

The 1980 Airport Noise Act: Noise Abatement or Just More Noise?

Airport noise pollution is a significant problem for millions of Americans. This comment reviews judicial, legislative and regulatory responses to aircraft noise. It examines the Aviation Safety and Noise Abatement Act in detail and concludes that the legislation's proposed solutions as well as its funding are deficient. The comment also recommends ameliorative legislation which will help reduce airport noise.

INTRODUCTION

When Orville and Wilbur Wright completed their first Kitty Hawk flight in 1903,¹ it is unlikely that they fully appreciated the consequences of their achievement.² In the nearly eighty years since that landmark event, the United States has experienced a dramatic and profound shift toward reliance on aviation to transport people and goods.³ Although the rapid growth of the national air transportation system has generated significant benefits,⁴ it has also produced some unfortunate by-prod-

¹ For a narrative of the Wright brothers' aviation experiments, see H. COMBS, *KILL DEVIL HILL* (1979). For a chronology of significant events concerning the Wright brothers, see A. RENSTROM, *WILBUR AND ORVILLE WRIGHT: A CHRONOLOGY* (1975).

² The advancement of aircraft technology since this modest beginning is illustrated by the fact that the Wright brothers' flight was shorter than the wingspan of a Boeing 747. Lynagh, *Noise Pollution at Airports—A Serious Problem in the Seventies*, 6 *TRANSP. L.J.* 31, 31 (1974).

³ There were an estimated 80 million aircraft operations in the United States in 1978. Comment, *Noise Pollution: Attempted Federal Control of Airplane Noise*, 18 *NAT. RESOURCES J.* 621, 621 (1978). The number of operations is expected to increase to 430 million by 1985. *Id.* An operation is defined as a takeoff or landing. U.S. DEP'T OF TRANSPORTATION, *AVIATION NOISE ABATEMENT POLICY 36* (1976) [hereinafter cited as DOT POLICY].

⁴ The air transportation system in the United States is essential to our national defense, economy, and our way of life, and can no longer be considered a

ucts,⁵ one of which is noise pollution.

Aircraft noise⁶ affects approximately one million acres of land in the United States.⁷ Moreover, approximately six million Americans experience the daily annoyance of aircraft noise,⁸ and some six hundred thousand citizens are exposed to severe noise levels.⁹ Noise pollution¹⁰ disrupts a wide range of human activity and may cause social,¹¹ psychological¹² and physiological¹³ harm.

mere convenience. Dworkin, *Planning for Airports in Urban Environments—A Survey of the Problem and Its Possible Solutions*, 5 *TRANSP. L.J.* 183, 184 (1973).

⁵ Although aircraft are not primary sources of air pollution in the United States, they have contributed to the pollution problem, particularly near airports. Horonjeff & Coykendall, *Projections of the U.S. Airline Fleet in the Early 1980's*, AIRPORTS: CHALLENGES OF THE FUTURE 14 (AMERICAN SOCIETY OF CIVIL ENGINEERS 1973). The building or operation of airports also occasionally causes water pollution. N. ASHFORD & P. WRIGHT, AIRPORT ENGINEERING 434 (1979). Airport development further results in displacement of people, businesses and farms. *Id.* at 405. In addition, airports and their surrounding commercial developments often create a visually unpleasant environment. *Id.* at 428.

⁶ Noise has been defined as “any sound—independent of loudness—that may produce an undesired physiological or psychological effect in an individual and that may interfere with the social ends of an individual or group.” U.S. ENVIRONMENTAL PROTECTION AGENCY, REPORT TO THE PRESIDENT AND CONGRESS ON NOISE, S. DOC. NO. 92-63, 92d Cong., 2d Sess. xxi (1972) [hereinafter cited as EPA REP.]

⁷ DOT POLICY, *supra* note 3, 17-19. This figure is based on a 1974 Department of Transportation (DOT) study of 23 major airports.

⁸ *Id.*

⁹ *Id.* A “severe” noise level is one over Noise Exposure Forecast (NEF) 40. This measurement reflects cumulative noise impact, which is determined by considering the annoyance of each noise event occurring within a 24-hour period, and the number of noise events in that period, with a special penalty for nighttime noise. *Id.* at 14.

¹⁰ Because of its unique nature, noise has only recently been recognized as a pollutant. Noise assessment, unlike water and air pollution, is considered to be subjective. Moreover, since noise rapidly dissipates and may occur sporadically, it is difficult to obtain evidence of noise pollution. In addition, the effects of noise pollution are so “subtle and insidious” that it is difficult to establish a causal relationship. EPA REP., *supra* note 6, at xxii-xxiii.

¹¹ Disruptions in sleep and conversation are probably the most frequently cited consequences of airport noise. DOT POLICY, *supra* note 3, at 17. These kinds of disruptions also have a negative impact on recreational activities. *Id.*

¹² Exposure to high levels of noise may result in “increased irritability, severe nervous tension, loss of ability to concentrate, and impaired aptitude to perform even simple tasks.” N. ASHFORD & P. WRIGHT, *supra* note 5, at 410. In fact, people living near airports have an increased likelihood of entering a

In addition to interfering temporarily with cognition, aircraft noise may cause long-term damage to mental processes.¹⁴ Because the negative effects of airport noise are so significant, the economic implications are staggering. Millions of dollars have been spent on litigation expenses, legal settlements and judgments, and other remedial measures.¹⁵

The most recent federal response to this national problem is the Aviation Safety and Noise Abatement Act.¹⁶ The Act contains two major provisions concerning noise reduction. First, the Act mandates the establishment of a national noise compatibility planning program and authorizes funds and other incentives for local airport participation.¹⁷ Second, it extends the deadlines established by the Federal Aviation Administration (FAA)¹⁸ for

mental hospital for treatment. *PSYCHOLOGY TODAY*, July, 1980, at 41.

¹³ Some of the physiological problems associated with noise are nausea, eye and ear irritation, hearing loss, digestive trouble, and problems related to the autonomic nervous system and the cardiovascular system. R. KING, *AIRPORT NOISE POLLUTION: A BIBLIOGRAPHY OF ITS EFFECTS ON PEOPLE AND PROPERTY* 49 (1973).

¹⁴ A recent study of children in schools located near Los Angeles International Airport explored problems of cognition. In attempting to put together a geometric puzzle, children in noisy schools were less likely to solve the puzzle and more likely to quit early. And the longer a child had been in a noisy school, the longer the amount of time required to solve the puzzle. The study further disclosed that a year after soundproofing the schools, the children still had made no significant improvement. The researchers speculate that the lack of improvement may suggest either that readjustment is very slow or that the children are adversely affected by airport noise when they are away from school. *PSYCHOLOGY TODAY*, July, 1980, at 41.

