



Aviation Noise Report 2003 Year End Review



City of Phoenix

Fleet Mix (Large Aircraft)

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Aircraft that had a large or noticeable decrease in operations

Aircraft that had a large or noticeable increase in operations

A= Airbus

B= Boeing

MD= McDonnell Douglas

DC= Douglas Corporation

Q= Hushkitted Aircraft

* Total is not representative of all operations

2002			2003		
Equipment	Aircraft Operators	# of Ops	Equipment	Aircraft Operators	# of Ops
A300	7	633	A300	4	45
A306	2	879	A306	2	1,057
A310	2	20	A310	3	46
A318	1	1	A318	1	19
A319	6	19,828	A319	7	24,232
A320	7	32,664	A320	10	37,783
A321	4	1,262	A321	2	402
A340	1	320	A340	1	223
B727	21	729	B727	10	739
B72Q	18	3,238	B72Q	11	2,999
B737	27	139,577	B737	19	154,365
B73Q	8	10,807	B73Q	6	10,919
B747	6	34	B747	5	51
B757	14	16,884	B757	12	19,677
B767	8	3,935	B767	8	3,639
B777	1	354	B777	3	401
CRJ	6	25,784	CRJ	6	46,033
DC10	8	491	DC10	4	213
DC8	0	0	DC8	3	213
DC8Q	1	11	DC8Q	1	20
DC9	7	43	DC9	4	44
DC9Q	2	710	DC9Q	2	782
DH8	2	8,099	DH8	2	8,465
MD80	11	16,929	MD80	8	15,825
MD90	1	11	MD90	1	6
MD11	2	1,147	MD11	3	54
Total	N/A	284,390	Total*	N/A	328,252

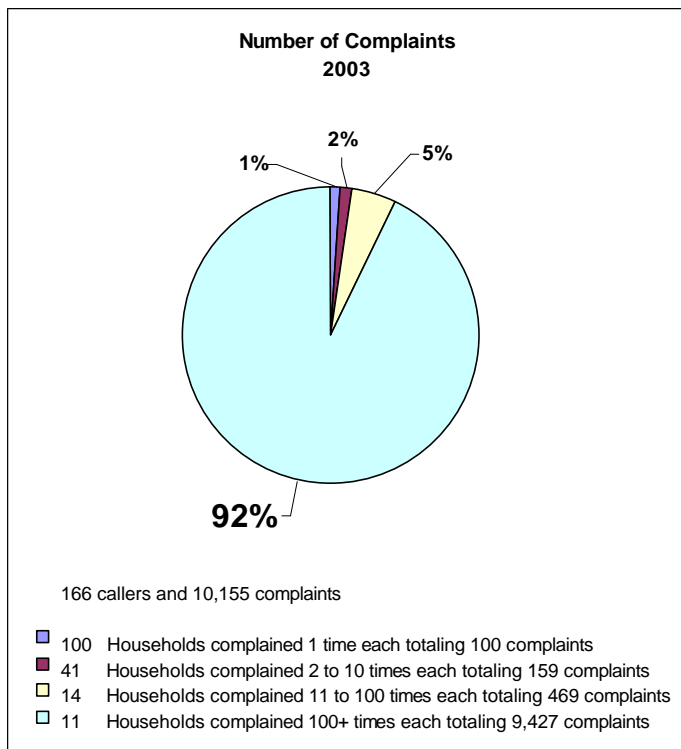
The fleet mix in 2003 experienced changes in the number of operators and the number of flights flown by a range of aircraft. The two largest declines in flights were posted by the Airbus 300 and the MD11. Both aircraft types showed a decrease of over 90% in its use. This drop in operations could be associated with the age and maintenance costs of the jets. The Boeing 737 had the highest loss in operator use (8) but still increased its flights by almost 15,000 operations over the year. The largest increase by aircraft type was achieved by the Bombardier Canadair Regional Jet (CRJ). The CRJ increased its flights by more than 20,000 operations, a 79% increase.

