CHAPTER 10
OFF-AIRPORT LAND USE COMPATIBILITY PLANNING

The issue of aviation-related noise and its impact on people continues to be a controversial topic in the vicinity of our nation's airports. Airports throughout the United States have been adversely affected by the encroachment of land uses that are not compatible with levels of sound generally associated with ground and flight operations of aircraft. In response to the increasing encroachment of these incompatible land uses, airports, working through local units of government, have initiated land use management actions to facilitate the compatibility of development occurring in the airport environs across the United States.

This section presents the Federal initiatives and limitations related to land use control, addresses the relationships of the 2013 noise contours and the future land use plans developed by local governments, and recommends additional land use related measures to enhance the long term land use compatibility in the environs of OSU Airport.

10.1 FAA INITIATIVES AND LIMITATIONS IN OFF-AIRPORT LAND USE PLANNING

The following, taken primarily from the September, 1999 report *Land Use Compatibility and Airports* prepared by the FAA, presents the FAA actions related to land use planning.

> *"While the FAA can provide assistance and funding to encourage compatible land development around airports, it has no regulatory authority for controlling land uses that would protect airport capacity. The FAA recognizes that state and local governments are responsible for land use planning, zoning and regulation, including that necessary to provide land use compatibility with airport operations.*
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> *However, pursuant to the Federal Airport and Airway Development Act, as a condition precedent to approval of an FAA-funded airport development project, the airport sponsor must provide the FAA with written assurances that "…appropriate action, including the adoption of zoning laws have been or will be taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations including the landing and takeoff of aircraft…"*
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> *FAA has required the phasing out of noisy Stage 1 and Stage 2 aircraft consequently, the aviation industry has spent substantial monies to meet this requirement. To assist in the compatible land use efforts, the FAA, local airport sponsors, and state aviation agencies have expended significant funds related to airport planning and off-airport noise and land use compatibility planning throughout the United States.*
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> *Airport master plans have been prepared to identify the near-term and long-range projections for airport activity and the development necessary to meet these activity demands. In addition, noise and land use studies (FAR Part 150 studies) have been conducted to evaluate ways to minimize impacts of aircraft noise, and the FAA and airport sponsors have financed land acquisitions and other noise compatibility measures throughout the United States."*

The FAA has developed land use guidelines that relate the compatibility of aircraft activity to areas surrounding an airport. These guidelines, provided previously in Figure 6-5, identify land use activities that are acceptable within the 65, 70 and 75 DNL contours. FAA guidance indicates that

virtually all land uses below the 65 DNL are considered by FAA to be compatible with the effects of aircraft noise.

Attention is focused on areas within the 65 DNL because the FAA considers these to be the areas significantly exposed to noise and is the FAA's funding eligibility limit for noise abatement measures. However, it is recognized that noise does not stop at the 65 DNL contour and is heard by those located in close proximity to approach, departure and training corridors. Thus, the FAA encourages airport sponsors and local governments to work together to establish land use controls within flight corridors and noise exposure areas beyond the 65 DNL contour.

10.2 LAND USE CHANGES (CORRECTIVE CHANGES)

Land use changes under this category involve potential changes to existing land uses within the 65 DNL and higher noise contours. The existing land uses to be addressed represent those land uses considered to be incompatible with noise levels based on FAA guidelines. These guidelines state that residential land uses and other noise sensitive land uses (i.e., churches and schools) may not be compatible within noise levels of 65 DNL and higher. Property acquisition, sound insulation of incompatible noise sensitive structures, and avigation easements are types of corrective land use changes.

10.2.1 Property Acquisition

Acquiring land for noise compatibility is the most definitive way to ensure compatibility with aircraft noise levels. With the acquisition of property, the Airport operator is given sole authority on converting the incompatible land uses to compatible land uses. Once purchased, the airport operator has the option of demolishing the incompatible land uses and leaving the property empty, or offering the property for resale with covenants in place to ensure future uses are compatible with existing and projected aircraft noise levels.

The current 14 CFR Part 150 Study uses the 2013 (future) noise contours, Map B from the NEM portion of this document, as the basis for determining non-compatible land uses within the 65 DNL contour. The FAA identifies that residences and other noise sensitive uses located within the 65 DNL contour are considered to be subjected to significant noise exposure.

Recommendation: No non-compatible land uses exist within the 2013 65 DNL contour; therefore, no parcels of property that would warrant acquisition for noise mitigation purposes.

10.2.2 Sound Insulation

The objective of a sound insulation program is to reduce the interior noise level of a residential dwelling (or other noise sensitive site) by making modifications to the building. Soundproofing a residence so that no aircraft operations are heard is usually not practical or cost-effective. The goal of providing sound insulation is to reduce the interior noise levels from aircraft operations to an acceptable level, so that noise no longer interferes with the resident's indoor activities. Since noise travels through air, sound insulation is accomplished by reducing the unwanted infiltration of air into a home. Since the highest level of air infiltration in a typical home occurs through existing windows, doors, and attic/roof vents, an effective acoustical treatment program typically includes windows, insulation, doors, and venting modifications. As established by FAA, the goal of noise

reduction is to achieve a maximum interior noise measurement of 45 decibels (dB) after modification and an overall minimum 5 dB reduction from pre-insulation conditions as a result of the modifications for residences located within the 65 DNL contour.

