
2010 Annual Summary

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Report prepared for TAVCO by the City
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Noise

Mitigation Monitoring Summary

Hot Button Issues!



Most compliant airline during 2010:

Alaska Airlines



Overall compliance with the Phoenix Gate record high, but Tempe Corridor compliance still below 50%,
p. 2



Continued decline in daytime departure operations,
p. 3

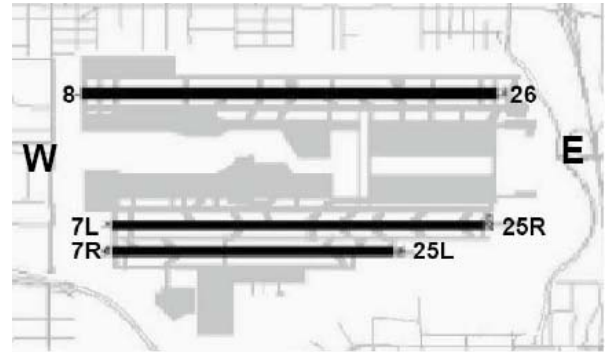


Increase in nighttime departures to the east, and higher Ldn levels,
p. 5

1. Introduction

This summary is assembled for the Tempe Aviation Commission (TAVCO) to summarize annual compliance of airline operations at Phoenix Sky Harbor International Airport with noise mitigation flight procedures over the City of Tempe. TAVCO consists of 11 Tempe residents appointed by the Tempe Mayor with approval of the City Council to assist and advice on aviation noise and other issues relating to the Phoenix Sky Harbor International Airport. The City of Tempe is located directly east of the Phoenix Sky Harbor International Airport. The airport has 3 parallel runways and is owned and operated by the City of Phoenix. After the FAA suspended a side step visual approach procedure to Runway 25L, the following flight procedures are implemented to mitigate noise impact from large aircraft over Tempe:

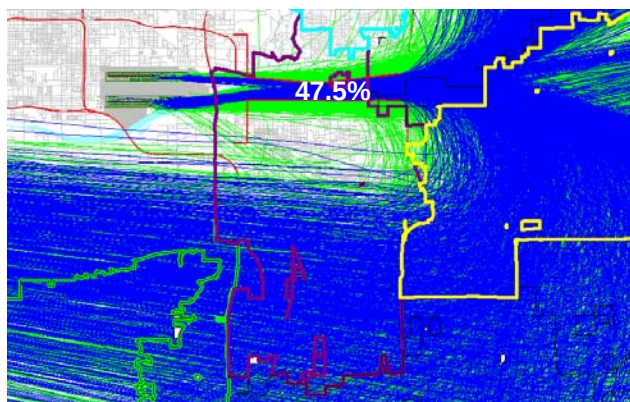
- The 4-DME Standard Instrument Departure Procedure (SID) to keep all jet and large turboprop aircraft that depart to the east over the Salt River/Tempe Town Lake area before they make turns towards their route destinations.
- Equalization of all jet and large turboprop aircraft departures east and west during daytime and nighttime hours on an annual basis.



