

PHX DVT BYR

 CITY OF PHOENIX AVIATION DEPARTMENT

**Annual Noise Report
2012**

Table of Contents

Background Information

- Executive Summary Page 3

Phoenix Sky Harbor International Airport

- Historical Annual Operations and Fleet Mix Comparisons Page 4
- Annual Noise Complaints by Jurisdiction Page 5
- 2012 Noise Complaints by Zip Code Page 6
- 2012 Phoenix Sky Harbor International Airport Runway Utilization Page 7
- 2012 4 DME Departure Procedure Compliance Page 8
- 2012 Noise Monitoring Sites Measurements Page 9

City of Phoenix General Aviation Airports

- Phoenix Deer Valley Airport Operations and Noise Complaints Page 10
- Phoenix Goodyear Airport Operations and Noise Complaints Page 11



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) for calendar year 2012. 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. Airport staff meets regularly 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 regarding the issue of noise exposure.

Calendar Year 2012 Highlights:

In 2012, aircraft operations decreased at Phoenix Sky Harbor International Airport by 2.55% from 461,989 operations to 450,204 operations. Additionally, operations at both Phoenix Deer Valley Airport and Phoenix Goodyear Airport increased in 2012 by 15.1% and 4% respectively. Phoenix Deer Valley Airport experienced 365,432 operations while Phoenix Goodyear Airport experienced 144,172 operations.

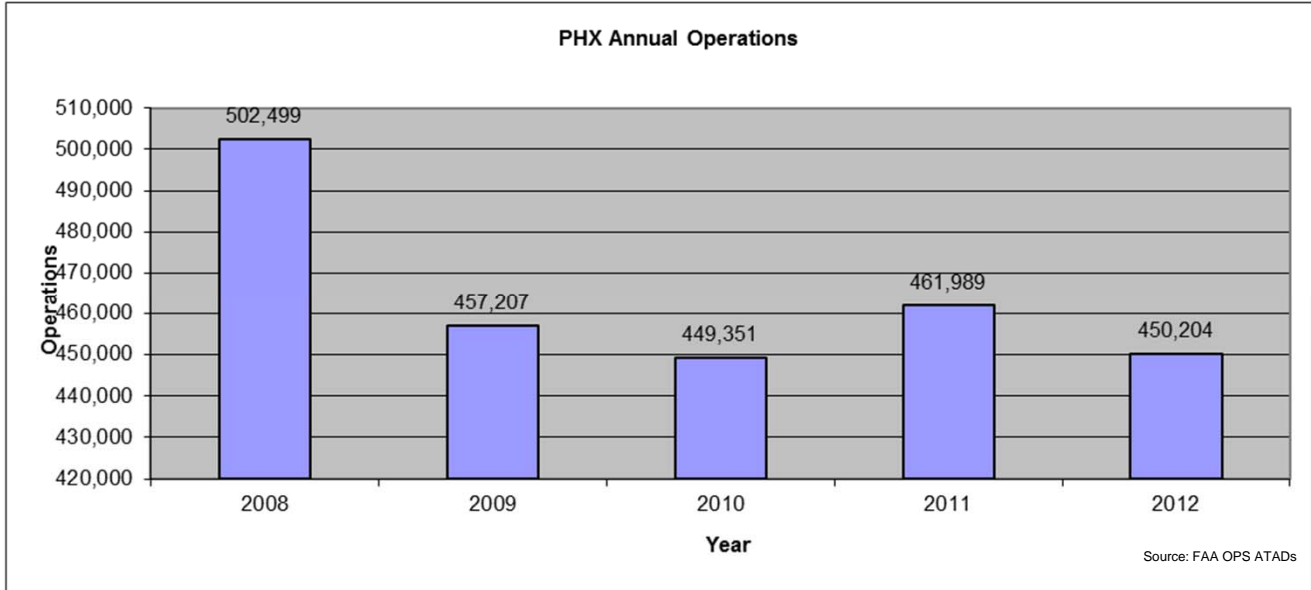
In 2012, Phoenix Sky Harbor International Airport operated in a westerly flow 53.18% of the year and 46.82% easterly for the year, and is largely attributed to the wind direction in the valley throughout the year.

In 2012, compliance with the 4 DME Departure Procedure was 97.80%. This high compliance rate can be attributed to the long history of communications between the Aviation Department, the FAA, aircraft operators, and the community.