The increase in CRJs is becoming a common sight at airports. The emergence of the regional jet originally began to replace turboprop aircraft. The smaller jet has allowed a better match between aircraft and outlining communities, adding to the jet's list of positives. This is due to the extended range the CRJ has over turboprop aircraft and the shorter runway needs over larger jets.

City	2003		2002		2001		2000		1999	
	Households	Complaints	Households	Complaints	Households	Complaints	Households	Complaints	Households	Complaints
Apache Junction	0	0	1	4	2	2	10	17	31	124
Carefree	5	1,671	24	3,879	3	5	1	1	0	0
Cave Creek	6	1,208	31	1,832	7	8	0	0	0	0
Chandler	4	8	1	1	14	16	1	1	3	3
Fountain Hills	4	12	12	59	40	76	47	58	0	0
Gilbert	4	11	4	6	8	14	13	17	20	23
Glendale	1	1	1	1	11	11	2	2	1	1
Goodyear	0	0	0	0	0	0	1	1	0	0
Laveen	0	0	0	0	1	1	0	0	0	0
Maricopa County	6	38	9	28	1	3	0	0	0	0
Mesa	9	66	36	91	47	123	29	59	22	34
New River	1	10	2	4	4	6	0	0	0	0
Paradise Valley	3	3	8	18	4	4	2	3	3	3
Peoria	1	2	2	2	1	1	0	0	0	0
Phoenix	52	3,207	79	5,152	237	20,422	90	2,382	63	96
Queen Creek	1	1	0	0	0	0	0	0	0	0
Rio Verde	2	2	5	5	1	2	0	0	0	0
Roosevelt	0	0	0	0	0	0	0	0	1	1
Scottsdale	29	3,806	77	847	98	399	23	42	10	17
Sun City	0	0	0	0	0	0	1	1	0	0
Sun City West	1	2	0	0	0	0	0	0	0	0
Sun Lakes	0	0	0	0	2	2	0	0	0	0
Surprise	1	1	0	0	1	2	0	0	0	0
Tempe	36	106	66	571	176	913	124	356	36	85
Unknown	0	0	3	12	12	24	10	11	2	2
Totals:	166	10,155	361	12,512	670	22,034	354	2,951	192	389

The noise information office routinely receives complaints caused by other airports' operations. The charts above do not include these complaints.

NOTE: Callers and complaints are counted by the actual city of residence not by zip code.



Highlights

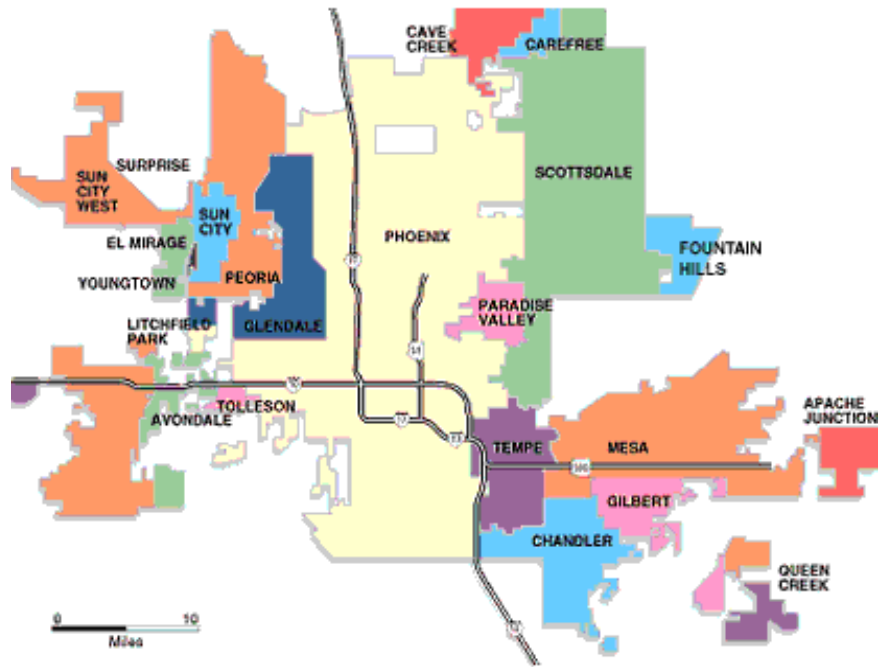
In 2003, Sky Harbor Airport received 10,155 complaints from 166 households. Eleven of the households made 9,427 (92%) of these complaints. Out of the eleven, seven of them from the far north valley made 7,796 (77%) of the year's complaints. The remaining four callers from the Ahwatukee area in south Phoenix made 1,631 (16%) of the year's complaints. Together these eleven households, 6% of all callers made close to 26 calls a day for the year.



