world-class resort. Itinerant flyers can stop for fuel or stay over in the region for business meetings or sporting events.

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

Economic benefit studies differ from cost-benefit analyses, which are often used to support the decision to undertake a proposed project. Analysis of economic benefits is

related to measurement of the economic contribution of an industry, an activity, or a particular component of the economy. The methodology was standardized in the publication by the Federal Aviation Administration, *Estimating the Regional Economic Significance of Airports*, Washington DC, 1992.

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

Aviation 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 income for workers off the airport.

Quantitative Benefit Measures

The quantitative measures of economic benefits of the Scottsdale Airport and Scottsdale Airpark 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.

Income is a second benefit measure, made up of employee compensation (the dollar value of payments received by workers as wages and benefits) and proprietor's income of business owners.

Employment is the third benefit measure, the number of jobs supported by the economic activity created by the presence of the airport.

Economic Benefit Components

The components of economic benefits include both **on-airport and off-airport** economic activity. For Scottsdale Airport, the economic benefits are created not only by on-airport activity, but also by aviation-related Scottsdale Airpark activity and general aviation business and tourism travelers who visit the region.

Primary Benefits

The on-airport and off-airport activity creates **primary benefits** which measure the initial revenues, employment, and earnings associated with the presence of the airport. The on-airport primary benefits occur when businesses and agencies on the airport generate sales and revenues, hire workers, and make payments to employees. Off-airport primary benefits 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.

Secondary Benefits

In addition to the initial or primary benefits, **secondary benefits** (involving multiplier effects) are created when the initial spending by airport employers or visitors circulates and recycles through the economy. The secondary benefits measure the magnitude

of successive rounds of re-spending in the service area.

Indirect Benefits

There are two components that make up secondary benefits. One of these is known as **indirect benefits**. This is a measure of the value of intermediate goods purchased by airport businesses to produce their output. Indirect benefits include activity by suppliers and vendors who sell to airport businesses, along with the jobs created and incomes paid to workers by these suppliers.

Induced Benefits

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

Economic benefit 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 benefits. 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.

Total Economic Benefits

Total economic benefits are the combined sum of primary and secondary benefits created both on and off the airport.

ECONOMIC BENEFIT SUMMARY

The economic benefits of Scottsdale Airport for FY 2014 are shown in **Table D1**. The combined total benefits, shown in the bottom section of the table, are the sum of the primary on-airport, Scottsdale Airpark, and air visitor benefits plus the combined secondary benefits (which result as dollars recirculate in the regional economy). For many purposes, the total benefits figures are most often relied upon as a measure of the overall economic contribution of the airport. The total benefits of Scottsdale Airport are:

- **\$536.4 Million Revenues**
- **\$186.2 Million Worker Income**
- **3,462 Regional Jobs Supported**

However, the primary (or direct) economic benefits are also of particular importance, since these values represent the initial injection of spending into the economy and direct job and income creation. These are the “inputs” to the input-output model used to derive the secondary and total benefits.

On-Airport Primary Benefits

Operations on Scottsdale Airport supported a total of 61 private and public employers including full FBO services such as fueling and maintenance, pilot training and supplies, as well as government services including the air traffic control tower and airport administration

Including spending and employment related to capital improvement projects, on-airport primary economic benefits were:

- **\$134.4 Million Revenues**
- **\$39.9 Million Worker Income**
- **588 On-Airport Jobs**

Scottsdale Airpark Primary Benefits

The primary benefits from the Scottsdale Airpark are created by activity from the 104 aviation related businesses on the Airpark, most of which have taxiway access. Airpark benefit measures (revenues, income, and employment) were all somewhat greater than on-airport benefits. Primary Airpark benefits for FY 2014 were:

- **\$149.8 Million Revenues**
- **\$49.3 Million Worker Income**
- **818 Airpark Jobs**

Air Visitor Primary Benefits

An important source of aviation-related spending comes from the more than 50,000 air visitors that arrive at the airport each year on general aviation, air taxi and military aircraft. Visitors spend for lodging, food and drink, entertainment, retail goods and services, and ground transportation, creating primary benefits of:

- **\$43.9 Million Revenues**
- **\$15.1 Million Worker Income**
- **452 Hospitality Sector Jobs**

Sum of Primary Benefits

The combined primary benefits represent the sum of on-airport, Airpark and air visitor revenues, income and employment. The primary benefits of economic activity related to the airport in FY 2014 were:

- **\$328.1 Million Revenues**
- **\$104.2 Million Worker Income**
- **1,858 Jobs**

TABLE D1
Summary of Economic Benefits FY 2014: Airport, Airpark, Air Visitors
Scottsdale Airport

Airport Benefits	Revenues	Income	Employment
On-Airport Activity	\$134,413,000	\$39,883,000	588
Secondary Benefits	\$72,595,000	\$28,504,000	563
<i>Total Airport Benefits</i>	<i>\$207,008,000</i>	<i>\$68,387,000</i>	<i>1,151</i>
Airpark Benefits	Revenues	Income	Employment
Airpark Activity	149,798,000	49,262,000	818
Secondary Benefits	106,594,000	42,456,000	825
<i>Total Airpark Benefits</i>	<i>256,392,000</i>	<i>91,718,000</i>	<i>1,643</i>
Visitor Benefits	Revenues	Income	Employment
Air Visitor Spending	43,920,000	15,101,000	452
Secondary Benefits	29,041,000	11,006,000	216
<i>Total Visitor Benefits</i>	<i>72,961,000</i>	<i>26,107,000</i>	<i>668</i>
Total Benefits	Revenues	Income	Employment
Combined Primary Benefits Airport+Airpark+Visitors	328,131,000	104,246,000	1,858
Combined Secondary Benefits Airport+Airpark+Visitors	208,230,000	81,966,000	1,604
<i>Combined Total Benefits</i>	<i>\$536,361,000</i>	<i>\$186,212,000</i>	<i>3,462</i>

Note: On-Airport activity includes private firms, public agencies and capital improvement projects located on airport property; Airpark Activity includes private aviation-related firms and capital improvement projects; Air Visitor Spending includes general aviation, air taxi and military travelers and crew. Secondary benefits computed from IMPLAN input-output model with Maricopa County coefficients.

