



The Ohio State University Airport

Part 150 Noise and Land Use Compatibility Study Frequently Asked Questions

A Part 150 Study is complex, which understandably raises many questions. We've listed some of the most common questions and answers to those questions here.

Why prepare an FAR Part 150 Study?

Airport sponsors such as The Ohio State University have the option of implementing noise mitigation programs. Should the sponsor wish to use Federal funding to pay for the program, the Sponsor is required to base the program on a Federal Aviation Administration (FAA)-approved Noise Exposure Map (NEM) and Noise Compatibility Program (NCP). Federal Aviation Regulation Part 150 is the FAA-approved process that is used to develop the NEM and NCP. A FAR Part 150 Study also provides an opportunity to secure the required Federal approvals for certain measures such as air traffic changes to reduce aircraft noise impacts. In addition, as a part of the FAR part 150 process, the FAA formally accepts the Noise Exposure Maps, which creates the "official" noise contour maps for the airport. The maps can then be used by local planning agencies for compatible land use planning as well as alerting prospective residents to areas of aircraft noise exposure around the airport.

What will the study include?

The study will identify existing and future flight corridors, develop aircraft noise exposure maps for current and future conditions, evaluate air traffic control procedures that could be implemented to reduce noise exposure over residential areas, consider land use controls that could be established to reduce future incompatible land uses from being developed within high noise areas, and evaluate means to mitigate noise impacts within high noise exposure areas.

How long will the Part 150 Study take to complete?

The Part 150 Study began in September 2007 and is scheduled for completion by the end of 2008. Implementation of the study recommendations will be based on review and approval of the reports by the University and the FAA. The review period by the FAA is 180 days.

How can I be involved?

During the Part 150 Study, three public open houses will be held. Study progress will be shared during these sessions and the public will be encouraged to provide input. A public hearing will be held in conjunction with the final open house to invite comment on proposed recommendations. The dates and locations of these sessions will be published in local newspapers, in editions of newsletters and on the study website at www.osuairportpart150.com. **Public comment is accepted on the website at any time.**

Additionally, a Part 150 Committee representing organizations that use the airport as well as affected political jurisdictions, agencies and neighborhoods has been formed to provide feedback and comment throughout the study. The Part 150 Committee will meet several times to review analysis and offer suggestions about the recommendations being considered. Membership is by invitation, but all meetings are open to the public and will be advertised on the website as meeting dates are confirmed.

How are noise complaints used in this process?

The primary use of aircraft noise complaint data in a Part 150 Study is to identify trends in the location and types of noise complaints. This information, supplemented with information on the types of operations and aircraft of concern, will help the consultants gain a better understanding of the environment surrounding OSU Airport. Complaint data is just one information source being used in the study to gain a perspective on the noise environment around the airport. Because the Part 150 Study Team relies on the FAA-approved Integrated Noise Model (not complaints) to determine aircraft noise exposure contours, there is no need to file repeated complaints about one issue of concern – even if it is an issue that is thought to be repeated often – during the Part 150 Study.

Will the Part 150 Study Team review the current OSU Airport complaint process?

The Part 150 Study Team will review the process for registering complaints and provide recommendations, if needed, on how to improve the noise complaint system.

When did noise monitoring take place at OSU Airport?

October 18 to October 26, 2007.

What is the purpose of noise monitoring?

Onsite noise monitoring information allows the study team to compare single event and cumulative noise levels with noise exposure levels developed by the Integrated Noise Model.

What is the Integrated Noise Model?

The Federal Aviation Administration's (FAA), Office of Environment and Energy (AEE-100) has developed the Integrated Noise Model (INM) for evaluating aircraft noise impacts in the vicinity of airports. The INM has been the FAA's standard tool since 1978 for determining the predicted noise exposure in the vicinity of airports. The FAA requires the use of INM to develop noise exposure contours in FAR Part 150 Noise and Land Use Compatibility Studies.

The INM utilizes flight track information, aircraft fleet mix, standard and user defined aircraft profiles and terrain as inputs. The INM produces noise exposure contours that are used for land use compatibility maps. The INM includes built-in tools for comparing contours and utilities that facilitate easy export to commercial Geographic Information Systems. The INM also calculates noise levels at specific sites such as hospitals, schools or other sensitive locations.

Why did you select this particular time period?

Given the schedule of work that must be completed for this type of study, the noise monitoring, as well as a review of all flight activity from the past year, needs to be done early in the process. The week of October 18th in particular was selected in order to pick up the extra traffic generated by homecoming weekend at OSU.

How long did the noise monitoring last?

Four sites in neighborhoods less than a mile from the airport had monitors for seven or eight days. Three more monitors were moved around to different locations every one or two days based on the type of aircraft activity that was occurring at OSU Airport and weather conditions.