Complaint Breakdown by Zip Code and City

Zip Code	City	# Households	# Complaints
85337	Carefree	1	48
85377	Carefree	4	1,623
	Total	5	1,671
85331	Cave Creek	6	1,208
85224	Chandler	2	6
85225	Chandler	2	2
	Total	4	8
85268	Fountain Hills	4	12
85303	Glendale	1	1
85233	Gilbert	1	1
85234	Gilbert	2	9
Unknown	Gilbert	1	1
	Total	4	11
85086	Maricopa County	3	35
85331	Maricopa County	3	3
	Total	6	38
85202	Mesa	1	1
85203	Mesa	1	2
85207	Mesa	1	53
85213	Mesa	1	1
85215	Mesa	4	8
85277	Mesa	1	1
	Total	9	66
85086	New River	1	10
85253	Paradise Valley	3	3
85345	Peoria	1	2
85004	Phoenix	2	2
85008	Phoenix	5	10
85009	Phoenix	1	1
85014	Phoenix	1	1
85018	Phoenix	5	43
85020	Phoenix	1	1
85023	Phoenix	1	1
85024	Phoenix	2	1,274
85027	Phoenix	1	1
85031	Phoenix	3	6
85034	Phoenix	3	3
85040	Phoenix	1	1
85041	Phoenix	3	9
85042	Phoenix	1	1
85043	Phoenix	1	1
85044	Phoenix	6	474
85045	Phoenix	3	19
85048	Phoenix	7	1,328
85051	Phoenix	1	1
85086	Phoenix	1	1
85331	Phoenix	2	29
	Total	51	3,207

