

ECONOMIC IMPACT OF THE PHOENIX AIRPORT SYSTEM

UPDATE: 2011

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Economic Impact of the Phoenix Airport System

	TOTAL IMPACT: <i>(Includes Sky Harbor Center)</i>	TOTAL IMPACT: <i>(Without Sky Harbor Center)</i>
Jobs	241,995	215,881
Economic Impact	\$28.7 Billion	\$25.0 Billion
Payroll	\$9.9 Billion	\$8.5 Billion

The Phoenix Airport System consists of three airports: Phoenix Sky Harbor International Airport, Phoenix Deer Valley Airport and Phoenix Goodyear Airport. These facilities provide the people and products of the metropolitan Phoenix economy access to the nation and to the world. But the airport system is also a major contributor to the Greater Phoenix economy, creating jobs, income, and revenues both on and off the airport property.

This study now includes the impact of Sky Harbor Center (SHC), a business complex on airport property. The trend among global airports today is to include such areas if located on airport property. It is important to point out this change as it is the first year the study includes SHC. More detail is provided in Table 9.

The Phoenix Airport System created a total economic impact of \$28.7 billion in 2011. The direct impact of Sky Harbor International Airport, now including Sky Harbor Center, is \$9.5 billion. Phoenix Sky Harbor Airport supported 54,990 direct jobs on and off the airport in 2011, with a payroll of \$3.1 billion further defined in Table 4.

The Phoenix Airport System is a source of employment and payroll for airline employees and other airport workers such as food service, security, and air traffic control personnel. It is also an integral part of the tourism industry, with air traveler expenditures calculated at \$4.5 billion in 2011. (See Table 8)

Economic impact is measured in this report by three indicators – employment, payroll, and economic activity (equivalent to revenues or sales). The economic impact is the sum of direct and indirect impacts. An example of direct impact is employment and spending directly related to the airport such as an airport waiter’s salary and the revenues resulting from an airport restaurant acquiring food and supplies to run the business. An example of indirect or “secondary” impact is the result of the monies the airport waiter spends in the community buying food and clothes for his family with the salary he earned at the airport. Indirect impacts and total economic impacts were calculated using the IMPLAN input-output model.

Developed by the University of Minnesota and the U. S. Forest Service, the IMPLAN model is based on input and output relationships among producers, intermediate suppliers, and consumers for more than 500 industries. IMPLAN is widely used and recognized as a standard for regional economic impact studies by private analysts and public agencies at the local, state, and national level. Data for the study were obtained from the Department of Transportation, surveys of employers, travelers, aircraft owners, and airport contractors. Extensive records on revenues, expenditures, and operations were provided by the City of Phoenix Aviation Department.

TABLE 1

TOTAL ECONOMIC IMPACT OF PHOENIX AIRPORT SYSTEM: 2011

Note: Sky Harbor Center (SHC) now included in this study

Economic Impact Sources	Employment	Payroll (thousands)	Economic Activity (thousands)
Sky Harbor International	54,990	3,056,936	9,550,534
Phoenix Deer Valley	423	21,207	62,261
Phoenix Goodyear	253	34,700	71,193
<i>Phoenix Airport System Airports</i>	55,666	\$3,112,843	\$9,683,988
<i>Air Travelers and Tourism</i>	55,941	1,383,954	4,474,770
Direct Economic Impact	111,607	4,496,797	14,158,758
Secondary Economic Impact	130,388	5,430,308	14,559,412
TOTAL ECONOMIC IMPACT	241,995	\$9,927,105	\$28,718,171

Note: This table combines all sources of economic impact associated with the Phoenix Airport System, including the three system airports, the Sky Harbor Center facilities and the impact of air travelers.

TABLE 1: TOTAL ECONOMIC IMPACT OF PHOENIX AIRPORT SYSTEM: 2011

The individual economic impact of Phoenix Sky Harbor is shown in Table 4. The impact of the Sky Harbor Center area is broken out in Table 9. The economic impact of Phoenix Deer Valley and Phoenix Goodyear Airports are shown in Tables 10 & 12. Air traveler and tourism impacts are in Table 8.

Comparisons of the impacts for 2011 with 2007 are affected by the national recession which began at the end of 2007. Although the recession officially ended in the summer of 2009, labor markets are still weak and spending by business and consumers remained sluggish throughout 2011.

Many jobs lost during the recession have not been replaced. The national economy lost over eight million jobs, and at the time of this writing fewer than 50% have been regained. Arizona lost a larger percentage of jobs than the nation overall (11% compared to 6% for the U.S.). This slowdown is reflected in Table 1.

The direct economic impact of the Phoenix Airport System in 2007 included 137,432 jobs and economic activity of \$14.8 billion. In 2011, the tally of direct employment was 111,607 jobs and less economic activity (\$14.2 billion). The main differences between 2007 and 2011 are due to the air traveler component. Sky Harbor air travelers spent an estimated \$6.4 billion in 2007, at the peak of the economic expansion. In 2011, according to a survey of visitors conducted in the terminals, air travelers spent \$4.5 billion, a reduction of some 30%. More details are provided in the notes to Table 8.