Secondary Benefits

Secondary benefits or multiplier effects are created when the initial spending by airport employers or visitors creates a ripple effect through the economy. In contrast to initial or primary benefits, the secondary benefits measure the magnitude of successive rounds of re-spending by those who work for or sell products to airport employers or the hospitality sector. Input-output analysis shows the initial primary revenue stream of \$328.1 million created by the presence of the airport stimulated secondary benefits from multiplier effects within the region of:

- **\$208.2 Million Revenues**
- **\$82.0 Million Worker Income**
- **1,604 Regional Jobs**

Catalytic (Spin-Off) Benefits

Scottsdale Airpark is a major employment center that is home to a range of industries including light manufacturing, financial services, engineering, wholesale and retail establishments, as well as aviation related businesses, all anchored by Scottsdale Airport. Modern airport impact methodology recognizes the “catalytic” influence an airport has on the economy. A study by the Air Transport Action Group, an international air travel organization, notes that “Air transport’s most far-reaching economic contribution is via its contribution to the performance of other industries and as a facilitator of their growth. These ‘catalytic’ or ‘spin-off’ benefits of aviation affect industries across the whole spectrum of economic activity.” (See *Benefits Beyond Borders*, ATAG, Geneva, Pg. 11).

The estimated economic spin-off contribution of the non-aviation activity on the Airpark is \$8.2 billion. This calculation

is based on an IMPLAN model analysis of the output impact of the 52,585 employees in some 2,900 Airpark companies (reported by Colliers International, 2013).

Other Economic Benefits

In addition to the above benefits calculated for Scottsdale Airport, it is important for citizens and policy makers to be aware that economic development and sustainable growth are difficult without access to air travel. Based aircraft at Scottsdale Airport provide a means for business managers and tourists to quickly and efficiently travel to destinations in the West and across the nation. The most frequent destinations for based aircraft travel as reported on FAA flight records are shown in **Table D2**.

TABLE D2 Top 10 Based Aircraft Destinations Scottsdale Airport	
Rank and Origin	State
1. San Diego	CA
2. Las Vegas	NV
3. Burbank	CA
4. Van Nuys	CA
5. Santa Monica	CA
6. Dallas	TX
7. Oakland	CA
8. Salt Lake City	UT
9. Los Angeles	CA
10. Denver	CO
Source: FAA Flight Plan Data Base and Airport IQ	

A Day At Scottsdale Airport/Airpark

Airports are available to serve the flying public and support the regional economy every day of the year. On an average day at Scottsdale Airport, there are more than 385 operations by private aircraft involved in local or itinerant activity including flight instruction, touch and go operations, corporate travel, or transient aircraft bringing passengers visiting the area for personal travel or on business (Table D3). On a typical day, 132 itinerant aircraft arrive (including general aviation and air taxi aircraft).

On an average day during the year, there are 390 visitors in the area who arrived at Scottsdale Airport. The spending by these visitors on a typical day injects \$120,000 into the area economy. Combined economic activity on the airport and Airpark creates daily revenues of \$779,000. During each day of the year, the Scottsdale Airport/Airpark generates \$1.5 million of total economic benefits (including secondary benefits) and supports 3,461 area workers bringing home daily income of \$510,000 for spending in their home communities.

TABLE D3 Activity Measures and Regional Economic Benefits for an Average Day Scottsdale Airport/Airpark	
Activity	Average Day
All Aircraft Operations	385 Aircraft Arrive and Depart
Arriving Itinerant Aircraft	132 Itinerant Arrivals Daily
Airport+Airpark Revenues	\$779,000 Revenue Daily
Airport+Airpark Employment	1,406 Aviation-Related Jobs
Air Visitors	390 Visitors in the Region Daily
Air Visitor Spending	\$120,000 Visitor Spending Daily
Total Employment in the Region	3,461 Regional Jobs Supported
Total Economic Benefits	\$1.5 Mil. Economic Benefits Daily

ON-AIRPORT BENEFITS

Table D4 illustrates the employment, income and revenues created by activity on Scottsdale Airport for FY 2014. The total economic benefits (including secondary or multiplier benefits) were \$207 million. Primary or direct benefits were \$134.4 million of revenues and secondary benefits were \$72.6 million.

Primary benefits shown in this table are derived from private and public employers on the airport, along with capital improvement projects, but exclude Airpark or visitor spending (with the exception of visitor outlays for on-site auto rental). Private sector aviation revenues were \$128 million and government budgets were \$4.7 million.

TABLE D4 On-Airport Economic Benefits: Revenues, Income and Employment Scottsdale Airport			
	BENEFIT MEASURES		
Sources of On-Airport Benefits	Revenues	Income	Employment
On-Airport Private Employers (56)	\$128,078,000	\$36,678,000	541
Capital Improvement Projects	1,654,000	610,000	9
Government Agencies/Services (5)	4,681,000	3,205,000	38
<i>Primary Economic Benefits</i>	<i>134,413,000</i>	<i>39,883,000</i>	<i>588</i>
Indirect Activity by Suppliers & Vendors	30,701,000	12,945,000	243
Induced Spending by Workers & Proprietors of Businesses	41,894,000	15,559,000	320
<i>Secondary Economic Benefits (Multiplier Effects)</i>	<i>72,595,000</i>	<i>28,504,000</i>	<i>563</i>
Total On-Airport Benefits	\$207,008,000	\$68,387,000	1,151
Source: Survey of Employers and Scottsdale Airport, FY 2014. Secondary economic benefits from IMPLAN input-output model.			

Annual average capital improvement outlays added an additional \$1.6 million to primary on-airport economic benefits.

Employment and Payrolls

To compile entries shown in the table, surveys were distributed to airport employers to collect data on employment and economic activity. In addition, interviews were conducted and telephone follow-up contact was made to supplement the surveys. Respondents were informed that the survey results were confidential and only aggregate totals would appear in the written report.

There are 56 private employers on the airport and 5 public, administrative, or government units. Surveys and interviews with on-airport employers provided the tally of 588 jobs. The ratio of private sector jobs to overall jobs was 550/588 or 94 percent of the total. Airport employers reported annual payrolls of \$40 million received by workers. The average overall wage for workers on the airport was \$68,000, including full and part time employees.