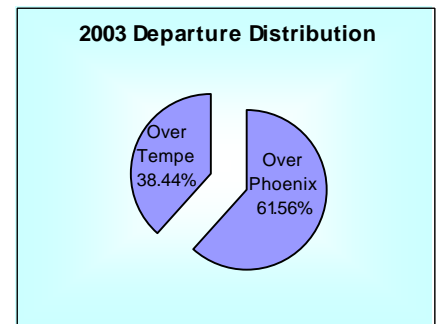
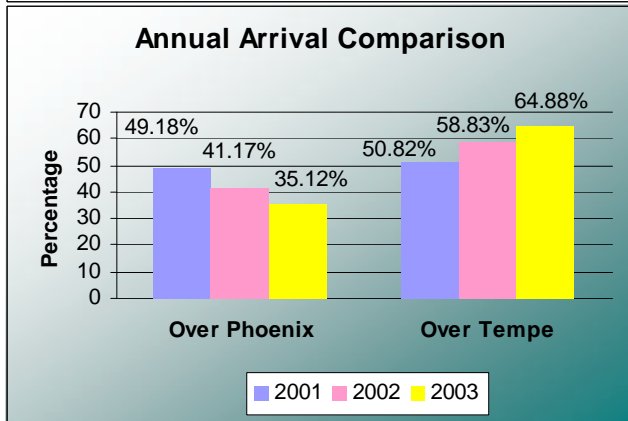
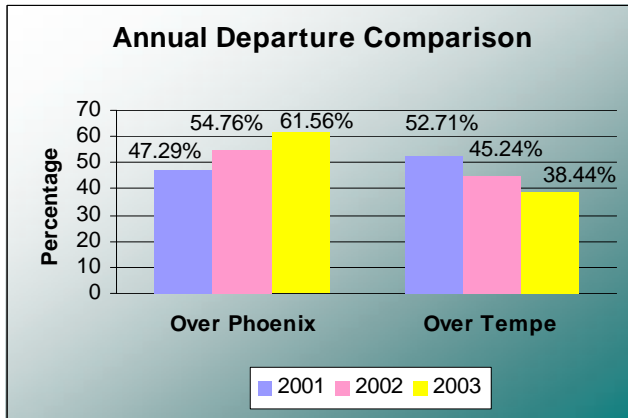
Zip Code	City	# Households	# Complaints
85242	Queen Creek	1	1
85263	Rio Verde	2	2
85251	Scottsdale	6	7
85255	Scottsdale	1	1
85257	Scottsdale	10	32
85259	Scottsdale	1	1
85260	Scottsdale	5	48
85262	Scottsdale	6	3,716
Unknown	Scottsdale	1	1
	Total	30	3,806
85375	Sun City West	1	2
85374	Surprise	1	1
85281	Tempe	25	71
85282	Tempe	7	9
85283	Tempe	3	3
85284	Tempe	1	23
	Total	36	106
	Grand Total	166	10,155



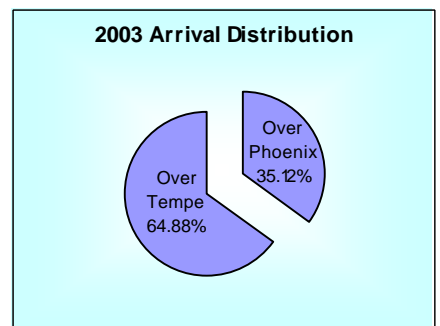
Runway	Departures Day	% of Daytime Departures	Departures Night	% of Night Departures	Total Departures By Runway	% of Total Departures	
8	20,060	8.6%	7,336	32.6%	27,396	10.76%	Departures over
7L	52,378	22.6%	3,852	17.1%	56,230	22.08%	
7R	11,111	4.8%	3,144	14.0%	14,255	5.60%	
Total 7R/7L/8	83,549	36%	14,332	64%	97,881	38.44%	Tempe
26	41,471	17.9%	5,342	23.7%	46,813	18.39%	Departures over
25R	87,922	37.9%	1,571	7.0%	89,493	35.15%	
25L	19,162	8.3%	1,262	5.6%	20,424	8.02%	
Total 25L/25R/26	148,555	64%	8,175	36%	156,730	61.56%	Phoenix
Total	232,104	100%	22,507	100%	254,611	100%	

Runway	Arrivals Day	% of Daytime Arrivals	Arrivals Night	% of Night Arrivals	Total Arrivals by Runway	% of Total Arrivals	
8	44,176	19.2%	6,097	28.5%	50,273	20.00%	Arrivals over
7L	4,928	2.1%	2,211	10.3%	7,139	2.84%	
7R	28,371	12.3%	2,519	11.8%	30,890	12.29%	
Total 7R/7L/8	77,475	34%	10,827	51%	88,302	35.12%	Phoenix
26	83,320	36.2%	6,674	31.2%	89,994	35.80%	Arrivals over
25R	19,838	8.6%	2,479	11.6%	22,317	8.88%	
25L	49,378	21.5%	1,419	6.6%	50,797	20.20%	
Total 25L/25R/26	152,536	66%	10,572	49%	163,108	64.88%	Tempe
Total	230,011	100%	21,399	100%	251,410	100%	

Annual Runway Utilization Comparison



Per a 1994 Intergovernmental Agreement between the cities of Phoenix and Tempe, the City of Phoenix will encourage the FAA to distribute departure traffic equally over Phoenix and Tempe, weather permitting. This measurement is based on an ANNUAL basis.