¹⁵ DOT estimated that within one five-year period, over \$3 million had been spent by airport operators in litigation defense expenses and more than \$25 million in judgments and settlements of claims. DOT POLICY, *supra* note 3, at 18. For example, a single agreement to provide soundproofing for schools cost the airport \$21 million. Aurbach, *Aviation Noise Abatement Policy: The Limits of Federal Intervention*, 9 *URB. LAW.* 559, 559 n.2 (1977). Noise problems have already cost the City of Los Angeles an estimated \$230 million dollars. *NAT'L L.J.*, Dec. 1, 1980, at 10, col. 1. In the past four years, approximately sixteen other cities have had combined legal claims against them exceeding \$260 million. *Id.*

¹⁶ Aviation Safety and Noise Abatement Act of 1979, Pub. L. No. 96-193, 94 Stat. 50 (1980) (codified at 49 U.S.C.A. §§ 2101-2108, 2121-2125 (West Supp. 1980) and scattered sections of 49 U.S.C.A.) Congress has called the Act its final statement on the subject of aviation noise. H.R. REP. No. 715, 96th Cong., 1st Sess. 24 (1979).

¹⁷ 49 U.S.C.A. §§ 2101-2108 (West Supp. 1980).

¹⁸ 14 C.F.R. § 36 (1977); see text accompanying note 75 *infra*.

compliance with certain aircraft noise regulations.¹⁹

This comment critically examines the Aviation Safety and Noise Abatement Act. First, it explores the historical antecedents of the Act, including developments in case law and federal regulation. It then analyzes the Act's efficacy and concludes that the Act falls short of its goal of abating airport noise in the following respects: (1) It provides no new solutions to the aircraft noise problem; (2) it focuses entirely on long-term solutions and ignores the need to provide some immediate relief; (3) the Act's noise compatibility program is inadequately funded; and (4) the success of that program is dependent upon the FAA, which historically has been ineffective in its noise abatement role. Finally, the comment proposes recommendations for replacing and supplementing existing legislation to ameliorate these shortcomings.

I. JUDICIAL AND LEGISLATIVE ACTION PRIOR TO THE 1980²⁰ ACT

A. *Judicial Response*

The United States Supreme Court has held that noise from aircraft flights may constitute a "taking" of land,²¹ for which the airport proprietor may be held exclusively liable.²² In *United States v. Causby*, the Supreme Court upheld a cause of action for inverse condemnation resulting from aircraft flights.²³ Plaintiffs had sought damages for injury to their chicken farm caused by low-level overhead military flights. The Court concluded that since plaintiffs had established a "direct and immediate interference" with the use and enjoyment of their property,²⁴ they were entitled to compensation for the diminution in the property's value.²⁵ In *Griggs v. Allegheny County*,²⁶ the Supreme Court held that the county, as airport operator, was exclusively liable for damages caused by aircraft noise. The Court refused to hold the airlines liable since they had complied with Civil Aeronau-

¹⁹ 49 U.S.C.A. §§ 2123, 2124 (West Supp. 1980).

²⁰ Although the official title of the Act is the Aviation Safety and Noise Abatement Act of 1979, *id.* § 2101, it did not become law until 1980. See note 86 *infra*.

²¹ *United States v. Causby*, 328 U.S. 256 (1946).

²² *Griggs v. Allegheny County*, 369 U.S. 84 (1962).

²³ 328 U.S. 256, 266 (1946).

²⁴ *Id.*

²⁵ *Id.* at 261.

²⁶ 369 U.S. 84, 89 (1962).

tics Administration (CAA)²⁷ procedures.²⁸ In addition, the Court concluded that the federal government had not taken the land since it had been the county's decision to construct the airport.²⁹ The Court rejected the county's argument that it should escape liability simply because the CAA had approved the airport's design.³⁰ Although the design comported with CAA regulations, the county had controlled the crucial decisions concerning the airport site and the quantity of land allocated for development,³¹ and therefore, the county was exclusively liable.

Subsequent lower federal court and state court decisions have been inconsistent as to the basis for and extent of airport liability. Although federal courts have construed *Causby* to limit compensation to situations involving overhead flights,³² some state courts have relied on nuisance theory to extend liability to indirect interference with land use and enjoyment.³³ In addition, there is disagreement over the appropriate measure of damages. Traditionally, compensation has been solely for diminution of property value.³⁴ A recent California Supreme Court decision,

²⁷ The CAA was the predecessor to the Civil Aeronautics Board and the Federal Aviation Administration. See note 53 *infra*.

²⁸ *Griggs v. Allegheny County*, 369 U.S. 84, 86-87 (1962). The Court noted that the airlines had leased the right to take off and land from the airport. Furthermore, their flight paths were no lower than necessary for safe operations. *Id.*

²⁹ *Id.* at 89.

³⁰ *Id.* at 89-90.

³¹ *Id.* Continued reliance on the reasoning of *Griggs* is not necessarily warranted. It is doubtful that airport operators could have foreseen the enormous technological advancements in aviation which transformed the entire character of air transportation. Note, *Shifting Aircraft Noise Liability to the Federal Government*, 61 VA. L. REV. 1299, 1308-9 (1975).

³² *E.g.*, *Batten v. United States*, 306 F.2d 580 (10th Cir. 1962), where plaintiff's suit for inverse condemnation based on noise, smoke, and vibrations caused by military planes was denied because there was no physical invasion of plaintiff's property. See also Comment, *Current State of the Law in Aircraft Noise Pollution Control*, 43 J. AIR LAW & COMM. 799, 802-3 (1977).

³³ In *Thornburg v. Port of Portland*, 233 Or. 178, 376 P.2d 100 (1962), the Oregon Supreme Court refused to limit *Causby* to situations involving direct physical invasion of plaintiff's airspace. Instead, the court granted recovery on nuisance theory where aircraft merely flew near plaintiff's land but substantially interfered with its use and enjoyment. In *Martin v. Port of Seattle*, 64 Wash. 2d 309, 391 P.2d 540 (1964), *cert. denied*, 379 U.S. 989 (1965), the Washington Supreme Court similarly held that direct overhead flights were not essential to a cause of action for inverse condemnation.

³⁴ *E.g.*, *United States v. Causby*, 328 U.S. 256 (1946); *Luedtke v. County of*

however, has greatly expanded the potential liability. In *Greater Westchester Homeowners Association v. City of Los Angeles*,³⁵ the California Supreme Court held that plaintiff was entitled to bring separate causes of action for inverse condemnation³⁶ and for personal injury³⁷ resulting from noise. Plaintiffs may thus collect once for loss of property value and periodically for personal damages.³⁸ These decisions establish that airport operators will bear exclusive legal responsibility for aviation noise, and the extent of their liability may increase if courts permit separate causes of action for personal injury as well as property damage.

B. Local Government Action

Local governments have attempted to invoke their police powers in controlling airport noise. In some instances, municipalities have adopted zoning ordinances to control noise impact by regulating land uses near airports.³⁹ The ordinances, however, have had limited success due to jurisdictional problems⁴⁰ and interference with property owners' rights.⁴¹ Local governments have also sought to reduce noise by regulating air traffic.⁴² Direct local regulation of air traffic is restricted, however, by federal pre-emption rules. Two early lower federal court cases held that local attempts to regulate inflight traffic directly were pre-empted by

Milwaukee, 521 F.2d 387 (7th Cir. 1975) (plaintiff was limited to a cause of action for inverse condemnation since federal regulation of air traffic pre-empted local control and therefore absolved the county of any liability under nuisance theory.)