Sky Harbor figures are affected by the introduction of the Sky Harbor Center employers in the 2011 economic impact study. Employment was up in 2011 compared to 2007 at all three system airports. (Refer to details in notes to Table 9).

TABLE 2

**An Average Day at
Phoenix Sky Harbor International Airport
2011**

1,266 Aircraft Arrive and Depart

111,211 Passengers Arrive and Depart

828 Tons of Air Cargo Handled

\$79 Million Daily Impact

\$4 Million State and Local Tax Revenues

Note: This table includes the overall impact of Sky Harbor Center

TABLE 2: A DAY AT PHOENIX SKY HARBOR INTERNATIONAL AIRPORT

During 2011, there were more than 460,000 operations at the airport, resulting in a daily average of 1,266. This is a reduction of 14.3% from the 2007 figure of 1,477, which also affects the overall economic impact of the airport system. Daily passengers in 2011 were 111,211, down 3.8% from 2007, while tons of air cargo increased to 828 daily tons. The expansion of the ecommerce industry and associated companies in the Phoenix metropolitan area have contributed to the increase in air cargo since 2007.

The \$79 million daily impact is derived from the “bottom line” annual economic activity figure of \$28.7 billion in Table 1. The corresponding daily impact for 2007 was \$90 million. As noted above, the difference is largely due to a reduction in air visitor spending.

Economic activity related to Sky Harbor International Airport generated state and local taxes of \$1.4 billion in 2011. The daily impact on state and local coffers was \$4 million.

TABLE 3
The Phoenix Airport System Pays Its Own Way

2011 Sources of Revenue \$321.1 million	2011 Uses of Revenues \$321.1 million
Airline Fees & Rents \$102.2 million	Supplies & Materials \$16.5 million
Cargo, FBO Fees & Rents \$6.9 million	Utilities & Communications \$17.4 million
Terminal Concessions \$53.6 million	Personnel Compensation \$68.2 million
Parking & Auto Rental \$116.3 million	Contractual Services \$109.4 million
All Other Sources \$42.1 million	All Other Uses \$109.6 million

TABLE 3: THE PHOENIX AIRPORT SYSTEM PAYS ITS OWN WAY

Phoenix Sky Harbor Airport, unlike most government enterprises, is self-sufficient. The figures in Table 3 were based on the operating revenues and operating expenses information contained in FAA form 127 for fiscal year 2011 as filed at the end of December 2011. The table does not include entries for non operating revenues such as grants and passenger facility charges, and does not include capital improvement expenditures. Compared to 2007, operating revenues for FY 2011 (\$321.1 million) were up by 15.8% from the 2007 value (\$277.2 million).

TABLE 4

**PHOENIX SKY HARBOR INTERNATIONAL AIRPORT
ECONOMIC IMPACT: 2011**

	Employment	Payroll (thousands)	Economic Activity (thousands)
Commercial Airlines	14,491	\$1,038,428	\$4,111,499
Air Cargo & Couriers	8,020	331,212	625,781
Airport Businesses	4,073	92,491	506,605
Retail Shops, Food Service			
Auto Rental			
Airport Services	1,690	52,683	153,137
Customer Service, Sky Caps			
Parking Facilities			
Fixed-Base Operators	1,402	41,595	87,378
Airline Support Services			
General Aviation, Fueling			
Ground Transportation	3,104	92,940	196,516
Taxis, Buses, Shuttles			
Limousine & Van Services			
Industrial Facilities	4,350	354,356	1,237,959
Government Services	2,402	111,697	126,285
FAA Tower & Facilities			
Air National Guard			
TSA & Customs			
State Of Arizona Agencies			
City Of Phoenix	1,005	100,694	120,833
Aviation Department			
Fire & Police			
Capital Improvement Projects	4,233	210,361	583,705
Sky Harbor Center Facilities*	10,220	630,477	1,800,836
TOTAL DIRECT IMPACT	54,990	3,056,936	9,550,534
On Airport Property	43,090	2,457,129	7,793,766
Off Airport Property	11,900	599,807	1,756,768
+SECONDARY IMPACT	86,975	3,491,177	9,435,364
=TOTAL ECONOMIC IMPACT	141,965	\$6,548,113	\$18,985,898

**This table includes the economic impact of Sky Harbor Center facilities as on airport property contributions*

TABLE 4: PHOENIX SKY HARBOR INTERNATIONAL AIRPORT ECONOMIC IMPACT

This table is based on information relating to employers located on the airport, as well as businesses that support the airport but may be located off site.

To obtain the basic data for this table surveys were mailed to Sky Harbor employers and contractors. Survey responses were augmented with badge counts for employers, credit reports with information on company revenues, and a review of the Sky Harbor Airport Gross Sales Report for calendar year 2011.