4 DME Results, January– December 2003

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Airline Code	Airline Name	Deviations	Total Departures to the East	% Compliance	Airline Code	Airline Name	Deviations	Total Departures to the East	% Compliance
AAH	Aloha Airlines	16	284	94.37%	PCE	Pace Airways	1	15	93.33%
AAL	American	185	2,798	93.39%	PCJ	Pacific Jet	0	5	100.00%
AAY	Allegiant	0	1	100.00%	PKW	Pak West Air	0	2	100.00%
ABX	Airborne Express	21	420	95.00%	PLZ	United Kingdom-Govt.	0	6	100.00%
ACA	Air Canada	1	90	98.89%	PWA	Priester Aviation	0	1	100.00%
AJI	Ameristar	2	11	81.82%	QXE	Horizon	1	21	95.24%
AJM	Air Jamaica	0	1	100.00%	RAX	Roual Air Freight	0	1	100.00%
AMF	Ameriflight	6	25	76.00%	ROK	National Air	0	3	100.00%
AMT	American Trans Air	11	725	98.48%	RYN	Ryan Air	4	54	92.59%
AMX	Aero Mexico	15	77	80.52%	SCX	Sun Country	2	80	97.50%
ASA	Alaska	53	1,418	96.26%	SKW	Sky West	121	2,270	94.67%
ASH	Mesa Air	333	6,121	94.56%	SPA	Sierra Pacific	2	17	88.24%
ATN	Air Transport Intl	0	9	100.00%	SWA	Southwest	741	21,543	96.56%
AWE	America West	533	24,460	97.82%	SWI	Sunworld	0	1	100.00%
AWI	Air Wisconsin	3	33	90.91%	SWQ	Swift	13	121	89.26%
BAW	British Airways	0	48	100.00%	TAG	TAG Aviation	1	10	90.00%
BJT	ACM Aviation	1	2	50.00%	TRZ	Transmeridian Air	0	1	100.00%
BSK	Biscayne-Miami Air	2	19	89.47%	TSU	Contract Air Cargo	0	1	100.00%
CCI	Capital Air Cargo	5	30	83.33%	UAL	United	52	2,788	98.13%
CCO	Aero Coco	4	79	94.94%	UEJ	Universal Jet	0	2	100.00%
CCP	Champion Air	1	7	85.71%	UPS	United Parcel Service	96	685	85.99%
CCY	Cherry Air	1	3	66.67%	USA	US Airways	22	1,249	98.24%
CLK	Clark Air	0	1	100.00%	USC	US Check	140	439	68.11%
COA	Continental	46	1,687	97.27%	VHT	Vegas Heat	0	1	100.00%
COO	Corporate Airlink	0	1	100.00%	VRT	Averitt Air Charter	0	3	100.00%
CSK	Cascade	1	1	0.00%	WOA	World Airways	0	1	100.00%
CTT	Custom Air Transport	1	2	50.00%	XNA	Express Net Cargo	0	10	100.00%
CXP	Casino Express	0	4	100.00%		TOTAL	3,062	79,212	96.13%
CYO	Coyote Air Transport	0	2	100.00%					
DAL	Delta	21	1,801	98.83%					
DDA	D & D Aviation	0	3	100.00%					
DHL	DHL Airways	19	252	92.46%					
DLH	Lufthansa	1	33	96.97%					
DOJ	Dept. of Justice	2	18	88.89%					
ECJ	East Coast Jet	0	1	100.00%					
EJA	Executive Jet Aviation	34	241	85.89%					
EJM	Executive Jet Management	0	5	100.00%					
FAO	Falcon Air Express	0	2	100.00%					
FDX	Federal Express	62	605	89.75%					
FFT	Frontier	23	669	96.56%					
FIV	Citation Shares	3	41	92.68%					
FRL	Farelas	145	3,303	95.61%					
GCO	Gemini Air Cargo	1	1	0.00%					
GLB	Global Airways	0	1	100.00%					
HAL	Hawaiian	3	170	98.24%					
HPJ	Hop-A Jet	1	2	50.00%					
JUS	Jet Usa	0	3	100.00%					
KAI	Kaiser Air	1	4	75.00%					
KFS	Kalitta Air	1	3	66.67%					
KHA	Kitty Hawk	22	141	84.40%					
LXJ	Flexjet	7	67	89.55%					
MEP	Mid West Express	4	199	97.99%					
MJR	Mid America Jet	0	1	100.00%					
MPH	Martin Air	1	1	0.00%					
MUA	Murray Aviation	0	1	100.00%					
N	General Aviation	205	2,015	89.83%					
NAO	North American Air	0	1	100.00%					
NOAA	National Ocean/Air Assoc.	0	2	100.00%					
NWA	Northwest	37	1,722	97.85%					
OAE	Omni Air Express	0	1	100.00%					
OPT	Corporate Wings	32	214	85.05%					

