



U.S. Department  
of Transportation  
Federal Aviation  
Administration

# Advisory Circular

AC 150/5020-1

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## NOISE CONTROL AND COMPATIBILITY PLANNING FOR AIRPORTS

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AUGUST 5, 1983

Land or interest in land (easement) may be acquired by negotiation, through a voluntary program, or via condemnation. In any case, the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) are applicable whenever Federal or federally assisted programs are involved.

a. Land for Other Public Uses. Noise impacted land can be acquired by a public or semi-public agency either to implement the compatibility plan or in cooperation with the plan while fulfilling another public purpose. Typical uses may include sites for equipment maintenance or storage yards, water or sewer works, and floodways or reservoirs. Other possibilities include selected park, recreation, and open space uses which are noise tolerant (golf courses, skeet ranges, nature areas, etc.). All uses should respect the height and hazard requirements of the airport and be tolerant of future airport growth.

b. Land for Compatible Resale. Occasionally, state or local governments are willing to acquire land which is then resold with covenants or easements retained to assure long-term compatibility. In some cases, it may be feasible to change such land to compatible uses within existing or remodeled buildings. In other cases, it would be desirable to clear and redevelop the land before making it available for sale. In either case, the changes should be in compliance with the land use plan and be supported by appropriate zoning. Appropriate covenants or easements should be retained to assure long-term compatibility. Since this strategy approaches the complexity of urban renewal, appropriate expertise should be consulted.

347.-349. RESERVED.

#### SECTION 5. CONSULTATIONS

350. CONSULTATIONS UNDER PART 150. In developing a noise exposure map and identifying noncompatible land uses the airport proprietor should identify the geographic areas of jurisdiction of each public agency and planning agency which are either wholly or partially contained within the 65 L<sub>dn</sub> contour and meet with the appropriate officials to discuss means of reducing the noise impact as required by Part 150. Methods for mitigating and/or reducing the effects of noise that are available to local authorities after consulting with the airport proprietor are discussed in sections 3 and 4 of this chapter. Part 150 requires that consultation must include any air carriers and to the extent practicable, other aircraft operators using the airport. Prior to submission of the noise exposure map or noise compatibility program, the airport operator is required by Part 150 to allow interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the map or program and projection of aircraft operations. FAA will not inject itself into the essentially local responsibility for consultation imposed directly on the airport operator by the ASNA Act, but will rely upon the airport operator's certification under penalty of 18 U.S.C. § 1001, that such consultation has occurred (See § 150.21).

351. RESERVED.

352. CONSULTATION WITH AVIATION GROUPS. Part 150 requires consultation with aviation groups. For air carrier airports, this consultation includes all air carriers and, to the extent practicable, other aircraft operators using the airport. For other than air carrier airports, consultations should include those aircraft operators that do use the airport. Thus, "operators" may include some or all of the following groups: airlines; commuter airlines; air taxi; and commercial; flight training and instruction; based aircraft operators (business, private, public); and fixed; base operators. These consultations should take place as early as possible in the planning process in order that the view and perspectives obtained may be fully integrated into the study effort. Additional consultations, as may be appropriate, should be conducted throughout the progress of the study. If proposed aircraft operational changes are not coordinated with the appropriate parties until the end of the study, there is potential for real problems to develop.

353. PUBLIC AND COMMUNITY INVOLVEMENT.

a. The airport and the community have a number of important influences upon each other, including economic, social, and environmental considerations. The airport acts as an entry point for air traveling vacationers and business persons and freight movement. Since the airport can act as a major focal point for growth, it should be integrated in the comprehensive planning process for the community and region. Therefore, it is essential to receive public response to any new proposed actions for airport development that would influence the public.

b. Community involvement and public participation are often determining factors in successfully assessing the compatibility/noncompatibility of various land uses for individual communities. The goals, values and developmental needs of the communities should always be considered from the early (planning) stages of land use evaluation. See FAA Advisory Circular 150/5050-4, Citizen Participation in Airport Planning, for guidance in developing citizen participation and community involvement programs.

c. When organizing a community involvement program, it is first necessary to identify the issues and to determine:

- (1) What information must be communicated to the public;
- (2) Which groups must receive this information;
- (3) What information must be received from the public;
- (4) From which groups this information can be obtained.

d. Specific community involvement techniques can then be evaluated and a sequence of activities developed, including formulation of alternatives, analysis and evaluation of alternatives, and the final decisionmaking process. Additional guidance that may be useful on aviation issues may be found in Federal Aviation Administration's Community Involvement Manual. This may be obtained from the Office of Environment and Energy, Noise Abatement Division, AEE-100, Washington, D.C., 20591.

354. DOCUMENTATION. In accordance with Part 150, the airport operator is to provide documentation summarizing the public procedure and input to the program. In addition, the operator is to provide documentation of consultation with officials of public agencies, planning agencies, FAA required, and other Federal officials which may be affected by the proposed action. This documentation may consist of summaries of communications between the organizations indicating the issues and depth of review or it may consist of a summary of comments and replies to the plan or letters of approval adopting the proposed action.

355.-359. RESERVED.