The largest single employer identified was airlines, with 14,491 employees in 2011. This represents a decrease of 19.3% from the 2007 figure of 17,967. It should be noted that the airline employment tally includes off-airport employees at call centers and administrative offices in the metro area. The cargo and couriers category also includes a large number of off-airport workers.

The airport business and airport services categories include services to passengers, including sky caps, shops, food service, auto rental, and parking. The total employment in these two categories is 5,763 for 2011, little changed from 2007 (5,772).

Fixed base operators include not only those firms that support general aviation, but other firms that provide ramp service, airliner cleaning, and similar services, such as fueling.

Employment, payroll and revenues for the ground transportation category was derived in the 2011 study by analysis of some 3,000 ground transportation badges plus on-airport shuttle bus employees.

Aviation related industrial facilities, anchored by Honeywell, are located directly north of the runway area, with employment divided between on-airport and off-airport property.

Federal government employment includes FAA tower and TRACON personnel as well as customs, immigration, and the air national guard. Employment and budgets are up somewhat from 2007, primarily due to an increase in TSA employment in 2011.

City of Phoenix employment (including the Aviation Department, fire and police) is unchanged from 2007. The budget figure for City of Phoenix is \$120.8 million. Due to a change in methodology, this is not comparable to the 2007 figure of \$36.4 million, since the 2007 value does not include the Aviation Department component. (In 2007, it was decided that since the budget for the Aviation Department is derived from other airport entities such as airlines, it could be seen as "double counting" to include the Aviation Department budget. However, the current methodology recognizes the Aviation Department budget as a contribution to the overall spending stream, whatever the source.)

Capital Improvement projects are explained in the discussion of Table 7 and the contribution of the Sky Harbor Center area is explained in the notes to Table 9.

The direct economic impact represents the employment, payrolls, and economic activity (revenues, sales, budgets of government agencies) of the organizations shown in the table during 2011. Based on employment, about 20% of the impact is generated by firms off the airport, while the remaining 80% is created directly on site.

The direct economic impact of Sky Harbor Airport in 2011 was 54,990 jobs, \$3.0 billion in payrolls and \$9.5 billion in economic activity. All of these figures are greater than 2007, but the 2007 impact study did not include the Sky Harbor Center employers, who account for some 10,220 jobs and nearly \$2.0 billion of economic activity. Again, it should be noted that comparison with 2007 is complicated by the business cycle. The year 2007 represented a peak for the economy as well as components related to aviation. Since then, passengers and airline employment have both decreased. Meanwhile, hiring and overall spending in the aviation industry has remained very slow to recover.

The total economic impact measures the additional economic benefits that result when the directing spending recirculates in the economy. When workers spend payrolls in their home communities, additional jobs are created in retail, services, housing, and other industries. Airport firms create jobs in the general economy when they spend for goods and services from suppliers. These effects are measured through input-output analysis, which applies “multipliers” to direct spending to obtain a measure of the “second round” effects, shown in the table as secondary economic impact. For this study, the IMPLAN input-output model was used, with coefficients and data for Maricopa County.

The total economic impact of Sky Harbor International Airport for 2011 was 141,965 jobs created in the metropolitan area, payrolls of \$6.5 billion, and total economic activity of \$19.0 billion.

TABLE 5

**PAYROLL Spent by Phoenix Sky Harbor Employees
in their Home Communities**

	Distribution (%)	Employees	Payroll (thousands)
Phoenix	36.9	20,291	\$1,128,009
Mesa	11.3	6,214	345,434
Chandler	6.2	3,409	189,530
Gilbert	5.3	2,914	162,018
Tempe	5.6	3,079	171,188
Other East Valley	4.1	2,255	125,334
Scottsdale	5.4	2,969	165,075
Glendale	5.5	3,024	168,131
Peoria	4.3	2,365	131,448
Goodyear	3.3	1,815	100,879
Other West Valley	2.3	1,265	70,310
All Other Areas	9.8	5,389	299,580
TOTAL	100.0	54,990	\$3,056,936

Note: This table includes on-airport, off-airport and Sky Harbor Center employees

**TABLE 5: PHOENIX SKY HARBOR INTERNATIONAL AIRPORT WORKERS SPEND
PAYROLLS IN THEIR COMMUNITIES**

The second round effects of the multiplier process are based on two separate components that increase overall economic activity. One component stimulates business for suppliers to aviation firms. For example, when an airline on the airport places a local advertisement or orders printer cartridges, jobs are created in non-aviation industries. If mechanics at an FBO place an order for tools, local suppliers see an increase in business. This component is called the “indirect” impact.

Meanwhile, workers at the airport return to their home communities and spend for goods and services, supporting additional jobs and revenue flows. In the methodology of economic impact analysis, worker spending is termed the “induced impact” that creates jobs and additional revenues in consumer industries.

