



## New York/New Jersey/Philadelphia Metropolitan Area

# airspace redesign project

February 2002

Volume 4

## Airspace Redesign Update: 2002

**T**his newsletter is part of a series to keep interested parties informed about the Federal Aviation Administration (FAA) actions in regard to the New York/New Jersey/Philadelphia Airspace Redesign Project (Airspace Redesign Project) and the associated environmental impact statement (EIS).

The FAA is aware that its operations and decisions may impact the environment. The FAA must consider and evaluate the environmental impacts of any action it takes, in accordance with the National Environmental Policy Act (NEPA). Public involvement is a critical part of the NEPA process, which is facilitated by public meetings and review.

This update concentrates on: (1) the environmental process and format that is required under NEPA; (2) noise and how it is measured; (3) the responsibilities of the parties involved.

### The Environmental Process and NEPA Requirements

NEPA requires that federal agencies, such as the FAA, identify significant environmental issues associated with their actions. A specific process must be followed to insure that agencies consider environmental impacts, along with technical and economic issues. Before the FAA can proceed with major changes to the airspace, all NEPA requirements must be met.

Every EIS prepared under NEPA has a specified format, which contains the following sections:

- *Summary*
- *Purpose and Need*
- *Affected Environment*
- *Alternatives including the proposed action*
- *Environmental Consequences*

A description of the sections follows:

#### Summary

Each EIS contains a summary that adequately and accurately reflects the major conclusions, areas of controversy (including issues raised by agencies and the public), and the issues to be resolved (including the choice among alternatives).

#### Purpose and Need

This section briefly specifies the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.

#### Affected Environment

The EIS shall succinctly describe the environment of the area(s) to be affected by the alternatives under consideration.

## Alternatives including the proposed action

This section is the heart of the EIS. It discusses the environmental impacts of the proposal and the alternatives in comparative form, to sharply define the issues and provide a clear basis for choice among options by the decisionmaker and the public. This section is developed from the information and analyses presented in the affected environment and environmental consequences sections of the EIS.

The alternatives section normally contains:

- An evaluation of all reasonable alternatives, based on the purpose and need of the project.
- A brief discussion of alternatives eliminated from detailed study and reasons for their elimination.
- The no action alternative.

## Environmental Consequences

This section forms a scientific and analytic basis for the comparison of alternatives. Among other things, the discussion includes the environmental impacts of the alternatives including the proposed action; any adverse environmental effects which cannot be avoided; direct and indirect effects; cumulative impacts; and means to mitigate environmental impacts.

In addition, the Environmental Consequences section discusses environmental effects for a range of impact and resource categories required by FAA Order 1050, *Policies and Procedures for Considering Environmental Impacts*.

A listing of these categories follows:

- Noise
- Land Uses
- Social/Environmental Justice
- Socioeconomic
- Air Quality
- Water Quality
- Hazardous Materials
- Parks & Recreation
- Coastal Barriers
- Wild & Scenic Rivers
- Energy/Natural Resources
- Wetlands
- Floodplains
- Coastal Zones
- Historical/Archaeological
- Biotic Communities
- Endangered Species
- Surface Transportation
- Solid Waste
- Construction
- Light Emissions
- Farmlands

## What is Noise and How is Noise Measured?

### How is Sound Measured?

The energy that produces sound can be measured. For example, the loudest sounds we hear without causing us pain have about one million times more energy than the quietest sounds we hear. But what about sound levels – how are they measured? Sound levels are measured in decibels (abbreviated as dB), which are logarithmic measures of the magnitude of a sound as the average person hears it. What about the sounds in our everyday lives – what kinds of sound levels are we talking about? The quietest sound that we can actually hear is called the reference pressure and that is a sound level of about zero decibels. The loudest sounds we hear without pain have sound pressure levels of about 120 dB. Most sounds in our day-to-day environment have sound pressure levels from 30 to 100dB.

Quite simply put, noise is unwanted sound, or sound that disturbs our routine activities. Noise can be annoying sound. As with sound, we know noise when we hear it. Those who work to abate noise, to minimize its effects, or to develop quieter modes of transportation need to measure noise.

### How is Noise Measured?

One of the measurements of noise is the sound exposure level, or SEL. This is the total sound energy of a single sound event, taking into account both its intensity and duration. SEL represents a sound level experienced if all the sound energy of a sound event were to occur in one second. This method of measurement allows us to make direct comparisons of sounds of different duration.

Another way to measure noise takes into account the occurrence of sound events over a day. The day-night average sound level, or DNL, is a 24-hour average sound level. Because people are normally more sensitive to intrusive sound events at night, a 10dB increase is included in the measurement when the DNL is used. The 10dB increase compensates for the fact that community background noise levels, which actually may cover or mitigate the noise caused by a single sound event, typically decrease about 10dB at night.

## What is an “acceptable” level of aircraft noise beyond airports?

The FAA has issued guidelines for compatible land uses and environmental sound levels as part of its Airport Noise Compatibility Program, found in Part 150 of the Federal Aviation Regulations

## What about aircraft noise and its effects on people?

To residents around airports, aircraft noise can be an annoyance and a nuisance. Aircraft noise can interfere with conversation and listening to television, it can disrupt classroom activities in schools, and it can disrupt sleep.

There are many factors that account for the effect of noise on individuals. The physical amount of noise is only one such element in the attitude of annoyance with environmental noise. Additionally, a small percentage of people are simply more sensitive to noise than most other people.

