

Aviation Noise Report - 2007 Year End Review



Executive Summary

Introduction

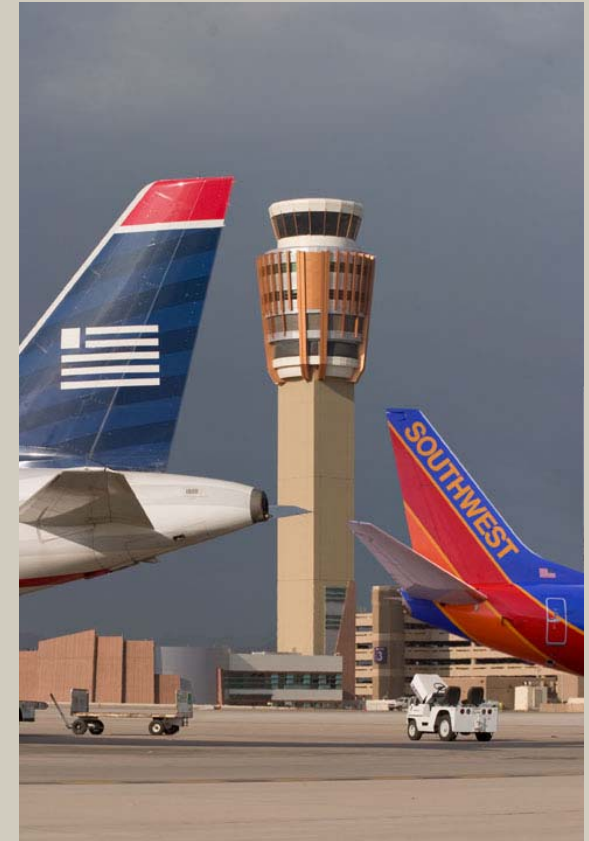
This report summarizes annual trends on issues regarding noise exposure from the City of Phoenix's three Airports: Phoenix Sky Harbor International (PHX), Phoenix Deer Valley (DVT), and Phoenix Goodyear (GYR). The report includes information on operational counts, aircraft fleet mix, noise complaints, runway usage, noise abatement procedures, noise monitoring, and General Aviation activity.

The City of Phoenix is dedicated to minimizing noise exposure to surrounding communities from aircraft operations through a variety of outreach efforts. Over the past year, airport staff has met with community groups, elected officials, appointed advisory boards, airline officials, Community Noise Reduction Program consultants, aviation working groups, the Federal Aviation Administration, and other aviation users in a continued effort to increase awareness of the importance for all aircraft operators to fly in a neighborly fashion.

One of the primary goals of this report and our outreach is to share information with the public and to encourage further communication between all parties involved with the issue of noise exposure.

Summary

The Aviation Department has made great strides in addressing noise complaints, noise exposure and non-compliant operations at City of Phoenix Airports. This has been accomplished with a pro-active, aggressive outreach program and the cooperation of the Aviation community using the facilities operated by the City.