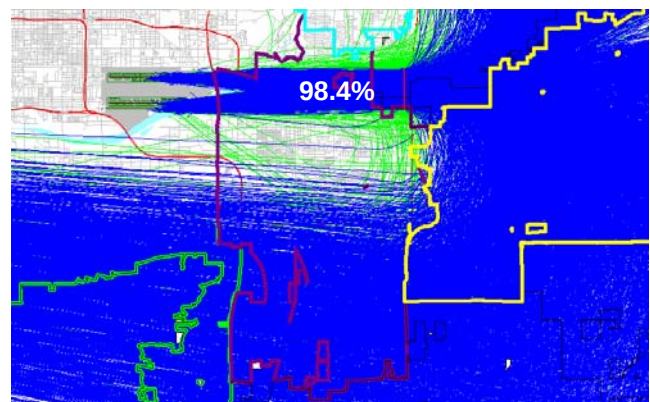
2. Departure Compliance

Compliance Rates

After the cities of Tempe and Phoenix entered into an intergovernmental agreement in 1994 on noise mitigation flight procedures, a measure was developed to identify how large aircraft complied with the 4-DME departure procedure to the east. The City of Phoenix implemented a "4-DME gate" to identify aircraft that violate the procedure. This is an imaginary line used as a filter in the Noise and Flight Track Monitoring System for the Phoenix Sky Harbor International Airport. TAVCO developed a "Corridor", which was based on Standard Instrument Departure procedures that were in use when the intergovernmental agreement with the City of Phoenix was made.



Flight tracks over a month period inside the Tempe Corridor depicted as blue tracks.

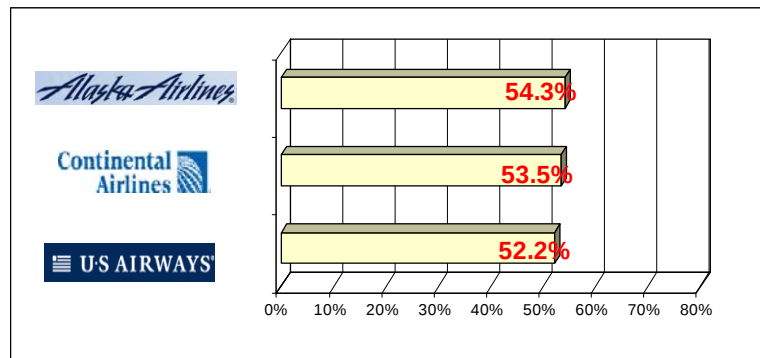
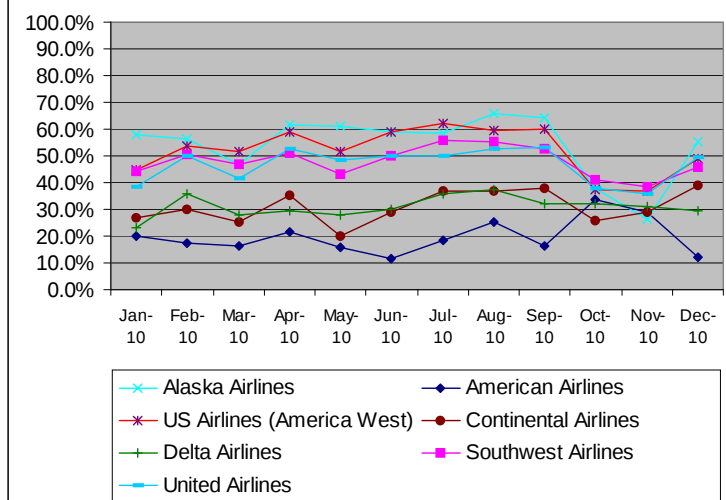
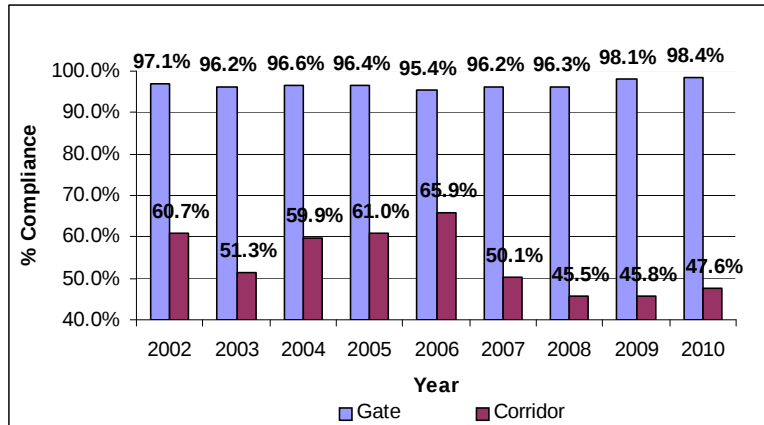


Flight tracks over the same period inside the Phoenix Gate depicted as blue tracks.