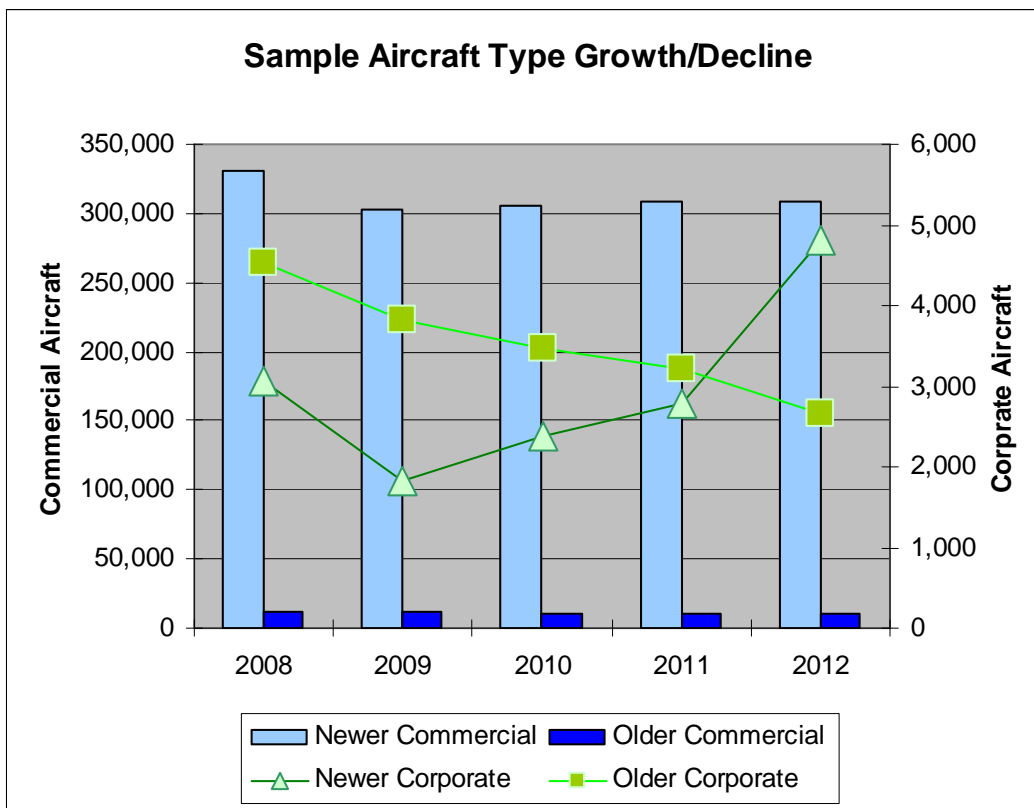
Noise complaint totals decreased in 2012 to 102, which is down from 129 in 2011. There was also a decrease in the number of households registering complaints with the Aviation Department, 44 in 2011 and 38 in 2012.



Historical Annual Operations and Fleet Mix Comparisons



Operations at Phoenix Sky Harbor International Airport idereased 2.55% in 2012.



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. The major changes in PHX Fleet Mix in 2012 were the removal of Dash 8 aircraft service by Mesa Airlines, the removal of B737-300 aircraft by US Airways, and the introduction of newer regional jets operated by American Eagle, a subsidiary of American Airlines.



Annual Noise Complaints by Jurisdiction

City	2008		2009		2010		2011		2012	
	Households	Complaints	Households	Complaints	Households	Complaints	Households	Complaints	Households	Complaints
Apache Junction	1	1	-	-	-	-	-	-	-	-
Chandler	-	-	1	1	1	1	-	-	-	-
Fort McDowell	-	-	-	-	-	-	1	2	-	-
Fountain Hills	1	1	-	-	-	-	-	-	1	1
Gilbert	2	3	4	4	1	1	-	-	-	-
Glendale	-	-	-	-	-	-	1	3	-	-
Goodyear	-	-	-	-	-	-	1	1	-	-
Mesa	10	165	43	217	19	122	9	86	10	67
Peoria	-	-	1	1	-	-	-	-	1	1
Phoenix	20	96	14	17	20	35	20	22	13	16
Queen Creek	1	1	-	-	-	-	-	-	-	-
Rio Verde	-	-	-	-	-	-	-	-	-	-
Scottsdale	5	1,041	5	1,287	6	9	4	5	4	7
Sun City West	-	-	-	-	-	-	-	-	-	-
Surprise	-	-	-	-	-	-	-	-	-	-
Tempe	19	31	14	21	14	23	9	10	9	10
Totals:	59	1,339	82	1,548	61	191	44	129	38	102

