

PHX DVT BYR

 CITY OF PHOENIX AVIATION DEPARTMENT

**Annual Noise Report
2009**

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Executive Summary

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 (FAA), 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.

Due to the global economic climate, operations have decreased significantly at PHX, while DVT and GYR operations remained consistent.

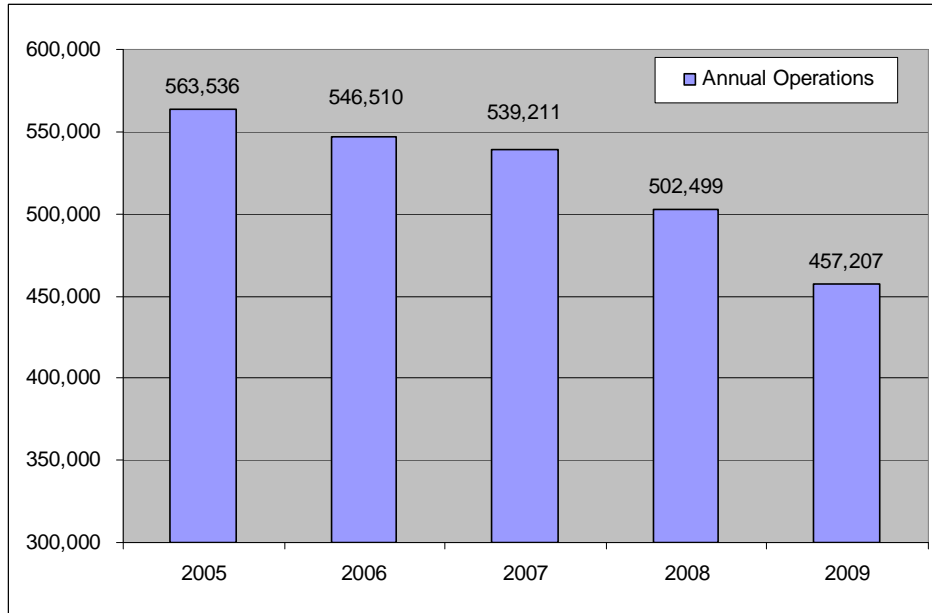
The Aviation Department replaced all 20 permanent noise monitors located in the communities in the immediate vicinity of PHX. The new monitors use DSL and wireless connections, as opposed to the analog phone lines used on the old monitors. The new technology will be more reliable and more precise in attributing noise events to aircraft.

The past year also saw the highest annual 4 DME departure compliance since monitoring began with a 98.03% rate. This can be attributed to the long history of communications between the Aviation Department, the FAA, the aircraft operators at PHX, and community involvement.

Noise complaint totals increased in 2009 to 1,548 which is up from 1,339 in 2008. There was also an increase in the number of households registering complaints with the Aviation Department, 59 in 2008 and 82 in 2009.