Large turboprop aircraft are not included in the depiction showing compliance with the 4-DME SID. These aircraft are routinely routed on the east side of the airport on approximate departure angles of 120° towards the southeast and 60° towards the northeast.

The annual average compliance rates are based on monthly numbers from the TAVCO Noise Mitigation Monitoring Reports. The November and December 2005 reports did not include exclusions of aircraft deviations because of weather as done for previous months and years due to missing data provided by the City of Phoenix Aviation Department. In 2006 cross winds of 10 knots or more was used to filter out deviations due to weather. In 2007 the department resumed registering hours with weather conditions assumed to have negatively impacted large commercial jets' climb trajectory over Tempe.

Compared to 2009 airline departures towards the east decreased 5% in 2010 including large turboprops. Airline arrival operations coming in from the west over Tempe increased 1%. The graph shows corridor compliance rates for some of the airport's busiest airlines. The sharp decline in October and November occurred when the center runway was closed for installation of Runway Status Lights, and both departure and arrival



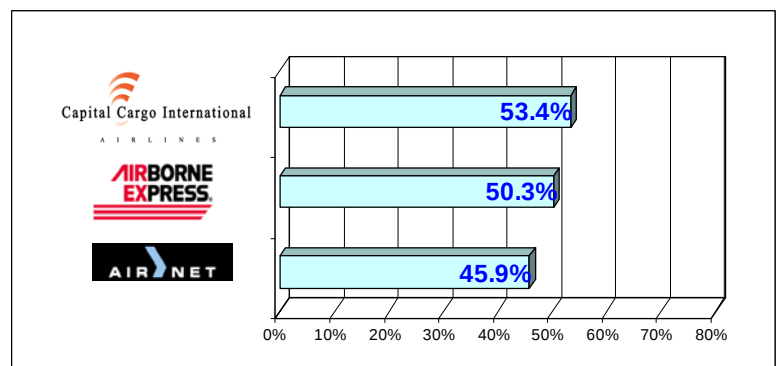
traffic had to be accommodated on the two outboard runways, with most of the departures going east from the north runway.

Top Airlines

Among the larger carriers, Alaska Airlines had on average best compliance with the Tempe Corridor during 2010. In 2009, the airline reached 54.3% compliance with the Tempe Corridor.

