APPENDIX B
FAA POLICIES, GUIDANCE, AND REGULATIONS

B.1 NOISE CONTROL POLICIES AND GUIDANCE

The Federal Aviation Administration (FAA) has promulgated a series of regulations based on directions from Congress as provided in a series of authorizing statutes. Four separate Federal Aviation Regulations (FAR) have been developed to specifically address permissible aircraft noise levels, operating procedures, and studies of aircraft noise levels regarding aircraft activity within the U.S. Additionally, the International Civil Aviation Organization (ICAO) has developed and accepted similar regulations, which control the noise levels generated by aircraft operating in international airspace.

B.1.1 Federal Aviation Regulation (FAR) Part 36

Part 36 of the FAR sets forth noise levels that are permitted for aircraft of various weights, engine number, and date of certification. Originally released in 1974 as a result of Congress' modification of the *Federal Aviation Act* of 1958 through the *Noise Control Act* of 1972, aircraft were divided into three classes, based on the amount of noise the aircraft produced at three specific noise measurement locations during certification testing. These classes (or stages) were:

Stage 1 – the oldest and loudest aircraft, typically of the first generation of jets, designed before 1974, and having measured noise levels that exceed the standards set for the other classes of aircraft. This group included many of the first generation of jet aircraft used in passenger and cargo service, including the Boeing 707, early 727 and 737 aircraft, and early DC-8s. Under FAR Part 91, all such aircraft weighing more than 75,000 pounds were removed from the U.S. operating fleet by 1985, unless modified to meet Stage 2 noise standards.

Stage 2 – aircraft that were type certified before November 15, 1975 that met noise levels defined by the FAA at takeoff, sideline, and approach measurement locations. The permissible amount of noise increased with the weight of the aircraft above 75,000 pounds and the number of engines. This category included many of the second-generation jet aircraft such as the Boeing 727, 737-200, and DC-9 that were extensively used in passenger and cargo service. Under FAR Part 91, all such aircraft weighing more than 75,000 pounds were removed from the U.S. operating fleet by 2000, unless modified to meet Stage 3 noise standards.

Stage 3 – aircraft that meet the most stringent noise level requirements at takeoff, sideline, and approach measurement locations for aircraft weight and engine number. This category includes the vast majority of active business jet aircraft and all aircraft in passenger and cargo service that weigh more than 75,000 pounds. The Committee on Aviation Environmental Protection (CAEP), an ICAO

subcommittee, of which the U.S. is an active participant, has been debating the merits of adopting a more stringent standard for new aircraft type designs. In July 2005, the FAA, through notice in the Federal Register, adopted a Final Rule for Stage 4 Aircraft Noise Standards. The Stage 4 Final Rule requires that any person submitting an application for a new airplane type design after January 1, 2006 must meet a cumulative 10-dB reduction from Stage 3 standards based on the three phases of measurement: takeoff, sideline, and approach. The Stage 4 noise standard is significant in that it seeks to harmonize the certification levels between the U.S. policy and the policy of the international community, as outlined by ICAO regulations (Chapter 4). As of September 2005, the FAA has not indicated any intention of imposing a phase-out of Stage 3 aircraft.

B.1.2 FAR Part 91

Part 91 of the FAR, as applied to noise, established schedules for phasing louder equipment out of the operating fleet of aircraft weighing more than 75,000 pounds. The schedules called for all Stage 1 aircraft over 75,000 pounds to be removed from the fleet by 1982, with the exception of two engine aircraft in small city service, which were allowed to continue in service until 1985. The schedule for the retirement of Stage 2 aircraft called for the removal of all such aircraft by the end of 1999, with interim retirement dates of 1994, 1996, and 1998 for the removal of portions of the Stage 2 fleet.

No retirement schedules have been imposed for aircraft weighing less than 75,000 pounds. Additionally, no indication has been given as to the phase out of Stage 3 aircraft.