³⁵ 26 Cal. 3d 86, 603 P.2d 1329, 160 Cal. Rptr. 733 (1979), *cert. denied*, 101 S. Ct. 77 (1980).

³⁶ The measure of damages for inverse condemnation is diminution of property value. *See id.* at 91-92, 603 P.2d at 1330-31, 160 Cal. Rptr. at 734.

³⁷ Plaintiffs recovered for "annoyance, inconvenience, discomfort, mental distress and emotional distress" from noise, smoke, and vibrations. *Id.*

³⁸ The potential for periodic claims exists because noise is a continuing nuisance. Nat'l L.J., Dec. 1, 1980, at 10, col. 1. Indeed, the City of Los Angeles is facing an additional 25 law suits based on *Westchester*, totalling about \$60 million in claims. *Id.*

³⁹ By 1966, 42 states had statutes authorizing airport zoning. 61 VA. L. REV., *supra* note 31, at 1310. Many of the cases relating to airport zoning concern airport hazard zoning rather than noise abatement. Dworkin, *supra* note 4, at 198-200.

⁴⁰ *See* notes 121-23 and accompanying text *infra*.

⁴¹ *See* notes 124-27 and accompanying text *infra*.

⁴² *See* note 43 and accompanying text *infra*.

the commerce clause and an extensive pattern of federal regulation.⁴³

Indirect attempts by local governments to regulate air traffic are similarly subject to federal pre-emption. In *City of Burbank v. Lockheed Air Terminal, Inc.*,⁴⁴ the city had enacted a night curfew governing the privately owned Hollywood-Burbank Airport. Plaintiffs claimed that the ordinance was pre-empted by federal law regardless of the fact that the ordinance did not directly control aircraft flight. Relying on the commerce clause,⁴⁵ the United States Supreme Court struck down the ordinance. The Court noted that an express statement of Congressional intent to pre-empt was unnecessary.⁴⁶ Reviewing the history of federal aviation legislation, the Court found pre-emption through a "pervasive scheme of federal regulation."⁴⁷

The *Burbank* decision failed to clarify the permissible extent of local noise control. The Court specifically left open the pre-emption issue in the more typical situation where the municipality is also the airport proprietor.⁴⁸ Subsequent applications of

⁴³ *Allegheny Airlines v. Village of Cedarhurst*, 238 F.2d 812 (2d Cir. 1956) involved a municipal ordinance prohibiting flights below 1000 feet over the village. The court noted that the ordinance conflicted with federal regulation since the federal restrictions did not limit take-off and approach altitudes to the minimum prescribed in the ordinance. It further concluded that Congress had pre-empted the regulation of flight at all altitudes. *American Airlines v. Town of Hempstead*, 272 F. Supp. 226 (E.D.N.Y. 1967), *aff'd*, 398 F.2d 369 (2d Cir. 1968), *cert. denied*, 393 U.S. 1017 (1969), considered a municipal ordinance directed toward regulating noise levels. The ordinance was struck down because it forced airlines to deviate from FAA-established flight patterns in order to comply with the noise requirements. In both cases, the court decisions were based on federal pre-emption of air traffic control rather than noise control.

⁴⁴ 411 U.S. 624 (1973).

⁴⁵ Plaintiff had attacked the ordinance under both the supremacy and commerce clauses. *Id.* at 626.

⁴⁶ *Id.* at 633.

⁴⁷ *Id.* Citing *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1946), the Court found "[t]he scheme of federal regulation . . . [to] be so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it." *City of Burbank v. Lockheed Air Terminal*, 411 U.S. 624, 633 (1973). The opinion also referred to an earlier concurrence stating that federal regulation of air traffic was "'intensive and exclusive.'" *Northwest Airlines, Inc. v. Minnesota*, 322 U.S. 292, 303 (1943)(Jackson, J., concurring). 411 U.S. at 633.

⁴⁸ *City of Burbank v. Lockheed Air Terminal, Inc.*, 411 U.S. 624, 635-36 n.14 (1973). The Court referred to a letter to Senator Monroney from the Secretary

Burbank, however, suggest that actions taken as a landlord in controlling flight operations are probably more acceptable than actions under local police power.⁴⁹ More recently, some lower court decisions have considered attacks on local noise control based upon the nature of the attempted regulation,⁵⁰ the commerce clause⁵¹ and alleged discrimination.⁵² At present, many questions remain unanswered concerning local options for noise control.

C. Federal Legislative and Regulatory Control

Although there is a long history of federal regulation of civil aviation,⁵³ the focus on noise control is a relatively recent devel-

of Transportation. The Secretary had concluded that the 1958 Federal Aviation Act would not alter the proprietary rights of airports to control traffic so long as their action was nondiscriminatory. The Court drew a distinction between a municipality's exercise of its police powers, invalid under *Burbank*, and a municipality's actions as an airport landlord. See note 49 *infra*.

⁴⁹ In *Burbank*, the Solicitor General and the appellants argued that a municipality which was an airport proprietor would have the power to impose a curfew. *City of Burbank v. Lockheed Air Terminal, Inc.*, 411 U.S. 624 (1973). Although the Court did not decide the issue, the proprietary distinction has been assumed to be valid. See, e.g., DOT POLICY, *supra* note 3, at 31-32.

⁵⁰ See, e.g., *Air Transport Ass'n of America v. Crotti*, 389 F. Supp. 58 (N.D. Cal. 1975), in which certain California airport noise control regulations were held invalid *per se*, though others were not struck down. The federal district court found that application of the single-event noise exposure level standard, or SNEL, was a *per se* invalid attempt to regulate inflight traffic since the standard was based on noise emitted by an aircraft in flight. Refusing to strike down the regulation based on the the cumulative noise exposure level standard, or CNEL, the court concluded that passive regulations, including recommendations for land use control, were clearly within the airport proprietor's power. Although the actual implementation of the regulations might be unreasonable or unduly burdensome, the court refused to strike down the provisions before they were in operation.

⁵¹ *Id.* at 65.

⁵² In *British Airways v. Port Auth.*, 437 F. Supp. 804 (S.D.N.Y. 1977), *aff'd as modified*, 564 F.2d 1002 (2d Cir. 1977), a federal district court struck down a ban on Concorde aircraft at Kennedy Airport. The court found that on two of three dimensions, the Concorde fell within the maximum noise ranges allowed for subsonic aircraft. On the third, relating to vibration, the Port Authority was unable to show any impact different from subsonic aircraft. As a result, the judge held the ban to be unreasonable, discriminatory and an undue burden on commerce. 437 F. Supp. at 818.