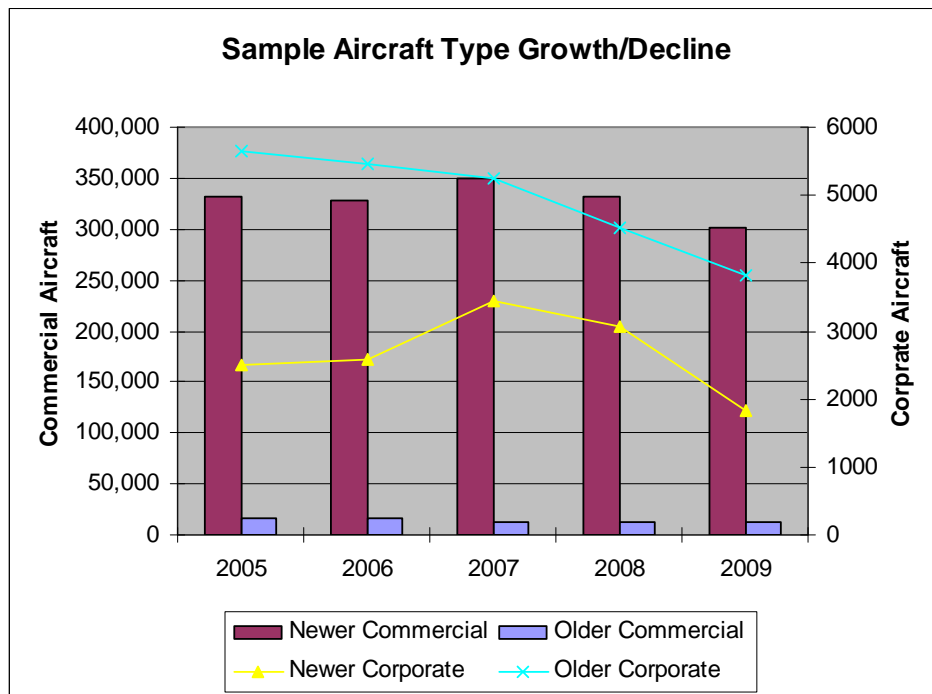


Historical Annual Operations and Fleet Mix Comparisons



Source:
FAA OPS NET

Operations at Phoenix Sky Harbor International Airport decreased 9% in 2009. This was due to the global economic downturn. As operations decrease at PHX, the noise generated by those operations also decreases. This is the first year that PHX Operations have been below 500,000 operations since 1994.



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

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, high maintenance and fuel costs. In 2009, operations were reduced throughout the fleet mix due to the global economic climate.



Annual Noise Complaints by Jurisdiction

City	2005		2006		2007		2008		2009	
	Households	Complaints	Households	Complaints	Households	Complaints	Households	Complaints	Households	Complaints
Anthem	1	1	0	0	0	0	0	0	0	0
Apache Junction	0	0	0	0	0	0	1	1	0	0
Carefree	1	683	1	11	0	0	0	0	0	0
Cave Creek	0	0	1	1	1	1	0	0	0	0
Chandler	2	4	2	2	0	0	0	0	1	1
Fountain Hills	1	3	2	5	1	12	1	1	0	0
Gilbert	3	6	0	0	0	0	2	3	4	4
Glendale	2	3	1	1	1	1	0	0	0	0
Gold Canyon	0	0	1	1	1	1	0	0	0	0
Laveen	0	0	0	0	1	1	0	0	0	0
Mesa	19	70	5	6	7	7	10	165	43	217
New River	0	0	1	1	0	0	0	0	0	0
Paradise Valley	0	0	2	2	1	1	0	0	0	0
Peoria	3	3	0	0	1	1	0	0	1	1
Phoenix	29	549	21	938	24	649	20	96	14	17
Queen Creek	0	0	0	0	0	0	1	1	0	0
Scottsdale	14	34	10	23	4	20	5	1,041	5	1,287
Tempe	31	1,616	12	23	16	71	19	31	14	21
Unknown	0	0	0	0	1	1	0	0	0	0
Totals:	106	2,972	59	1,014	59	766	59	1,339	82	1,548