B.1.3 FAR Part 150

Part 150 of the FAR sets forth the standards under which a Part 150 Noise Compatibility Study is conducted. The background and requirements for such studies are presented earlier in this document. Notably, the preparation of a Noise Compatibility Program (NCP) under FAR Part 150 is a voluntary action by an airport proprietor. The process of preparing the program is intended to open/enhance lines of communication between the airport, its neighbors, and users. It is the only mechanism to provide for the mitigation of aircraft noise impacts on noise-sensitive surrounding areas that is not directly tied to airfield development or airspace utilization conducted subject to the rules for preparation of an Environmental Impact Statement (EIS) or Environmental Assessment (EA).

Through the end of fiscal year 2004, a total of 260 airports had received Federal Airport Improvement Program (AIP) discretionary grant monies as a result of approved Part 150 NCPs since 1982. These grants totaled nearly $4 billion.

Additionally, another $2.8 billion has been committed to noise mitigation actions funded by Passenger Facility Charges (PFCs) authorized for collection for as many as 49 years into the future at different airports.[1]

B.1.4 FAR Part 161

FAR Part 161 was published in 1991, subsequent to passage of the Airport Capacity and Noise Act (ACNA) of 1990. That act established the requirement and schedule for the phase out of Stage 2 aircraft over 75,000 pounds. In return for that action, Congress severely restricted the ability of local communities to impose actions that would restrict the aircraft access to any airport. Different levels of requirements were established for voluntary restrictions, restrictions on Stage 2 aircraft and restrictions on Stage 3 aircraft. These requirements are applicable to all aircraft except propeller-driven aircraft weighing less than 12,500 pounds, supersonic aircraft, and Stage 1 aircraft.

Restrictive Agreements

Subpart B of Part 161 sets notification requirements for the implementation of Stage 3 restrictions through agreements between airport operators and all affected airport users. (Presumably, this same procedure would be followed for implementing agreements for Stage 2 restrictions.) Before going into effect, notice of these proposed agreements must be published in local newspapers of area-wide circulation; posted prominently at the airport; sent directly to all regular airport users, the FAA, Federal, state, and local agencies with land use control authority; and sent to community groups, business organizations; and any aircraft operators that are known to be interested in providing service to the airport (new entrants). After this notification period, the agreement can be implemented if all current users and any new entrants proposing to serve the airport within 180 days sign on to the proposed restriction.

Stage 2 Restrictions

Subpart C of Part 161 sets forth the requirements for establishing restrictions on Stage 2 aircraft operations. It requires a study of the proposed restriction that must include:

1. an analysis of the costs and benefits of the proposed restriction;
2. a description of the alternative restrictions;
3. a description of non-restrictive alternatives that were considered and a comparison of the costs and benefits of those alternatives to the costs and benefits of the proposed restriction.

[1] Through fiscal year 2004.

It further requires that the study use the noise methodology and land use compatibility criteria established in FAR Part 150.[2] The study must also use currently accepted economic methodology. Where restrictions on Stage 2 aircraft weighing less that 75,000 pounds are involved, the study must include separate detail on how the restriction would apply to aircraft in this class.

After completing the study the airport operator must publish a notice of the proposed restriction and an opportunity for public comment in a newspaper of general circulation in the area; post a notice prominently in the airport; and notify the FAA, local governments, all airport tenants whose operations might be affected by the proposed restrictions, and community groups and business organizations.[3] The FAA must publish an announcement of the proposed restriction in the Federal Register.[4]

The required study and public notice must be completed at least 180 days before the airport operator implements the proposed restriction.[5] There is no specific provision in ACNA or Part 161 for FAA action on the airport's proposed Stage 2 restriction. In practice, the FAA has reviewed Stage 2 Part 161 Studies for completeness. No specific deadlines for this review process are set in Part 161.

