

Noise 101

Sound is energy transferred through the air that our ears detect as small changes in air pressure. The more energy put into making a sound, the louder it will be.

Noise is sound that is **unwanted** by the receiver. Some sounds are considered pleasant sound for some, while being considered noise by others. Other sounds, like a car horns in the middle of the night, are more universally found to be annoying and considered noise. Even sounds that are pleasant at one volume can become noise to us as they get louder. Noise, then, has both an objective, physical component; as well as a subjective component that takes account of a person's individual perception, or reaction, to a sound.

The **decibel (db)** is the unit used to measure the intensity of a sound. The human ear perceives sound pressures over a wide range. Decibels, which are measured on a logarithmic scale, correspond to the way our ears interpret sound pressures.



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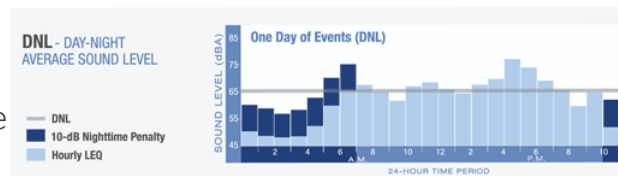


Different Types of Noise



DNL Noise Metric

The day-night average sound level (DNL) noise metric is used to reflect a person's cumulative exposure to sound over a 24-hour period, expressed as the noise level for the average day of the year. DNL is the standard noise metric used for all FAA studies of aviation noise exposure in communities surrounding airports.



Calculating DNL

Because DNL takes into account both the amount of noise from each aircraft operation as well as the total number of operations flying throughout the day, there are many ways in which aircraft noise can add up to a specific DNL. Small numbers of relatively loud operations can result in the same DNL as large numbers of relatively quiet operations. Nighttime (10 pm - 6:59 am) operations are calculated with a 10 dB penalty.

