

Aviation Noise Report - 2008 Year End Review



Executive Summary

Introduction

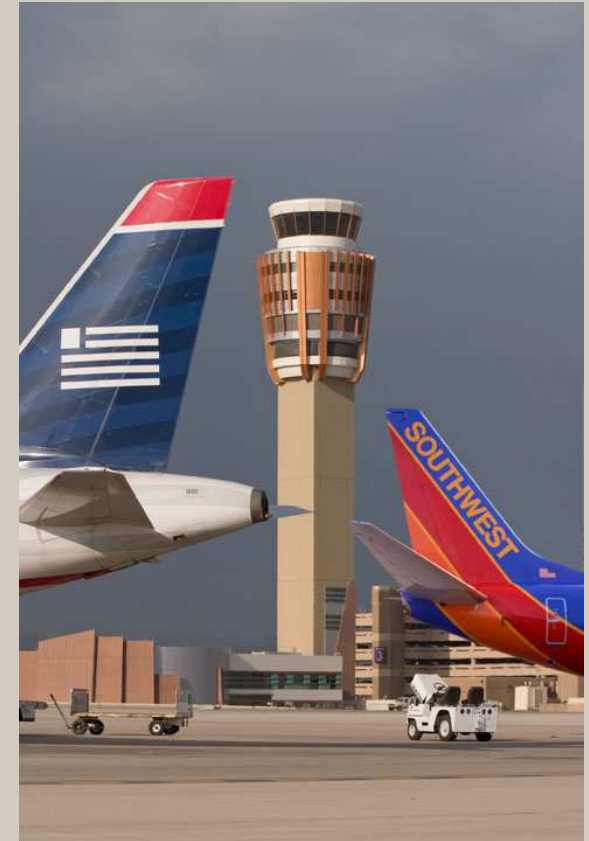
This report summarizes annual trends on issues regarding noise exposure from the City of Phoenix's three airports: Phoenix Sky Harbor International (PHX), Phoenix Deer Valley (DVT), and Phoenix Goodyear (GYR). The report includes information on operational counts, aircraft fleet mix, noise complaints, 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. During 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 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

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Phoenix Deer Valley & Goodyear Airports

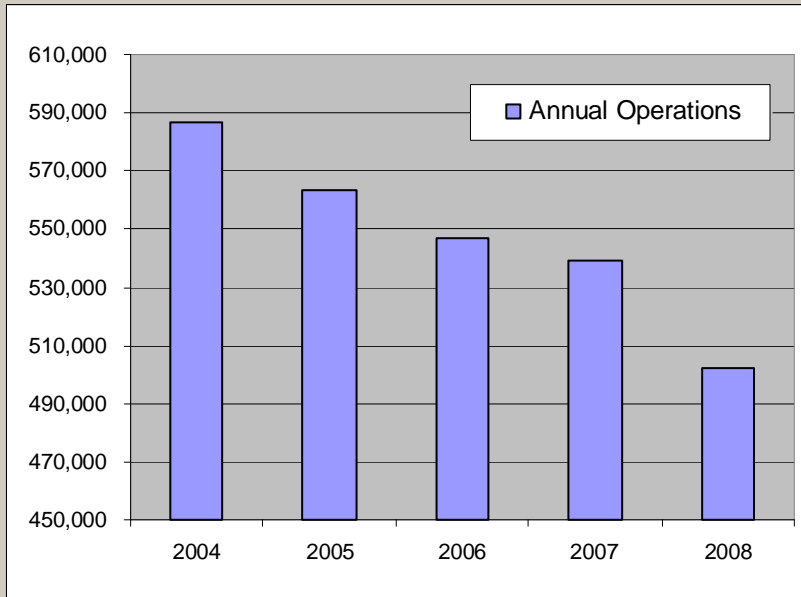
General Aviation Aircraft Operations & Noise Complaints

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Aircraft Operations

At Phoenix Sky Harbor annual aircraft operations have declined 14.3% from 586,535 in 2004 to 502,499 operations in 2008. This is a continued decline from peak operations of 638,757 in 2000. The decreases can be attributed to a variety of issues, including changes in aircraft sizes, the rising cost of fuel prices and the global economic recession.