Stage 3 Restrictions

Subpart D of Part 161 establishes the requirements that an airport operator must follow in order to implement a noise or access restriction on Stage 3 aircraft. The required analysis must include the same elements required for a proposed restriction on Stage 2 aircraft. In addition, the required Part 161 Study must demonstrate "by substantial evidence that the statutory conditions are met." The six conditions specified in ACNA are:

- Condition 1: The proposed restriction is reasonable, non-arbitrary, and non-discriminatory.
- Condition 2: The proposed restriction does not create an undue burden on interstate or foreign commerce.
- Condition 3: The proposed restriction maintains safe and efficient use of the navigable airspace.
- Condition 4: The proposed restriction does not conflict with any existing Federal statute or regulation.
- Condition 5: The applicant has provided adequate opportunity for public comment on the proposed restriction.
- Condition 6: The proposed restriction does not create an undue burden on the National Aviation System (NAS).[6]

The applicant must also prepare appropriate environmental documentation.[7]

[2] 14 CFR Part 161, Secs. 161.9, 161.11, and 161.205(b).
[3] 14 CFR Part 161, Sec. 161.203(b).
[4] 14 CFR Part 161, Sec. 161.203(e).
[5] 14 CFR Part 161, Sec. 161.203(a).
[6] 14 CFR Part 161, Sec. 161.305(e).

After submission by an airport operator of a complete Part 161 application package, the FAA has 30 days to review it for completeness. Notice of the proposed restriction must be published by the FAA in the *Federal Register*. After reviewing the application and public comments, the FAA must issue a decision approving or disapproving the proposed restriction within 180 days after receipt of the complete application. This decision is a final decision of the FAA Administrator for purposes of judicial review.[8]

Consequences of Failing to Comply with Part 161

Subpart F of Part 161 describes the consequences of an airport operator's failure to comply with Part 161. The sanction provided for in Subpart F is the termination of the airport eligibility to receive airport grant funds and to collect PFCs.[9] Most of Subpart F describes the process for notifying airport operators of apparent violations, dispute resolution, and implementation of the required sanctions.

B.1.5 ICAO Rules

The Convention on International Civil Aviation (also known as the Chicago Convention), was signed on December 7, 1944 by 52 states. Pending ratification of the Convention by 26 states, the Provisional International Civil Aviation Organization (PICAO) was established. It functioned from June 6, 1945 until April 4, 1947. By March 5, 1947 the 26th ratification was received. ICAO came into being on April 4, 1947, and in October became a specialized agency of the United Nations. ICAO is now 188 nations strong.

During 2000 and 2001, the ICAO CAEP evaluated the introduction of a new noise standard. In September 2001, the ICAO Council met and agreed to the following:

1. Established a new Stage 4 standard that is ten dB quieter than Stage 3 for aircraft newly-certified after 2006.
2. If a member state decides to permit noise restrictions on any Stage 3 aircraft, the ICAO Assembly recommends that such restriction:
    - Be based on the noise performance of the aircraft (the European Union has imposed a restriction based on engine by-pass ratio);
    - Be tailored to the noise problem of the airport concerned in accordance with the balanced approach (as defined after this list);
    - Be partial in nature, whenever possible, rather than the complete withdrawal of operations at an airport;
    - Take into account possible consequences for air transport services for which there are no suitable alternatives, such as long-haul service;

[7] 14 CRF Part 161, Sec. 161.305(c).
[8] 14 CFR Part 161, Sec. 161.313(b)(2).
[9] 14 CFR Part 161, Sec. 161.501.

- Consider the special circumstances of operators from developing countries in order to avoid undue economic hardship on them and by granting them exemptions;
- Introduce such restrictions gradually over time, where possible, in order to take into account the economic impact on affected operators;
- Give operators a reasonable period of advance notice;
- Take into account the economic and environmental impact on civil aviation in terms of recent events; and
- Inform ICAO and other states of all such restrictions imposed.