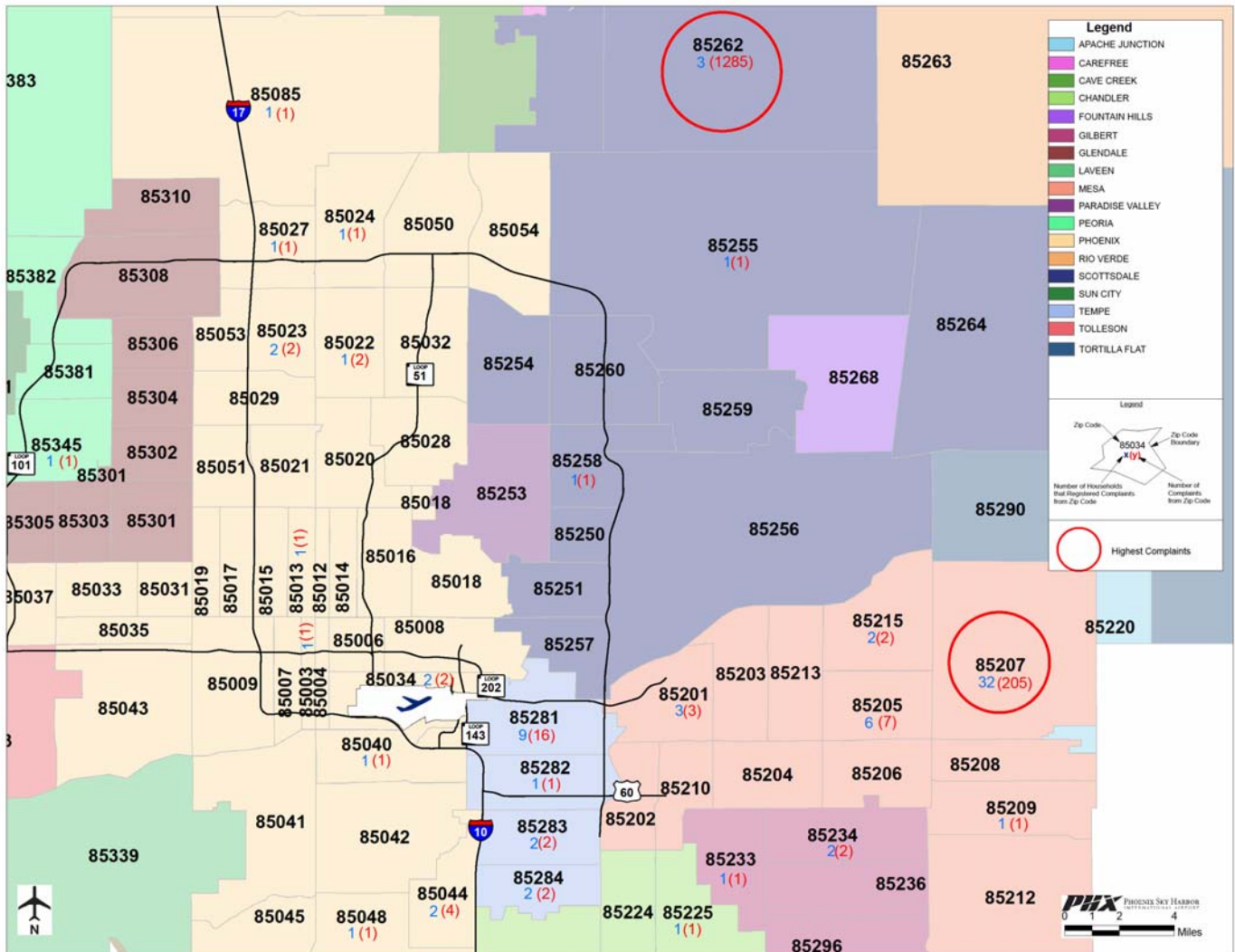
In 2009 noise complaints and households registering complaints increased. The number of households registering complaints increased by 38% since 2008. The number of complaints increased by 15%. This is attributed to enhanced arrival procedures enacted by the FAA. The new procedures affected communities where aircraft previously flew overhead, but are flying over at an increased frequency.

While the Aviation Department received 1,548 noise complaints in 2009, one household from North Scottsdale registered 1,259 complaints. This caller represented 81% of the total complaints. Another caller from East Mesa registered 149 (10%). Combined, these two callers represent 91% of all complaints regarding PHX operations.

Complaints from jurisdictions closest to PHX continue to decline. This can be attributed to the Aviation Department's Community Noise Reduction Program and increased performance in fly-friendly procedures at PHX.