2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monthly Operations	45,403	43,490	45,935	43,517	43,873	42,276	42,636	41,257	37,843	39,434	37,716	39,119

Aircraft Fleet Mix

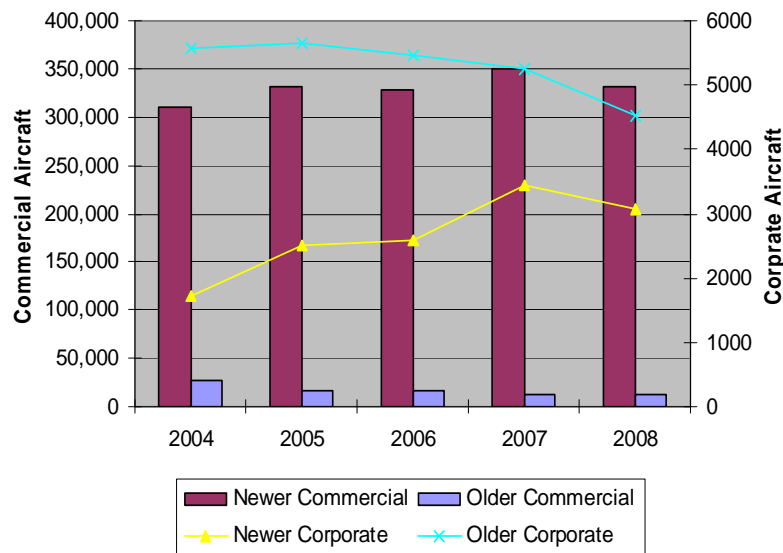
The aircraft fleet mix continues to change as older aircraft are replaced with newer, quieter and more efficient ones. During the past five years, many older aircraft have been retired due to continuing noise concerns, and high maintenance and fuel costs. In 2008, the most significant impact was the changing of fleet mixes at PHX by carriers such as Midwest Express to newer quieter aircraft.