The balanced approach to noise management endorsed by the ICAO Assembly consists of "identifying the noise problem at an airport and then analyzing the various measures available to reduce noise through the exploration of four principal elements with the goal of addressing the noise problem in the most cost-effective manner." The four principal elements of the balanced approach are:

1. Reduction of noise at the source
2. Land-use planning and management
3. Noise abatement operational procedures
4. Operating restrictions

B.2 NOISE RESEARCH AND DEVELOPMENT ACTIVITY

The National Aeronautics and Space Administration (NASA) have been charged with providing pre-competitive research endeavors in long-term, high-risk, high-payoff technologies and to "provide revolutionary advancements that protect U.S. leadership for future generations. The impact of NASA research on our national transportation system, our national security, the environment, and our economy demonstrates a clear government role in support of the public good."[10]

To that end, NASA has conducted the Advanced Subsonic Transport (AST) program, which has now transformed into the Quiet Aircraft Technology (QAT) program. To help conduct research, NASA has created the Technical Working Group made up of NASA and FAA experts, industry leaders, and academia.

The goal of the QAT Program is to develop technology that, when implemented, reduces the impact of aircraft noise to benefit airport neighbors, the aviation industry, and travelers. NASA goals for the QAT program include a balanced approach to noise reduction through determining Community Noise Impact, Airframe System Noise Reduction, and Engine System Noise Reduction.

Noise Reduction Goal: Reduce the perceived noise levels of future aircraft by a factor of two (10 dB) from today's subsonic aircraft within ten years, and by a factor of four (20 dB) within 25 years relative to 1997 "best in fleet" (757,777 aircraft).

[10] Excerpt from NASA's (Aeronautics & Space Transportation Technology: Three Pillars for Success,) *Message from the Administrator*, Daniel S. Goldin, March 1997.

B.3 LAND USE POLICIES AND GOVERNANCE

This section discusses the history of land use guidelines, the role of land use controls, who is responsible for implementing those controls, and the FAA Mitigation Policy.

B.3.1 Pioneering Efforts In Land Use Compatibility Guidelines

Numerous sets of noise/land use compatibility guidelines have been developed by Federal agencies through the years. In 1964, the FAA and Department of Defense (DOD) published guidelines for land use planning in areas prone to aircraft noise. In 1971, the Department of Housing and Urban Development (HUD) published noise assessment guidelines for evaluating sites suitable for housing assistance.

In 1974, the U.S. Environmental Protection Agency (USEPA) suggested maximum noise exposure levels to protect public health with an adequate margin of safety.[11] Noise above a Day-Night Average Sound Level (DNL) 55 dB (dBA) interferes with outdoor activities. Indoor activities may become hampered if interior noise levels exceed 45 DNL. It is generally assumed that standard residential construction attenuates noise by approximately 20 dBA, with doors and windows closed. Therefore, a 45 DNL interior noise level corresponds to a 65 DNL exterior noise level. **Table B-1, *Summary of Noise Levels Identified as Requisite to Protect Public Health and Welfare With An Adequate Margin of Safety***, illustrates the 1974 USEPA guidelines. The FAA issued an advisory circular concerning airport land use compatibility planning in 1977 that included the USEPA guidelines. The concept of land use compatibility is based on the simple principle that people tend to be more or less disturbed by noise depending on their activities at any given time. For example, most people place a greater premium on quiet when they are at home than when they are shopping or at work.

In 1977, the Federal Interagency Committee on Urban Noise (FICUN) was formed with representatives from the USEPA, Department of Transportation, HUD, DOD, and the Veterans Administration. In 1980, FICUN published land use compatibility guidelines for DNL noise levels. The 65 DNL noise contour was described as the threshold of significant impact for residential land uses and noise-sensitive institutions (including hospitals, nursing homes, schools, cultural activities, auditoriums, and outdoor music shells).

[11] *Information on Levels of Environmental Noise Requisite to Protect Health and Welfare with an Adequate Margin of Safety*, U.S. Environmental Protection Agency, Office of Noise Abatement Control, 1974.

Table B-1
SUMMARY OF NOISE LEVELS IDENTIFIED AS REQUISITE TO PROTECT PUBLIC HEALTH AND WELFARE WITH AN ADEQUATE MARGIN OF SAFETY

EFFECT	LEVEL	AREA
Hearing Loss	74 Ldn +	All areas
Outdoor activity interference and annoyance	55 Ldn +	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis of use.
	59 Ldn +	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor activity interference and annoyance	45 Ldn +	Indoor residential areas
	49 Ldn +	Other indoor areas with human activities such as schools, etc.