2009 Noise Complaints by Zip Code



ZIP CODES WITH HIGHEST COMPLAINT TOTALS

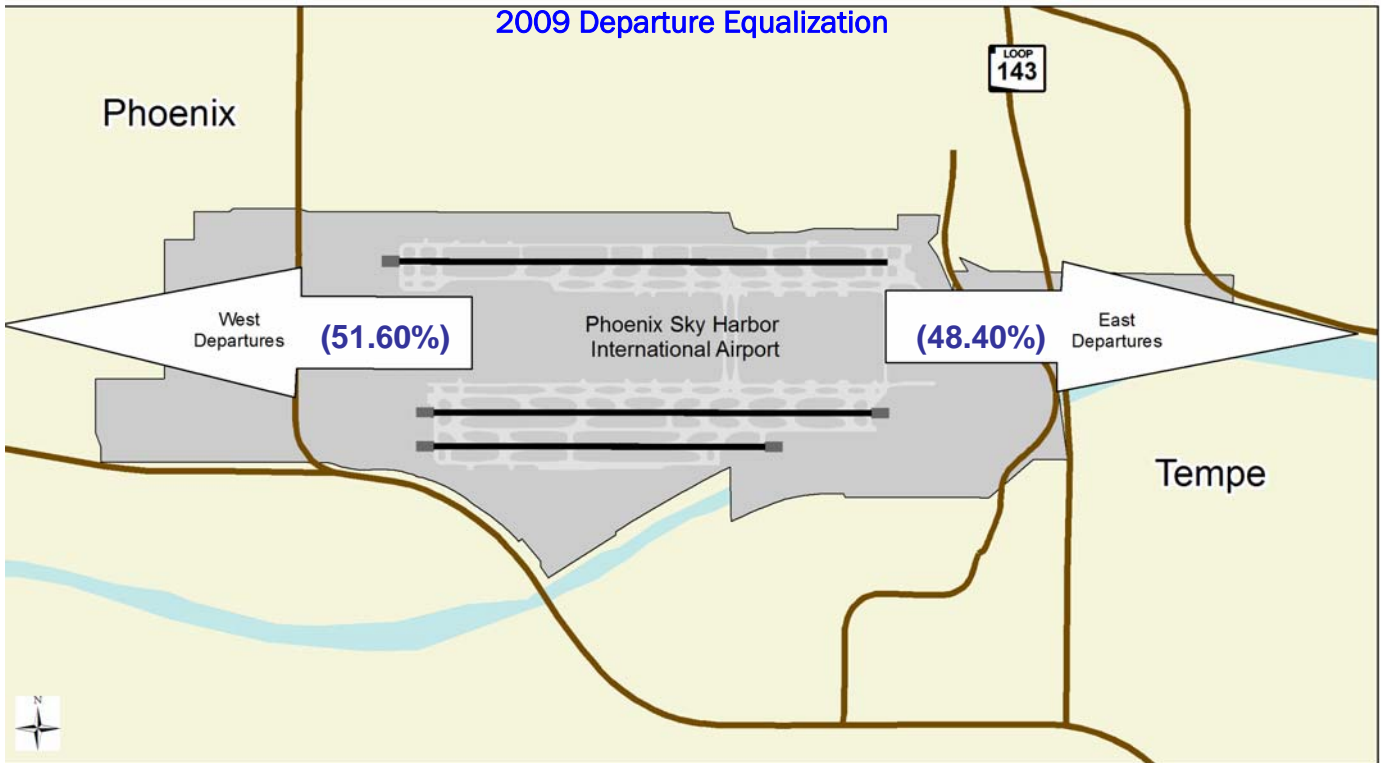
- 85262* registered 1,285 complaints
- 85207** registered 205 complaints
 - 85281 registered 16 complaints
 - 85205 registered 7 complaints

* One household from 85262 registered 1,259 complaints.