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

Sample Aircraft Type Growth/Decline



Historical Noise Complaints by City

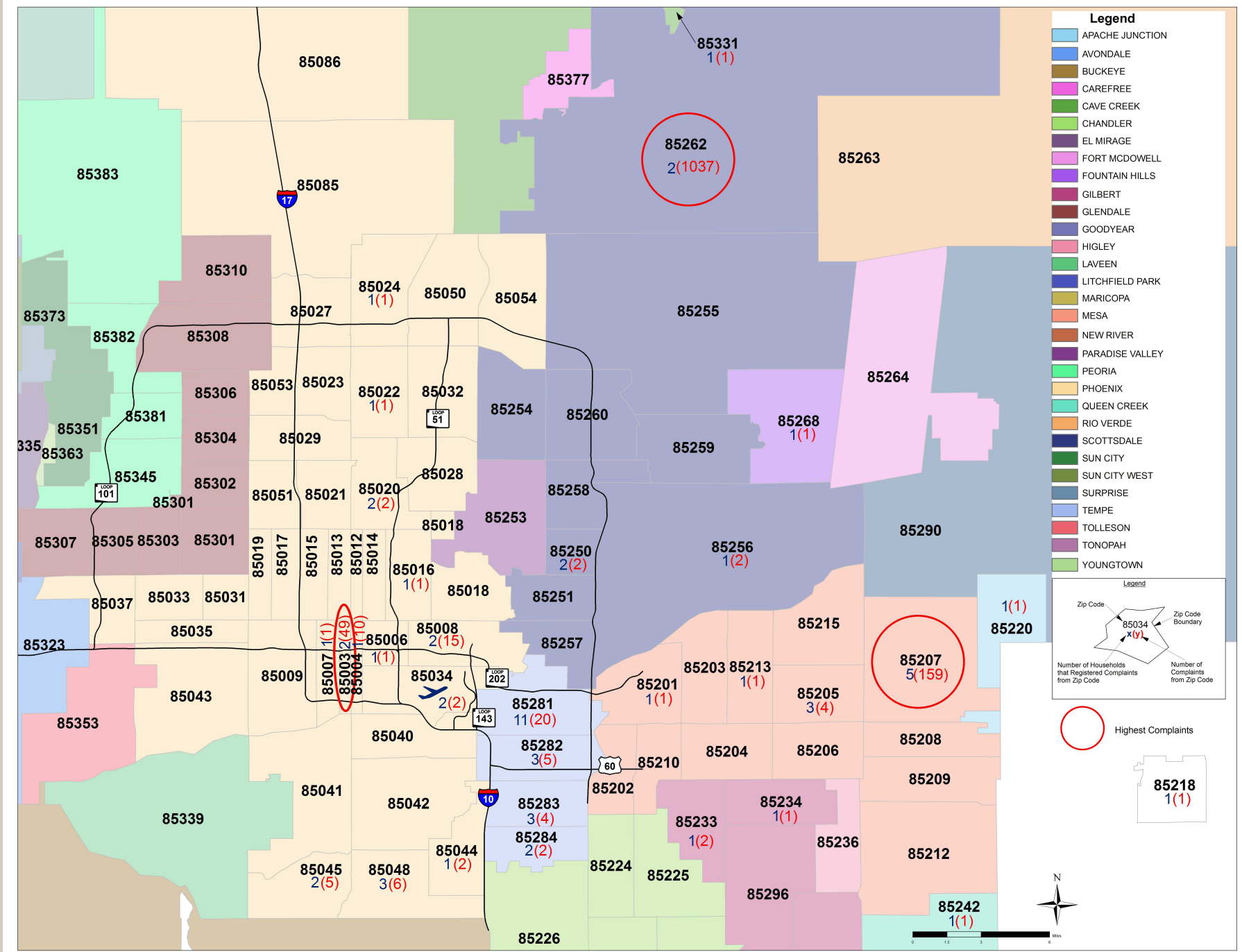
City	2004		2005		2006		2007		2008	
	Households	Complaints	Households	Complaints	Households	Complaints	Households	Complaints	Households	Complaints
Anthem	0	0	1	1	0	0	0	0	0	0
Apache Junction	2	2	0	0	0	0	0	0	1	1
Carefree	1	2,026	1	683	1	11	0	0	0	0
Cave Creek	1	3	0	0	1	1	1	1	1	1
Chandler	2	2	2	4	2	2	0	0	0	0
Fountain Hills	3	3	1	3	2	5	1	12	1	1
Gilbert	6	18	3	6	0	0	0	0	2	3
Glendale	1	1	2	3	1	1	1	1	0	0
Gold Canyon	0	0	0	0	1	1	1	1	0	0
Laveen	0	0	0	0	0	0	1	1	0	0
Maricopa County	2	10	0	0	0	0	0	0	0	0
Mesa	14	58	19	70	5	6	7	7	10	165
New River	1	2	0	0	1	1	0	0	0	0
Paradise Valley	1	3	0	0	2	2	1	1	0	0
Peoria	0	0	3	3	0	0	1	1	0	0
Phoenix	27	1,327	29	549	21	938	24	649	20	96
Queen Creek	0	0	0	0	0	0	0	0	1	1
Rio Verde	1	1	0	0	0	0	0	0	0	0
Scottsdale	16	73	14	34	10	23	4	20	5	1041*
Sun City West	0	0	0	0	0	0	0	0	0	0
Surprise	0	0	0	0	0	0	0	0	0	0
Tempe	20	1,029	31	1,616	12	23	16	71	19	31
Unknown	1	1	0	0	0	0	1	1	0	0
Totals:	99	4,559	106	2,972	59	1,014	59	766	60	1,340

Noise complaints at PHX continue to decrease. In 2008, there were 1,340 total noise complaints which is down from 4,559 in 2004 (a 71% decrease). The overall 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.