SECTION 6. ANALYSIS OF COSTS AND BENEFITS  
AND SELECTION OF AN ALTERNATIVE

360. GENERAL. The costs and benefits of each reasonable alternative should be identified and assessed in order to form a logical basis for decisionmaking. Detailed alternatives most closely approaching an optimum solution to the noise compatibility problems of the particular airport should be identified. Costs may be generally grouped as possible constraints upon interstate or foreign commerce, or as environmental, economic, and social impacts. Obviously, solutions (alternatives) will not only differ in their costs and benefits; costs and benefits may also accrue to different groups, industries, geographical areas, or persons.

361. CONSTRAINTS UPON INTERSTATE AND FOREIGN COMMERCE. A stipulation of the ASNA Act and of FAR Part 150 is that an approved airport noise compatibility program not create an undue burden on interstate or foreign commerce. Such an undue burden is often difficult to identify and is based upon a number of trade-offs, which go beyond the responsibilities of the local airport operator. For example, a restriction upon the operations of aircraft exceeding a given noise level between 10 p.m. and 7 a.m. could create too small a "window" for connection with another airport 2,000 miles away. Full consultation with the FAA, the air carrier users of the airport, and with other users will identify constraints in this area and help generate mutually acceptable compromises.

362. ENVIRONMENTAL COSTS. Each action proposed by an airport noise compatibility program may have environmental costs and/or benefits to be traded off against its economic and social costs and benefits. The environmental impacts may also have to be assessed under Federal or state guidelines prior to implementing the action. The analysis at this preliminary stage should be sufficient to reasonably assure that future implementation will be both possible and within the constraints of economic and social costs. If a particular action is critical to the success of the alternative, then a more thorough analysis may be in order. FAA Orders 1050.1C, Policies and Procedures for Considering Environmental Impacts, and 5050.4, Airport Environmental Handbook, give detailed instructions for conducting environmental analyses when an environmental assessment is required for Federal approval of certain actions. Although FAA acceptance of noise exposure maps and approval of noise compatibility programs are both categorical exclusions, any application for Federal funding of any portion of noise compatibility program may involve the need for an environmental assessment before such funding decisions can be made.

363. ECONOMIC COSTS. The economic costs or benefits of a noise compatibility alternative may be both direct and indirect. It is the total of these costs which should be assessed and considered against social and environmental costs. The direct costs are usually obvious and easily quantifiable. They include such things as construction costs, acquisition costs, the cost of extra fuel used in noise abatement operations, and the costs of aircraft idled by noise curfews. Benefits may include the increase in value of noncompatible uses after the critical noise environment is removed. Indirect costs and benefits can be more difficult to identify and quantify. They can include induced development resulting from airport construction or from the introduction of noise tolerant industrial uses into the area. They may also include lost opportunities for development when there are more acres of noise impacted land than will be needed for noise compatible uses. Also, housing removed from noise impacted areas must be replaced with new housing in another location. Other costs and benefits may be more subtle but just as real as are these.

364. SOCIAL COSTS. Evaluation of the social costs and benefits of the alternatives is of equal importance with those of economics and the environment. Social costs can include such impacts as the disruption of established neighborhoods or school districts through removal of noise impacted housing, altered surface transportation patterns, disruption of orderly planned development, or the creation of appreciable changes in employment. The often improved sense of safety with the diminishment of aircraft noise may also be a significant benefit. If preparation of an environmental assessment becomes necessary prior to approval of Federal funding for a program element, social costs are one of the prime impacts which must be assessed.

365. SELECTION OF AN ALTERNATIVE. The selection of one or a combination of the alternatives explored is the focal point of the whole planning and evaluation process. It is also a common point of failure of the process, either immediately or later, during the implementation stages. Although the final decision must remain with the duly elected or appointed decisionmaker(s), an appropriate degree of involvement by those affected by that ultimate decision during the deliberations and eliminations leading up to a final recommendation is likely to produce more workable and satisfying results. It is suggested that prior to this point in the planning process a logical and fair decisionmaking process be agreed upon and established. Such a process might take the following form:

- a. A decision tree indicating the decisions to be made, who is to make them, and their sequence and timing.
- b. A matrix which displays the costs and benefits of each alternative and arrays them against the costs and benefits of the other alternatives.
- c. An outline of the possible decision combinations (some decisions automatically preclude other decisions or combinations).
- d. A draft of a logical and probable scenario of future events based upon each decision combination.

e. Review and discussion of the issues in each of the alternatives by the reviewers and/or decisionmakers, following the sequences and format noted above, to make the evaluations and trade-offs leading to recommendations or decisions. A two-step selection process may be appropriate for multiple or complex alternatives.

366. DEVELOPMENT OF THE SELECTED ALTERNATIVE INTO A DRAFT COMPATIBILITY PROGRAM. Once an alternative has been selected, it should be fully developed into a complete airport noise compatibility program. This consists, essentially, of treating the alternative as an accepted preliminary scheme, then making the more vigorous investigations into its viability and developing the details of the plan and its implementation. The recommended steps include:

a. Stringent investigation of the alternative's assets and liabilities to assure that it will stand the tests of reality.

b. Detailed development of the plan, giving particular attention to fully coordinating it with existing local planning, community growth trends and the local agencies which will be responsible for its implementation.

c. Development of the specific implementation actions necessary to fully implement the plan.

d. Assign to and get written agreement from the agencies (or officials) who will be responsible for each of the implementing actions.

e. Development of the implementation schedules and any documents required for adoption and full implementation. these could include resolutions for adoption as well as new or revised zoning districts designed to be added to existing local zoning ordinances.

367.-399. RESERVED.