Businesses on Scottsdale Airport offer a range of services available for the aviation community (**Table D5**). FBO services include general aviation aircraft maintenance, servicing, inspections and fueling for various categories of aircraft. Flight training from introductory to advanced instruction is provided. Other services include aircraft sales, charter and rental, as well as pilot supplies. Medical air evacuation services operate from the airport to serve the residents of the region. Private aviation employers on the airport employ 541 workers with annual income of \$36.7 million, which creates additional spending in their home communities.

Government agencies include the Scottsdale Aviation Department, the FAA air traffic control tower, City of Scottsdale police and fire personnel, and the U.S. Customs and Border Protection office. Government agencies employed 38 workers in FY 2014.

<p>TABLE D5 On-Airport Employer Categories Scottsdale Airport</p>
<p style="text-align: center;"><u>Private Firms</u></p> <ul style="list-style-type: none"> • Aircraft Sales & Charter • Auto Rental, Food Service, Retail • Avionics, Maintenance, Fuel Sales • Aviation Education & Training • Air Medical Transport • Hangar & Shade Lease • Management & Consulting • Corporate Aviation Hangars • Professional & Technical Services <p style="text-align: center;"><u>Government Agencies</u></p> <ul style="list-style-type: none"> • Scottsdale Aviation Department • FAA Air Traffic Control Tower • City of Scottsdale Fire & Police • U.S. Customs & Border Protection

Capital Projects

Capital projects are vital for airports to maintain safety and provide for growth. Airport improvements also create jobs and inject dollars into the local economy. A three year annual average for capital projects was applied to smooth out the variability of construction spending on the airport (**Table D6**). The \$1.6 million annual average outlays supported 9 jobs related to capital improvement on the airport, with income to workers of \$610,000.

TABLE D6
Capital Improvement Projects: Three Year Summary
Scottsdale Airport

Source	FY 2010	FY 2011	FY 2012	3 Yr. Total	Average
Federal Grants	\$2,000,000	\$2,569,943		\$4,569,943	\$1,523,314
State Grants		343,533	46,652	390,185	130,062
All Sources	\$2,000,000	\$2,913,476	\$46,652	\$4,960,128	\$1,653,376

Source: Scottsdale Airport

AIRPARK BENEFITS

Aviation related businesses on the Airpark and pilots who own or lease Airpark hangar facilities have access to the airport through controlled access gates. On the west side of the airport, taxiway access is available on private property between the airport and Scottsdale Road. Additional properties with taxiway access to the northwest are bound by the Greenway Hayden Loop. On the east side, several properties located on 78th Way have direct access without a fence or gate. The aviation-related area of the Airpark is shown in the accompany figure (**Exhibit D1**).

There are 129 aircraft based in the Airpark, dominated by the category of business jets. The Airpark is the origin and destination of thousands of general aviation trips per year. Corporate and other private aircraft are used to visit other parts of the nation, and to bring visitors, customers and employees to the Airpark and the greater Scottsdale area.

Business aviation such as supported by the Airpark reduces costs and increases efficiency in individual firms. Annual studies by the National Business Aviation Association show that those firms with business aircraft outperform those without aircraft with earnings 230 percent higher and average revenue growth 22 percent greater. Among Business Week’s “50 Most Innovative Companies,” 95 percent of the S&P 500 companies listed were users of business aircraft (see National Business Aviation Association, *Fact Book*, 2014).

Table D7 illustrates the Scottsdale Airpark aviation-related employment, income, and revenues created in FY 2014. The total economic benefits (including secondary or multiplier benefits) were \$256.4 million. Primary or initial benefits were \$150 million of revenues and secondary benefits were \$106.6 million. There were \$148.4 million economic benefits due to aviation-related private firms on the Airpark and the average benefit of capital improvement projects (past 3 years) was \$1.4 million.