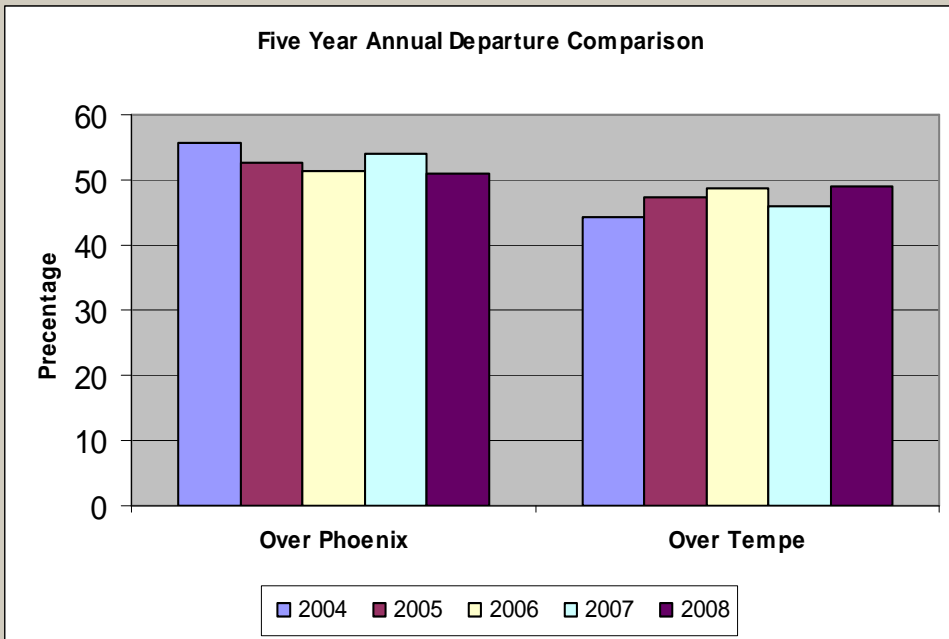
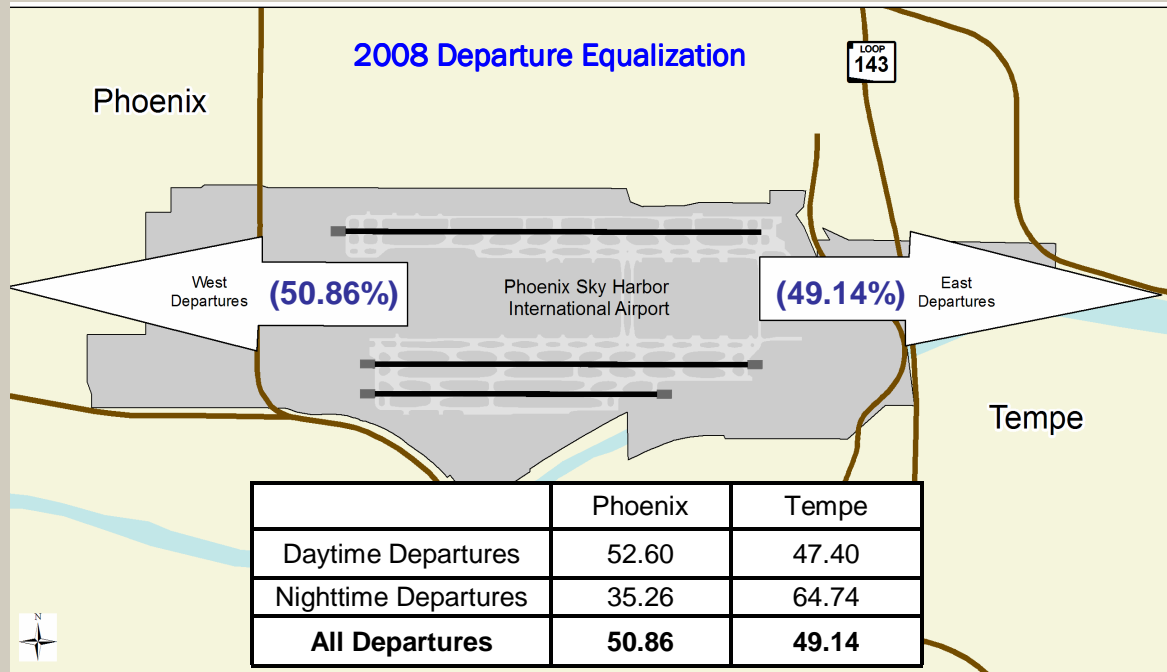
*The increase in complaints over the 2007 total of 766 can be attributed to one complainant who registered 1,033 complaints. This is 77% of the total annual complaints for 2008.