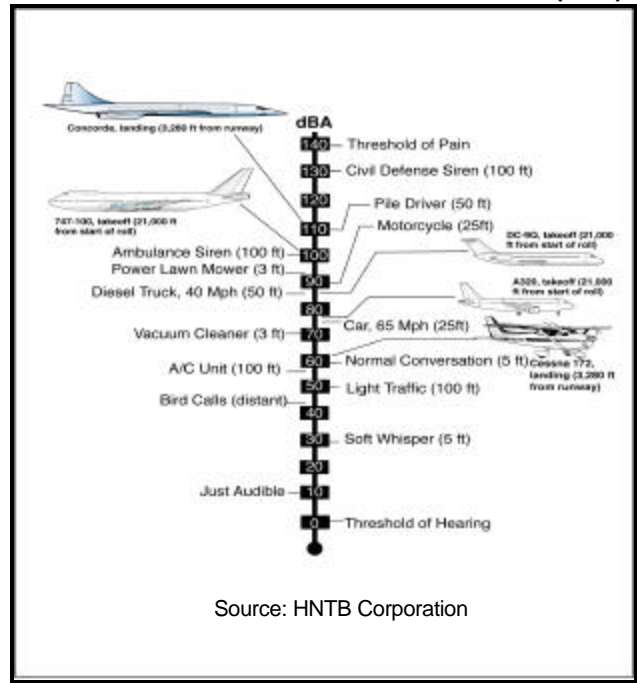
## Can aircraft noise be eliminated or mitigated?

The only way to eliminate aircraft noise entirely is to eliminate aircraft from an area. This would mean closing airports and rerouting planes. So, the elimination of aircraft noise is not a feasible option. There are, however, a number of ways in which aircraft noise can be mitigated. The FAA regulates aircraft noise at its source and has issued maximum noise levels for commercial jet aircraft. Advances in technology enable engineers and manufacturers to create quieter engines and aircraft and also provide the means for aircraft to make more rapid ascents and descents. When aircraft get higher faster and stay higher longer, the amount of ground level noise is decreased or mitigated, because there is a direct relationship between the plane’s distance from the ground and the amount of noise individuals on the ground can hear. Additionally, ground noise can be mitigated by developing and implementing noise abatement procedures.

## What are airport noise abatement procedures ?

Generally noise abatement procedures involve designing approach and departure paths that route aircraft away from populated areas or restrictions on times of use of the airport. Instructions given to pilots by air traffic controllers include applicable noise abatement procedures.

## SOUND LEVELS OF TYPICAL NOISE SOURCES (DBA)



## STRAIGHT TALK ABOUT AIRCRAFT NOISE

If you live within 15 miles from an airport, and are basically aligned with one or more of its runways, it is likely that you will hear aircraft noise. It is also unlikely that there is an easy “fix” or perhaps any fix to eliminate the noise. As stated earlier, the lower aircraft are, the noisier they are, particularly on departure. When airplanes are close to an airport, they are going to be at low altitudes. At these low altitudes, aircraft are in a critical stage of flight and are adhering to instrument flight rules that limit noise mitigation options. Noise mitigation generally means changing the course of the airplane, thereby shifting the noise to another location. In a heavily populated area, mitigation of noise in one neighborhood usually means moving the noise to another neighborhood, not moving it to an unpopulated area.

To learn more about the Airspace Redesign Project, visit the projects website.

### Website

[www.faa.gov/programs/airspace.htm](http://www.faa.gov/programs/airspace.htm)

### Toll Free Telephone Number

1-866-EIS LINE

The scoping report will be posted on the website in February.

# New York/New Jersey/ Philadelphia Metropolitan Area Airspace Redesign Project

Northrop Grumman IT  
Mail Stop 6S3  
1500 PRC Drive  
McLean, VA 22102



## Aircraft Noise: Who Is Responsible?

**The Federal Government** has the authority and responsibility to control aircraft noise by the regulation of source emissions (engine noise), by flight operational procedures, and by management of the air traffic control system and navigable airspace in ways that minimize noise impact on residential areas, consistent with the highest standards of safety. The federal government also provides financial and technical assistance to airport proprietors for noise reduction planning and abatement activities and, working with the private sector, conducts continuing research into noise abatement technology.

**Airport Proprietors** are responsible for establishing noise abatement procedures. Flight paths and other noise abatement procedures must be agreed upon by local officials and communicated to the FAA through the airport management, usually through a comprehensive Noise Compatibility Plan developed under Part 150 of the Federal Aviation Regulations. Part 150 is the process recommended by the FAA for communities to use in communicating requests for specific noise abatement operating procedures and flight tracks. In addition, airport proprietors are responsible for such actions as optimal site location, improvements in airport design, noise abatement ground procedures, land acquisition, and restrictions on airport use that do not unjustly discriminate against any user, impede the federal interest in safety and management of the air navigation system, or unreasonably interfere with interstate or foreign commerce.

**State and Local Governments and Planning Agencies** provide for land use planning and development, zoning, and housing regulation that will limit the uses of land near airports to purposes compatible with airport operations.

**The Air Carriers** are responsible for retirement, replacement, or retrofit of older jets that do not meet federal noise level standards, and for scheduling and flying airplanes in a way that minimizes the impact of noise on people.

**Air Travelers and Shippers** generally should bear the cost of noise reduction, consistent with established federal economic and environmental policy that the adverse environmental consequences of a service or product should be reflected in its price.

**Residents and Prospective Residents** in areas surrounding airports should seek to understand the noise problem and what steps can be taken to minimize its effect on people. Individual and community responses to aircraft noise differ substantially and, for some individuals, a reduced level of noise may not eliminate the annoyance or irritation. Prospective residents of areas impacted by airport noise thus should be aware of the effect of noise on their quality of life and act accordingly.