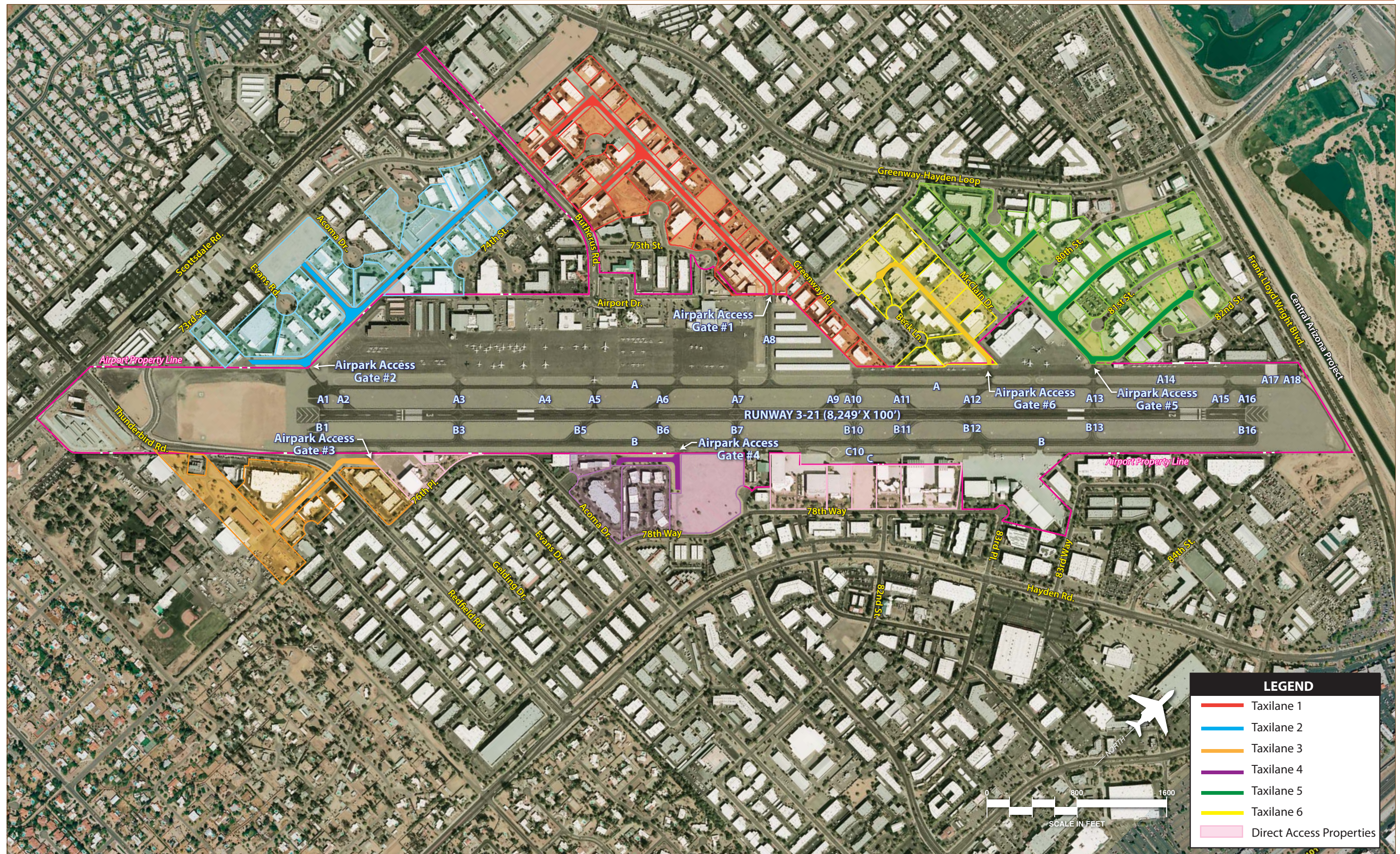


TABLE D7
Airpark Economic Benefits: Revenues, Income and Employment
(Aviation-Related Businesses)

	BENEFIT MEASURES		
Sources of Airpark Benefits	Revenues	Income	Employment
Airpark Private Employers (104)	\$148,416,000	\$48,723,000	810
Capital Improvement Projects	1,382,000	539,000	8
<i>Primary Economic Benefits</i>	<i>149,798,000</i>	<i>49,262,000</i>	<i>818</i>
Indirect Activity by Suppliers & Vendors	50,405,000	21,588,000	396
Induced Spending by Workers & Proprietors of Businesses	56,189,000	20,868,000	429
<i>Secondary Economic Benefits (Multiplier Effects)</i>	<i>106,594,000</i>	<i>42,456,000</i>	<i>825</i>
<i>Total Airpark Benefits</i>	<i>\$256,392,000</i>	<i>\$91,718,000</i>	<i>1643</i>

Source: Survey of Employers and Scottsdale Airport, FY 2014. Secondary benefits from IMPLAN input-output model using Maricopa County coefficients.

Airpark Employment and Payrolls

Drawing from listings of those businesses paying monthly Aeronautical Business Permit Fees, the Scottsdale Airport administration provided contact information for aviation-related businesses in the Airpark. Surveys were distributed by regular mail and e-mail to collect data on employment and economic activity, with

follow-up telephone contact as necessary.

Airpark respondents were informed that the survey results were confidential and only aggregate totals would appear in the written report.

There are 104 aviation-related private employers on the Airpark, with 810 workers. Airpark employers reported annual payrolls

of \$48 million received by workers. The average overall wage for workers on the Airpark was \$60,150, including full and part time employees.

Businesses on Scottsdale Airport offer a range of services paralleling those available on the airport (**Table D8**). FBO services include general aviation aircraft maintenance, servicing, inspections and fueling. There is flight training from introductory to advanced instruction. Other services include aircraft sales, charter and rental, as well as pilot supplies. The Airpark has a sizeable number of firms that specialize in hangar or shade rental and overall aircraft management. In addition, there are light manufacturing firms that produce aviation equipment.

Airpark Capital Projects

Capital spending on the Airpark is undertaken by private property owners who are renovating existing structures or undertaking new projects. Building permits for the Airpark were obtained from the City of Scottsdale to develop a three year annual average value for capital projects.

The best year for building permit value on the Airpark over the three year period was FY 2010. The 2010 – 2012 three year period was a time of declining construction activity in Arizona, associated with job losses and a weak business climate due to the national recession. Permit values in FY 2011 and FY 2012 were under \$500,000 per year.

The three year annual average for projects was applied to smooth out the variability of construction spending on the airport (**Table D9**). The \$1.4 million annual average outlays supported 8 jobs related to capital improvement on the airport, with income to workers of \$539,000.

<p>TABLE D8 Airpark Employer Categories (Aviation-Related Businesses)</p> <p style="text-align: center;"><u>Private Firms</u></p> <ul style="list-style-type: none"> •Aircraft Sales & Charter •Auto Rental, Food Service, Retail •Avionics, Maintenance, Fuel Sales •Aviation Education & Training •Manufacturing & Research •Hangar & Shade Leasing •Management & Consulting •Corporate Aviation Hangars •Professional & Technical Services