Note: All Leq values from EPA document converted by FAA to Ldn for ease of comparison (Ldn = Leq (24) + 4dB).

Source: Information on Levels of Environmental Noise Requisite to Protect Health and Welfare with an Adequate Margin of Safety, U.S. Environmental Protection Agency, Office of Noise Abatement and Control, 1974, p. 26.

Residential land use was designated as compatible within the 55 to 65 DNL range; however, a footnote explained that this designation reflected the individual Federal agencies' consideration of cost and feasibility factors, past community experiences, and program objectives. The footnote further indicated that local governments may have different goals or conditions to consider when evaluating these guidelines.[12]

In 1980 the American National Standards Institute also published land use compatibility recommendations for noise. These guidelines described single family housing as marginally compatible with noise between 55 and 65 DNL.

B.3.2 The Role of Land Use Controls in Part 150 Plans

The FAR Part 150 Program was established under the Aviation Safety and Noise Abatement Act of 1979 (ASNA) and allows airport operators to voluntarily submit noise exposure maps (NEMs) and NCPs to the FAA for review and approval. An NCP sets forth the measures that an airport operator "has taken" or "has proposed" for the reduction of existing incompatible land uses and the prevention of additional incompatible land uses within the area covered by NEMs. Typically recommended noise abatement measures fall into three categories:

[12] *Guidelines for Considering Noise in Land Use Planning and Control*, Federal Interagency Committee on Urban Noise, June 1980, p. 6.

1. Operational measures – these measures are applied at the airfield or to aircraft operations and include changes in runway use or changes in flight-track location.
2. Preventive measures – land use control measures to prevent the new noise-sensitive land uses from occurring in the existing and future airport noise contours; such measures include compatible land use zoning or noise overlay zoning within off-airport noise exposure areas.
3. Corrective (Remedial) measures – mitigation measures applied to existing incompatible land uses; such measures include acquisition or sound insulation of noise-sensitive property. (Noise-sensitive property is defined as houses, schools, churches, nursing homes, hospitals, and libraries.)

The FAA adopted land use compatibility guidelines relating types of land use to airport sound levels when it promulgated FAR Part 150 in 1985. These guidelines, reproduced in **Table B-2, *Land Use Compatibility Guidelines - FAR Part 150***, show the compatibility parameters for residential, public (schools, churches, nursing homes, hospitals, libraries), commercial, manufacturing and production, and recreational land uses.

The Part 150 guidelines are the basis for defining areas potentially eligible for Federal funding through the Airport Improvement Program. The *Airport Improvement Handbook* states, "Noise compatibility projects usually must be located in areas where noise measured in DNL is 65 (dB) or greater."[13] Federal funding is available at noise levels below 65 DNL if the airport sponsor determines that incompatible land uses exist below 65 DNL and the FAA concurs with the sponsor's determination.

As shown in Table B-2, all land uses within areas below 65 DNL are considered to be compatible with airport operations. Residential land uses are generally incompatible with noise levels above 65 DNL. In some areas, residential land use may be permitted in the 65-70 DNL with appropriate sound insulation measures implemented. This is done at the discretion of local communities. Schools and other public use facilities located between 65 DNL and 75 DNL are generally incompatible without sound insulation. Above 75 DNL, schools, hospitals, nursing homes, and churches are considered incompatible land uses. The information presented in Table B-2 is meant to act as a guideline. According to FAR Part 150, "Adjustments or modifications of the descriptions of the land-use categories may be desirable after consideration of specific local conditions."[14]

[13] FAA Order 5100.38A, Chapter 7, paragraph 710.b.
[14] FAR Part 150, Part B, *Noise Exposure Map Development*, Section A150.101, *Noise contours and land usages*, paragraph (c).

