

GLOSSARY OF TERMS

Decibel - The standard unit of measurement of sound pressure is the Decibel (dB); it is the logarithmic unit of sound intensity. A logarithmic scale is used because of the difficulty in expressing such large numbers. One decibel is actually an exponent to the reference point of 20 micro Pascals or about .000000003 pounds per square inch. Thus, 65 decibels is that amount to the 65th power.

dBA - The most common decibel weighting is the A-weighted noise curve. The A-weighted decibel scale (dBA) describes frequencies in a manner approximating the sensitivity of the human ear. In the A-weighted decibel, everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Most community noise analyses are based upon the A-weighted decibel scale

DNL- Day Night Noise Level. The DNL index measures the overall noise experienced during an entire (24-hour) day. DNL calculations account for the single event levels of aircraft, the number of aircraft operations and a penalty for nighttime operations. In the DNL scale, noise occurring between the hours of 10 p.m. to 7 a.m. is penalized by 10 dB. This penalty was selected to account for the higher sensitivity to noise in the nighttime and the expected further decrease in background noise levels that typically occur at night. DNL is specified by the FAA in Federal Aviation Regulation Part 150 to be used for community and airport noise assessment.

INM - The FAA's Integrated Noise Model (INM) models civilian and military aviation operations. The original INM was released in 1977. The latest version, INM Version 7.0, was released for use in April 2007 and is the state-of-the-art in airport noise modeling. The program includes standard aircraft noise and performance data for over 100 aircraft types that can be tailored to the characteristics of specific individual airports.

OPERATION - An operation is defined as either a landing or departure. For example, since a touch and go consists of a landing followed by an immediate departure, it is counted as two operations.

COMPARISON OF 2006 TO 2007 DNL 65 NOISE CONTOUR
Solid blue line = 2007 DNL 65 Dotted blue line = 2006 DNL 65

North of Airport-Runways 14 and 19

South of Airport-Runways 1 and 32



Long Island's Executive Airport

The focus of this Executive Summary is to give a snapshot of the aircraft activity at Republic Airport for calendar year 2007. The full Noise Contour Update Report is available at the Republic Airport Administration Office located in the Main Terminal building. The Executive Summary is also available on the Airport's website, www.republicairport.net.

CALENDAR YEAR 2007 AIR TRAFFIC TOTALS

According to air traffic counts at Republic Airport, there were 110,696 operations in 2007. An operation is defined as a takeoff or landing. This is 16,673 less than occurred in 2006, or a decrease of 13%. Single engine operations decreased by 18% over 2006 which can most likely be attributed to higher fuel prices. Twin Engine propeller operations decreased by 13%; Turboprop activity decreased by 11%, and helicopter activity decreased by 7%. Jet aircraft activity increased by 7%. In years that jet traffic has increased, it is most likely the result of increased business activity on Long Island, including new business and expansion by existing companies. The increase is also a result of a greater number of operations by fractional business jet companies. While the total number of jet operations increased, the number of louder older Stage 2 corporate jets decreased.

Aircraft Class	Total Departures & Arrivals	Total Touch & Go's Missed App.	Total Operations	Change 06/07	Total Operations
Jet	19,342	58	19,400	7%	
Turboprop	5,222	30	5,252	-11%	
Twin Engine Propeller	6,274	652	6,926	-13%	
Single Engine Propeller	45,822	26,164	71,986	-18%	
Helicopters	6,598	380	6,978	-7%	
Blimps	92	62	154	863%	
SUB TOTALS	83,350	27,346	110,696	-13%	Annual Operations (000)

DAY NIGHT AVERAGE SOUND LEVEL

Aircraft operations that occur throughout the year are averaged and computed to determine the DNL, or Day Night Average Sound Level Noise Contours. DNL is the FAA-accepted criteria that depicts the noise from airport operations as averaged over a 365 day period. The DNL noise contours presented in this document were calculated using FAA Integrated Noise Model Version 7.0. DNL is in part determined by the time of day aircraft operate. Aircraft that operate during nighttime hours are considered more intrusive than daytime operations. Aircraft operations during the hours of 10 p.m.—7 a.m. are weighted 10 decibels higher than operations between 7 a.m.—10 p.m. This report depicts the 75, 70, and 65 DNL contours. The 65 DNL noise contour is the level of significance that the FAA uses to determine noise exposure to the surrounding communities.

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2007 Noise Exposure Map

The Noise Exposure Map (NEM) is the combination of the DNL noise contours with the proper basemap, such as an aerial photograph. The noise exposure map in this report shows the 65, 70 and 75 DNL noise contours. While the three contours are shown, the focus of this report is the 65 DNL noise contour and its relation to past contours as well as number and type of structures in the 65 DNL contour and the number of square miles in the contour.

The 2007 Noise Exposure Map does not have any incompatible land uses. The land uses in the existing 65 DNL contour include cemeteries, airport property, light industrial, and roadways. As part of the Airport's Rules and Regulations, the Airport has been resolute not to have the 65 DNL encroach on residential land uses. Since 1983 when the first NEM was completed for the Airport, the 65 DNL contour has not encroached on residential land uses.

The square miles in each noise contour are as follows:

- **DNL 65— 0.958 Square Miles**
- DNL 70— 0.48 Square Miles
- DNL 75— 0.66 Square Miles

In comparison to the 2006 NEM, the 65 DNL contour was reduced by 0.14 square miles; the 70 DNL decreased by 0.07 miles and 75 DNL contour decreased by 0.06 miles. In the areas north of the arrival end of Runway 19, the contour is shorter, but still in the same contiguous industrial area. The contour off the arrival end of Runway 14 is the same size and shape as the 2006 NEM; it does not cross Route 24. To the south of the Airport, off the arrival end of Runway 1, the contour changed in shape similar to the north off the arrival end of Runway 19 in that the contour is shorter, yet still in the same contiguous area. Off the arrival end of Runway 32, the contour is located in the same area but is not as rounded.

Noise Complaints

In 2007, there were 403 noise complaints filed with the Airport through its noise complaint phone line filed by 131 households. The number of complaints in 2007 decreased by 154 from 2006, a 27% decrease. As with 2006, the area northwest of the Airport generated the majority of noise complaints, registering 303 of the 403 complaints, or 75% of all complaints. Complaints by time of day were 75% for day and 24% for night; complaints that did not have a time associated with it made up the remaining <1% of complaints. Jet aircraft operations generated 70% of the total noise complaints.