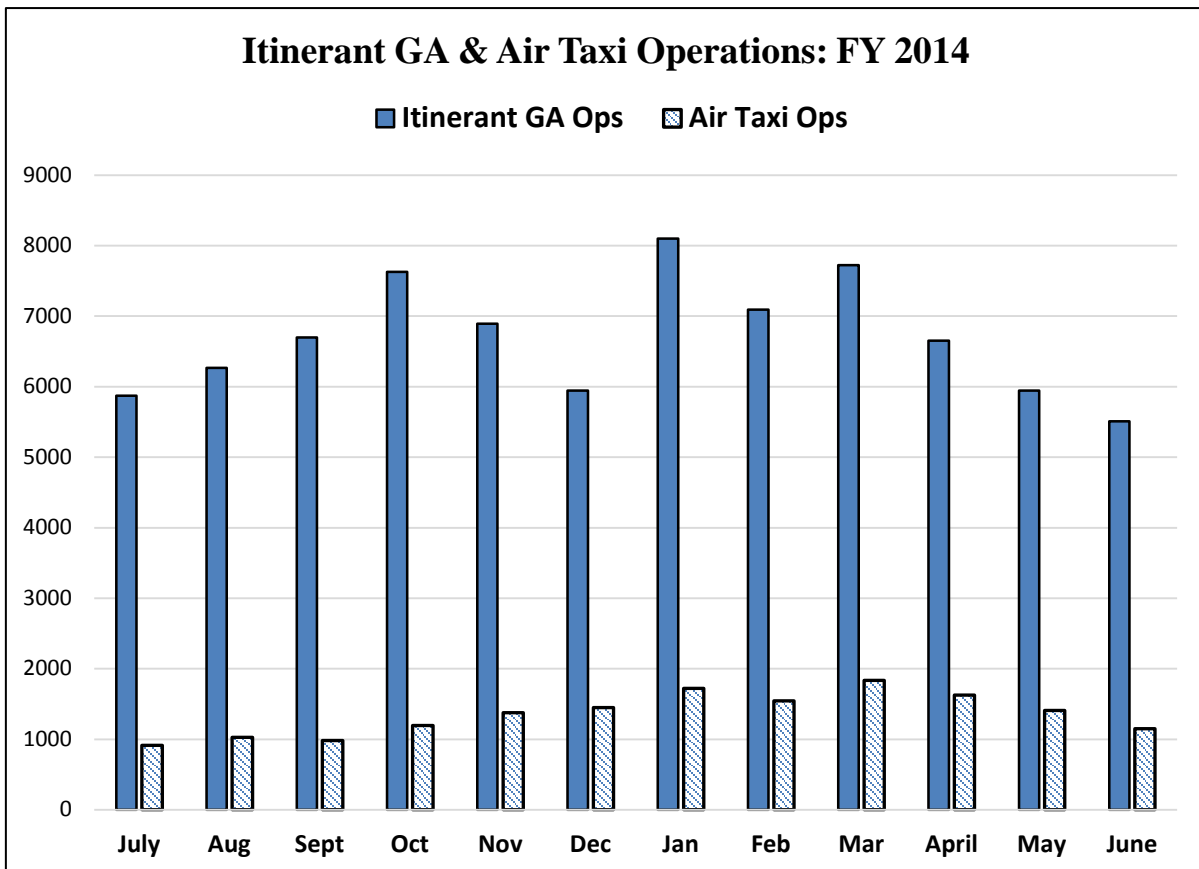
<p>TABLE D9 Building Permits: Three Year Summary Scottsdale Airpark</p>					
Source	FY 2010	FY 2011	FY 2012	3 Yr. Total	Average
Permit Value	\$3,597,126	105,462	442,914	4,145,503	\$1,382,000
<p>Source: City of Scottsdale</p>					

AIR VISITOR BENEFITS

Business and personal travel is a dynamic component of the Scottsdale economy, whether for tourism, travel to an event, conventions, or meetings with clients and customers. According to the *Visitor Statistics Report* of the City of Scottsdale (Nov. 2014), Scottsdale attracted more than 9 million visitors in 2013 with an economic impact exceeding \$4 billion.

Scottsdale Airport contributes to this impact with more than 40,000 general aviation aircraft arrivals and over 8,000 air taxi arrivals in FY 2014. General aviation (GA) arrivals include aircraft that are privately owned by individuals or by corporations and are not associated with transportation for hire.

Air taxi arrivals include aircraft certified under Part 135 of Title 14 Code of Federal Regulations that are authorized to provide flights for private hire on demand. In order to analyze air traffic, a database of more than 5,000 aviation flight plans involving Scottsdale Airport as either the destination or origin for travel was obtained from FAA records. The accompanying chart shows the strong winter seasonal pattern of operations. Itinerant and air taxi flights were greater through the winter, with somewhat lower activity in the summer months. In this sample, the most frequent source of itinerant flights arriving at Scottsdale Airport was Las Vegas (**Table D10**). Second in importance was Denver. However, six of the top ten originations are in California.



Overall, general aviation aircraft arriving at Scottsdale during the study period originated at more than 450 airports around the Western region and the nation.

TABLE D10 Itinerant GA Aircraft Origination Scottsdale Airport	
Ranked By Origin	State
1. Las Vegas	NV
2. Denver	CO
3. Orange County	CA
4. Van Nuys	CA
5. San Diego	CA
6. Carlsbad	CA
7. Salt Lake City	UT
8. Santa Monica	CA
9. Long Beach	CA
10. Seattle	WA
Source: FAA Flight Plan Data Base and Scottsdale Airport Records	

It is useful to differentiate between itinerant operations by based and transient aircraft. An itinerant operation involves an origination or destination airport other than Scottsdale Airport. However, both based and non-based aircraft contribute to itinerant activity in any given day.

When a Scottsdale based aircraft returns to Scottsdale Airport from a flight to Tucson, for example, that is an itinerant operation. When an aircraft based at an airport other than Scottsdale arrives at Scottsdale Airport, that aircraft is classified as a transient aircraft.

Based aircraft contribute to the economic benefits of the airport through spending by owners for fuel, storage, maintenance, insurance, and other outlays in the Scottsdale area.

Transient aircraft and arriving air taxi flights bring benefits to the airport service area when they spend for fuel or maintenance while at the airport, or when visitors spend for food, lodging, and other expenses such as auto rental in the Scottsdale area. Overnight transient visitors typically have much larger expenditures than transient visitors who stay for a day or portion of a day.

According to analysis of flight records, there were 30,121 transient aircraft arrivals at Scottsdale Airport during FY 2014. Of these, 13,554 brought overnight visitors and 16,566 were one-day visitors (**Table D11**).

TABLE D11 Arriving GA & Air Taxi Aircraft Scottsdale Airport	
Category	Aircraft
Air Taxi Arrivals	8,101
GA Itinerant Arrivals	40,161
GA Transient Arrivals	30,121
Overnight Transient AC	13,554
One Day Transient AC	16,566
Source: FAA Flight Plan Data Base and Scottsdale Airport Records	

Overnight GA Visitors

In the latest City of Scottsdale *Visitor Statistics Report*, the average spending per

person per day for hotel visitors was estimated as \$230, averaged over all categories of mode of travel (air or ground transport). It is reasonable to anticipate that general aviation travelers, particularly those on larger jets, would tend to have higher daily outlays, and this is shown in the analysis that follows in this section. Scottsdale Airport overnight visitors arriving by jet spent an estimated average of \$798 per person per day during their visit in the region.

With the cooperation of airport staff and FBO records supplied by management, the distribution of transient arrivals by purpose of travel and type of aircraft was derived. These breakdowns are necessary since FBO personnel emphasized that spending by purpose of trip and type of aircraft varied.

Category	Aircraft
GA Transient Arrivals	30,121
Overnight Transient AC	13,554
Property Owners (15%)	-2,033
Personal Visit AC (50%)	6,777
Business Visit AC (35%)	4,744
Jet AC	3,572
Turbo AC	1,728
Piston AC	6,221
Source: Derived from FAA Data and FBO records.	