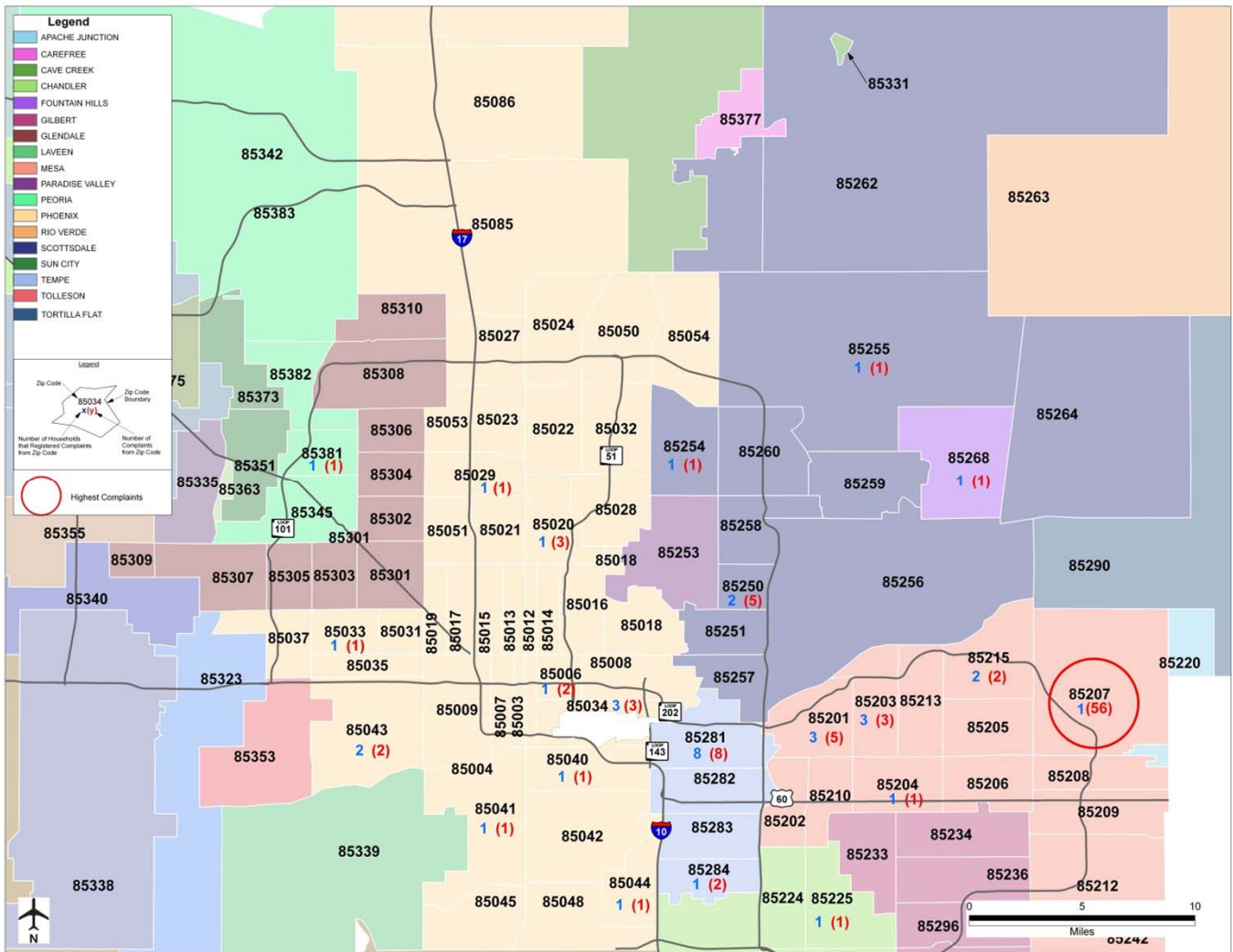
In 2012 households registering complaints decreased by 5% from 2011 totals. The number of complaints decreased by 21% during the same period.

While the Aviation Department received 102 noise complaints in 2012, one household from East Mesa registered 56 complaints. This caller represented 54% of the total complaints regarding Phoenix Sky Harbor International Airport operations.

The reduction in complaints over the last several years can be attributed to increased performance in fly-friendly procedures, NextGen procedures introduced to the Phoenix area by local FAA, a more modern and quieter fleet mix operating at PHX, and the Aviation Department's Community Noise Reduction Program.