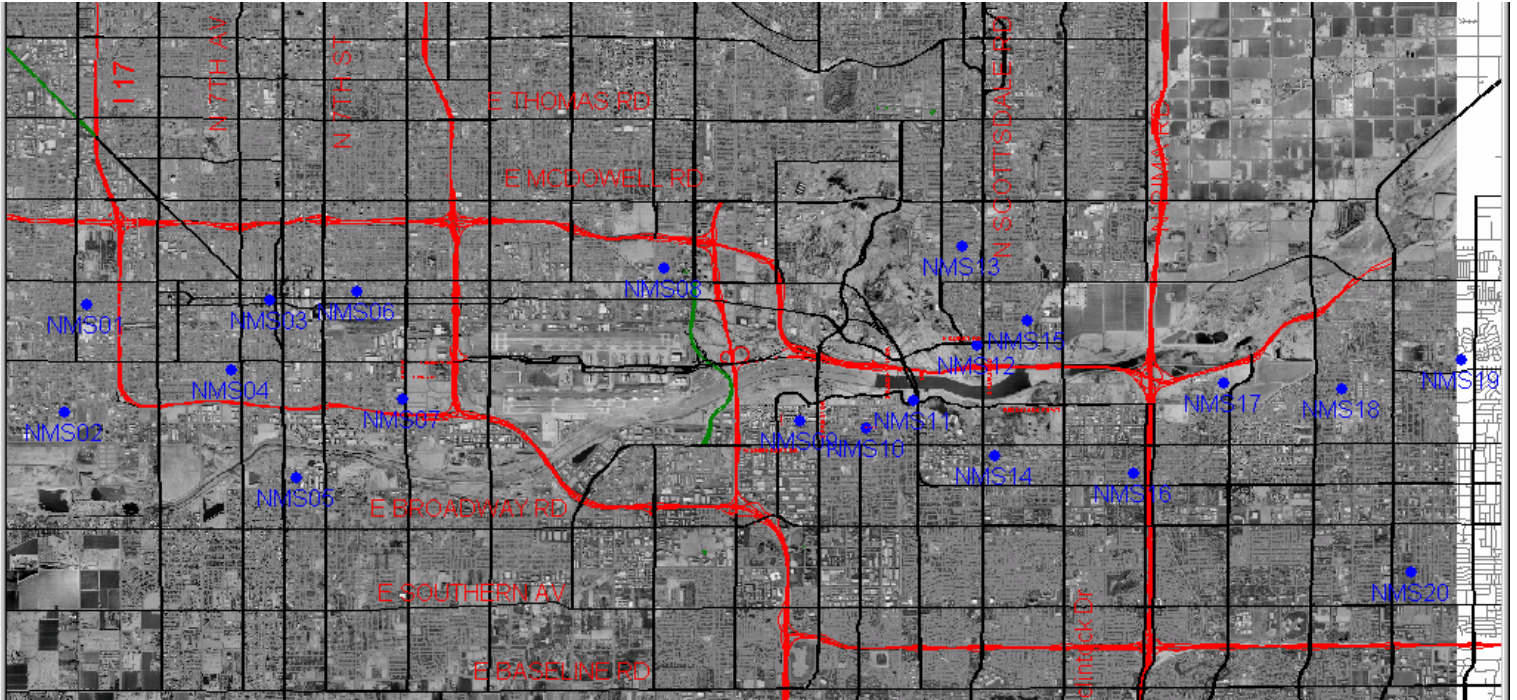
Since the early 1980's, the City of Phoenix has taken measures to reduce the exposure of airport-area residents to aircraft noise. One such measure was the development and implementation of the 4-DME noise abatement departure procedure.