Phoenix Sky Harbor International Airport

PHX Aircraft Operations and Fleet Mix

Page 4

Historical Noise Complaints by City

Page 5

2007 Noise Complaints by Zip Code

Page 6

Annual Runway Utilization At PHX

Page 7

4DME Departure Compliance

Page 8

PHX Noise Monitoring Results

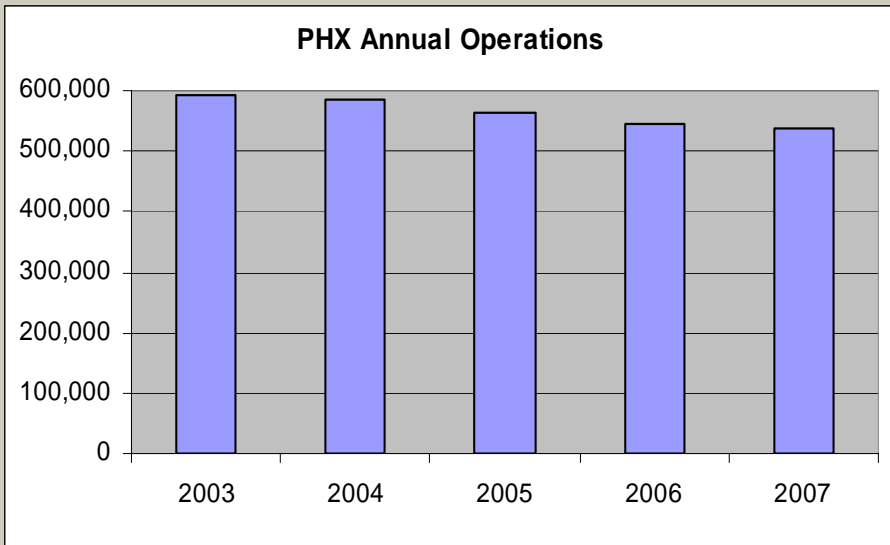
Page 9

Phoenix Deer Valley & Goodyear Airports

General Aviation Aircraft Operations & Noise Complaints

Page 10

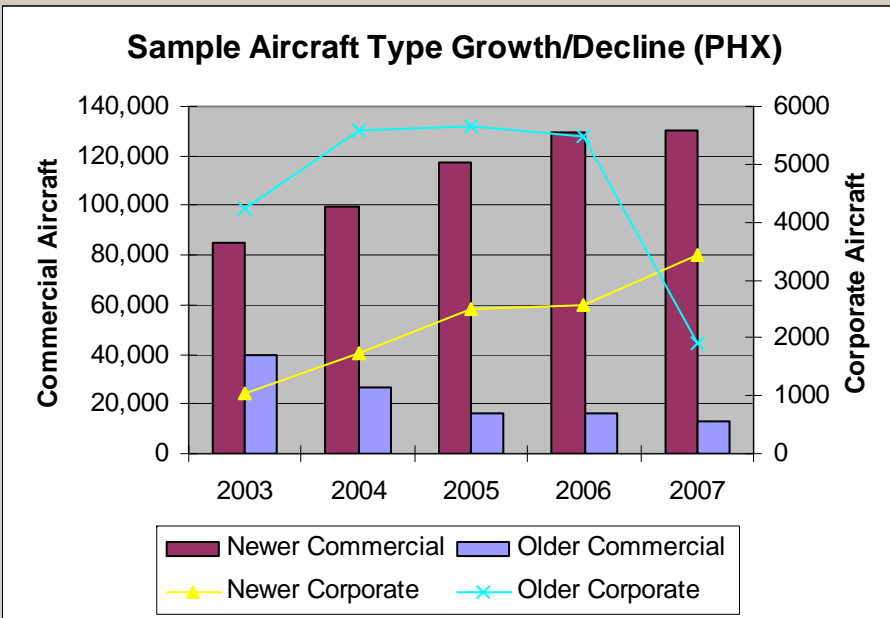




Aircraft Operations

At Phoenix Sky Harbor annual aircraft operations have declined 8.7% from 591,092 in 2003 to 539,211 operations in 2007. This is a continued decline from peak operations of 638,757 in 2000. The decreases can be attributed to a variety of issues including an increase in larger aircraft, a changing airline environment, and the continued escalation of fuel prices.

2007	Jan	Feb.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Monthly Operations	46,081	42,688	47,959	45,753	46,079	43,371	44,519	45,320	42,559	45,393	44,239	45,250	539,211



Aircraft Fleet Mix

The aircraft fleet mix continues to change as older aircraft are replaced with newer, quieter and more efficient ones. Over the past five years, many older aircraft have been retired due to continuing noise concerns, and high maintenance and fuel costs. In 2007, the most significant change was to a dramatic drop in business jet operations at PHX.

Examples of Aircraft sampled:

Commercial: True Stage III and IV aircraft (Newer Boeing and Airbus jets) compared to older hush kitted aircraft (Boeing 727, MD80's)

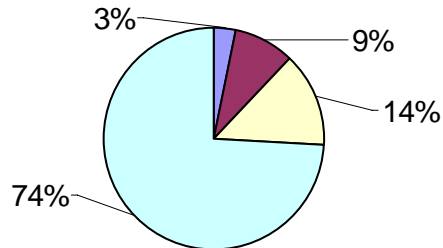
Corporate: Newer Citation and Embraer Aircraft compared to older Lear Jets