There were an estimated 13,554 transient aircraft that remained overnight in FY 2014.

Just over 2,000 of these carried travel parties that were area property owners and therefore were not included in the visitor spending calculations. There were an estimated 6,777 tourist/personal visit parties and 4,744 business visit parties arriving on transient GA aircraft (**Table D12**).

Category	Aircraft
Air Taxi Arrivals	8,101
With Passengers	5,266
Property Owners (15%)	-790
Personal Visit (50%)	2,633
Business Visit (35%)	1,843
Source: Derived from FAA data and FBO records	

A similar break down by purpose of travel is shown in **Table D13** for arriving air taxi travel parties. All air taxi aircraft were assumed to be jets, so the main variation in spending came from purpose of travel. Of the 8,101 arriving air taxi flights, 5,266 were estimated to have deplaning passengers, and there were 2,633 tourism/personal parties and 1,843 business parties.

Spending estimates for air visitors were developed from a proprietary air traveler data base obtained from Logwoods International, a travel research firm. The Longwoods data included spending on key categories including lodging, food and drink, retail, entertainment, and ground transport (primarily auto rental) in the Phoenix area. The Longwoods data base was modified to apply to private aircraft

travelers by adjusting average dollar values upward by one, two and three standard deviations depending on type of aircraft: piston, turboprop and jet. An additional adjustment was to assume that business travelers would have smaller expenditures for retail and entertainment, two categories that tourists were more likely to emphasize. Average travel party size was based on records from FBO management:

- **Jet Aircraft: 4 PAX plus 2 crew**
- **Turbo Aircraft: 3 PAX plus 1 crew**
- **Piston Aircraft: 2 PAX**
- **Air Taxi Aircraft: 3 PAX**

Length of stay was determined to be 2.3 days on average, based on analysis of the 5,000 flight records from the FAA data base.

TABLE D14
Spending by Overnight GA & Air Taxi Travel Parties
Scottsdale Airport

Category	Jet AC	Turbo AC	Piston AC	Air Taxi	Total
RON Aircraft	3,572	1,728	6,221	4,476	15,997
Spending Per AC*	\$5,255	\$2,370	\$1,254	\$2,991	\$2,754
Lodging	\$8,144,000	\$1,770,000	\$3,186,000	\$5,430,000	\$18,530,000
Food/Drink	4,532,000	1,019,000	1,834,000	2,979,000	10,363,000
Retail Sales	2,396,000	500,000	1,200,000	2,252,000	6,347,000
Entertainment	973,000	213,000	511,000	914,000	2,612,000
Ground Trans.**	2,725,000	594,000	1,069,000	1,815,000	6,203,000
Total	18,770,000	4,096,000	7,800,000	13,389,000	44,055,000
Passengers + Crew	23,530	6,913	12,443	13,427	56,313
Spending/Person	\$798	\$593	\$627	\$997	\$782

Source: Derived from FAA data, Longwoods International and FBO records.

***Figures include passengers and crew but do not include \$503,000 spending by military travel parties.**

****Ground transportation figures include \$2.3 million expenditures on the airport for auto rental.**

Table D14 shows the results of the spending analysis of general aviation and air taxi travel parties at Scottsdale Airport that remained overnight (RON) in FY 2014. Total spending summed to \$44,055,000 (including crew).

There were 15,997 overnight aircraft travel parties. Jet aircraft travel parties (including passengers and crew) had the greatest expenditures per aircraft per trip, at \$5,255. Viewed from a financial perspective, each overnight jet aircraft parked at Scottsdale Airport represents a potential injection to the local economy of \$5,255, on average. For all aircraft categories, the average spending per overnight travel party was \$2,754 per party per trip.

Lodging accounts for the greatest percentage of the overnight air visitor dollar, 42 percent, (\$18.5 million vs. \$44 million total spending). It is likely that the relatively high lodging outlays are related to the higher frequency of overnight visits in the winter tourism season.

The next largest spending category was food and drink (\$10.4 million), followed by retail sales (\$6.3 million). Entertainment was the smallest expenditure category (\$2.6 million).

Jet passengers and crew (23,530) accounted for 42 percent of the total of 56,313 overnight visitors. This figures underscores the importance of jet aircraft visitors as a source of economic benefit to the region. Although most arrivals are by piston aircraft, jet aircraft have a greater number of passengers on average. Each jet passenger and travel party tends to spend more than passengers arriving by turboprop or piston aircraft. Further, jet aircraft have crew members who also incur expenses for lodging, food, and often separate auto rental.

Day Visitors

According to flight operations records, more than 50 percent of transient general aviation aircraft arriving at Scottsdale Airport stayed on the airport for one day or less (**Table D15**).

TABLE D15 General Aviation Day Visitors Scottsdale Airport	
Item	Annual Value
Transient AC Arrivals	30,121
One Day Transient AC	16,566
Length of Stay 4 Hours or More	
AC Stayed 4 Hours or More	2,982
Property Owners (15%)	-447
Personal Visit AC (50%)	1,491
Business Visit AC (35%)	1,044
Jet AC	786
Turbo AC	380
Piston AC	1,369
Source: Derived from FAA Data, Scottsdale Airport Records	

The economic benefits from arriving transient aircraft travel parties are of two types. Those pilots 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 worker income on the airport.

Those economic benefits are shown in **Table D4** as on-airport benefits.

However, if the aircraft travel party leaves the airport to visit a corporate site, conduct a business meeting, or purchase retail goods and services, these activities generate off-airport spending that create jobs and income in the local community.

During the year, there were 16,566 transient 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 or traveled away from the airport.

Detailed arrival and departure records were analyzed to estimate the number of aircraft parked for four hours or more (but not overnight), a period of sufficient duration to allow off-airport spending.

TABLE D16 Spending Per Day Visitor Aircraft Scottsdale Airport		
Category	Spending	Percent
Lodging	\$0	0
Food/Drink	284	42
Retail	155	23
Entertainment	64	9
Transportation	172	26
TOTAL	\$674	100
Source: Derived from FAA data, FBO Records and Longwoods International		

During FY 2014, there were 2,535 day visitor aircraft (with a minimum four hour stay) identified. These day trip aircraft brought 9,865 visiting passengers and crew to the Scottsdale area during the year.