Established in 1984 and formalized in 1994 through an Intergovernmental Agreement (IGA) between the cities of Phoenix and Tempe, the route directs jets departing to the east to travel approximately 5 miles from the airport (4-DME) before turning on any assigned heading.

The IGA also requires the City of Phoenix to monitor procedure compliance. This done through the creation of a gate located at the 4 DME turning point. The gate measures 5,550 feet long and runs 1,000 feet north of the north runway (RWY 8/26) to 1,000 feet south of the center runway (RWY 7L/25R). Notifications are sent to operators that do not fly through this area.



Noise Monitoring Results



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

Noise Monitoring Site	2003 Annual DNL	2002 Annual DNL	2001 Annual DNL	2000 Annual DNL	1999 Annual DNL
NMS 1	56.7	54.6	56.4	59.3	59.5
NMS 2	58.8	59.7	61.2	60.6	58.8
NMS 3	59.8	58.2	57.4	61.3	61.7
NMS 4	61.9	61.3	63.4	63.9	64.3
NMS 5	59.5	59.1	60.9	62.1	62.7
NMS 6	57.7	54.8	54.6	59.9	60.8
NMS 7	69.6	69.7	72.3	72.2	71.6
NMS 8	56.2	55.7	54.2	56.8	56.3
NMS 9	65.0	65.8	68.2	67.5	66.0
NMS 10	61.7	62.4	64.9	64.8	62.4
NMS 11	65.5	66.1	68.5	68.3	66.6
NMS 12	64.7	64.7	65.8	66.3	64.9
NMS 13	48.8	50.4	49.3	49.6	47.2
NMS 14	55.9	57.2	59.4	59.1	56.6
NMS 15	61.0	59.7	61.1	62.5	61.2
NMS 16	50.9	52.2	52.5	52.2	51.1
NMS 17	58.8	59.9	62.2	62.5	61.7
NMS 18	57.1	57.1	58.7	59.6	57.3
NMS 19	52.7	52.4	52.8	50.8	51.7
NMS 20	49.5	50.0	49.7	51.1	48.0