Historical Noise Complaints by City

City	2003		2004		2005		2006		2007	
	Households	Complaints	Households	Complaints	Households	Complaints	Households	Complaints	Households	Complaints
Anthem	0	0	0	0	1	1	0	0	0	0
Apache Junction	0	0	2	2	0	0	0	0	1	1
Avondale	0	0	0	0	0	0	0	0	1	1
Carefree	5	1,671	1	2,026	1	683	1	11	0	0
Cave Creek	6	1,208	1	3	0	0	1	1	1	1
Chandler	4	8	2	2	2	4	2	2	0	0
Fountain Hills	4	12	3	3	1	3	2	5	1	12
Gilbert	4	11	6	18	3	6	0	0	0	0
Glendale	1	1	1	1	2	3	1	1	1	1
Gold Canyon	0	0	0	0	0	0	1	1	1	1
Laveen	0	0	0	0	0	0	0	0	1	1
Maricopa County	6	38	2	10	0	0	0	0	0	0
Mesa	9	66	14	58	19	70	5	6	6	6
New River	1	10	1	2	0	0	1	1	0	0
Paradise Valley	3	3	1	3	0	0	2	2	1	1
Peoria	1	2	0	0	3	3	0	0	1	1
Phoenix	52	3,207	27	1,327	29	549	21	938	21	646
Queen Creek	1	1	0	0	0	0	0	0	0	0
Rio Verde	2	2	1	1	0	0	0	0	0	0
Scottsdale	29	3,806	16	73	14	34	10	23	5	21
Sun City West	1	2	0	0	0	0	0	0	0	0
Surprise	1	1	0	0	0	0	0	0	0	0
Tempe	36	106	20	1,029	31	1,616	12	23	16	72
Unknown	0	0	1	1	0	0	0	0	1	1
Totals:	166	10,155	99	4,559	106	2,972	59	1,014	58	766

Number of Complaints in 2007



58 callers and 766 complaints

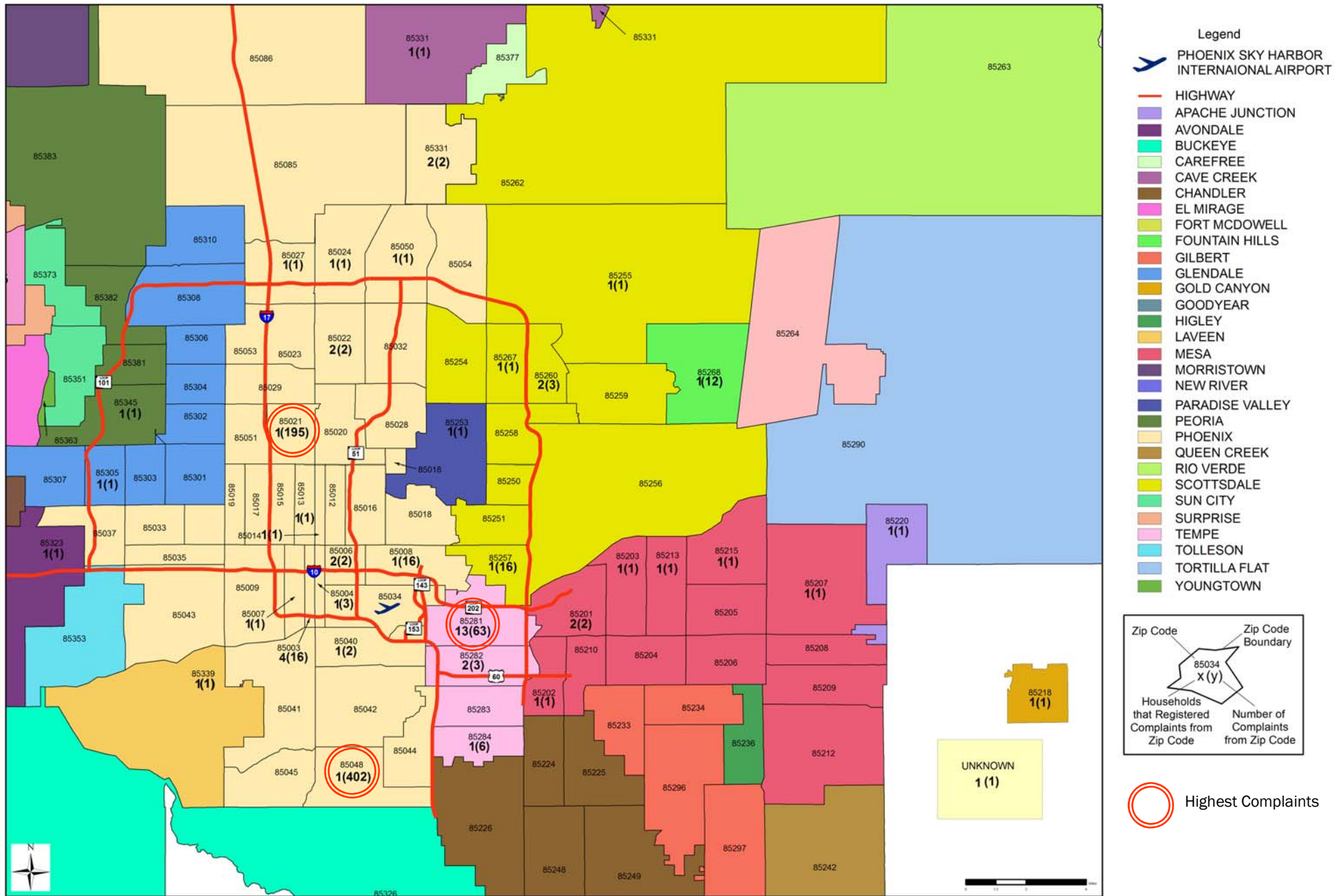
- 43 Households complained 1 time each totaling 43 complaints
- 8 Households complained 2 to 10 times each totaling 29 complaints
- 5 Households complained 11 to 100 times each totaling 97 complaints
- 2 Households complained 100+ times each totaling 597 complaints