⁵³ The Air Commerce Act of 1926 defined the dimensions of navigable airspace. 44 Stat. 568 (1926) (repealed by 52 Stat. 973 (1938), 72 Stat. 731 (1958)).

opment. The federal government first recognized the airport noise problem in 1952, in a report to the President, which acknowledged the importance of airport environmental planning and predicted the consequences of failing to do so.⁵⁴ However, Congress did not respond to the warning of the President's Airport Commission until 1968, when it amended the Federal Aviation Act of 1958⁵⁵ and directed the FAA to promulgate aircraft noise abatement rules.⁵⁶

The FAA response was Federal Aviation Rule (FAR) 36, established in 1969.⁵⁷ The regulation based noise standards on two noise measurements—Effective Perceived Noise Level (EPNdB) and Noise Exposure Forecast (NEF).⁵⁸ The primary shortcoming of the regulation was that it affected relatively few aircraft. FAR 36 originally applied only to large commercial aircraft of future design.⁵⁹ In 1973, the FAA extended the regulation to newly manufactured aircraft having a pre-1968 design.⁶⁰ But the 1973

In 1938, Congress passed the Civil Aviation Act, a successor to the Air Commerce Act, which coordinated regulatory duties under the Civil Aeronautics Authority. 52 Stat. 973 (1938) (repealed by 72 Stat. 731 (1958)). A primary function of the agency was to promulgate safety regulations. 52 Stat. 973 (1938) (repealed by 72 Stat. 731 (1958)). The Federal Aviation Act of 1958 replaced the Air Commerce Act. 72 Stat. 731 (1958) (current version at 49 U.S.C. §§ 1301-1542, 1551-52 (1976 & Supp. III 1979)). While it did not directly mandate promulgation of noise regulations, the Act did empower the FAA to formulate safety regulations with respect to the airways and the ground beneath flight paths. *Id.*

⁵⁴ PRESIDENT'S AIRPORT COMMISSION, *THE AIRPORT AND ITS NEIGHBOR* (1952).

⁵⁵ 72 Stat. 731 (codified at 49 U.S.C. §§ 1301-1542, 1551-52 (1976 & Supp. III 1979)).

⁵⁶ 49 U.S.C. § 1431 (1976 & Supp. III 1979).

⁵⁷ 14 C.F.R. § 36 (1970).

⁵⁸ The simplest measurement of noise is in decibels (db). Donin, *British Airways v. Port Authority: Its Impact on Aircraft Noise Regulation*, 43 J. AIR L. & COMM. 691, 699 (1977). Since decibel measurement merely reflects the pressure on the ear created by sound, other methods have been developed to account for human annoyance caused by noise duration, frequency, and pitch. *Id.* EPNdB is a description of noise based on pitch or "screeches," duration, and pressure. Aurbach, *supra* note 15, at 561-62 n.14. NEF is a cumulative noise description based on the total aircraft operations during a day, with a penalty for nighttime noise. *Id.*

⁵⁹ 14 C.F.R. § 36 (1970); see Comment, *Reflections on the Economic Implications of Current Noise Abatement Financing Proposals*, 43 J. AIR L. & COMM. 847, 847 (1977).

⁶⁰ 14 C.F.R. § 36 (1977); see 43 J. AIR L. & COMM., *supra* note 59, at 848.

provisions did not become effective until 1977.⁶¹ As a result, only twenty per cent of the entire commercial jet fleet in this country was subject to noise regulation prior to 1977.⁶²

Congress took an additional step toward noise alleviation by passing the Noise Control Act of 1972 (NCA).⁶³ Although the legislation concerned noise generated from many sources,⁶⁴ it had significant impact on aircraft noise control. The FAA remained the sole federal agency empowered to regulate aviation noise. However, the Environmental Protection Agency (EPA) was given authority to examine existing noise regulations and to make recommendations to the FAA for future rules.⁶⁵ Congress required the EPA to publish its proposed rules in the Federal Register.⁶⁶ If the FAA rejected a proposal, it was required to publish its reasons.⁶⁷ This procedure prohibited the FAA from ignoring or merely paying lip service to EPA suggestions.⁶⁸

⁶¹ 14 C.F.R. § 36 (1977); see 43 J. AIR. L. & COMM., *supra* note 59, at 849.

⁶² 43 J. AIR. L. & COMM., *supra* note 59, at 849.

⁶³ Pub. L. No. 92-574, 86 Stat. 1234 (1972) (codified at 42 U.S.C. §§ 4901-4918, 49 U.S.C. § 1431 (1976 & Supp. III 1979)).

⁶⁴ Congress directed the Environmental Protection Agency to identify and regulate technological sources of noise and to label noisy products. Research, technical assistance, public information dissemination, and coordination of federal noise control programs fell within the purview of the agency. U.S. ENVIRONMENTAL PROTECTION AGENCY, NOISE CONTROL PROGRAM, at v (1979).

⁶⁵ 49 U.S.C. § 1431 (1976 & Supp. III 1979).

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ Congress may have established this procedure because of substantial suspicion over the years that the FAA was a "captive" of the industry it purportedly regulated. For a discussion of the FAA's inaction prior to the Noise Control Act, see Berger, *Nobody Loves an Airport*, 43 S. CAL. L. REV. 631, 683-725 (1970).

The following comment by a noise litigation attorney reflects some of the cynicism felt toward the FAA's inaction in the area of noise regulation:

One frequently hears, "no one is in favor of pollution." It is the author's opinion that the officials of the FAA are probably proof that the species said not to exist in the bromide above, does in fact inhabit the office of the FAA. The FAA has played games with the courts as well as with Congress. When an occasion was present where the FAA could avoid doing anything about a noise problem, the FAA told those complaining that the FAA had no control over airport noise. When the occasion to avoid giving relief to those suffering from noxious by-products of aircraft noise required that the FAA assert to the contrary, it has told the courts, "the FAA has exclusive jurisdiction of this problem and it may only be invali-

In 1976, the FAA published its Aviation Noise Abatement Policy.⁶⁹ The 1976 Policy was the product of the FAA-EPA collaboration prompted by the NCA. The purpose of the Policy was to provide the basis for a series of aviation noise regulations to be promulgated by the FAA.⁷⁰ Like the previous FAR 36, it emphasized aircraft technology as the solution to the problem.⁷¹ The Policy, however, was considered much stricter than previous regulation.⁷² It called for relatively short compliance deadlines,⁷³ which would force substantial industry spending to make aircraft meet the new noise standards. The central feature of the Policy was a six- to eight-year phase-in of quieter aircraft.⁷⁴ Two- and three-engine planes were required to comply by January 1, 1983, and four-engine planes by January 1, 1985.⁷⁵ The FAA suggested three alternatives to bring aircraft up to the standards: aircraft owners could retrofit,⁷⁶ re-engine,⁷⁷ or replace⁷⁸ their aircraft.

dated by suit in Washington, D.C.”

Fadem, *Foreword*, in R. KING, *supra* note 13, at 13.