2012 Noise Complaints by Zip Code

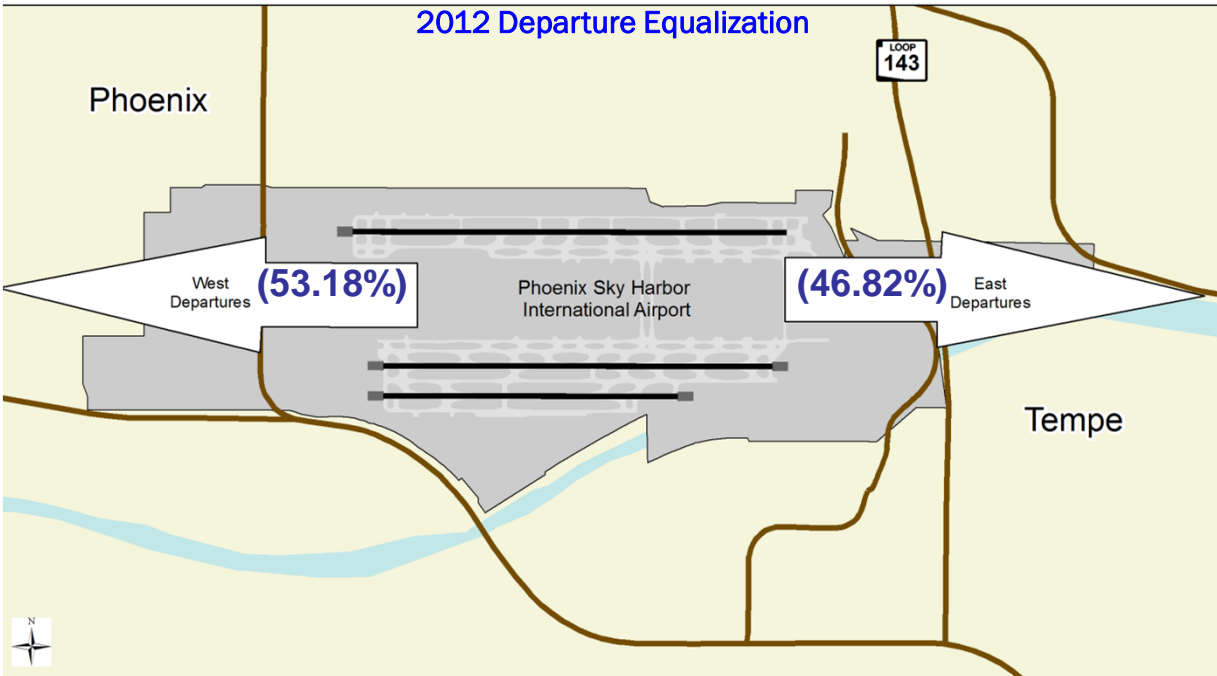


ZIP CODES WITH HIGHEST COMPLAINT TOTALS

- 85207 registered 56 complaints

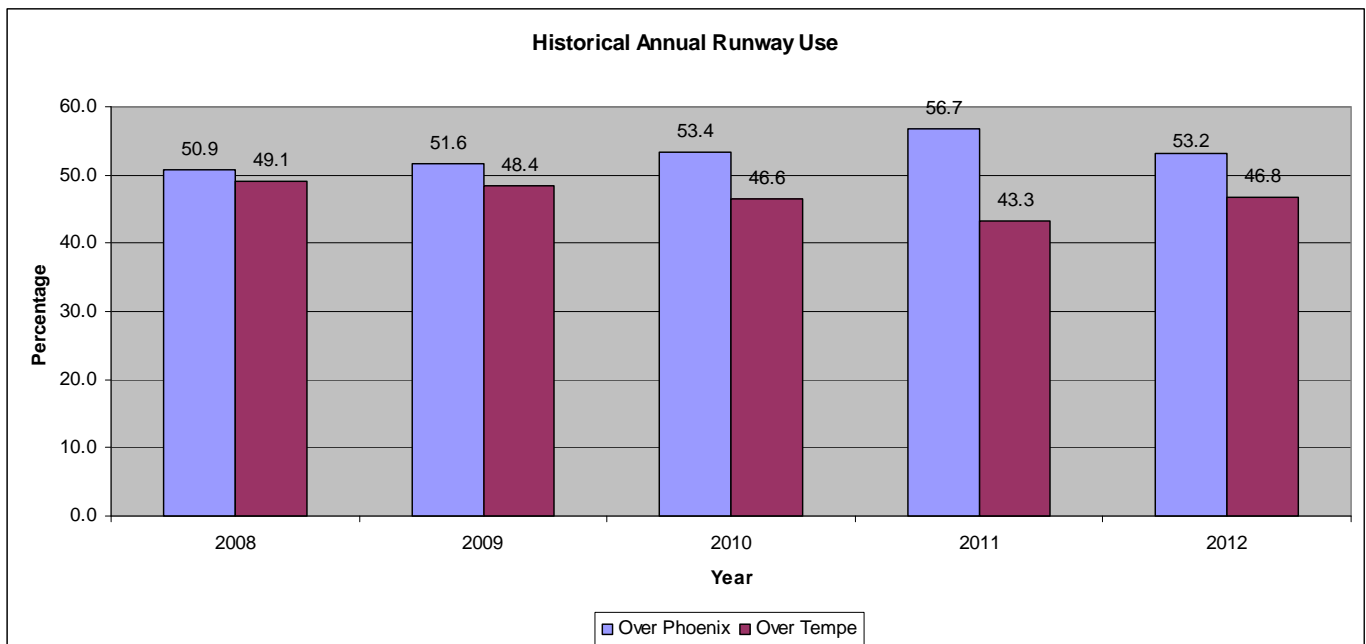


2012 PHX Runway Utilization

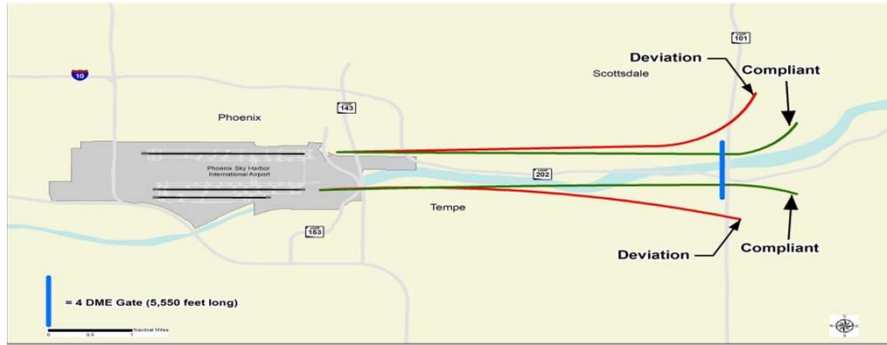


Due to aircraft having to depart into the wind, runway use at Phoenix Sky Harbor International Airport is generally predictable with consistent winds. At Phoenix Sky Harbor International Airport, winds generally flow east to west at night and, by mid-morning, flow west to east, caused predominantly by solar radiation.