2008 Noise Complaints by Zip Code



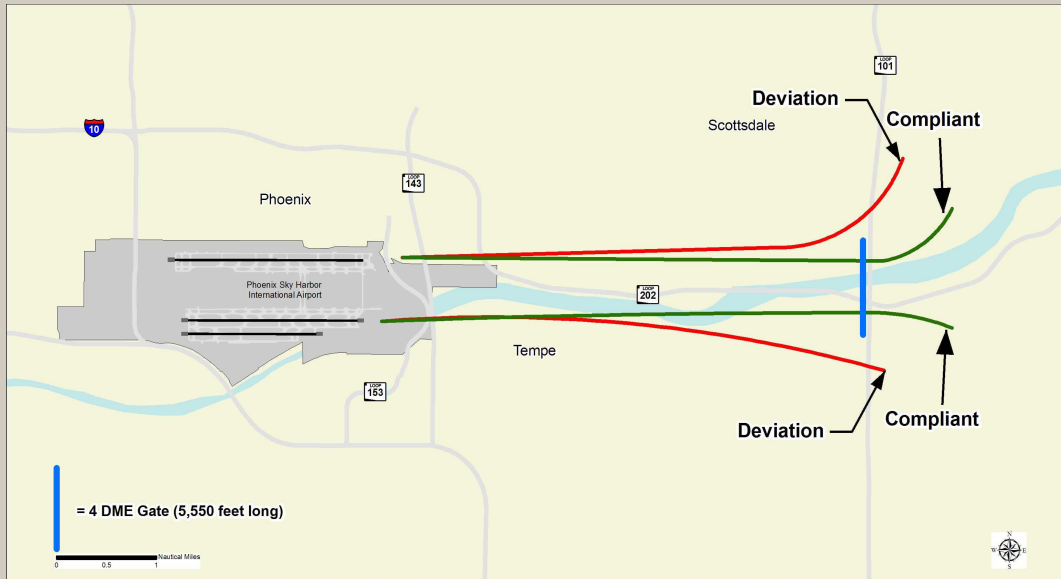
Annual Runway Utilization At PHX



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 44.41%, 47.28%, 48.67% and 45.90%, 49.14% respectively.

In addition to the favorable wind conditions for equalization of runway use, Aviation Department 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 turns. This procedure is designed to keep aircraft over the Salt River area and minimize 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 when airspace demands and safety allow. Since 2004, the annual 4DME compliance percentage has remained consistent at around 96%

2004	2005	2006	2007	2008
96.43%	96.12%	96.93%	96.78%	96.44%

The 4 DME Procedure continues to be one of the most vital components to the Aviation Department’s commitment to reducing noise exposure.

2008 4 DME Compliance: 96.44%

Operations with 60 or more jet flights to the east shown

Airline Code	Airline Name	Deviations	Total Departures to the East	% Compliance
WJA	West Jet	1	161	99.4
SCX	Sun Country Airlines	1	136	99.3
JBU	Jet Blue Airways	2	262	99.2
DAL	Delta Airlines	19	2,327	99.2
NWA	Northwest Airlines	20	1,720	98.8
FFT	Frontier Airlines	14	1,104	98.7
TRS	AirTran Airways	9	666	98.6
MEP	Midwest Express Airlines	5	352	98.6
ASA	Alaska Airlines	19	1,241	98.5
COA	Continental Airlines	38	2,404	98.4
HAL	Hawaiian Airlines	5	299	98.3
UAL	United Airlines	49	2,870	98.3
ACA	Air Canada	2	102	98.0
USA	US Airways	916	43,146	97.9
BTA	Express Jet Airlines	2	84	97.6
AMX	Aeromexico	12	395	97.0
BAW	British Airways	2	62	96.8
SWA	Southwest Airlines	1,288	31,871	96.0
Total			89,202	