⁶⁹ DOT POLICY, *supra* note 3.

⁷⁰ *Id.* at 1-2.

⁷¹ *Id.* at 6-7.

⁷² Comment, *Impact of Federal Noise Abatement Policy on Aircraft Financing*, 43 J. AIR. L. & COMM. 823, 824-26 (1977).

⁷³ DOT POLICY, *supra* note 3, at 35.

⁷⁴ *Id.*

⁷⁵ *Id.* at 6-7.

⁷⁶ Retrofit is a procedure by which the engines of existing aircraft are fitted with nacelles (outer casings) containing sound-absorbing materials (SAM). Its greatest advantage is its relative economy. The cost of retrofitting a two- or three-engine airplane was estimated to be in the range of \$160,000 to \$220,000 in 1977. The claimed disadvantages of retrofit are a slight decrease in fuel efficiency and a rather modest reduction in noise when compared with other alternatives. 43 J. AIR L. & COMM., *supra* note 72, at 833-35.

⁷⁷ Re-engining is the process of putting a new engine in existing aircraft. Although it allegedly produces a marked increase in operating efficiency and a significant decrease in noise, its cost makes it unattractive. The estimated cost to re-engine a DC-8 in 1977 was \$7.8 million per aircraft, roughly one-third of the replacement cost. *Id.* at 835-36.

⁷⁸ Replacement of older, noncomplying aircraft with new technology is considered superior to other alternatives. Noise reduction is significantly greater than with the other methods, ranging from 12 to 16 EPNdB. In addition, the new aircraft are 20-30% more fuel efficient. The FAA has hypothesized additional advantages, including decreased air pollution and stimulation of the aerospace industry. DOT POLICY, *supra* note 3, at 39-40. The major obstacle to replacement is cost. *Id.* at 24. For a general discussion of the industry-wide

Although the 1976 Policy placed greatest weight on aircraft noise control, it also included a discussion of the rights and responsibilities of entities other than the airlines in effecting noise abatement.⁷⁹ For example, the FAA stressed the importance of airport planning and land acquisition.⁸⁰ In addition, the Policy offered recommendations on effective utilization of runways,⁸¹ restrictions and scheduling of flights,⁸² and flight operational procedures which could reduce noise.⁸³ In accordance with the Policy provisions, the FAA promulgated new aircraft noise standards and the compliance schedule specified in the Policy.⁸⁴

II. THE AVIATION SAFETY AND NOISE ABATEMENT ACT

Responding to the controversy generated by the FAA regulations,⁸⁵ Congress passed the Aviation Safety and Noise Abatement Act.⁸⁶ The FAA noise regulations had brought sharp criti-

cost of developing "new generation" or replacement aircraft, see 43 J. AIR L. & COMM., *supra* note 72, at 836-39.

⁷⁹ DOT POLICY, *supra* note 3, at 29-34.

⁸⁰ Congress had already endorsed land use planning by conditioning federal grants for airport development on FAA approval of the airport's noise abatement efforts. 49 U.S.C. § 1718(4) (1976).

⁸¹ DOT POLICY, *supra* note 3, at 56.

⁸² *Id.* at 57.

⁸³ *Id.*

⁸⁴ FAA Noise Standards: Aircraft Type and Airworthiness Certification, 14 C.F.R. § 36 (1977). See text accompanying notes 74 & 75 *supra*.

⁸⁵ Members of Congress introduced a number of bills to counteract the FAA regulations. Four bills aimed primarily at financing aircraft improvement were introduced in the House of Representatives. 43 J. AIR L. & COMM., *supra* note 59, at 853, 855, 856, 858. The Senate conducted hearings on three additional bills. See note 87 *infra*. The final legislation was derived from two later bills. See note 86 *infra*.

⁸⁶ Aviation Safety and Noise Abatement Act of 1979, Pub. L. No. 96-193, 94 Stat. 50 (1980) (codified at 49 U.S.C.A. §§ 2101-2108, 2121-2125 (West. Supp. 1980) and scattered sections of 49 U.S.C.A.) The Act was derived primarily from a Senate bill passed on May 1, 1979, S.413, 96th Cong., 1st Sess. (1979), by a vote of 78-15. 125 CONG. REC. S 5011(daily ed. May 1, 1979). The bill, as amended, provided waivers for four-engine aircraft compliance as well as two- and three- engine aircraft. The extensions were to be for "reasonable" periods of time. Aircraft which were within 5 EPNdB of the FAR standard were deemed to be in compliance under the bill. The comparable House legislation merely authorized funds and certain expenditures with respect to the Airport and Airway Trust Fund. H.R. 2440, 96th Cong., 1st Sess. (1979). There were no noise provisions in the House version. Because of this discrepancy in the two bills, the House as a body could not consider the specific noise abatement pro-

cism from aircraft operators. In particular, they objected to the heavy financial strain which compliance allegedly would create.⁸⁷ The most controversial portions of the Act modify the FAA regulations.⁸⁸ Title I mandates the establishment of a national noise measurement system⁸⁹ and provides for the development of local noise compatibility programs.⁹⁰ Title III prescribes the airline industry's role in reducing noise. The Act extends the deadlines for compliance with the FAA noise standards.⁹¹ Although Congress incorporated the basic recommendations of the DOT Policy, it dramatically shifted the emphasis from source control to noise compatibility planning.

visions until the vote on the conference report. Members of the House were therefore forced either to reject or accept the legislation without amendment. *See generally* 126 CONG. REC. H438 (daily ed. January 31, 1980); *id.* at H445 (remarks of Rep. Ferraro). The House passed the conference report by a vote of 285-122 on January 31, 1980. *Id.* at H452. The Senate passed the report without a roll call vote on February 5, 1980. 126 CONG. REC. S955 (daily ed. Feb. 5, 1980). The Act became law on February 18, 1980. 94 Stat. 50 (1980).

⁸⁷ Estimates of the cost of compliance with the FAA regulations ranged from \$3.5 billion (FAA's lowest figure) to \$7.5 billion (the maximum amount suggested by the Air Transport Association). *Aircraft and Airport Noise Reduction: Hearings before the Subcomm. on Aviation of the Senate Comm. on Commerce, Science and Transportation on S. 747, S. 3064, & H.R. 8729*, 95th Cong., 2d Sess. 116 (1978) (statement of Paul Ignatius) [hereinafter cited as *Hearings*].

⁸⁸ A generally applauded noise abatement provision directed the FAA to institute a rule governing foreign carriers based upon the FAR 36 standards. 49 U.S.C.A. § 2122 (West Supp. 1980). *See generally* 126 CONG. REC. S953 (daily ed. Feb. 5, 1980)(remarks of Sen. Javits).