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



2012 4 DME Departure Procedure Compliance



2012 4 DME Compliance: 97.80%

2008	2009	2010	2011	2012
96.44%	98.03%	98.38%	98.25%	97.80%

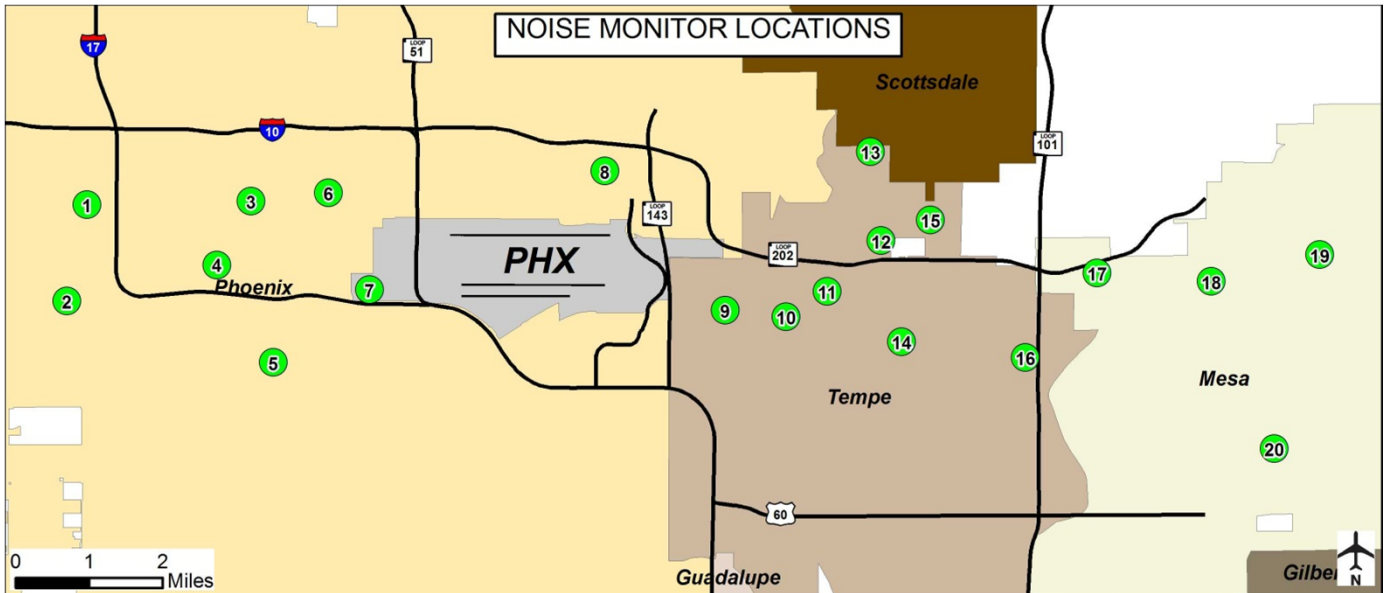
All jet aircraft departing from Phoenix Sky Harbor International Airport to the east are directed to fly straight out until reaching approximately 5 Nautical Miles (4 DME) before conducting their turns. This procedure is designed to keep aircraft over the Salt River area and minimize noise exposure to 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.