The average spending per one-day aircraft that stayed four hours or more was \$674. The largest expenditure category for one-day visiting travel parties was purchase of food and beverages, which averaged \$284 per aircraft travel party for the day and accounted for 42 percent of outlays (**Table D16**). Spending for transportation was the second largest category, at \$172 per aircraft travel party.

Combined Visitor Spending

Table D17 shows the economic benefits resulting from spending in the region by combined overnight and day trip air visitors arriving at Scottsdale Airport. This table includes spending by passengers, crew and military travel parties as well.

To recap, there were 11,521 transient general aviation aircraft plus 4,476 air taxi flights that brought overnight visitors to the airport during the year. In addition, there were 2,535 one day visiting aircraft that were parked 4 hours or more, long enough to make off-airport expenditures. Each overnight travel party spent an average of \$2,574 during their trip to the region and travel parties on each day visitor aircraft spent an estimated \$674 per trip. Multiplying the expenditures for each category of spending by the number of aircraft yields the total visitor off-airport outlays of \$43.9 million. (This figure does not include on-airport auto rental which was reported in the on-airport benefits of **Table D4**).

TABLE D17
Air Visitor Expenditures by Category
Scottsdale Airport

Category	Overnight Visit Expenditures	One Day Visit Expenditures	Total Visitor Expenditures
Lodging	\$18,794,000		\$18,794,000
Food/Drink	11,235,000	720,000	11,235,000
Retail Sales	6,739,000	392,000	6,739,000
Entertainment	2,774,000	162,000	2,774,000
Ground Trans.*	4,378,000	434,000	4,378,000
Visitor Benefits	\$42,211,000	\$1,708,000	\$43,920,000

Source: Derived from FAA flight plan data, FBO records, Long woods International, and IMPLAN Input-output model with Maricopa County coefficients. Figures include estimates for passengers, crew and military travel party expenditures.

*** On-airport auto rental was subtracted from visitor total since this portion was included in the on-airport economic benefits (Table D4).**

Total Air Visitor Benefits

The primary, secondary and total economic benefits created by visitor spending are shown in **Table D18**. Off-airport spending by air visitors of \$43.9 million supported 452 jobs in the hospitality sector of the greater Scottsdale area. The most jobs created (177) were in food and drink establishments, followed by jobs in hotel, motel and other lodging (154).

Income for workers was \$15.1 million. The largest income category was \$6.4 million in the lodging industry. The average wage in lodging was \$36,000, while the wage in food and drink firms was nearly \$10,000

lower, at \$26,600. The overall average wage for jobs supported by air visitor spending was \$33,400.

As the initial visitor spending of \$43.9 million recirculated in the regional economy, secondary economic benefits were created, including 216 additional jobs, \$11 million of worker income, and secondary revenue flows of \$29 million.

Total economic benefits of visitor spending, including all second round multiplier effects, summed to revenues of \$73 million, 668 regional jobs supported, and \$26.1 million of worker incomes paid out by employers.

TABLE D18
Air Visitor Economic Benefits: Revenues, Income and Employment
Scottsdale Airport

Sources of Visitor Economic Benefits	BENEFIT MEASURES		
	Revenues	Income	Employment
Lodging	\$18,794,000	\$6,387,000	154
Food/Drink	11,235,000	4,714,000	177
Retail Sales	6,739,000	1,543,000	50
Entertainment	2,774,000	1,312,000	51
Ground Transportation*	4,378,000	1,144,000	20
<i>Primary Economic Benefits</i>	\$43,920,000	\$15,101,000	452
Indirect Activity by Suppliers & Vendors	13,065,000	5,072,000	94
Induced Spending by Workers & Proprietors of Businesses	15,976,000	5,933,000	122
<i>Secondary Economic Benefits (Multiplier Effects)</i>	<i>29,041,000</i>	<i>\$11,006,000</i>	<i>216</i>
<i>Visitor Total Benefits</i>	\$72,961,000	\$26,107,000	668

Source: Derived from FAA flight plan data, FBO records, Long woods International, and IMPLAN Input-output model with Maricopa County coefficients.

* On-airport auto rental was subtracted from visitor total since this portion was included in the on-airport economic benefits (Table D4).

FUTURE BENEFITS

Scottsdale Airport is located in one of the strongest states in the nation for potential growth. Although the recent national recession affected Arizona more than some other states, the area served by the airport continues as an attractive location for business and newcomers.

Table D19 shows a baseline summary of current economic benefits associated with the airport. **Tables D20 through D23** illustrate the future benefits of the Scottsdale airport based on projections for 2017, 2022, 2027 and 2032.

The methodology for estimating future economic benefits is a linear extrapolation of current baseline values of the primary benefits in **Table D19**. Airport and Airpark revenues, employment and income increase by the forecast growth rate of based aircraft as set out in the Master Plan, Chapter Two.

Air visitor spending, employment and income increase by the forecast growth rate of itinerant aircraft operations. These extrapolations are based on the standard assumption of “ceteris paribus,” or no change in economic relationships (including the multiplier value of IMPLAN coefficients for secondary benefits) in the years ahead.

Airport/Airpark primary benefits rise from \$284 million revenues and 1,406 aviation related jobs in FY 2014 to \$321.6 million and 1,591 jobs by 2022, and then to \$374 million revenues and 1,850 jobs by 2032 (all figures are in constant 2014 dollars). Similarly, off-airport air visitor spending is projected to increase from \$43.9 million in FY 2014 to \$54.7 million by 2032, an increase of 25%. Employment created by primary visitor spending rises from 452 to 563 over the same period (see **Tables D20, D21, D22, and D23**).

TABLE D19 Baseline Economic Benefits: FY 2014 Scottsdale Airport			
	Revenues	Income	Employment
Airport/Airpark	\$284,211,000	\$89,145,000	1,406
Air Visitors	43,920,000	15,101,000	452
Primary Benefits	328,131,000	104,246,000	1,858
Secondary Benefits	208,230,000	81,966,000	1,604
Total Benefits	\$536,361,000	\$186,212,000	3,462

TABLE D20
Future Economic Benefits: 2017
Scottsdale Airport

	Revenues	Income	Employment
Airport/Airpark	\$299,169,000	\$93,837,000	1,480
Visitor Benefits	45,266,000	15,555,000	466
Primary Benefits	344,435,000	109,392,000	1,946
Secondary Benefits	218,478,000	85,980,000	1,679
Total Benefits	\$562,913,000	\$195,372,000	3,625
Note: Revenues, income and employment benefits shown in constant 2014 dollars.			