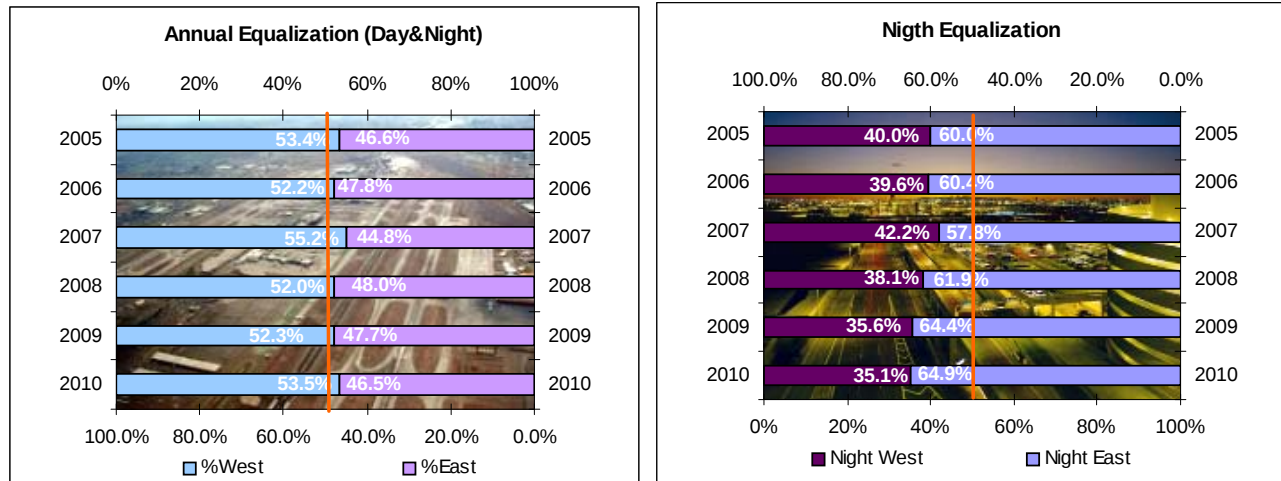
Top All Cargo Carriers

Among the larger, all cargo carriers Capital Cargo had on average best compliance with the Tempe Corridor during 2010, which makes it the best performing airline in this category three years in a row. After 2008, the top three cargo airlines have not reached 50% or higher corridor compliance. Air Net Express is a small cargo carrier.



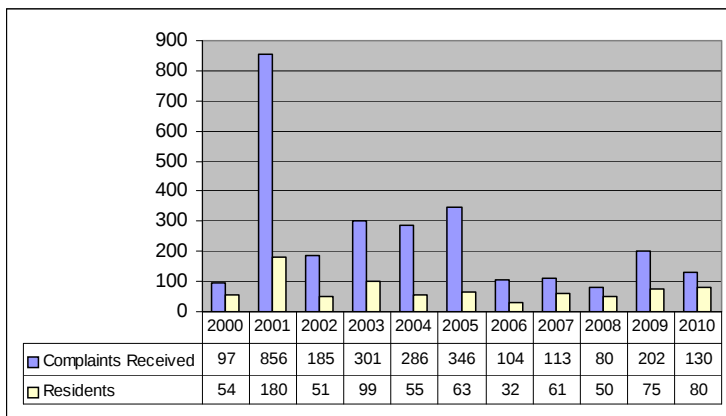
3. East/West Departure Split

The annual split in all jet and large turboprop aircraft departures to the east and west of the Phoenix Sky Harbor International Airport differs between night and day time hours. Departure directions are not favorable for Tempe during the nighttime hours. Combining day and night time hours, most jet and large turboprop departures goes towards the west.



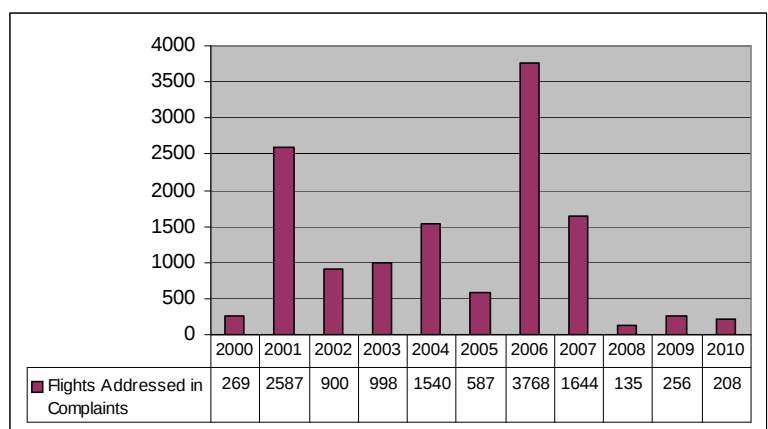
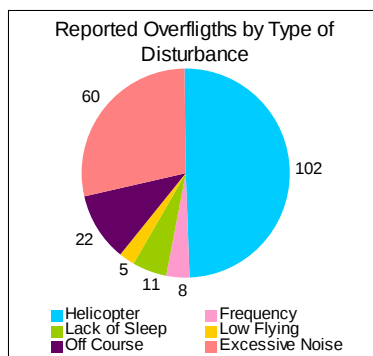
Day = 7: 00 a.m. to 9:59:59 p.m. local time and Night = 9:59:59 p.m. to 7:00 a.m.