** One household from 85207 registered 149 complaints.

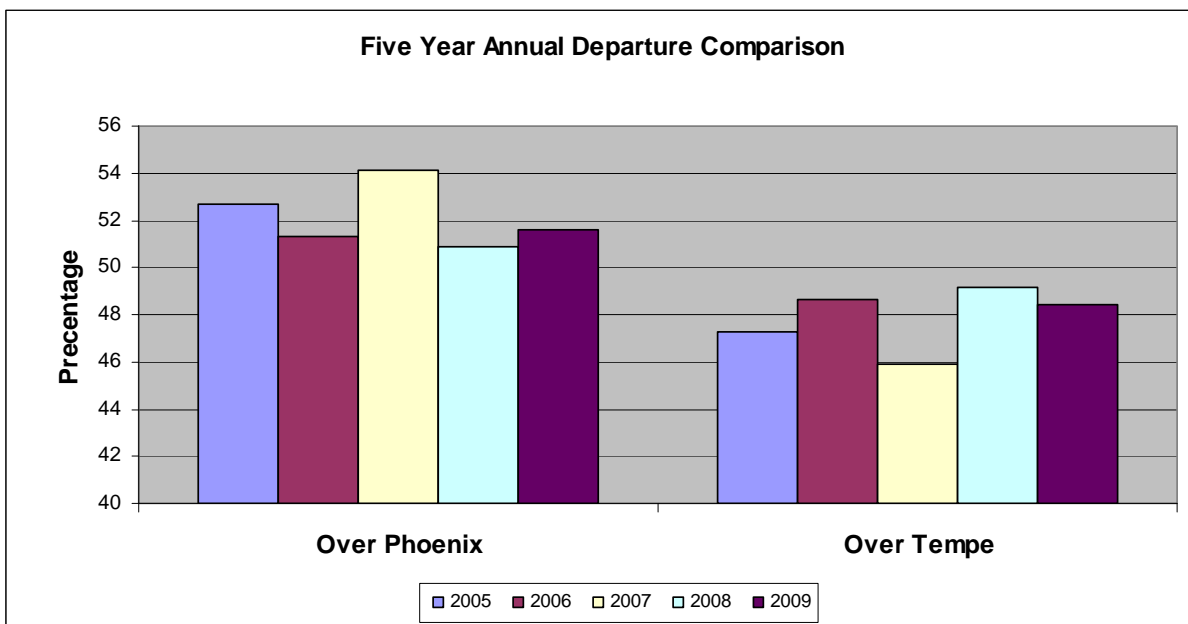


2009 PHX Runway Utilization

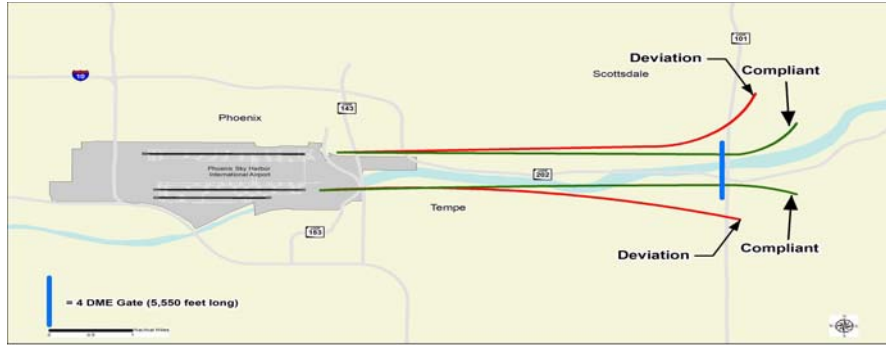


Due to aircraft having to depart into the wind, runway use at PHX is generally predictable with consistent winds. At PHX, winds generally flow east to west at night and, by mid-morning, flow west to east, caused predominantly by solar radiation. Since 2005, the percent of easterly departures has been 47.28%, 48.67% and 45.90%, 49.14%, 48.40% 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.



2009 4 DME Departure Procedure Compliance



2009 4 DME Compliance: 98.03%

2005	2006	2007	2008	2009
96.12%	96.93%	96.78%	96.44%	98.03%

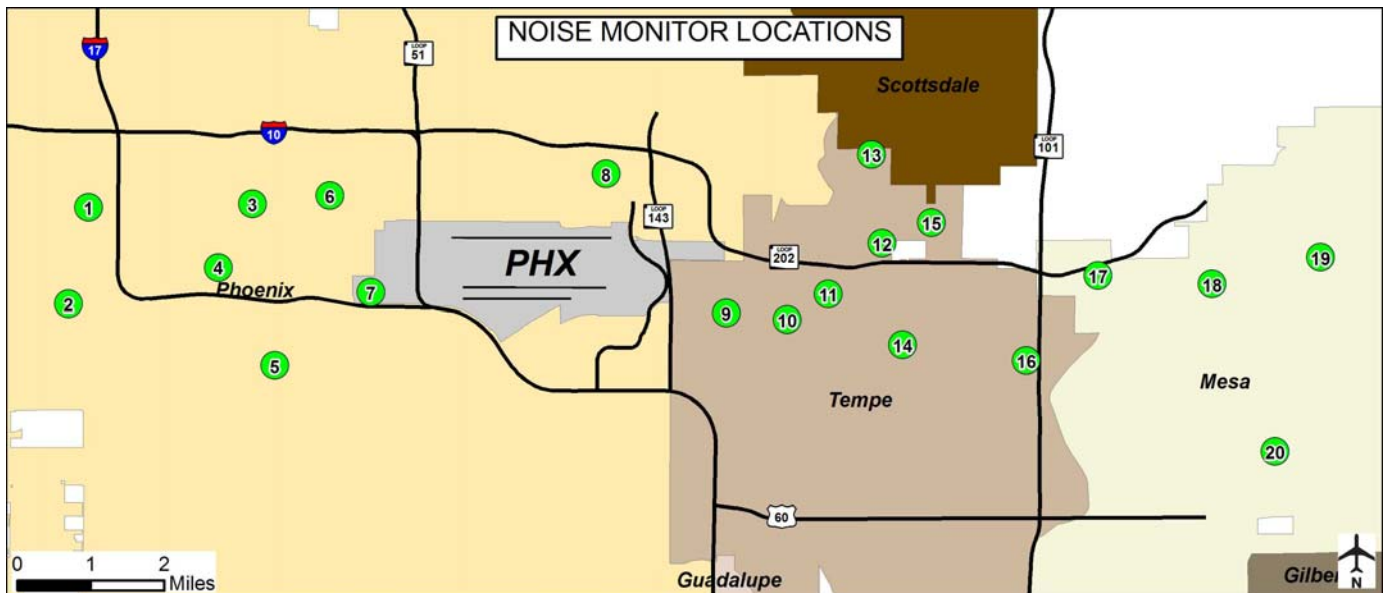
All jet aircraft departing PHX to the east are directed to fly straight out until reaching approximately 5 Nautical Miles (4 DME) before conducting their turns. This procedure is designed to keep aircraft over the Salt River area and minimize noise exposure to residential areas. The Aviation Department 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 2005, the annual 4DME compliance percentage has remained consistent at around 96%.