Was this enough time to get an adequate reading of the noise levels?

Yes. Typically, a day or two worth of noise measurements provides a representative sample of individual noise events. The number of operations is captured through the noise modeling process described above.

Was the noise monitoring successful? Where were the monitors located?

Yes. An extensive amount of noise monitoring data was collected at 13 sites over eight days. These sites were selected based on our review of flight tracks and aircraft noise concerns expressed by airport neighbors relating to touch and go operations, helicopter flights, overnight flights and the 50-degree turn made by pilots when they depart to the east from OSU Airport, toward Worthington.

Will you evaluate single event noise?

Yes. The technical consultants will review single event sound levels from aircraft as well as other sounds such as trains, ambulances, trucks and lawn mowers. These types of sounds help us to understand how aircraft noise levels compare to other community noise sources.

Will you be evaluating the cumulative noise environment?

Yes, cumulative noise exposure is the key element of the OSU Airport Part 150 Noise and Land Use Compatibility Study.

What are FAA regulations regarding the cumulative noise environment?

FAA land use compatibility guidelines have established 65 DNL as the level above which noise sensitive land uses are considered incompatible with aircraft noise.

What is DNL?

Day-Night Average Sound Level (DNL) was developed as a single number measure of community noise exposure. DNL was introduced as a simple method for predicting the effects on a population of the average long term exposure to noise. DNL is an enhancement of the Equivalent Sound Level (Leq) metric through the addition of a 10 decibel (dB) penalty for nighttime (10 p.m. to 7 a.m.) noise intrusions. The incorporation of the 10 dB penalty is in recognition of the increased annoyance that is generally associated with noise during the later night hours. DNL employs the same energy equivalent concept as Leq and uses a 24-hour time integration period. DNL was developed under Environmental Protection Agency (EPA) guidance and reflects extensive research into the relationship between noise exposure and human annoyance.

What are decibels?

Sound levels are measured in decibels (dB), which are logarithmic measures of the magnitude of a sound as the average person hears it. Decibel means 1/10 of Bel (named after Alexander Graham Bell). Under the decibel unit of measure, a 10 dB increase will be perceived by most people to be a doubling in loudness, i.e., 80 dB seems twice as loud as 70 dB.

What are Noise Contour Maps?

Noise Contour Maps are developed in Phase I of the Part 150 Study. They identify the noise exposure of the current operating conditions, and projected future conditions, at the OSU Airport. This analysis includes a review of the operating conditions currently taking place at the airport including existing departure and arrival procedures, daytime and nighttime activity, touch and go operations and helicopter activity.

How does the Integrated Noise Model calculate the noise contour maps?

Noise contour maps are developed based on aircraft operations occurring at the Airport today, as well as predictions on operations at least five and 20 years in the future. Contours are calculated by the FAA-approved Integrated Noise Model using numerous data sources. Because no one data source provides all of the information needed to prepare noise contour maps, the technical consultants used several sources of information, including: FAA, Terminal Area Forecast (TAF) and Air Traffic Activity Data System (ATADS) online databases; based aircraft and hangar waiting lists; interviews with airport users; and the Columbus Regional Airport Authority Noise Office database, which consists of data collected from

the FAA Standard Terminal Automation Replacement System (STARS). STARS is a digital radar/flight data processing and display system used by air traffic controllers. The FlightAware database was used to double-check CRAA Noise Office data.

Have the data sources been verified?

The data sources have been vetted by the University, the technical consultants and the OSU Airport Part 150 Technical Subcommittee. The research and analysis conducted to verify the data goes well beyond FAA guidelines, and is considerably more comprehensive than the analysis typically employed at general aviation airports across the nation that have conducted similar studies.

Will the 50-degree turn be looked at in the Part 150 Study?

Yes. During Phase II of the Part 150 Study, a Noise Compatibility Plan (NCP) will be developed. The NCP development process will evaluate a wide range of potential noise mitigation measures, including optimization of departure flight tracks, such as those associated with the so-called "50 degree turn" made by pilots when departing to the east, over Worthington.

At what point will there be an environmental review?

An environmental review under the National Environmental Policy Act (NEPA) would occur at the very end of the Part 150 process, if the Part 150 process results in the need for any Federal approvals or decisions that trigger NEPA. For example, if the NCP contains recommended changes to departure flight tracks or other changes to air traffic control procedures, and if the FAA finds that those changes are acceptable and feasible from an operational/aviation safety perspective, the FAA would then need to evaluate those changes to determine if there are potential environmental impacts. If there is potential for environmental impact, for example, due to the shifting of noise from one community to another that would result from changing existing flight tracks, those impacts would need to be evaluated under NEPA prior to the FAA's final decision to implement such changes.