Table 5 shows the distribution of Sky Harbor worker home communities across the metropolitan area. The percentage distributions by community were derived from analysis of over 20,000 addresses for badge holders. Nearly two-thirds (63%) of workers live in some community other than Phoenix. The distribution is extremely diverse, with only Mesa claiming a percentage into the double digits (11.3%). About one third (32.5%) live in the East Valley, while 10% live in the West Valley and just over 5% call Scottsdale home. An additional 9.8% live in other areas, such as Casa Grande, New River, or Wickenburg.

These workers earned a payroll of \$3.0 billion in 2011 that was spent in their home communities across the metropolitan area. After the \$1.1 billion spending by workers in Phoenix, other spending ranged from \$345 million in Mesa to \$100.8 million in Goodyear. The table illustrates that the economic benefits of Sky Harbor Airport are widely distributed across the airport service area.

TABLE 6**PHOENIX SKY HARBOR INTERNATIONAL AIRPORT
SUPPORTS JOBS AND ACTIVITY IN EVERY INDUSTRY**

Industry	Employment	Payrolls (thousands)	Economic Activity (thousands)
Transportation Services	28,029	\$1,791,264	\$5,265,763
Business Services	19,369	754,052	1,575,422
Government	17,437	924,698	1,211,989
Finance & Real Estate	12,179	385,590	2,344,512
Hospitality Services	11,343	190,988	544,933
Manufacturing	11,038	888,781	4,387,589
Health & Private Education	10,417	502,695	887,569
Retail Trade	9,769	261,140	558,002
Cargo & Warehousing	9,517	296,956	624,561
Wholesale Trade	3,837	243,929	527,196
Personal Services	3,595	93,850	276,712
Arts & Entertainment	1,939	37,674	82,177
Information & Publishing	1,625	85,471	407,907
Construction	1,596	65,388	190,413
Agriculture & Mining	275	25,638	101,153
TOTAL IMPACT	141,965	\$6,548,113	\$18,985,898

Note: This table direct and secondary impact of on-airport, off-airport and Sky Harbor Center employees

TABLE 6: PHOENIX SKY HARBOR INTERNATIONAL AIRPORT SUPPORTS JOBS AND ACTIVITY IN EVERY INDUSTRY

The total economic impact of Sky Harbor Airport (shown as the bottom line figures in Table 4) includes the direct (or initial) spending created by the presence of the airport, plus the second round effects due to induced spending by workers and additional output, job creation, and even further spending by suppliers to the aviation industry.

The benefits or the direct and secondary spending across the whole industrial base of the service area of Sky Harbor Airport are set out in Table 6. The total of employment, payrolls, and economic activity accounted for, shown at the bottom of the table, is identical to the total economic impact for Sky Harbor Airport in Table 4. From the IMPLAN input-output model, we are able to determine which industries contribute to and benefit from the total economic impact of the airport.

As expected, transportation has the most jobs (28,029) and the greatest level of economic activity (\$5.3 billion). It is important to recognize that the “transportation” entry in the table is broader than aviation. It also includes materials delivered by rail, or services from travel agents, for example.

At first glance, one might wonder how health care could be a component of aviation’s economic impact. The answer lies in recognition that the total economic impact includes spending by some 141,965 workers who are also consumers. The impact by industry includes both induced spending by all the workers, as well as the indirect spending effects from suppliers to consumers and the aviation industry.

TABLE 7

**CAPITAL IMPROVEMENT PROJECTS at Phoenix Sky Harbor
Create Jobs and Revenues for Greater Phoenix Companies**

**ACTIVE CAPITAL IMPROVEMENT PROJECTS: 2011
(Includes Multi-Year Projects Annual Expenditure)**

Number of Active Projects: 57

Value of Projects: \$583,705,000

City of Phoenix Expenditures: \$558,434,000

Tenant Expenditures: \$25,271,000

Construction & Design Jobs: 4,233

TABLE 7: PHOENIX SKY HARBOR INTERNATIONAL AIRPORT CAPITAL IMPROVEMENT PROJECTS CREATE JOBS AND REVENUES FOR GREATER PHOENIX FIRMS

The entries in this table were obtained from the Tenant Improvement Report and the Capital Improvement Program budget report for Sky Harbor Airport for FY 2011. Reported capital improvements for Tenants were \$25.3 million.

Three components were combined from the Capital Improvement Program budget report. The first was the FY 2011 working budget of \$130.6 million. The second was the current FY spending for prior year commitments of \$252.8 million. The third component was the budget for current projects that was reserved to spend for prior year commitments, which was \$215.6 million. The sum of these was \$599.0 million. From this total was subtracted expenditures for land acquisition, since standard economic impact methodology provides for new goods and services, not transfer of existing assets. (The jobs created are accounted for in the contractor category). Phoenix Deer Valley and Phoenix Goodyear allocations were

transferred to their relative impact tables. The resulting amount for City of Phoenix capital improvement active budgets was \$558.4 million and the total when combined with tenant improvements was \$583.7 million.