Noise complaints at PHX continue to decrease. In 2007, there were 766 total noise complaints which is down from 10,155 in 2003 (a 92.5% decrease). The decrease in complaints can be attributed to several factors including the progression of the Community Noise Reduction Program, the modernization of the aircraft fleet mix, decreases in operations and the length of time since flight path changes in 2002.

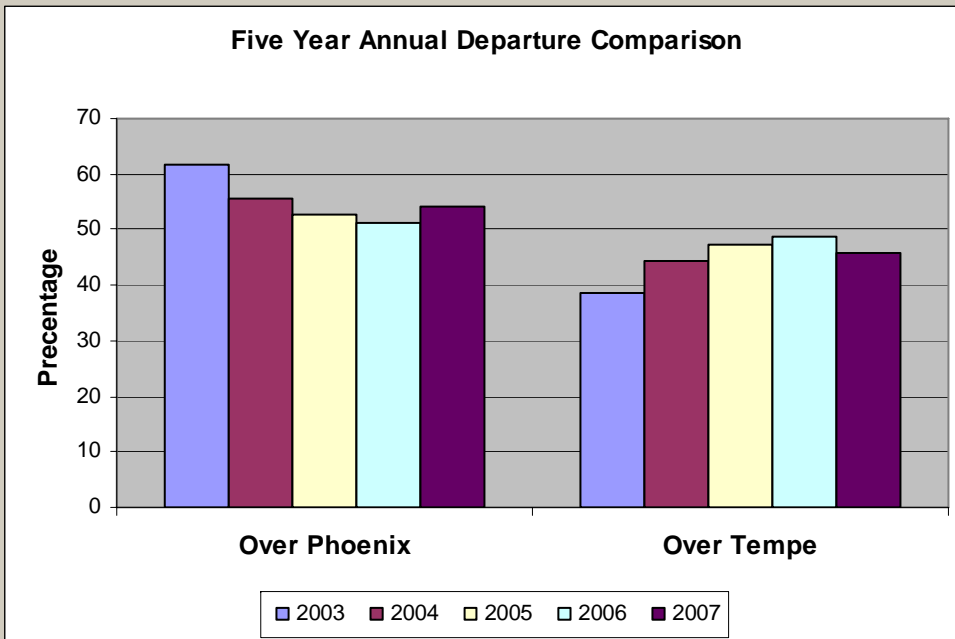
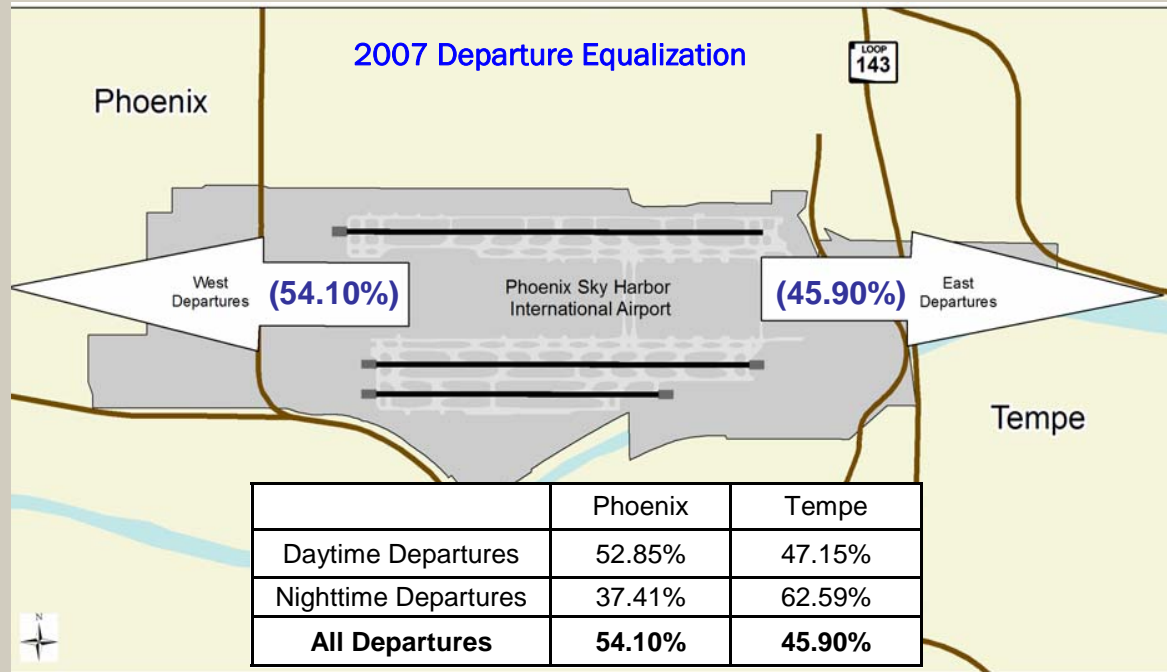
Perhaps most importantly, households with significant complaint totals from one year to another have stopped registering complaints. For example, one household in 2003 registered 3,583 complaints, 683 in 2005, 11 in 2006 and none in 2007.