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

Airline Code	Airline Name	Deviations	Total Departures to the East	% Compliance
ACA	Air Canada	0	106	100.0
BAW	British Airways	0	46	100.0
BSK	Miami Air International	0	16	100.0
CYO	ATI Jet	0	4	100.0
WJA	West Jet	0	174	100.0
DAL	Delta Airlines	5	2,206	99.8
TRS	Airtran Airways	1	343	99.7
MEP	Midwest Express Airlines	1	257	99.6
JBU	Jet Blue Airways	1	239	99.6
COA	Continental Airlines	13	2,197	99.4
UAL	United Airlines	17	2,703	99.4
ASA	Alaska Airlines	8	1,262	99.4
FDX	Federal Express	6	615	99.0
NWA	Northwest Airlines	21	1,930	98.9
AMX	Aeromexico	1	85	98.8
FFT	Frontier Airlines	13	1,105	98.8
USA	US Airways	485	40,967	98.8
HAL	Hawaiian Airlines	5	305	98.4
SWA	Southwest Airlines	575	27,971	97.9
SKW	Skywest Airlines	56	1,699	96.7
SCX	Sun Country Airlines	3	87	96.6
Total			84,317	
Operators under 96% Compliance				
AAL	American Airlines	137	3,017	95.5
ABX	Airborne Express	12	230	94.8
SWQ	Swift Air	8	143	94.4
FIV	Citationshares	4	57	93.0
UPS	United Parcel Service	55	697	92.1
OPT	Flight Options	6	65	90.8
CCI	Capital Cargo International	16	163	90.2
EJA	Express Jet Airlines	32	297	89.2
USC	US Check	118	333	64.6
Total			5,002	



2009 Noise Monitoring Site Measurements



The Aviation Department has 20 Noise Monitoring Terminals (NMT) in the vicinity of PHX. In 2009, all monitors were replaced. The new state-of-the-art monitors utilize DSL and Wireless communications which are less susceptible to communication failures than the analog phone lines used in the older monitors.

The new monitors are able to differentiate with greater accuracy between aircraft noise events and community events. This has led to more noise events at the site locations being correlated to aircraft operations. However noise levels have continued to decrease since 2005.