To determine employment and payroll, an assumption was made that 20% of this amount is for design and 80% for construction. The number of jobs created was found by dividing total dollar budgets by the dollar amount of output per worker and multiplying the number of jobs by the average wage (both output and average wage were from IMPLAN). The computational table is shown below.

Capital Improvements	\$583,705,240	Average Wage*	Output/ Worker*	Jobs	Payrolls
Design (20%)	116,741,048	61,154	121,909	958	\$58,561,567
Construction	466,964,192	46,349	142,578	3,275	\$151,799,880

* From IMPLAN input-output model

TABLE 8**ECONOMIC IMPACT OF AIR TRAVELERS & TOURISTS AT
PHOENIX SKY HARBOR INTERNATIONAL AIRPORT 2011**

	Employment	Payroll (thousands)	Economic Activity (thousands)
Lodging	14,853	\$467,045	\$1,573,078
Food & Beverage	19,519	367,580	1,120,105
Retail Establishments	8,504	214,160	568,099
Ground Transportation	9,700	183,365	510,536
Entertainment	3,366	151,804	702,951
Direct Economic Impact	55,941	1,383,954	4,474,770
+Secondary Economic Impact	42,679	1,883,556	5,000,910
=TOTAL ECONOMIC IMPACT	98,620	\$3,267,510	\$9,475,680

**TABLE 8: PHOENIX SKY HARBOR INTERNATIONAL AIRPORT ECONOMIC IMPACT OF
AIR TRAVELERS AND TOURISTS: 2011**

According to the Origination and Destination data from the U.S. Department of Transportation, there were 5,648,720 domestic visitor enplanements (non-connecting) at Sky Harbor International Airport in 2011. This figure is 19.0% below the 6,974,330 air visitors in 2007, derived from the same source. There were 298,470 international direct flight visitors, a decrease of 32% from the 438,699 in 2007. The decrease in number of combined air visitors is consistent with the decrease in direct spending from \$6.4 billion in 2007 to \$4.5 billion calculated for 2011 and shown in Table 8.

However, the decrease in number of air visitors, although substantial, is not sufficient to explain the entire 34% decrease in direct spending between the 2007 analysis and 2011. A critical source of difference stems from spending per person in 2007 and 2011.

In 2007, spending per domestic air visitor per trip was estimated as \$922, based on figures from the Arizona Office of Tourism. In 2011, spending per domestic air visitor per trip, based on a survey of passengers in Sky Harbor terminals, was \$759. This differential is a decrease of 17.6%. The available evidence seems to suggest that fewer visitors and lower levels of spending per trip combined to reduce the overall impact of air visitor spending in 2011,

compared to the peak year of 2007.

It should be emphasized that the \$4.5 billion of spending and over 56,000 jobs supported represent an important contribution by air visitors to the service area of Sky Harbor International Airport. The greatest number of jobs created was 19,519 in food and beverage establishments in the Greater Phoenix area. Lodging was second in importance with 14,853 jobs, but had the largest payroll and greatest economic activity (\$1.6 billion).

TABLE 9

**PHOENIX SKY HARBOR INTERNATIONAL AIRPORT
ECONOMIC CONTRIBUTION OF SKY HARBOR CENTER FACILITIES**

	Employment	Payrolls (thousands)	Economic Activity (thousands)
Aerospace & Electronics	3,538	\$405,714	\$1,413,884
Insurance & Financial	6,420	206,968	352,837
Services, Retail, Wholesale	262	17,795	34,115
Direct Economic Impact	10,220	630,477	1,800,836
Secondary Economic Impact	15,964	755,424	1,932,976
TOTAL ECONOMIC IMPACT	26,184	\$1,385,901	\$3,733,812

TABLE 9: PHOENIX SKY HARBOR INTERNATIONAL AIRPORT: ECONOMIC CONTRIBUTION OF SKY HARBOR CENTER FACILITIES

The Sky Harbor Center area lies to the west of Sky Harbor International Airport. The site is well located relative to major transportation routes and access to the airport. Major employers on the site include financial institutions, light manufacturing, wholesale and distribution as well as various service firms (see the accompanying aerial layout on the next page).

Although there are vacancies within some existing facilities and available undeveloped space, employment in the Sky Harbor Center area exceeds 10,000 workers, earning payrolls of more than \$630 million.

Economic activity on the site is estimated as \$1.8 billion of sales/revenue/output. After inclusion of multiplier effects of second round induced and indirect spending, the total economic impact of the Sky Harbor Center area is estimated at \$3.7 billion, supporting a total of more than 26,000 jobs in the metropolitan area.