2007 Noise Complaints by Zip Code



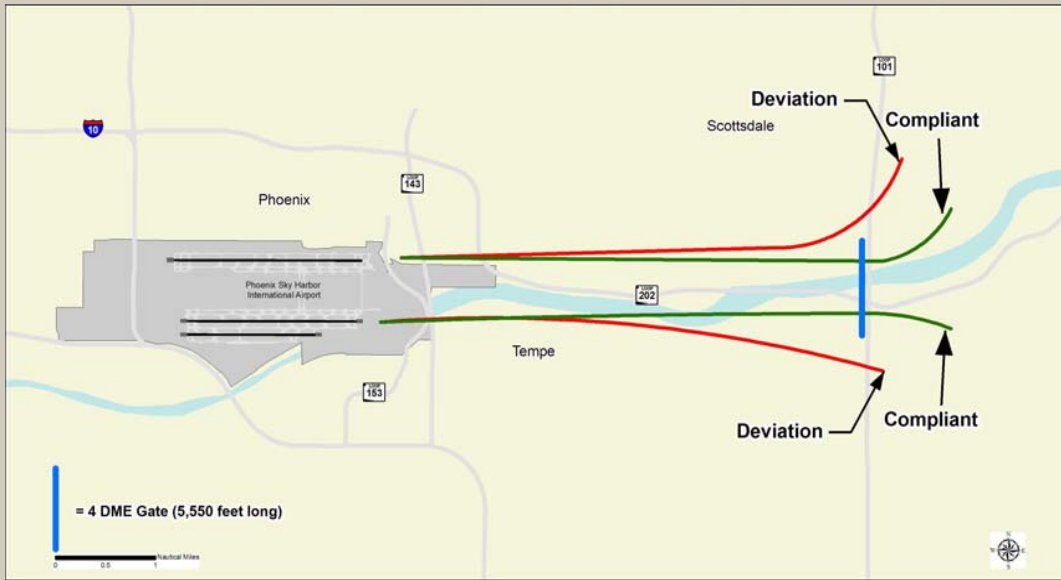
Annual Runway Utilization At PHX



Due to aircraft having to depart into the wind, runway use at PHX is generally predictable with consistent winds. At PHX, winds generally flow east to west at night and, by mid-morning, flow west to east. Since 2003, the percent of easterly departures has been 38.44%, 44.41%, 47.28%, 48.67% and 45.90%, respectively.

In addition to the favorable wind conditions for equalization of runway use, aviation staff also communicates its importance with local FAA officials. Runway equalization helps provide an even distribution of noise exposure in the surrounding communities.





All jet aircraft departing PHX to the east are directed to fly straight out until reaching approximately 5 Nautical Miles (4 DME) before conducting their turn. This procedure is designed to keep aircraft over the Salt River area and reduce noise exposure to residential areas. The Aviation Department monitors compliance with this procedure and communicates regularly with FAA and aircraft operators to ensure that the procedure is adhered to whenever airspace demands and safety allow. Since 2003, the annual 4DME compliance percentage has remained consistent at around 96%

2003	2004	2005	2006	2007
96.13%	96.43%	96.12%	96.93%	96.78%

The 4 DME Procedure continues to be one of the most vital components to the Aviation Department’s commitment to reducing noise exposure. By using the Salt River, aircraft noise impacts to incompatible land uses are minimized.

2007 4 DME Compliance: 96.78%

Operations with 60 or more jet flights to the east shown

Air Carrier Code	Air Carrier Name	Deviations	Total Departures to the East	% Compliance
HAL	Hawaiian Airlines	0	289	100.00
ACA	Air Canada	1	142	99.30
JBU	Jetblue Airways	2	277	99.28
WJA	Westjet Airlines	1	112	99.11
DAL	Delta Airlines	24	2375	98.99
SCX	Sun Country Airlines	2	194	98.97
USA	US Airways	37	2844	98.70
ASH		338	42310	97.02
AWE		409	28116	98.55
UAL	United Air Lines	46	3121	98.53
COA	Continental Airlines	37	2445	98.49
TRS	Air Tran	7	445	98.43
BAW	British Airways	1	60	98.33
NWA	Northwest Airlines	38	1827	97.92
FFT	Frontier Airlines	20	945	97.88
AMT	American Trans Air	4	180	97.78
MEP	Midwest Airlines	9	302	97.02
SWA	Southwest Airlines	1008	31219	96.77
ASA	Alaska Airlines	55	1673	96.71
Total			118,876	

Operators under 96% Compliance				
AAL	American Airlines	120	2838	95.77
SKW	Sky West	61	1142	94.66
KHA	Kitty Hawk Air Cargo	7	99	92.93
BTA	Continental Express	6	83	92.77
ABX	Airborne Express	42	433	90.30
AMX	Aeromexico	27	272	90.07
SWQ	Swift Air	19	172	88.95
UPS	United Parcel Service	91	796	88.57
FIV	Citation Shares	20	157	87.26
OPT	Flight Options	27	185	85.41
EJA	Netjets Aviation	95	548	82.66
FDX	Federal Express	67	364	81.59
USC	US Check Airlines	45	113	60.18
AMF	Ameriflight	107	239	55.23
Total			7,441	