The Act also addresses aviation issues other than noise. Title II of the Act, for example, concerns increases in available funds from the Airport and Airway Trust Fund for fiscal year 1980. Title IV mandates annual reports on the development of a national collision avoidance system. In addition, Title IV provides a test for determining applicability of state personal income tax to airline employees. Title V requires the FAA administrator to establish regulations concerning religious group solicitation at Dulles and National airports. Title V also prohibits certain firearms aboard aircraft and restricts the kinds of flights into and out of Love Field in Texas. H.R. REP. NO. 96-715, 96th Cong., 1st Sess. (1979).

⁸⁹ 49 U.S.C.A. § 2102 (West Supp. 1980).

⁹⁰ *Id.* § 2104.

⁹¹ *Id.* §§ 2123, 2124.

A. Airport Noise Compatibility Planning

1. Provisions of the Act

The Act stresses noise compatibility planning as the primary solution to the noise problem. The term "noise compatibility planning" refers to all methods which an airport operator, by itself, or in conjunction with a government subdivision or agency, may use to reduce the impact of noise.⁹² Examples include zoning and land acquisition,⁹³ construction of sound barriers⁹⁴ and implementation of flight procedures and restrictions.⁹⁵ The underlying rationale of the noise compatibility planning concept is the inherent limitation of actual aircraft noise reduction.⁹⁶ Thus, measures must be found to reduce the *impact* of noise.⁹⁷ Because certain activities require a quieter environment,⁹⁸ noise compatibility planning also ensures that property is developed for uses consistent with the noise level.⁹⁹ Title I mandates the establishment of a uniform noise measurement

⁹² *Id.* § 2104(a).

⁹³ *Id.* § 2104(a)(5).

⁹⁴ *Id.* § 2104(a)(3).

⁹⁵ *Id.* § 2104(a)(1), (3).

⁹⁶ Noise abatement through aircraft design, often referred to as source control, has limited feasibility. Airplanes have an economic life of 16 to 20 years. R. MANDELL, *FINANCING THE CAPITAL REQUIREMENTS OF THE U.S. AIRLINE INDUSTRY IN THE 1980s*, at 19 (1979). Many airplanes are not old enough to be retired nor young enough to recoup the expense of retrofit. In addition, the frequency of flights is a factor in annoyance even when the noise level of each flight is reduced. DOT POLICY, *supra* note 3, at 14. Aircraft technology may not be able to keep pace with the projected increases in aircraft operations. 43 J. AIR L. & COMM., *supra* note 72, at 826. Moreover, there are limits to anticipated technological improvements. In jet aircraft, the primary noise sources are fan noise and jet noise. As noise from these sources is reduced, combustion and turbine noise and airframe noise increase. Thus, to a certain extent, one kind of noise is replaced by another. PRATT & WHITNEY AIRCRAFT GROUP, *PRESENTATION TO THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY* 44 (1979) (on file at U.C. Davis Law Review office). Finally, maximum aircraft noise reduction through design is constrained by economic realities, including fuel efficiency and operating costs. *Id.* at 10, 25.

⁹⁷ Two methods of reducing noise impact are (1) creating distance between the noise source and the receiver, such as purchasing land for a buffer zone around the airport, and (2) erecting barriers between the noise source and receiver, such as soundproofing neighboring buildings.

⁹⁸ For example, schools, hospitals, public health facilities.

⁹⁹ For example, certain kinds of industry or agriculture may not be affected by high noise levels.

system¹⁰⁰ for determining local noise impact. The Department of Transportation (DOT) is charged with developing the system and is also responsible for determining compatible land uses for specific noise levels.¹⁰¹

Airport noise compatibility planning under Title I is a voluntary program¹⁰² for airport operators. Once the DOT has prescribed a noise measurement system and has recommended land uses for the various noise exposures, airport operators may submit noise exposure maps to the Secretary of Transportation.¹⁰³ The incentives for participation include access to federal grants¹⁰⁴ and limitations on liability for noise.¹⁰⁵

The Act authorizes the Secretary of Transportation to grant funds to airports for assistance in noise compatibility planning.¹⁰⁶ For example, funds could be used to determine the feasibility of different flight patterns or to investigate uses for property in high-noise areas. The Act also authorizes grants for noise compatibility programs or parts of programs which have been approved by the Secretary.¹⁰⁷ The noise compatibility program may include measures which the airport operator or local government proposes to undertake or has already undertaken.¹⁰⁸ Congress authorized funds to assist in financing either preventive measures, such as purchasing undeveloped neighboring land, or corrective measures, such as soundproofing noise sensitive facilities.¹⁰⁹

The Act also ensures that an airport's plan for improvement will not be used against it in noise litigation. Title I provides that approved noise exposure maps and accompanying information¹¹⁰ may not be admitted as evidence in noise litigation.¹¹¹ Recommendations made by the Secretary for compatible land

¹⁰⁰ 49 U.S.C.A. § 2102 (West Supp. 1980).

¹⁰¹ *Id.* §§ 2104, 2106.

¹⁰² *Id.* § 2103.

¹⁰³ Noise exposure maps must specify the level of noise experienced in each neighborhood and identify current land uses which are incompatible with the noise level. *Id.* §§ 2102, 2103.

¹⁰⁴ See notes 109, 141 and accompanying text *infra*.

¹⁰⁵ See notes 113, 114 and accompanying text *infra*.

¹⁰⁶ 49 U.S.C.A. § 2104(c) (West Supp. 1980).

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ For example, concerning noncompatible land uses.

¹¹¹ 49 U.S.C.A. § 2106 (West Supp. 1980).

use are also inadmissible.¹¹³

Finally, the Act limits the liability of airport operators who participate in approved noise compatibility programs. After an airport has submitted an approved noise exposure map, persons who acquire an interest in noise-impacted land are barred from suit if they had actual or constructive notice of the map.¹¹³ Subsequent land purchasers may sue, however, if airport noise has increased substantially since the map's publication.¹¹⁴

2. Analysis and Recommendations

The noise compatibility provisions are deficient with respect to innovation and funding. The Act offers no new planning solutions; it merely reiterates recommendations contained in prior legislation and regulations.¹¹⁵ The structural mechanism for noise compatibility planning already existed at the time of the Act; however, political, financial and legal problems, which the Act largely ignores, have limited planning viability.