TABLE D21
Future Economic Benefits: 2022
Scottsdale Airport

	Revenues	Income	Employment
Airport/Airpark	\$321,607,000	\$100,875,000	1,591
Visitor Benefits	48,000,000	16,495,000	494
Primary Benefits	369,607,000	117,370,000	2,085
Secondary Benefits	234,445,000	92,250,000	1,799
Total Benefits	\$604,052,000	\$209,620,000	3,885
Note: Revenues, income and employment benefits shown in constant 2014 dollars.			

TABLE D22**Future Economic Benefits: 2027****Scottsdale Airport**

	Revenues	Income	Employment
Airport/Airpark	\$347,784,000	\$109,086,000	1,721
Visitor Benefits	51,038,000	17,539,000	526
Primary Benefits	398,822,000	126,625,000	2,246
Secondary Benefits	252,976,000	99,525,000	1,938
Total Benefits	\$651,798,000	\$226,150,000	4,184

Note: Revenues, income and employment benefits shown in constant 2014 dollars.

TABLE D23**Future Economic Benefits: 2032****Scottsdale Airport**

	Revenues	Income	Employment
Airport/Airpark	\$373,961,000	\$117,297,000	1,850
Visitor Benefits	54,684,000	18,792,000	563
Primary Benefits	428,645,000	136,089,000	2,413
Secondary Benefits	271,893,000	106,963,000	2,082
Total Benefits	\$700,538,000	\$243,052,000	4,495

Note: Revenues, income and employment benefits shown in constant 2014 dollars.

Estimated Tax Benefits

Because of the spending, jobs, and income created by the presence of Scottsdale Airport, the facility is an important source of public revenues. As airport activity expands, tax revenues will continue to grow.

Estimated tax potential is set out in **Table D24**. The table shows the revenues for each tax category based on current average tax rates relative to output and personal income for Maricopa County and Arizona. Federal taxes are applied using current federal rates.

The first column in **Table D24** shows tax revenues associated with the baseline level of airport activity and total economic benefits of \$536.4 million (as seen in **Table D19**). The total economic benefits include primary and secondary benefits from on-airport activity, Airpark aviation-related activity, and air visitor spending. The 3,462 workers supported in the region have income of \$186.2 million.

Employers and workers are subject to various Federal, state and local taxes as estimated in the table. The largest Federal component is the social security tax, with contributions from employers and workers of \$17.4 million in FY 2014. The second largest federal tax category is the personal income tax paid by workers and proprietors of \$10.9 million.

Overall, federal tax revenues estimated for FY 2014 due to economic activity associated with Scottsdale Airport are calculated to be \$35.3 million. State and local tax revenues, shown in the lower portion of the table, sum to \$24.8 million for FY 2014. The largest component is sales taxes of \$11.9 million, followed by property taxes of \$8.4 million. Combined federal, state, and local taxes are \$60 million at the FY 2014 level of economic activity on the airport and in the airpark.

Projected tax revenues rise as future economic activity levels increase. By 2017, total economic benefits created by the presence of Scottsdale Airport are projected to be \$562.9 million, with 3,625 jobs supported in the region and income of \$195 million (in 2014 dollars). The higher levels of employment and income will be accompanied by an increase of social security contributions paid of \$18.3 million and Federal personal income taxes rise to \$11.5 million (assuming constant tax rates). Total State and Federal tax collections will be \$63 million in 2017, an increase of \$3 million.

Total economic benefits due to the airport are projected to be \$604 million in 2022. Jobs supported rise to 3,885 and income will be \$209.6 million (2014 dollars). Total State and Federal tax collections will be \$67.8 million in 2022, an increase of \$4.7 million above the 2017 level.

By the year 2027, total economic benefits from activity at the Scottsdale Airport are projected to be \$651.8 million, with 4,184 jobs supported in the region and income of \$226.1 million (in 2014 dollars). Federal tax collections in 2027 are estimated to be \$42.9 million, with social security contributions of \$21.2 million and personal income taxes paid of \$13.3 million. At the state level, sales tax collections increase to \$14.4 million and property tax collections exceed \$10 million. Combined State and Federal tax collections will be \$73 million.

In the year 2032, total economic benefits from airport activity will be \$700 million, with 4,495 jobs due to the presence of the airport. Under the assumption of constant tax rates, State and Federal tax collections are estimated to reach \$78.9 million, an increase of \$18.7 million (31%) over FY 2014, in constant 2014 dollars.

TABLE D24
Tax Revenues From Airport/Airpark and Visitor Economic Activity
Scottsdale Airport

Federal Taxes

Revenue Category	FY 2014	2017	2022	2027	2032
Corporate Profits Tax	\$4,313,000	\$4,528,000	\$4,859,000	\$5,243,000	\$5,657,000
Personal Income Tax	10,942,000	11,487,000	12,327,000	13,301,000	14,352,000
Social Security Taxes	17,456,000	18,326,000	19,665,000	21,219,000	22,896,000
All Other Federal Taxes	2,623,000	2,754,000	2,955,000	3,188,000	3,441,000
Total Federal Taxes	35,334,000	37,095,000	39,806,000	42,951,000	46,346,000

State and Local Taxes

Revenue Category	FY 2014	2017	2022	2027	2032
Corporate Profits Tax	379,000	398,000	427,000	461,000	497,000
Motor Vehicle Taxes	220,000	231,000	248,000	267,000	289,000
Property Taxes	8,432,000	8,852,000	9,499,000	10,250,000	11,060,000
Sales Taxes	11,878,000	12,470,000	13,381,000	14,439,000	15,580,000
Personal Income Tax	2,083,000	2,187,000	2,347,000	2,532,000	2,732,000
All Other State & Local	1,826,000	1,917,000	2,057,000	2,220,000	2,395,000
Total State & Local	24,818,000	26,055,000	27,959,000	30,168,000	32,553,000
Total Taxes	\$60,152,000	\$63,150,000	\$67,765,000	\$73,119,000	\$78,899,000

Note: All figures are in 2014 dollars. Derived from average tax rates in Arizona, Maricopa County and Federal sources. Future values based on unchanged 2014 tax rates and policies.