Table B-2
LAND USE COMPATIBILITY GUIDELINES - FAR PART 150

	YEARLY DAY-NIGHT AVERAGE SOUND LEVEL (DNL) IN DECIBELS					
LAND USE	**BELOW 65**	**65-70**	**70-75**	**75-80**	**80-85**	**OVER 85**
RESIDENTIAL						
Residential, other than mobile homes and transient lodgings	Y	N[1]	N[1]	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N[1]	N[1]	N[1]	N	N
PUBLIC USE						
Schools, hospitals, nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Governmental services	Y	Y	25	30	N	N
Transportation	Y	Y	Y[2]	Y[3]	Y[4]	N[4]
Parking	Y	Y	Y[2]	Y[3]	Y[4]	N
COMMERCIAL USE						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail -- building materials, hardware, and farm equipment	Y	Y	Y[2]	Y[3]	Y[4]	N
Retail trade, general	Y	Y	25	30	N	N
Utilities	Y	Y	Y[2]	Y[3]	Y[4]	N
Communication	Y	Y	25	30	N	N
MANUFACTURING AND PRODUCTION						
Manufacturing, general	Y	Y	Y[2]	Y[3]	Y[4]	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y[6]	Y[7]	Y[8]	Y[8]	Y[8]
Livestock farming and breeding	Y	Y[6]	Y[7]	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
RECREATIONAL						
Outdoor sports arenas and spectator sports	Y	Y	Y[5]	N[5]	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N

Table B-2, *Continued*
LAND USE COMPATIBILITY GUIDELINES - FAR PART 150

The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable under Federal, state, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute Federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

Key To Table B-2

Y (Yes) Land use and related structures compatible without restrictions.

N (No) Land use and related structures are not compatible and should be prohibited.

NLR (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.

25, 30, 35 Land use and related structures generally compatible; measures to achieve a NLR of 25, 30, or 35 dB must be incorporated into design and construction of structure.

Notes for Table B-2

1. Where the community determines that residential or school uses must be allowed, measures to achieve outdoor-to-indoor NLR of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as five, ten, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.
2. Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
3. Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
4. Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
5. Land use compatible provided special sound reinforcement systems are installed.
6. Residential buildings require a NLR of 25 dB.
7. Residential buildings require a NLR of 30 dB.
8. Residential buildings not permitted.

Source: FAR Part 150 Airport Noise Compatibility Planning, Appendix A, Table 1.

The Part 150 guidelines are the basis for defining areas potentially eligible for Federal funding through the AIP. The *Airport Improvement Handbook* states, "Noise compatibility projects usually must be located in areas where noise measured in day-night average sound level (DNL) is 65 (dB) or greater."[15] Federal funding is available at noise levels below 65 DNL if the airport operator (Sponsor) determines that incompatible land uses exist below 65 DNL and the FAA concurs with the Sponsor determination.

As shown in Table B-2, all land uses within areas below 65 DNL are considered to be compatible with airport operations. Residential land uses are generally incompatible with noise levels above 65 DNL. In some areas, residential land use may be permitted in the 65-70 DNL with appropriate sound insulation measures implemented. This is done at the discretion of local communities. Schools and other public use facilities located between 65 and 75 DNL are generally incompatible without sound insulation. Above 75 DNL, schools, hospitals, nursing homes, and churches are considered incompatible land uses. The information presented in Table 1 is meant to act as a guideline. According to FAR Part 150, "Adjustments or modifications of the descriptions of the land-use categories may be desirable after consideration of specific local conditions."[16]

Therefore, specific land use controls are implemented at the discretion of local governments. An airport sponsor typically does not have the authority to implement local land use controls.