Difficulty in predicting future land development has traditionally restricted the use of land planning. Although airports generally have been constructed considerable distances from densely

¹¹³ *Id.*

¹¹³ *Id.* § 2107. Constructive notice requires both (1) publishing the map at least three times in a general circulation newspaper in the county where the property is situated and (2) providing a map to the purchaser when the property is acquired. *Id.*

¹¹⁴ If plaintiffs could show a significant change in either (1) the type of aircraft, (2) frequency or time of flights, (3) layout of the airport, or (4) flight patterns since the map was published, they would be entitled to damages for the injury attributable to the change. *Id.*

¹¹⁵ For example, the Airport and Airway Development Act of 1970 (ADAP) made grants for airport construction contingent upon the use of zoning and other land planning measures. 49 U.S.C. § 1718(4) (1976). In addition, the 1976 DOT Policy had stressed land use planning and airport operator initiatives. DOT POLICY, *supra* note 3, at 8-9, 52-58. In fact, the 1980 Act incorporated the same basic program recommended in the Policy. DOT, however, had included the program merely as a "companion" measure to the primary solution of aircraft noise reduction. *Id.* at 1. The lack of innovation in the program suggests that it was inserted simply to appease airport operators. Airports generally had opposed the Act on the assumption that extended aircraft compliance deadlines would cause increased damage awards against them in noise litigation. See, e.g., 126 CONG. REC. S954 (daily ed. Feb. 5, 1980) (remarks of Sen. Cranston). The inadequate funding of the program also belies Congress' commitment to the program. See notes 141-43 and accompanying text *infra*.

populated areas,¹¹⁶ they often attract commercial and residential development.¹¹⁷ As a result, the population moves toward the airport facility.¹¹⁸ Predicting future airport expansion and space requirements for noise insulation has also been difficult.¹¹⁹ In addition, due to the rapid appreciation in the value of land surrounding airports,¹²⁰ airport owners may be unable to afford the necessary land acquisitions.

Zoning has also proved to be an ineffective method of land use planning. Zoning can be effective only where the airport proprietor has the authority to establish comprehensive ordinances. Thus, unless the airport operator is also a government subdivision,¹²¹ it may be unable to regulate surrounding land uses.¹²² Moreover, in the fairly typical situation where the airport is bordered by different municipal jurisdictions, there may be little possibility for compatible zoning.¹²³

¹¹⁶ Hill, *The Litigation Pains of a Growing Airport*, TRIAL, Aug., 1979, at 41. Site selection usually is based on pragmatic considerations such as the amount of land necessary and its purchase price. *Id.* Although communities generally develop around the newly constructed airport, there have been instances where airports were built after the surrounding community had been extensively developed. For example, Boston's Logan Airport was constructed after substantial residential development in its vicinity. See note 130 and accompanying text *infra*.

¹¹⁷ Increases in property values indicate that airports attract development. For example, O'Hare International Airport was built in 1947 on land which sold for \$400-500 per acre. During an expansion of the airport in 1960, surrounding land was purchased for \$20,000 per acre. By 1966, the neighboring land was valued at \$50,000 per acre. Dworkin, *supra* note 4, at 201-02.

¹¹⁸ *Id.*

¹¹⁹ *Id.* at 204. Operators of some of the older airports cannot be blamed for the original planning and construction of their facilities. Many of these airports were designed before the inception of the jet age and the increased air traffic which advanced technology brought. Thus, they could not have anticipated the spatial demands which have accompanied growth. 61 VA. L. REV., *supra* note 31, at 1309.

¹²⁰ See note 117 *supra*.

¹²¹ Generally airports are owned by a political subdivision, but the Burbank-Hollywood Airport is an example of a privately owned airport. See note 44 and accompanying text *supra*.

¹²² 61 VA. L. REV., *supra* note 31, at 1309-10.

¹²³ Dworkin, *supra* note 4, at 202. For example, in *City of Burbank v. Lockheed Air Terminal, Inc.*, 411 U.S. 624 (1973), the Supreme Court mentioned the jurisdictional problem of Cincinnati whose principal airport is located in Kentucky. 411 U.S. at 635-36 n.14; see notes 44-49 and accompanying text *supra*.

Constitutional considerations have raised other impediments to zoning efforts. Although zoning may work well in planning a new airport in a relatively undeveloped area,¹²⁴ it is less practical as a corrective measure in a fully developed community. The doctrine of prior nonconforming uses protects property that was developed before the adoption of the zoning ordinances.¹²⁵ Unless the diminution of property value from rezoning is insignificant, property owners must receive just compensation.¹²⁶ Thus, expenses of litigation and damages for decreased property value limit the utility of zoning as a noise abatement method.¹²⁷

In addition, both land acquisition and zoning ordinances raise problems of displacement. Land purchases and retroactive zoning may force people out of their homes.¹²⁸ When displacement results from a federally assisted airport development project, the proprietor must pay for the relocation search and for moving costs.¹²⁹ In neighborhoods composed of long-term residents, relocation is often complicated by a strong reluctance to sever community ties.¹³⁰ As a consequence, local governments may be hesi-

¹²⁴ Where the land surrounding the airport is undeveloped, zoning may prevent development of noncompatible uses. Moreover, where the land has already been developed for uses compatible with an airport, zoning may prevent changes to noncompatible uses. Comment, *The Legal and Institutional Framework for an Airport Noise-Compatibility Land Use Program*, 10 J.L. REF. 447, 449 (1977).

¹²⁵ *Id.* "A nonconforming use is a lawful use existing on the effective date of the zoning restriction and continuing since that time in nonconformance to the ordinance." *City of Los Angeles v. Gage*, 127 Cal. App. 2d 442, 453, 274 P.2d 34, 40 (2d Dist. 1954). Because immediate termination of a pre-existing land use raises the constitutional issue of a taking without just compensation, zoning ordinances may provide for amortization by requiring termination of the use after a specified period of time. *City of La Mesa v. Tweed & Gambrell Planing Mill*, 146 Cal. App. 2d 762, 768-69, 304 P.2d 803, 807-808 (4th Dist. 1956). Some jurisdictions require compensation in addition to amortization. 61 VA. L. REV. *supra* note 31, at 1310 n.50. Moreover, the amortization period may be so long as to limit the effectiveness of zoning. *Id.*

¹²⁶ Dworkin, *supra* note 4, at 201. *But see* 10 J.L. REF., *supra* note 124, at 456-61.

¹²⁷ Dworkin, *supra* note 4, at 201, 204-5.

¹²⁸ N. ASHFORD & P. WRIGHT, *supra* note 5, at 405. Los Angeles has spent approximately \$130 million to buy 2300 homes, which have since been destroyed. Nat'l L.J., Dec. 1, 1980, at 10, col. 2-3, 4.

¹²⁹ The Uniform Relocation Assistance & Real Property Acquisition Policies Act of 1970, 42 U.S.C. §§ 4601-55 (1976).

¹³⁰ *See generally* 125 CONG. REC. S5002 (daily ed. May 1, 1979) (remarks of Sen. Kennedy).

tant to uproot their constituents.¹³¹ Because land acquisition and zoning are cost-prohibitive and are frequently unpopular with airport neighbors,¹³² airport proprietors have been forced to explore less disruptive planning methods.

