

Airport Noise Study

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Noise monitoring program offers another look at noise

In late August the noise study team set up eight noise monitors in yards around Tweed Airport to measure the level of sound that residents hear.

August is historically the busiest month for aircraft activity at Tweed, in part fueled by back to school traffic. It's also the time of year when people are most likely to have their windows open or are outdoors. So late August was considered the best time to measure conditions that produce high levels of aircraft noise in the community.

The monitoring program lasted ten days, shortened by the arrival of hurricane Irene but long enough to take a good snapshot of noise levels.

While the monitoring program can identify noise made by aircraft, the noise measurements captured all sound and provided total sound level for all eight locations. Everyday neighborhood sound from various sources (e.g., autos, motorcycles, music, lawnmowers, etc.) was included in the noise level report. Even natural wildlife noise such as chirping crickets, especially loud in August, contributed to the noise levels.

Care was taken by the study team to place the noise monitors at locations all around the airport, in East Haven and New Haven. Some were closer to the airport, and others were a little further away to get a better sample.

The eight noise monitoring locations were:

East Haven:	New Haven:
Forest Street Extension (P1)	Cove Street (P5)
Kenneth Street (P2)	Dean Street (P6)
Silver Sands Road (P3)	Hyde Street (P7)
Roses Farm Road (P4)	Fort Hale Road (P8)

For each 24-hour period, the Day-Night Average Sound Levels were measured in decibels (dB). (See map). Noise monitoring occurred continuously, 24-hours a day over 10 days.

Over a 10-day period the overall Day-Night-Average sound levels ranged from 60 decibels at the Silver Sands Road location to 68 dB at the Dean Street location. In residential areas,

Public Meeting Announcement

Date:	Thursday, January 12th
Time:	6 p.m.
Location:	East Haven Senior Center (91 Taylor Avenue)

Please attend!

Airport Executive Director Tim Larson at July's public meeting attended by 35 community members.



FAA's Richard Doucette speaks about noise studies

Richard Doucette, a 10-year environmental program manager with the Federal Aviation Administration, knows noise is a common concern of airport neighbors.

In his tenure with FAA he's been involved in seven Part 150 Noise Studies like the study going on right now at Tweed. These studies were at small, medium and large airports, the closest was at Danbury Municipal Airport.



Richard Doucette, FAA, participates on the study's Technical Advisory Committee.

Richard believes the value of a noise study is that it gives FAA an objective way to evaluate noise at the airport and then work with the airport to determine what can be done about it.

He said the most common misconception about noise studies is that it will result in night time curfews or other types of airport/aircraft access restrictions, something that is generally illegal at public airports.

What a noise study can do is pinpoint noise patterns and identify ways an airport can operate with less noise by changing flight paths and directing aircraft away from areas with the highest concentration of people. According to Richard, most airports already direct airplanes over water and industrial areas to minimize noise over areas where people live.

A Part 150 Noise Study relies heavily on math – it quantifies aircraft sound for all points on a map of the area surrounding the airport. Using the map, FAA can determine if the sound level is high enough to warrant the use of FAA funded mitigation – either installing sound insulation or purchasing a home where the noise level exceeds federal noise standards.

FAA will fund noise mitigation but only if the Part 150 study findings show noise exceeds federal standards. Each year FAA sets aside money in its budget for airports to reduce noise. Airports have to compete for these funds and the money is allocated to projects that would provide the greatest benefit.

Richard Doucette is reviewing Tweed's noise study for FAA and can be reached at the Federal Aviation Administration, 12 New England Executive Park, Burlington, MA 01803, richard.doucette@faa.gov, telephone 781.238.7613.

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noise levels that average above 65 decibels are considered an annoyance and those above 75 decibels as a disturbance.

Noise levels from aircraft have to reach the threshold of 65 Day-Night-Average decibels on an average daily basis over a whole year for the Federal Aviation Administration to consider funding noise insulation measures to reduce the impact of noise from aircraft. The noise computations for those impacts are performed using a sophisticated computer model that takes into account aircraft operations over an entire year (see Page 3), and NOT noise measurements over a limited period of time.

The locations of the noise monitors and timing of the monitoring were coordinated with the study Community Advisory Committee and Technical Advisory Committee. Input was also solicited from the community during a Public Workshop conducted in July 2011. The community suggested conducting the noise monitoring in August, to coincide with students returning to school, a busy time at the airport.