TABLE 10**PHOENIX DEER VALLEY AIRPORT
ECONOMIC IMPACT: 2011**

	Employment	Payrolls (Thousands)	Economic Activity (Thousands)
Airport Businesses	191	\$5,250	\$28,582
Flight Training			
FBO Services			
Auto Rental			
Food Services			
Government Services	91	\$8,884	\$14,050
FAA Tower			
Arizona Game & Fish			
Phoenix Police Dept			
City of Phoenix Aviation			
Capital Improvement Projects (Budgeted Projects)	141	\$7,073	\$19,629
Direct Economic Impact	423	\$21,207	\$62,261
+Secondary Economic Impact	455	\$17,472	\$55,721
=TOTAL ECONOMIC IMPACT	878	\$38,679	\$117,982

TABLE 10: PHOENIX DEER VALLEY AIRPORT ECONOMIC IMPACT: 2011

Phoenix Deer Valley Airport (DVT) is located in the northern portion of the City of Phoenix. The airport was purchased by the city in 1971. It is designated as a reliever airport for Phoenix Sky Harbor International Airport, and is consistently among the busiest general aviation airports in the entire nation, as measured by aircraft operations. DVT had 1,042 based aircraft in 2011.

Surveys were mailed to DVT employers and aircraft owners to obtain information about economic activity on the airport and aircraft use patterns.

The airport has an FAA tower and full FBO support facilities for general aviation, including flight training, avionics, maintenance and repair. Auto rental and food services are available for general aviation travelers. Businesses on the airport reported 191 private sector jobs in 2011, with payroll of \$5.2 million and sales/revenues of \$28.6 million. Government (including Arizona agencies and City of Phoenix) accounted for an additional 91 jobs. The value of active

budgeted capital improvement projects was \$19.6 million. As these projects move to completion, 141 construction and design jobs will be supported on the airport. In the reporting timeframe, DVT benefited from receiving additional discretionary grant funding for capital improvement projects. This additional funding helped increase the total economic impact of DVT from 2007.

The direct impact of DVT includes employment of 423, payrolls of \$21.2 million and economic activity (sales, revenues) of \$62.2 million. As these dollars recirculate within the Greater Phoenix area, an additional 455 jobs are created, yielding 878 total jobs supported by the airport, \$38.7 million in payrolls, and \$118 million of economic activity.

TABLE 11

**PHOENIX DEER VALLEY AIRPORT
ECONOMIC VALUE OF GENERAL AVIATION ACTIVITY: 2011
(1,042 Based Aircraft)**

	Business Flights	Personal Flights
Average Annual Hours per Aircraft	20	51
Total Annual Hours Traveled	20,840	53,142
Average Party Size	1.9	2.1
Total Annual Passenger Hours	39,596	111,598
Annual Charter Equivalent Value per Aircraft	\$13,736	\$35,028
Annual Economic Value of GA Travel	\$14,312,912	\$36,499,176

Combined Value of Business & Personal Travel = \$50.8 million

TABLE 11: PHOENIX DEER VALLEY AIRPORT ECONOMIC VALUE OF GENERAL AVIATION: 2011

A survey of owners of aircraft based at Phoenix Deer Valley Airport (DVT) was conducted to compile information on private aircraft usage patterns, including number of trips per year, purpose of travel, average party size, and hours flown per trip.

Based aircraft owners at DVT reported flying 73,982 non-training hours per year. Of these, 20,840 or 28% were for business and 53,142 or 72% were for personal travel. Of all owners, 31% reported some business use for their aircraft.

The typical business trip for a general aviation aircraft had 1.9 persons in the travel party, according to survey responses completed by aircraft owners. The average aircraft was flown 20 hours on business during the year, and was flown 51 hours on personal trips per year. The typical round trip for pleasure, recreation or other personal reasons had 2.1 persons in the travel party.

There were 39,596 passenger hours flown for business reasons and 111,598 hours flown for personal travel during the year. An estimate of the value of this travel may be calculated by computing the cost of making these same trips on a chartered flight. This approach is approved by the Internal Revenue Service for valuation of aircraft travel use by corporate executives. A weighted average charter cost was determined and the economic value of general aviation travel by based aircraft owners was estimated as \$14.3 million for business flights and \$36.5 million for personal flights, for a combined "charter equivalent value" of \$50.8 million.

TABLE 12**PHOENIX GOODYEAR AIRPORT
ECONOMIC IMPACT: 2011**

	Employment	Payrolls (Thousands)	Economic Activity (Thousands)
Airport Businesses	218	\$32,704	\$67,409
Flight Training			
FBO Services			
Aircraft Modification			
Administration Services	19	\$1,220	\$1,631
Air Traffic Control Tower			
City of Phoenix Aviation Dept.			
Capital Improvement Projects (Budgeted Projects)	16	\$776	\$2,153
Direct Economic Impact	253	\$34,700	\$71,193
+Secondary Economic Impact	279	\$38,103	\$67,417
=TOTAL ECONOMIC IMPACT	532	\$72,803	\$138,610

TABLE 12: PHOENIX GOODYEAR AIRPORT ECONOMIC IMPACT: 2011

Phoenix Goodyear Airport (GYR) is located in the western portion of the Phoenix metropolitan area, within the City of Goodyear. The airport was transferred to the City of Phoenix by the U.S. Department of Defense in 1968. It is designated as a general aviation reliever airport for Phoenix Sky Harbor International Airport. GYR had 201 based aircraft in 2011.

