

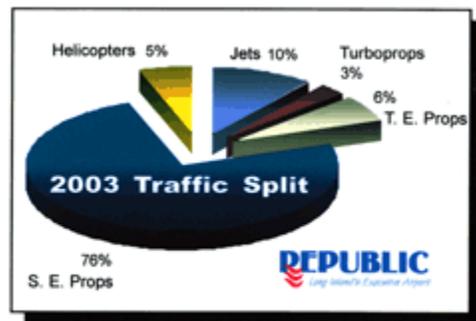
## Republic Airport Noise Contour Update Summary Calendar Year 2003

### 2003 Calendar Year - Total Traffic

A total of 148,848 takeoffs and landings occurred in 2003. This was a 12% decrease in activity over 2002. Jet traffic increased by 5%. Turboprops were up by 1%, twin engined aircraft down by 13%, single engine down by 15%, and helicopters down over 7%. Training operations declined due to poor weather during the spring of 2003 accounting for most of the reduction in traffic levels.

A total of 89.5% of jet movements took place during the day (7 AM to 10 PM) while nearly 97.5% of propeller driven aircraft traffic occurred during the day.

Over 53% of total traffic used Runway 1/19 overall, rising to a 63% during the night period.



### Day Night Average Sound Level

Noise levels around airports are customarily defined by the annual average noise levels. These are normally calculated with the use of a computer model, in this case the FAA's INM Version 6.1. The Day Night Average Sound level departs from a strict average by placing a 10 decibel penalty on all noise events during the night period (10 PM to 7 am) to account for the greater disturbance that normally occurs. The computer model calculates a series of nested contours, which are displayed in this case on an [aerial photograph](#) of the airport and vicinity. The key criterion is the placement of the DNL 65 level contour.

### 2003 Noise Exposure Map

The airport monitors noise levels annually to determine the effectiveness of noise abatement measures. On the reverse of this sheet, the [Noise Exposure Map for 2003](#) shows cumulative noise contours from the DNL 65 to the DNL 75 level. The scale of this display is approximately 1 inch, which equals 1,600 feet.

Federal guidelines consider all land uses outside the areas defined to be compatible. For 2003, there was no encroachment of the DNL 65 contour on any residentially developed area around the airport.

Total area enclosed within DNL 65 was 1.07 square miles. This is an 11% decrease from the 2002 calculated area of 1.20 square miles. The DNL 70 contour and the DNL 75 contour decreased to 0.55 and 0.31 square miles. Grid point analysis of a point one mile from each runway end showed decreases at three out of four points. The highest level found was at the north point, which was down 1.5 dB from 2002 at 63 DNL. To the southeast and south, noise levels were slightly lower while to the northeast the value was unchanged.

These decreases were the result of reduced light aircraft traffic and a decline in the noisiness of the jet

aircraft mix. In particular, the levels of the Lear 25 series aircraft, an older Stage 2 type declined by 25%. Changes in the INM relating to the Stage 2 Gulfstream series aircraft and noise abatement profile assumptions for the Lear 25 series aircraft continued to moderate the cumulative noise levels plotted.

### **Noise Complaints**

Total noise complaints decreased to 725 from 1,322 in 2002, a 43% reduction, the largest year over year reduction in recent years. The distribution of complaints changed from the historical pattern. Complaints from the north and south were reduced to near zero. Complaint rates from the southeast were substantially reduced. The area to the northwest generated almost all registered complaints, 94%, but these were reduced 20%, 163 complaints less than in 2002.