Noise Monitoring Site	2003	2004	2005	2006	2007	5 Year Trend
NMS01	56.7	57.1	58.3	53.1	52.5	-
NMS02	58.8	59.7	61.6	57.3	57.5	-
NMS03	59.8	59.3	61.0	55.3	55.5	-
NMS04	61.9	61.8	61.3	63.7	64.2	+
NMS05	59.5	59.2	59.3	58.4	57.8	-
NMS06	57.7	54.1	55.7	51.1	49.4	-
NMS07	69.6	70.5	69.4	69.5	69.4	-
NMS08	56.2	54.2	55.6	48.8	50.3	-
NMS09	65.0	66.9	66.0	64.3	64.8	-
NMS10	61.7	62.7	62.7	57.6	58.4	-
NMS11	65.5	66.6	67.1	65.5	65.8	-
NMS12	64.7	64.1	64.6	63.0	61.1	-
NMS13	48.8	51.0	54.1	45.8	46.1	-
NMS14	55.9	55.7	50.3	50.1	49.5	-
NMS15	61.0	60.2	61.1	57.4	57.4	-
NMS16	50.8	53.6	55.6	48.9	46.6	-
NMS17	58.8	60.3	60.9	54.9	55.4	-
NMS18	57.1	58.0	58.9	52.6	52.1	-
NMS19	52.7	52.4	54.6	48.2	48.6	-
NMS20	49.5	52.5	55.0	49.0	47.9	-

Noise Monitoring Locations



Noise monitoring sites (NMS) 1-8 are located in Phoenix, 9-16 in Tempe, and 17-20 in Mesa.

The Aviation Department has 20 Noise Monitoring Terminals (NMT) in the vicinity of PHX. In 2007, 9 NMTs, (4 in Phoenix, 3 in Tempe, and 2 in Mesa) showed an increase in noise levels compared to the previous year, but the changes in noise levels varied from .2 dBA to .5 dBA. Although the levels at specific monitoring locations fluctuate from year to year, the general trend over a five year history shows an overall reduction in noise. Noise Monitor 4, located west of PHX in Phoenix is the only monitor with an increase over 2003 levels. Noise Office staff believe this increase was due to a bird nesting near the NMT and the nest has since been removed.

It is important to note that a change in 3dBA is commonly recognized as the smallest increase in noise exposure that is audible to the human ear.

Day-night average sound level (DNL) means the 24-hour average sound level, in decibels, for the period from midnight to midnight, obtained after the addition of ten decibels to sound levels for the periods between midnight and 7 a.m., and between 10 p.m., and midnight, local time. The symbol for DNL is Ldn.



Annual Operations

Deer Valley Airport (DVT)

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
2007	33,458	33,298	36,647	35,588	34,630	27,602	32,448	28,919	24,705	31,182	32,259	27,613	378,349
2006	34,559	33,123	33,788	37,205	38,957	33,995	25,702	29,452	30,481	32,568	38,032	38,645	406,507
2005	29,862	29,344	32,480	28,661	30,991	30,925	28,640	33,516	32,255	35,833	32,592	32,742	377,841
2004	31,156	30,780	32,193	30,308	28,378	26,110	24,192	26,694	29,087	27,886	27,848	25,805	340,437
2003	32,957	28,627	37,247	34,100	33,204	28,926	29,633	30,138	35,686	38,390	32,604	27,797	389,309

Goodyear Airport (GYR)

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
2007	15,156	14,642	17,380	16,831	16,403	17,254	13,959	14,047	14,856	19,912	15,130	12,445	188,015
2006	9,571	9,170	10,927	9,655	14,642	13,635	11,811	17,693	15,576	16,271	16,638	13,677	159,266
2005	6,815	7,455	9,941	9,558	8,194	8,083	7,164	8,506	8,478	9,931	8,429	8,492	101,046
2004	12,112	11,527	13,101	8,688	9,118	6,894	6,582	8,092	7,340	7,475	7,578	6,964	105,471
2003	11,198	9,919	14,042	14,059	10,457	10,393	8,416	9,532	10,042	12,729	9,115	12,779	132,681

Noise Complaints

													Totals	
Complaints	Jan	Feb	Mar	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Households	Complaints
DVT	9	11	5	12	3	8	4	1	5	2	6	8	32	74
GYR	2	2	1	0	7	2	5	3	0	5	4	2	6	33

DVT operations decreased from a 5 year peak of 406,507 in 2006 to 378,349 in 2007. Even with the decrease in operations, DVT remains the busiest general aviation airport in the country.

GYR operations increased 44% since 2003. This increase can be attributed greatly to the introduction of a new private flight school in 2006. Future operations are forecasted to increase as well due to the population growth in the Valley and the addition of a Fixed Based Operator (FBO).