Surveys were mailed to GYR employers and aircraft owners to obtain information about economic activity on the airport and aircraft use patterns.

The airport is recognized as a center for aviation flight training. Also on the airport is a facility for large aircraft modification and engine servicing. The airport has a contract tower and FBO support facilities for general aviation, including avionics, maintenance and repair. Private employers on the airport reported 218 jobs in 2011, with payroll of \$32.7 million and sales/revenues of \$67.4 million. Administration (including the tower and City of Phoenix) accounted for an additional 19 jobs. The value of active budgeted capital improvement

projects was \$2.1 million. As these projects move to completion, 16 construction and design jobs will be supported on the airport.

The direct impact of Goodyear Airport includes employment of 253, payrolls of \$34.7 million and economic activity (sales, revenues) of \$71.2 million. As these dollars recirculate within the Greater Phoenix area, an additional 279 jobs are created, yielding 532 total jobs supported by the airport, \$72.8 million in payrolls, and \$138.6 million of economic activity.

TABLE 13

**PHOENIX GOODYEAR AIRPORT
ECONOMIC VALUE OF GENERAL AVIATION ACTIVITY: 2011
(201 Based Aircraft)**

	Business Flights	Personal Flights
Average Annual Hours per Aircraft	23	45
Total Annual Hours Traveled	4,623	9,045
Average Party Size	1.5	2.0
Total Annual Passenger Hours	6,935	18,090
Annual Charter Equivalent Value per Aircraft	\$14,831	\$29,016
Annual Economic Value of GA Travel	\$2,981,031	\$5,832,216

Combined Value of Business & Personal Travel = \$8.8 million

TABLE 13: AT PHOENIX GOODYEAR AIRPORT ECONOMIC VALUE OF GENERAL AVIATION ACTIVITY: 2011

A survey of owners of aircraft based at GYR was conducted to compile information on private aircraft usage patterns, including number of trips per year, purpose of travel, average party size, and hours flown per trip.

Based aircraft owners at GYR reported flying 13,668 non-training hours per year. Of these, 4,623 or 34% were for business and 9,045 or 66% were for personal travel. Of all owners, 26% reported some business use for their aircraft.

The typical business trip for a general aviation aircraft had 1.5 persons in the travel party, according to survey responses completed by aircraft owners. The average aircraft was flown 23 hours on business during the year, and was flown 45 hours on personal trips per year. The typical round trip for pleasure, recreation or other personal reasons had 2.0 persons in the travel party.

There were 6,935 passenger hours flown for business reasons and 18,090 hours flown for personal travel during the year. An estimate of the value of this travel may be calculated by computing the cost of making these same trips on a chartered flight. This approach is approved by the Internal Revenue Service for valuation of aircraft travel use by corporate executives. A weighted average charter cost was determined and the economic value of general aviation travel by based aircraft owners was estimated as \$3.0 million for business flights and \$5.8 million for personal flights, for a combined "charter equivalent value" of \$8.8 million.

TABLE 14

**PHOENIX AIRPORT SYSTEM
GENERATES LOCAL, STATE AND FEDERAL TAX REVENUES**
(Thousands of Dollars)

	State & Local Tax Revenue	Federal Tax Revenue	Total Tax Revenues
<i>Sky Harbor International*</i>	\$951,441	\$1,447,133	\$2,398,574
<i>Sky Harbor Capital Projects</i>	58,668	89,234	147,902
<i>Sky Harbor Center</i>	201,371	306,284	507,656
Phoenix Deer Valley	5,620	8,548	14,168
Phoenix Goodyear	10,578	16,089	26,668
<i>Air Travelers and Tourism</i>	474,769	722,120	1,196,889
TOTAL FISCAL CONTRIBUTION	\$1,442,408	\$2,193,890	\$3,636,299

***Notes:**

State & Local Taxes paid from terminal concession sales: \$12.8 million

State & Local Taxes paid from airport auto rental: \$65.9 million

Arizona Tourism & Sports Authority: \$10.9 million

State Auto License Fees: \$16.9 million

State & Local Sales Taxes: \$38.1 million

TABLE 14: PHOENIX AIRPORT SYSTEM GENERATES LOCAL, STATE AND FEDERAL REVENUES

Departing passengers often arrive early and purchase food and beverages while they are waiting to board. They may also purchase magazines or books. Arriving passengers often proceed to the rental car facility. All of these transactions involve taxes and other fees that are passed on to the buyer and contribute revenue to state and local governments.

Economic activity on the airport generates government revenues from many other sources that are not so immediately visible. Businesses on the airport pay sales taxes when they buy goods from suppliers, and those suppliers in turn pay sales taxes, property taxes, and other fees such as motor vehicle licenses. Workers on the airport pay income taxes and sales taxes on their own purchases as consumers when they return to their home communities. Businesses pay corporate income taxes and other business taxes.