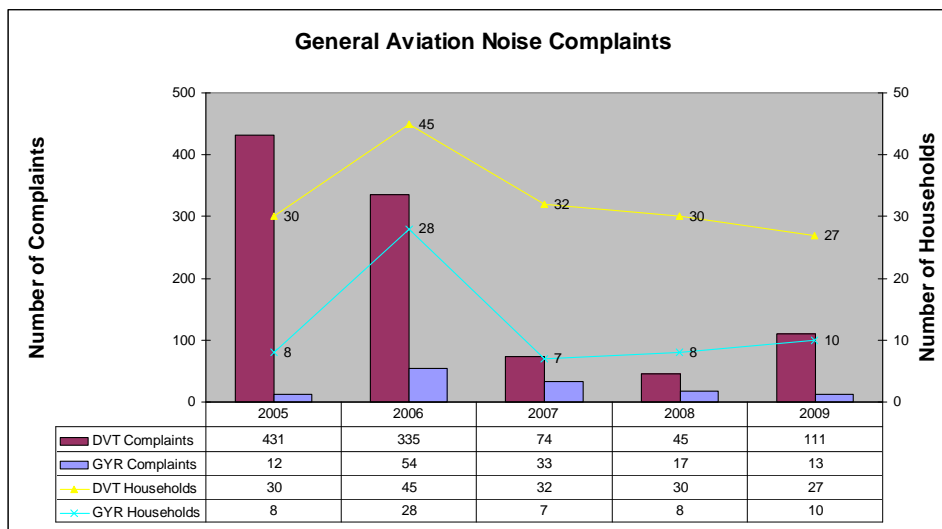
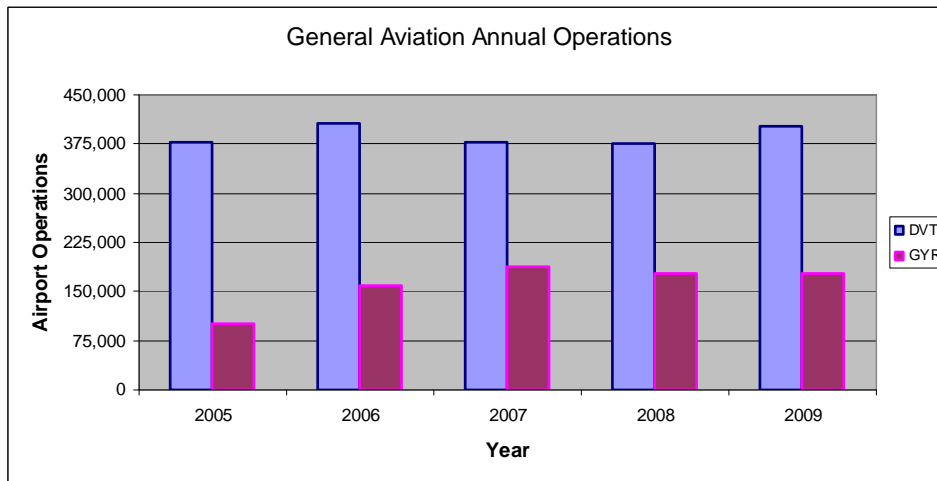
It is important to note that a change in 3 decibels is commonly recognized as the smallest increase in noise exposure that is audible to the human ear.

Noise Monitoring Site	2005	2006	2007	2008	2009	5 Year % Change
NMS01	58.3	53.1	52.5	46.6	48.2	-17.32%
NMS02	61.6	57.3	57.5	51.8	52.7	-14.45%
NMS03	61.0	55.3	55.5	52.2	52.9	-13.28%
NMS04	61.3	63.7	64.2	57.6	55.9	-8.81%
NMS05	59.3	58.4	57.8	52.2	53.3	-10.12%
NMS06	55.7	51.1	49.4	44.2	45.4	-18.49%
NMS07	69.4	69.5	69.4	64.4	66.2	-4.61%
NMS08	55.6	48.8	50.3	46.1	44.6	-19.78%
NMS09	66.0	64.3	64.8	60.1	61.3	-7.12%
NMS10	62.7	57.6	58.4	53.5	55.5	-11.48%
NMS11	67.1	65.5	65.8	60.3	62.5	-6.86%
NMS12	64.6	63.0	61.1	55.2	59.1	-8.51%
NMS13	54.1	45.8	46.1	40.8	41.7	-22.92%
NMS14	50.3	50.1	49.5	44.9	44.2	-12.13%
NMS15	61.1	57.4	57.4	51.9	53.2	-12.93%
NMS16	55.6	48.9	46.6	41.9	41.3	-25.71%
NMS17	60.9	54.9	55.4	49.4	51.4	-15.60%
NMS18	58.9	52.6	52.1	45.5	47.4	-19.52%
NMS19	54.6	48.2	48.6	43.7	45.6	-16.48%
NMS20	55.0	49.0	47.9	46.3	42.8	-22.18%



General Aviation Operations and Noise Complaints

General Aviation 2009 Monthly Operations													
2009	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
DVT	39,231	33,176	33,574	32,757	34,222	34,499	33,678	33,724	33,176	31,439	31,805	31,054	402,335
GYR	14,667	15,429	17,744	15,032	15,217	15,154	13,510	14,746	13,683	16,542	12,668	13,627	178,019



Operations at the General Aviation Airports owned and operated by the City of Phoenix (Phoenix Goodyear and Phoenix Deer Valley Airports) remain consistent. Other General Aviation airports in the greater Phoenix area have shown a drastic decrease in their operations totals. In addition, noise complaints remain consistent at both DVT and GYR.