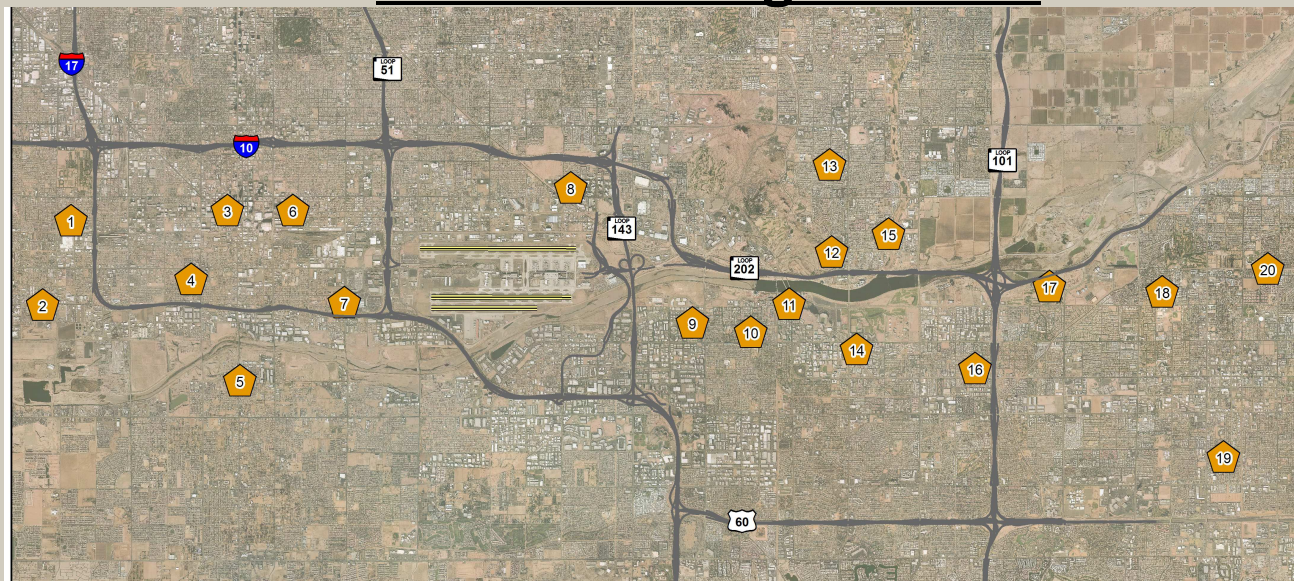
Operators under 96% Compliance

SKW	Skywest Airlines	81	1,349	94.0
AAL	American Airlines	216	3,415	93.7
FDX	Federal Express	53	719	92.6
SWQ	Swift Air	14	171	91.8
OPT	Flight Options	15	131	88.5
UPS	United Parcel Service	135	941	85.7
EJA	Express Jet Airlines	67	458	85.4
ABX	Airborne Express	72	483	85.1
FIV	Citationshares	26	140	81.4
AMF	Ameriflight	21	66	68.2
USC	US Check	117	225	48.0
Total			8,098	



Noise Monitoring Site	2004	2005	2006	2007	2008	% Change (5 Year)
NMS01	57.1	58.3	53.1	52.5	46.6	-18.40%
NMS02	59.7	61.6	57.3	57.5	51.8	-13.23%
NMS03	59.3	61.0	55.3	55.5	52.2	-11.97%
NMS04	61.8	61.3	63.7	64.2	57.6	-6.80%
NMS05	59.2	59.3	58.4	57.8	52.2	-11.82%
NMS06	54.1	55.7	51.1	49.4	44.2	-18.30%
NMS07	70.5	69.4	69.5	69.4	64.4	-8.65%
NMS08	54.2	55.6	48.8	50.3	46.1	-14.94%
NMS09	66.9	66.0	64.3	64.8	60.1	-10.16%
NMS10	62.7	62.7	57.6	58.4	53.5	-14.67%
NMS11	66.6	67.1	65.5	65.8	60.3	-9.46%
NMS12	64.1	64.6	63.0	61.1	55.2	-13.88%
NMS13	51.0	54.1	45.8	46.1	40.8	-20%
NMS14	55.7	50.3	50.1	49.5	44.9	-19.39%
NMS15	60.2	61.1	57.4	57.4	51.9	-13.78%
NMS16	53.6	55.6	48.9	46.6	41.9	-21.83%
NMS17	60.3	60.9	54.9	55.4	49.4	-18.07%
NMS18	58.0	58.9	52.6	52.1	45.5	-21.55%
NMS19	52.4	54.6	48.2	48.6	43.7	-16.60%
NMS20	52.5	55.0	49.0	47.9	46.3	-11.81%