Federal taxes generated on the airport include not only individual and corporate income taxes, but also contributions to social security system, paid by business and workers.

Total state and local taxes that can be attributed to the Phoenix Airport System totaled \$1.4 billion in 2011. State and local tax revenues associated with the businesses and workers on the airport were \$951 million. Taxes paid by visitors to Arizona that arrived by air were \$475 million, including sales taxes, bed taxes, and taxes at entertainment venues, as well as worker and business sales and income taxes.

Federal tax revenues generated were \$2.2 billion, with \$1.4 billion from Sky Harbor International airport. The combined state, local and federal tax revenues in 2011 summed to \$3.6 billion.

TABLE 15

PHOENIX AIRPORT SYSTEM: SUMMARY AND PROJECTIONS OF ECONOMIC IMPACT
(Payrolls and Economic Activity in Thousands of Constant 2011 Dollars)

	2011 Employment	2011 Payrolls	2011 Economic Activity	2016 Employment	2016 Payrolls	2016 Economic Activity	2021 Employment	2021 Payrolls	2021 Economic Activity
<i>Sky Harbor Airport</i>	54,990	\$3,056,936	\$9,550,534	65,548	\$3,643,867	\$11,384,237	75,183	\$4,179,516	\$13,057,719
Commercial Airlines	14,491	1,038,428	4,111,499	17,273	1,237,806	4,900,907	19,812	1,419,764	5,621,340
Air Cargo & Couriers	8,020	331,212	625,781	9,560	394,805	745,931	10,965	452,841	855,583
Airport Businesses	4,107	92,491	506,605	4,896	110,249	603,873	5,615	126,456	692,643
Airport Services	1,656	52,683	153,137	1,974	62,799	182,540	2,264	72,030	209,373
Fixed Base Operators	1,402	41,595	87,378	1,671	49,581	104,155	1,917	56,869	119,465
Ground Transportation	3,104	92,940	196,516	3,700	110,784	234,247	4,244	127,070	268,681
Industrial Facilities	4,350	354,356	1,237,959	5,185	422,393	1,475,647	5,947	484,484	1,692,567
Government Services	2,402	111,697	126,285	2,863	133,143	150,532	3,284	152,715	172,660
City of Phoenix	1,005	100,694	120,833	1,198	120,027	144,033	1,374	137,671	165,206
Capital Improvements	4,233	210,361	583,705	5,045	250,751	695,777	5,787	287,611	798,056
Sky Harbor Center Facilities	10,220	630,477	1,800,836	12,182	751,529	2,146,597	13,973	862,004	2,462,146
<i>Deer Valley Airport</i>	423	21,207	62,261	505	25,280	74,215	580	28,996	85,125
<i>Goodyear Airport</i>	253	34,700	71,193	301	41,362	84,862	345	47,443	97,336
<i>Air Travel & Tourism</i>	55,941	1,383,954	4,474,770	66,682	1,649,673	5,333,926	76,484	1,892,175	6,118,013
Direct Economic Impact	111,607	4,496,797	14,158,758	133,036	5,360,183	16,877,240	152,592	6,148,129	19,358,194
Secondary Economic Impact	130,388	5,430,308	14,559,412	155,422	6,472,927	17,354,820	178,270	7,424,447	19,905,978
TOTAL ECONOMIC IMPACT	241,995	\$9,927,105	\$28,718,171	288,458	\$11,833,110	\$34,232,059	330,862	\$13,572,577	\$39,264,172

TABLE 15: PHOENIX AIRPORT SYSTEM SUMMARY AND PROJECTIONS OF ECONOMIC IMPACT

As the economic recovery continues to gather strength, it is likely that growth in Arizona will return, and at a faster pace than the nation. Gains in personal income and continuing reductions in the unemployment rate are expected to stimulate business and personal air travel to and from Arizona.

Projections of future passenger traffic and air operations at Phoenix Sky Harbor International Airport have been developed by the aviation research firm Leigh Fisher. For 2016, the base forecast for passenger enplanements is 23,834,800, an increase of 19.2% over 2011 levels. By 2021, passenger enplanements will rise by an additional 14.7%, to 27,339,900.

These growth factors (19.2% 2011 – 2016 and 14.7% 2016 – 2021) were applied to the 2011 economic impact values to provide projections of economic impact in 2016 and 2021. The projections represent linear extrapolation of each impact component (employment, payrolls, economic activity) for all categories (airlines, FBO, etc.).

By 2016, Phoenix Airport System operations and passenger traffic will support some 288,000 jobs, with payrolls of \$11.8 billion and overall economic activity of \$34.2 billion. By 2021, the total economic impact of the Phoenix Airport System will be 15% greater, accounting for 330,862 jobs, with \$13.6 billion in payrolls and \$39.3 billion economic activity.

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