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	340	100.00
BAW	British Airways	0	48	100.00
CCI	Capital Cargo International	0	2	100.00
DAL	Delta Airlines	10	3,725	99.73
WJA	West Jet	2	463	99.57
ASA	Alaska Airlines	5	1,109	99.55
UAL	United Airlines	23	3,473	99.34
HAL	Hawaiian Airlines	2	301	99.34
FFT	Frontier Airlines	7	682	98.97
FDX	Federal Express	9	630	98.57
JBU	Jet Blue Airways	3	204	98.53
SWA	Southwest Airlines	455	26,776	98.30
USA	US Airways	635	36,175	98.24
Total			73,928	
Operators under 96% Compliance				
SKW	Skywest Airlines	336	7,863	95.73
AAL	American Airlines	109	2,526	95.68
ABX	Airborne Express	6	121	95.04
SCX	Sun Country Airlines	2	38	94.74
GA	General Aviation	216	3,966	94.55
USC	US Check	2	34	94.12
UPS	United Parcel Service	46	677	93.21
BSK	Miami Air International	1	11	90.91
OPT	Flight Options	8	65	87.69
EJA	Express Jet Airlines	59	323	81.73
EIA	Evergreen International	2	4	50.00
Total			15,628	



2012 Noise Monitoring Site Measurements



The Aviation Department has 20 Noise Monitoring Terminals (NMT) in the vicinity of Phoenix Sky Harbor International Airport. The NMTs are able to determine exactly how loud aircraft operations were at a particular location. 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 2006.

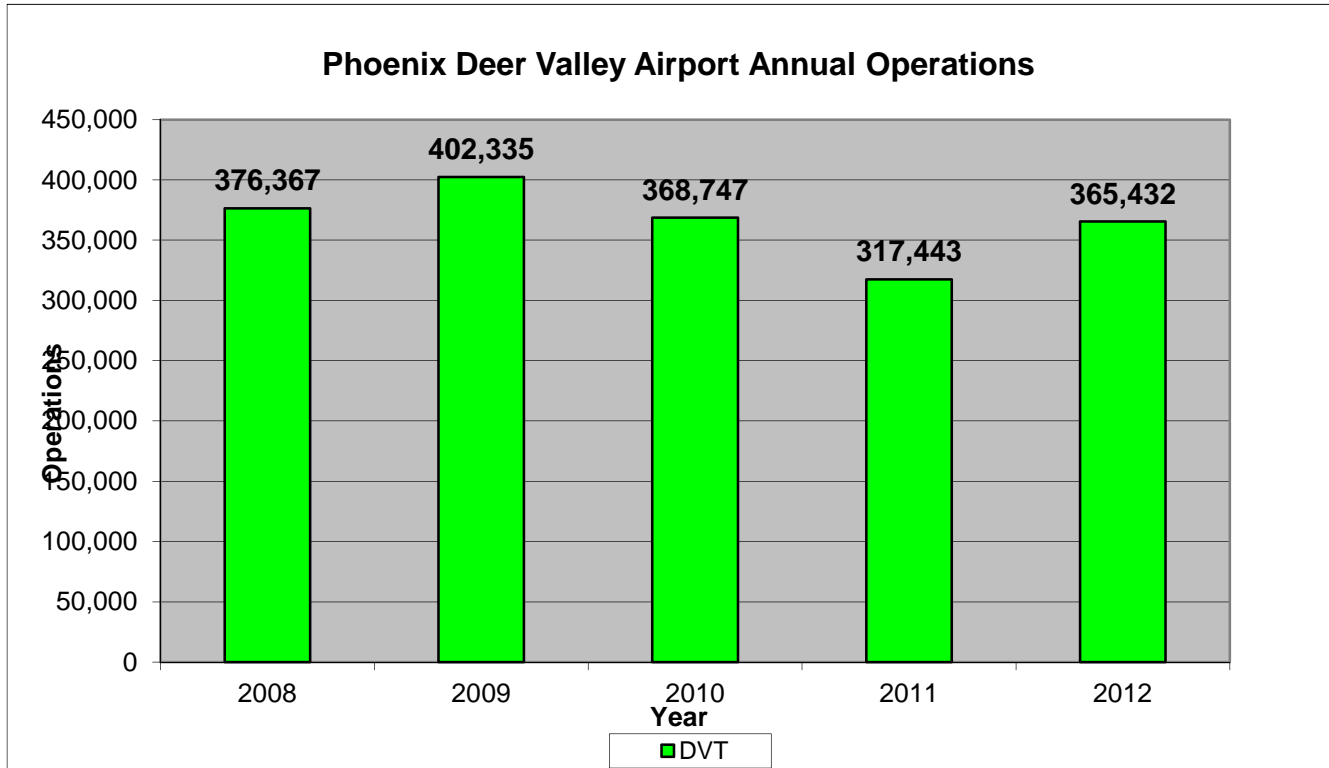
It is important to note that a change in 3 decibels is commonly recognized as the smallest increase in noise exposure that is audible to the human ear.