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 2008, all NMTs showed reductions in noise levels. Additionally, the general trend over a five year history shows an overall reduction in noise.

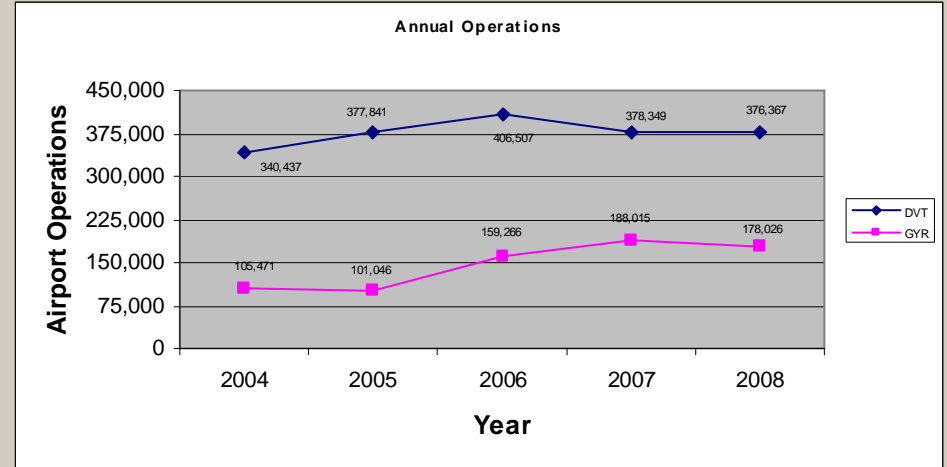
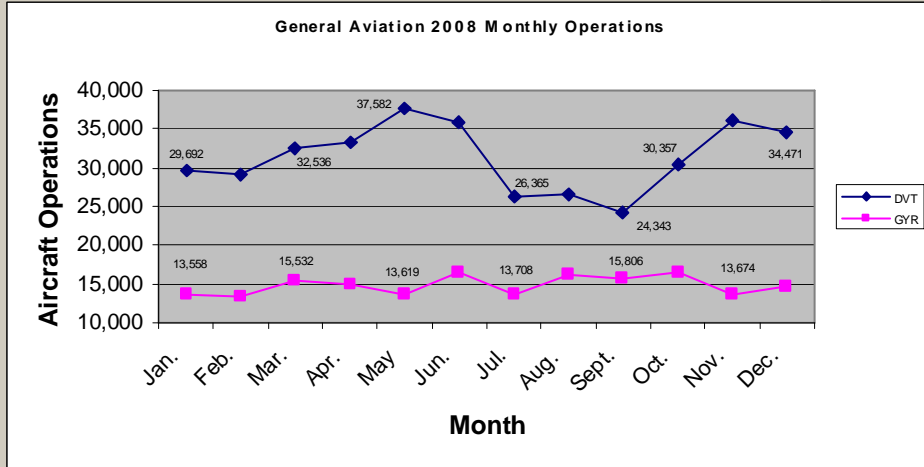
The Aviation Department is currently preparing for the replacement of these analog monitors with new digital monitors. The replacement is anticipated to begin in spring 2009 and will be completed in summer 2009.

It is important to note that a change in 3 decibels 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.



Operation Totals



Noise Complaints

Complaints													Totals	
	Jan	Feb	Mar	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Households	Complaints
DVT	4	10	12	2	3	0	2	3	2	2	1	3	30	44
GYR	4	1	3	3	1	1	0	0	1	0	0	2	8	16