4. Complaints



The City of Tempe started registering aircraft noise complaints from Tempe residents in October 2000 after the opening of the third runway at Phoenix Sky Harbor International Airport. The numbers have come down, but more complaints are coming in from central and southern parts of the City. The large numbers of disturbing aircraft shown in the graph below are largely identified by residents in northern neighborhoods of Tempe where aircraft are at lower altitudes.

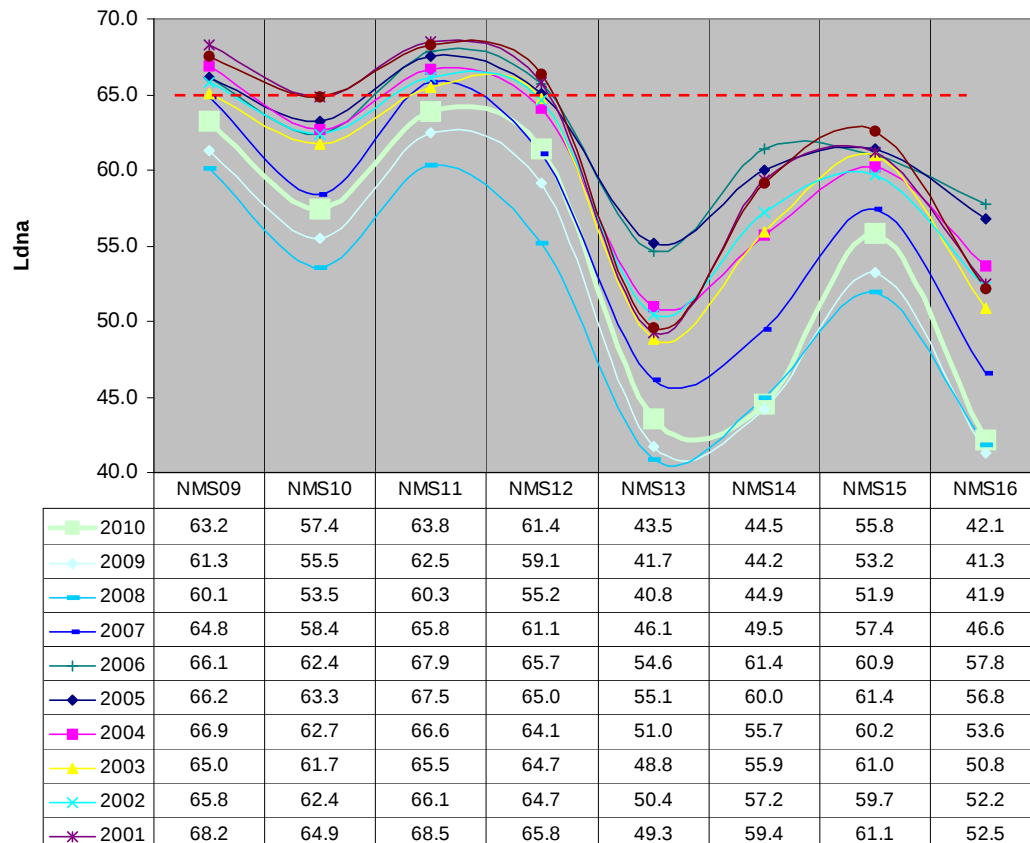
In 2010, 49% of all flights identified in complaints to the City were low flying helicopters.



5. Averaged Noise Levels

Annual (Day-Night) average sound levels (L_{dna}) registered by the airport Noise and Flight Track Monitoring System, increased at all monitoring sites in Tempe during 2010. Because L_{dna} is calculated with an additional 10 dB imposed on sound levels during nighttime hours, it is reason to believe that the increase in nighttime departure activity in 2010 contributed to the increase.

LDNA Annual Energy Average



Noise Monitoring Sites