Land use management measures used for Part 150 purposes include both preventive and corrective techniques. Preventive land use management techniques seek to prevent the introduction of additional noise-sensitive land uses within existing and future airport noise contours. Preventive measures include two categories – regulatory and policy:

<u>Regulatory:</u>

- Compatible Use Zoning: commercial, industrial, or farmland zoning
- Zoning Changes, Residential Density: large-lot zoning, planned development, multi-family zoning
- Noise Overlay Zoning: special regulations within high-noise areas
- Transfer of Development Rights: zoning framework to authorize private sale of development rights to encourage sparse development in high-noise areas
- Environmental Zoning: environmental protection zoning to support airport land use compatibility
- Subdivision Regulation Changes: require dedication of noise and avigation easements, plat notes
- Building Code Changes: require soundproofing in new construction

[15] FAA Order 5100.38A, Chapter 7, paragraph 710.b.
[16] FAR Part 150, Part B Noise Exposure Map Development, Section A150.101 Noise contours and land usages, paragraph (c).

- Dedicated Noise and Avigation Easements: require for development permits
- Fair Disclosure Regulations: require seller to notify buyer of aircraft noise

Policy:

- Comprehensive Planning: policies supporting land use compatibility. Can involve specific land use plans and policies to guide rezoning, variances, conditional uses, public projects
- Capital Improvement Programming: public investments which support airport land use compatibility

Corrective land use management techniques seek to remedy existing and projected future unavoidable noise impacts in existing areas of incompatible land use. Corrective land use management techniques can also be classified in one of two general categories: modify use and maintain use. Corrective measures include:

Modify Existing Use:

- Guaranteed Purchase (Fee Simple): outright purchase of property with the intent of removing incompatible use by demolition of structure
- Development Rights Purchase: purchase of rights to develop property
- Land Banking: acquisition of vacant land for long-term airport facility needs
- Redevelopment: acquisition and redevelopment of property

Maintain Existing Use:

- Purchase Assurance: airport sponsor acts as buyer of last resort, sound insulates house, sells property, retains easement
- Sales Assistance: airport sponsor sound insulates house; guarantees that the property owner will receive the appraised value, or some increment thereof, regardless of final sales value that is negotiated with a buyer; retains easement
- Sound Attenuation: sound insulation of houses; noise-sensitive public facilities; retains easement
- Noise and Avigation Easement Purchase: purchase of easement only

B.3.3 FAA Final Policy on Part 150 Noise Mitigation Measures

The FAA issued a final policy to establish a distinction between remedial and preventive noise mitigation measures proposed by airport operators and submitted for approval by the FAA under noise compatibility planning regulations. In the notice of final policy[17] effective October 1, 1998, the FAA stated the following:

[17] FAA Notice of Final Policy, October 1, 1998.

- As of October 1, 1998, the FAA will approve, under 14 CFR Part 150, only remedial noise mitigation measures for existing incompatible development and only preventive noise mitigation measures in areas of potential new incompatible development.
- The FAA will not approve remedial noise mitigation measures for new incompatible development that occurs in the vicinity of airports.
- The use of AIP funds will be affected to the extent that such use depends on approval under Part 150.

The Airport Noise Compatibility Planning Program (14 CFR Part 150) was established under the *Aviation Safety and Noise Abatement Act* of 1979 (49 U.S.C. 47501 through 47509, hereinafter referred to as ASNA). The Part 150 program allows airport operators to submit NEMs and NCPs to the FAA voluntarily. According to the ASNA, an NCP sets forth the measures that an airport operator has taken or has proposed for the reduction of existing incompatible land uses and the prevention of additional incompatible land uses within the area covered by NEMs.

The ASNA embodies strong concepts of local initiative and flexibility. The submission of NEMs and NCPs is left to the discretion of local airport operators. Airport operators also may choose to submit NEMs without preparing and submitting an NCP. The types of measures that airport operators may include in an NCP are not limited by the ASNA, allowing airport operators substantial latitude to submit a broad array of measures -- including innovative measures -- that respond to local needs and circumstances.

The criteria for approval or disapproval of measures submitted in a Part 150 program are set forth in the ASNA. The ASNA directs the Federal approval of an NCP, except for measures relating to flight procedures: (1) if the program measures do not create an undue burden on interstate or foreign commerce; (2) if the program measures are reasonably consistent with the goal of reducing existing incompatible land uses and preventing the introduction of additional incompatible land uses; and (3) if the program provides for its revision if necessitated by the submission of a revised NEM. Failure to approve or disapprove an NCP within 180 days, except for measures relating to flight procedures, is deemed to be an approval under the ASNA. Finally, the ASNA sets forth criteria under which grants may be made to carry out noise compatibility projects, consistent with ASNA overall deference to local initiative and flexibility.