Noise Monitoring Site	2008	2009	2010	2011	2012
NMS01	46.6	48.2	50.6	50.3	49.6
NMS02	51.8	52.7	54.7	55.0	55.6
NMS03	52.2	52.9	54.4	53.3	52.1
NMS04	57.6	55.9	58.6	59.3	59.1
NMS05	52.2	53.3	55.3	55.3	55.1
NMS06	44.2	45.4	48.5	46.4	46.6
NMS07	64.4	66.2	67.4	67.6	67.4
NMS08	46.1	44.6	44.2	47.2	45.3
NMS09	60.1	61.3	63.2	63.7	61.7
NMS10	53.5	55.5	57.4	57.7	56.8
NMS11	60.3	62.5	63.8	64.5	64.1
NMS12	55.2	59.1	61.4	61.1	60.9
NMS13	40.8	41.7	43.5	42.1	41
NMS14	44.9	44.2	44.5	44.7	44.4
NMS15	51.9	53.2	55.8	55.3	54.7
NMS16	41.9	41.3	42.1	42.2	41.9
NMS17	49.4	51.4	54.1	54.3	54.1
NMS18	45.5	47.4	51.5	49.9	49.2
NMS19	43.7	45.6	48.7	46.5	45.9
NMS20	46.3	42.8	44.6	43.2	44.3



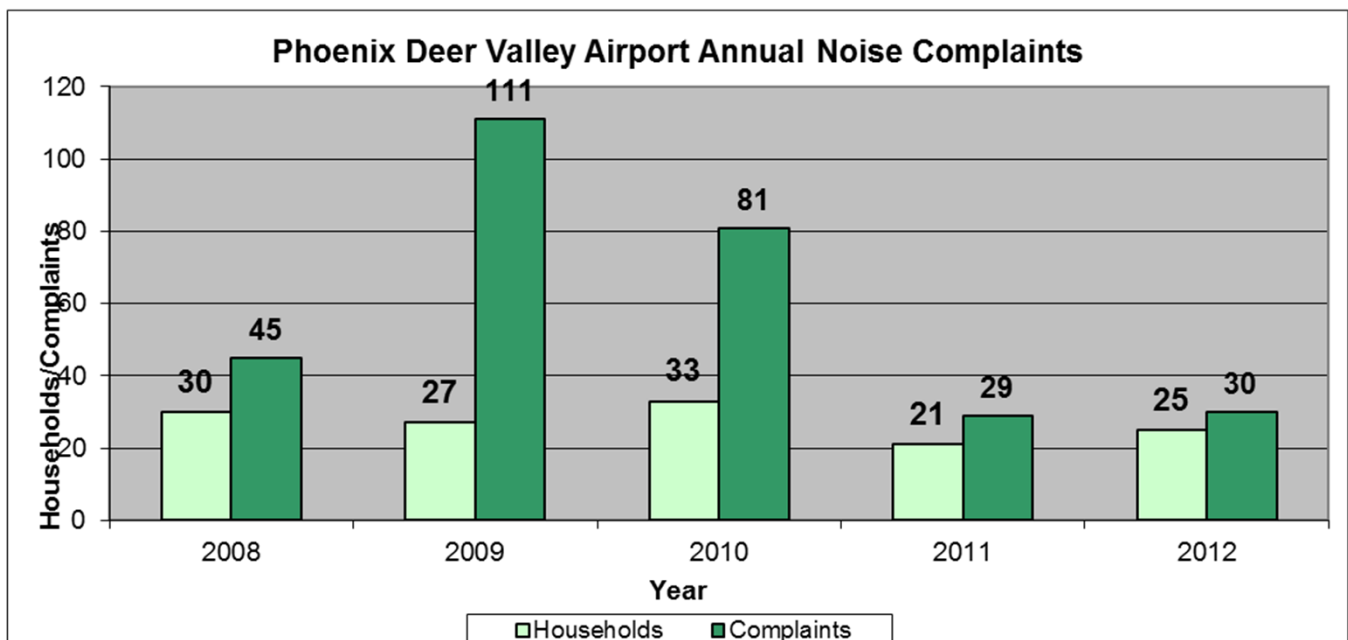
Phoenix Deer Valley Airport Operations and Noise Complaints

Operations at the General Aviation airports owned and operated by the City of Phoenix (Phoenix Goodyear and Phoenix Deer Valley Airports) showed a moderate increase in 2012. Noise complaints and households registering complaints showed moderate increase also from 2011 levels.