Check the website

Visit the study website at www.tweedupdate.com.

The website features pages on:

- News and events
- Public involvement
- Links to study documents
- Glossary of technical terms

The website is a place for people to submit comments and add themselves to the study mailing list. Those on the study mailing list will receive future newsletters and invitations to public informational meetings.

Check the website frequently for news and information!



Foundation for studying noise is built upon mounds of data

Airport noise studies, like the one underway by Tweed Airport, all follow the same path.

They begin with collecting an enormous amount of data for a whole year about flights in and out of the airport. This data is thoroughly analyzed and used to build a model of existing noise conditions.

From this model, future noise from aircraft can be forecast and “plotted” onto a map of the area surrounding the airport. It’s called a Noise Exposure Map and it’s what the Federal Aviation Administration uses as the measure to determine if the level of noise is high enough to warrant federal funds to reduce its impact.

Building a noise model is a painstaking process. In fact, at Tweed collecting the data for it took several months

of detailed inquiries and data analysis, including real-time radar data from air traffic control.

To get a complete picture of noise generated by aircraft, data came from many sources. Airport records, local, regional and federal air traffic control data and information from the CT Department of Transportation was collected and reviewed. Airport staff and tenants were interviewed several times about procedures and air traffic patterns at Tweed as well.

Information used to develop the Tweed noise model accounts for a number of factors that determine just how much noise each aircraft made in 2010. The number of take offs and landings for each type of aircraft is quantified. Flight patterns – what runways are used and at what time of day and night, how flights are dispersed and prevailing weather conditions are factored into the model.

When Jawad Rashami of Wyle, Tweed’s consultant for the noise study, met with the study Community Advisory Committee in December, he emphasized the comprehensiveness of data used to develop the noise model. He said, “We pieced together a lot of data from all available sources and made sure to check it carefully and thoroughly.”

Executive Director Tim Larson’s reaction to the work done on the study so far has been, “Wow, the information they have about Tweed is really impressive. It’s a huge step forward in helping us understand noise impacts on airport neighbors.”

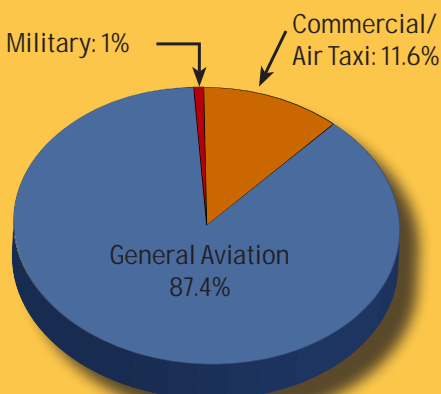


Runway 20 Flight Tracks



“Touch & Go” Flight Tracks

Most frequent flyers...



Nearly 75% of all flights at Tweed Airport are by general aviation, propeller-driven aircraft.

Tracking the flight tracks

Actual flight tracks used by the various types of aircraft and the noise associated with each aircraft have been identified in the Integrated Noise Model. Note the different paths (shown in colored lines above) used by “Touch & Go” aircraft in training flights as compared to the planes coming to and leaving the Tweed Airport area using Runway 20.

Visit us on the web!

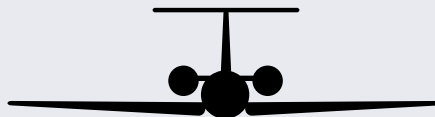
www.tweedupdate.com



Take the Tweed Airport Quiz!

Over the past several months, the Noise Study Team has been gathering information and learning about Tweed. How much do YOU know about Tweed? Take this quiz and find out!

- About how many total airport operations (take offs and landings) are there at Tweed in one year?
 - 56,200
 - 48,300
 - 42,700
 - 36,500
- About how many airport operations, on average, are there at Tweed each day?
 - 350
 - 280
 - 100
 - 80
- About what percent of Tweed airport operations occur during night-time hours (10 p.m. to 7 a.m.)?
 - 5%
 - 10%
 - 30%
 - 50%
- About what percent of Tweed airport operations are by military aircraft?
 - 10%
 - 5%
 - 3%
 - 1%
- About what percent of Tweed airport operations are by commercial aircraft?
 - 20%
 - 12%
 - 8%
 - 2%



Answers

Noise Study Team Contacts

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- Answers**
- d. 36,500
 - c. 100
 - a. 5%
 - d. 1%
 - b. 12%