The FAA is authorized, but not obligated, to fund projects via the AIP to carry out measures in an NCP that are not disapproved by the FAA. Such projects also may be funded with local PFC revenue upon FAA approval of an application filed by a public agency that owns or operates a commercial service airport, although the use of PFC revenue for such projects does not require an approved NCP under Part 150.

In establishing the airport noise compatibility planning program, which became embodied in FAR Part 150, the ASNA did not change the legal authority of state and local governments to control the uses of land within state and local jurisdictions. Public controls on the use of land are commonly exercised by zoning. Zoning is a power reserved to the states under the U.S. Constitution. It is an exercise of the police powers of the states that designates the uses permitted on each parcel of land. This power is usually delegated in state enabling legislation to local levels of government.

Many local land use control authorities (cities, counties, etc.) have not adopted zoning ordinances or other controls to prevent incompatible development (primarily residential) within the noise impact areas of airports. An airport noise impact area, identified within noise contours on an NEM, may extend over a number of different local jurisdictions that individually control land uses.

While airport operators have included measures in NCPs submitted under Part 150 to prevent the development of new incompatible land uses through zoning and other controls under the authorities of appropriate local jurisdictions, success in implementing these measures has been mixed.

One or more of the factors hindering effective land use controls may be of sufficient importance to preclude some jurisdictions from following through on the land use recommendations of an airport Part 150 NCP. When either an airport sponsor or a non-airport sponsor jurisdiction allows additional incompatible development within the airport noise impact area, it can result in noise problems for the people who move into the area. This can, in turn, result in noise problems for the airport operator in the form of inverse condemnation or noise nuisance lawsuits, public opposition to proposals by the airport operator to expand airport capacity, and local political pressure for airport operational and capacity limitations to reduce noise. Some airport operators have taken the position that they will not provide any financial assistance to mitigate aviation noise for new incompatible development. Other airport operators have determined that it is a practical necessity for them to include at least some new residential areas within their noise assistance programs to mitigate noise impacts that they were unable to prevent in the first place. Over a relatively short period of time, the distinctions blur between what is "new" and what is "existing" residential development with respect to airport noise issues.

Airport operators currently may include new incompatible land uses, as well as existing incompatible land uses, within their Part 150 NCPs and recommend that remedial noise mitigation measures -- usually either property acquisition or noise insulation -- be applied to both situations. These measures have been considered to qualify for approval by the FAA under 49 U.S. Code 47504 and 14 CFR Part 150. The Part 150 approval enables noise mitigation measures to be considered for Federal funding under the AIP, although it does not guarantee that Federal funds will be provided.

Final Policy

"Beginning October 1, 1998, the FAA will approve remedial noise mitigation measures (sound insulation, acquisition, purchase assurance, etc.) under Part 150 only for incompatible development which exists as of that date. Incompatible development that potentially occurred on or after October 1, 1998, may only be addressed in Part 150 programs with preventive noise mitigation measures [(land use controls—comprehensive plans, zoning regulations, subdivision regulations, building codes, etc.)]. This policy will affect the use of AIP funds to the extent that such funding is dependent on approval under Part 150. Approval of remedial noise mitigation measures for bypassed lots or additions to existing structures within noise impacted neighborhoods, additions to existing noise impacted schools or other community facilities required by demographic changes within the service areas, and formerly noise compatible uses that have been rendered incompatible as a result of airport expansion or changes in airport operations, and other reasonable exceptions to this policy on similar grounds must be justified by airport operators in submittals to the FAA and will be considered by the FAA on a case-by-case basis. This policy does not affect AIP funding for noise mitigation projects that do not require Part 150 approval, that can be funded with PFC revenue, or that are included in FAA-approved environmental documents for airport development."