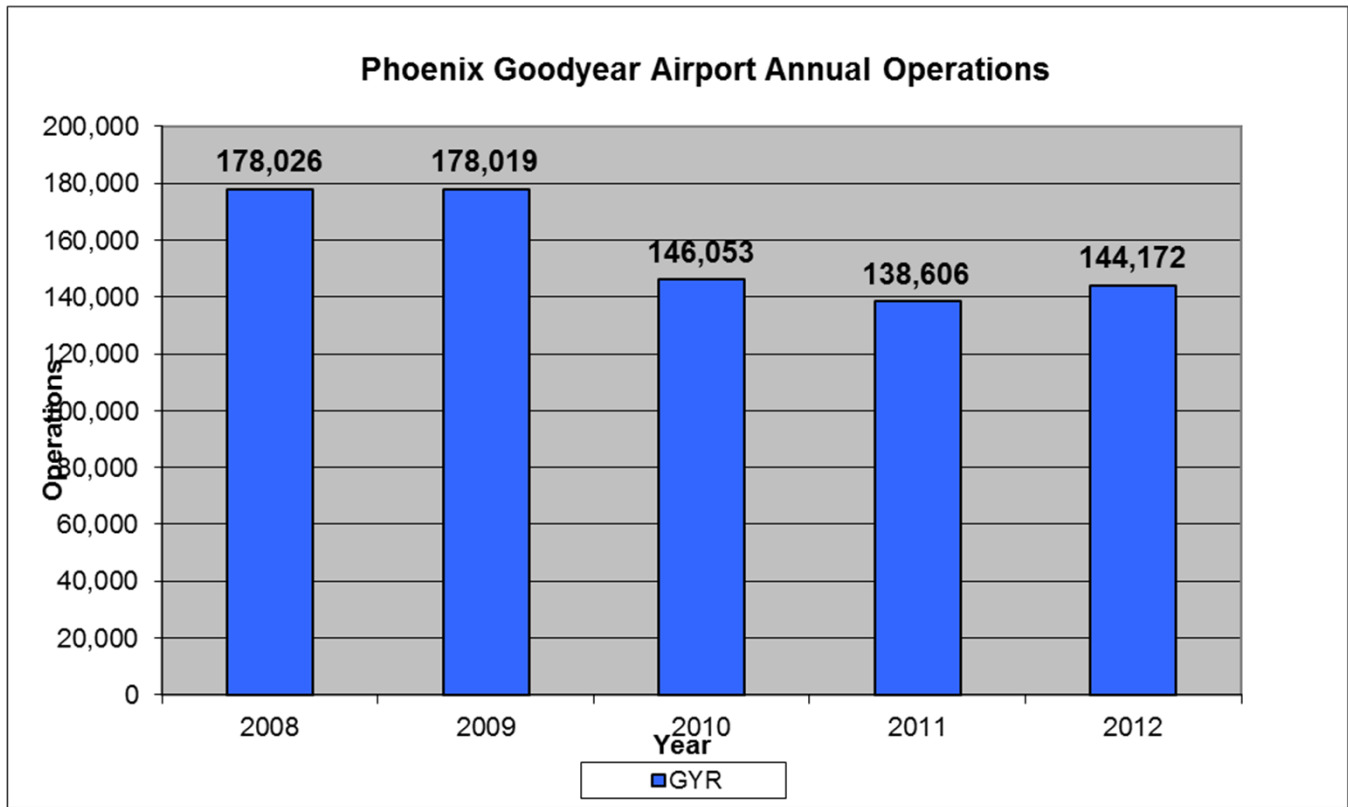


Source: FAA OPS ATADs

Phoenix Deer Valley Airport 2011 Monthly Operations													
Month	Jan.	Feb.	Mar.	Apr.	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
DVT	31,152	32,837	35,146	33,713	33,732	28,259	24,636	30,234	28,986	35,623	24,168	26,946	365,432



Phoenix Goodyear Airport Operations and Noise Complaints



Source: FAA OPS ATADs

Phoenix Goodyear Airport 2011 Monthly Operations

Month	Jan.	Feb.	Mar.	Apr.	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
GYR	12,845	13,423	13,467	12,051	11,335	11,179	10,862	13,209	11,656	13,091	10,815	10,239	144,172