Recommendation: No non-compatible land uses, such as residences, churches or schools, exist within the 2013 65 DNL contour; therefore, no properties are recommended for sound insulation for noise mitigation purposes.

10.2.3 Avigation Easement

Avigation easements are rights sought by airports that allow operation of aircraft over a specific property with a guarantee the homeowner will not pursue legal remedies in the future related to noise impacts. In exchange for the avigation easement, the property owner may or may not be compensated, depending on the circumstances of the avigation easement.

Avigation easements are standard practice for homes that have received sound insulation. In this situation, the homeowner receives the sound insulation package from the airport in exchange for signing the avigation easement. In this case, the airport paying for the sound insulation package serves as the monetary compensation. If no sound insulation package is offered, the owner of the affected property may receive monetary compensation in exchange for the easement. If this is the case, the value of the monetary compensation is typically based on a percentage of the value of the affected property. If no sound insulation package is offered in exchange for the avigation easement, the FAA no longer will participate in the funding of an avigation easement.

Recommendation: The purchase of avigation easements is not recommended for inclusion in the noise compatibility program because there are no non-compatible land uses within the 2013 65 DNL contour.

10.3 PLANNING/REGULATORY CHANGES (PREVENTIVE CHANGES)

Planning and regulatory changes under this category involve preventive changes for land uses beyond the 65 DNL contours. Measures can be put into place that prevents future development that may be incompatible with, or sensitive to, aircraft operations. These preventive changes are typically beyond the control of the airport and rely on surrounding jurisdictions to adopt and/or implement. Overlay zones and building codes are types of planning and regulatory changes to prevent future incompatible land uses.

10.3.1 Overlay Zones

One of the more effective tools for maintaining the compatibility of future development in the airport environs is the establishment of an overlay zone. An overlay zone creates one or more specialized zoning districts that are intended to supplement the underlying jurisdictional zoning regulations. Regulations associated with overlay zones could limit the development of noise sensitive uses, could require new development to incorporate sound insulation into the design of buildings, and could require some form of publication (through avigation easement or notification). One example of a publication is the written advisement of future buyers as to the existence of aircraft overflights and noise and/or other measures. The determination as to which of the controls should apply for any given situation is based on the extent of the noise exposure at the proposed development site.

As discussed in Chapter 6, the City of Columbus established the Columbus Airport Environs Overlay District (AEO) in 1994 through the adoption of noise contours established at each of the airports within the City of Columbus, including OSU Airport. The zones were established to ensure land use compatibility around airports. The AEO District is divided into three subdistricts based on the noise exposure level. The subdistricts are based on the noise contour maps from each airport's FAR Part 150 NCP, and the subdistricts are expected to be updated when each airport updates their FAR Part 150 studies or noise contours.

Based on the design of the AEO, no residential uses are permitted within the 70 DNL contour and higher. Residential uses are permitted within the 65 – 69 DNL contours, except for manufactured housing and mobile homes. While residential uses are permitted, they must meet construction and material criteria set forth for the AEO. In addition, a plat notice must be recorded for any new development within the AEO as a "Noise Warning" that notifies any potential property owner that the area is subject to aircraft noise that may be objectionable.

Currently, the City of Columbus is undertaking the process of updating their zoning code, including the portions addressing aircraft noise. The new zoning code will be known as the Airport Land Use Management District (ALUMD) and is expected to address land uses based on contour levels around an airport similar to the AEO. Because OSU Airport lies completely within the boundaries of the City of Columbus, and has no authority regarding land use or zoning codes, the Airport should continue to rely on the City of Columbus and its overlay zoning codes for land use compatibility planning around OSU Airport.

Recommendation: OSU Airport should continue to rely on the City of Columbus overlay zoning codes for land use compatibility around OSU Airport by providing updated noise contours from the FAA-approved Noise Compatibility Program and by participating in City of Columbus meetings related to the development of updated overlay zones.

10.3.2 Building Codes

Building codes are established to regulate the construction of structures by setting the standards for materials and construction techniques to protect the health and safety of future occupants of those structures. Most building codes address items such as the structural requirements of the building as well as the ventilation and insulation requirements. All three requirements directly affect the sound attenuation performance of the structure. By establishing comprehensive building codes a municipality can ensure that any new construction, or alterations to existing structures, can have sound attenuation properties incorporated into the building to ensure the building is compatible with noise for aircraft operations.

As mentioned previously, the OSU Airport is located completely within the City of Columbus boundaries. The City of Columbus has established building codes for structures located within the AEO districts for new residential or noise sensitive uses that are proposed for the AEO districts. The building code criteria for the districts address general air tightness, exterior walls, windows, doors, roof, ceilings, floors, and ventilation systems. Any new construction within the AEO districts must comply with the building code criteria, including reconstruction and remodeling of a structure.

The City of Columbus building codes criteria for the AEO districts are adequate and thorough to address any new construction in close proximity to the Airport. The new overlay zoning code for the City of Columbus that is currently under consideration, the ALUMD discussed previously, should address building codes and what noise level reduction would be required for construction around the OSU Airport. No changes are recommended. OSU Airport should continue to rely on the City of Columbus zoning codes for airports within the City limits.

Recommendations: (A) No changes are recommended to the existing building codes for the areas immediately surrounding the Airport. **(B)** OSU Airport should participate in the ALUMD process with the City of Columbus since it is that process that will determine the building codes for all airports within the City limits.