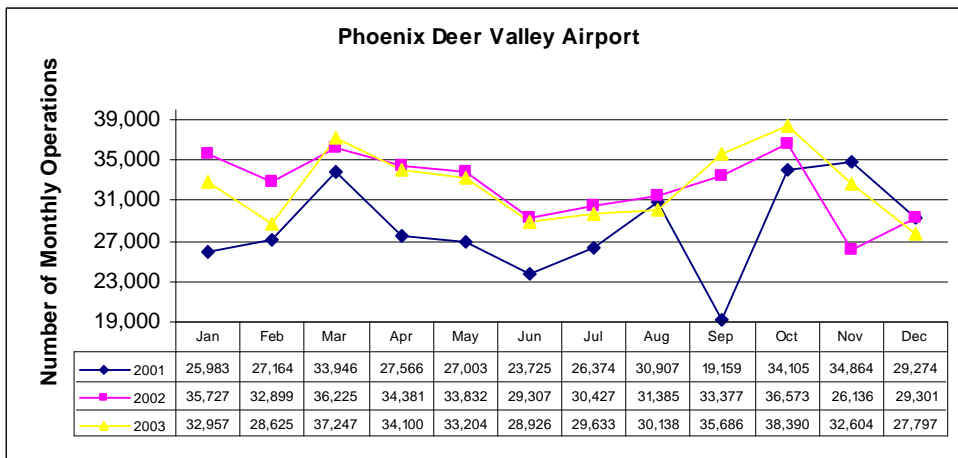
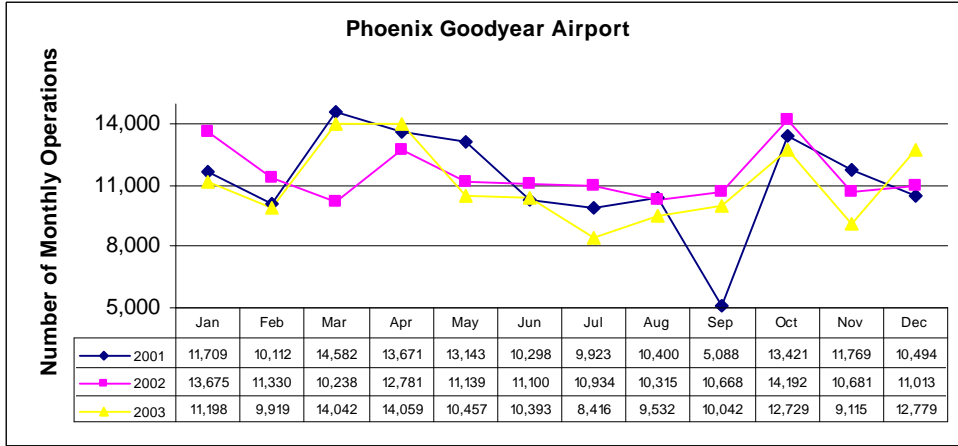
*DNL:

Day Night Average Sound Level, abbreviated DNL and symbolized as L_{DN} , is the 24 hour average sound level, in decibels, obtained from the accumulation of all events with the addition of 10 decibels to sound levels in the night from 10 P.M. to 7 A.M. The weighting of nighttime events accounts for the usual increased interfering effects of noise during the night, when ambient levels are lower and people are trying to sleep.

Sky Harbor’s 20 noise monitors located in communities near the airport record noise readings on a 24 hour basis. This noise data is then correlated to flight radar data to determine what portion is aircraft noise.

Noise levels tend to fluctuate due to many different factors including the number of operations, type of aircraft, and runway use. In Phoenix, major changes have been the Stage 2 jet phase out, September 11, 2001 effects, runway construction and maintenance, and an increase in the use of regional jets.

One way to show that noise levels have gone down is to look at the eight (8) noise monitors within the City of Tempe. When comparing the 2003 and 1999 numbers seven (7) monitors reported lower noise levels. Comparing all 20 monitors, 16 showed a decrease in aviation noise.



Highlights

One caller from north Scottsdale made 1,789 (93.76%) of the 1,908 Deer Valley Airport complaints for the year.

General Aviation Airport Complaints

2003	Households	Complaints
Deer Valley Airport	31	1,908
Glendale Airport	2	2
Goodyear Airport	5	5
Luke AFB	2	4
Scottsdale Airport	26	146
Sky Ranch Airport	1	1
Williams Gateway Airport	1	1
General Aviation	46	106
Total	114	2,173

Deer Valley Airport had a slight reduction in operations in 2003 from 2002 (389,307 VS 389,570), but still remained the 20th busiest airport in the country. Even with operations staying the same, Deer Valley became the second busiest general aviation airport in the country. Van Nuys Airport in the Los Angeles area holds the #1 title with 460,868 operations in 2003.

Goodyear Airport traffic levels remained constant with 2002.