The use of insulation devices is one alternative to land acquisition and zoning. Although there has been some attempt to create sound barriers around airports,¹³³ the most common practice is to soundproof buildings. The experiences of other countries¹³⁴ and a DOT study¹³⁵ suggest that soundproofing is feasible in some circumstances.¹³⁶ There are, however, problems with soundproofing to reduce aircraft noise. First, the device affects only interior noise levels and therefore would not benefit outdoor activity.¹³⁷ Second, soundproofing is very expensive and

Most of these [Boston] communities were there long before the airport was. They are inhabited by old, established families who came here from Europe two or three generations ago and who have spent lifetimes building their neighborhoods—building, buying and improving residential property. These are family homes—the nuclei of family life. *Id.*

¹³¹ *But see* Massport/Neptune Road Housing Relocation Program (Aug., 1977) (application for federal funds)(copy on file at the U.C. Davis Law Review office). Massport, proprietor of Boston's Logan Airport, reinstated a relocation program at the demand of residents of a community near the airport. The program probably was attractive to the residents because participation was voluntary, replacement value of the housing was paid (without discounting because of the noise factor) and residents received up to \$7000 for relocation expenses. *Id.* at 2.

¹³² See notes 128-30 and accompanying text *supra*.

¹³³ Massive landscaping can reduce noise from aviation ground operations. N. ASHFORD & P. WRIGHT, *supra* note 5, at 427. Los Angeles currently is experimenting with a noise control wall, which may cost up to \$5 million. Nat'l L.J., Dec. 1, 1980, at 10, col. 4.

¹³⁴ Germany, Canada, Japan, France, Great Britain, and the Netherlands have soundproofing programs. Some programs are restricted to public facilities, while others include private dwellings. All programs appear to be government-subsidized, although the source of funding and level of government administering the program varies. U.S. DEP'T OF TRANSPORTATION, REPORT TO CONGRESS: STUDY—THE FEASIBILITY, PRACTICABILITY AND COST OF THE SOUNDPROOFING OF SCHOOLS, HOSPITALS AND PUBLIC HEALTH FACILITIES LOCATED NEAR AIRPORTS 38-40 (1977) [hereinafter cited as DOT REP.].

¹³⁵ The study covered six different regions of the United States, *id.* at 4, and sampled the noise impact on 60 public buildings. *Id.* at 1.

¹³⁶ The study focused only on schools, hospitals, and public health facilities. It did not address the feasibility of soundproofing businesses or private residences. *Id.* at 1.

¹³⁷ Dworkin, *supra* note 4, at 203.

may be cost-prohibitive. A soundproofing requirement could significantly increase construction costs for housing or buildings.¹³⁸ In a developed residential area, the financial burden would be even greater.¹³⁹ Indeed an airport operator may even find it cheaper to acquire the land than to pay for insulation.¹⁴⁰

Sound insulation and land use planning through acquisition and retroactive zoning involve substantial financial expense. Of major concern is devising an adequate financing method for implementing these programs. The funding levels authorized by the Act are inadequate.¹⁴¹ Moreover, the Act requires Congress to appropriate specific funds,¹⁴² and to date, Congress has failed to do so.¹⁴³ The net result is that airport operators have not benefited from the Act's land use planning provisions.

An alternative to expensive noise abatement methods is the modification of operational procedures. Preferential runway systems,¹⁴⁴ restrictions on certain types of aircraft,¹⁴⁵ institution of curfews,¹⁴⁶ and designation of certain flight procedures¹⁴⁷ do not

¹³⁸ *Id.*

¹³⁹ The figures from the DOT's soundproofing study are instructive. Although the amounts reflect the cost of soundproofing public buildings, they provide an economic perspective. The average cost of soundproofing a public building, in 1977 dollars, was \$200,000. DOT REP., *supra* note 134, at 41. The cost per room in soundproofing a school was between five and six thousand dollars. *Id.* at 29. For the typical hospital room, the cost was \$2500-3000. *Id.* at 30.

¹⁴⁰ Dworkin, *supra* note 4, at 203.

¹⁴¹ The Secretary of Transportation may obligate a maximum of \$150,000,000 of funds, but no more than \$15,000,000 in a single year. 49 U.S.C.A. § 1713 (West Supp. 1980). DOT estimated that a nationwide soundproofing program for schools, hospitals and public health facilities alone would cost over \$200 million dollars in 1977 dollars. DOT REP., *supra* note 134, at 26.

¹⁴² The funding provision is part of the Airport and Airway Development Act, 49 U.S.C.A. §§ 1713, 1742(f)(1) (West Supp. 1980), which requires specific appropriations. AV. WEEK & SPACE TECH., Oct. 13, 1980, at 36.

¹⁴³ AV. WEEK & SPACE TECH., Oct. 13, 1980, at 36.

¹⁴⁴ For example, Massport and the FAA have developed a preferential runway system for nighttime use which permits an over-the-water departure route rather than a route over neighborhoods. For safety reasons, the route is not used during the day when traffic is heavier. MASSPORT, NOISE 15 (1980).

¹⁴⁵ For example, an airport may restrict the hours in which noncomplying aircraft may use the facilities. *Id.* at 6.

¹⁴⁶ DOT POLICY, *supra* note 3, at 57. *But see* note 149 and accompanying text *infra*.

¹⁴⁷ For example, directing aircraft to avoid residential areas and/or use of a steeper glide slope on approach. DOT POLICY, *supra* note 3, at 44-47.

require enormous financial investment. However, safety considerations pose an obstacle to large-scale changes in operational procedures. The Air Line Pilots Association has argued that flight operations have already been exploited beyond the bounds of safety due to noise abatement procedures.¹⁴⁸ Similarly, airport curfews which decrease operational hours without reducing aircraft operation could lead to hazardous traffic congestion.¹⁴⁹

Manipulation of operational procedures also raises constitutional issues. Although the courts have not yet clearly defined the extent of an airport operator's authority to control procedures, they are likely to limit the power on federal pre-emption grounds.¹⁵⁰ In addition, the commerce and equal protection clauses also inhibit proprietary control. For example, a reduction in airport operations may unduly burden interstate commerce.¹⁵¹ Restrictions on the types of aircraft might also violate the commerce clause.¹⁵² And limitations based on numbers of operations or types of aircraft may potentially result in unconstitutional discrimination.¹⁵³ Thus, changes in operational procedures re-

¹⁴⁸ O'Donnell, *Aircraft Noise: The Pilots' Perspective*, TRIAL, Sept., 1977, at 37, 38-39. There may also be a problem of shifting the noise to a different sector when flight operations are changed. 125 CONG. REC. S5002 (daily ed. May 1, 1979) (remarks of Sen. Kennedy). For an example of the implications of changing a flight pattern, see FEDERAL AVIATION ADMINISTRATION, U.S. DEPT OF TRANSPORTATION, DEPARTURE PROCEDURES, RUNWAY 22 RIGHT LOGAN INTERNATIONAL AIRPORT, DOC. NO. ANE-500-79-2(1979) (Supp. Draft Environmental Impact Statement) (copy on file at the U.C. Davis Law Review office).

¹⁴⁹ Indeed, the Supreme Court in *City of Burbank v. Lockheed Air Terminal, Inc.*, 411 U.S. 624 (1973), indicated that the adoption of local curfews could inhibit safety. The Court quoted an FAA decision, announced in 1960, that "[t]he practice of prohibiting the use of various airports during certain specific hours could create critically serious problems to all air transportation patterns." 411 U.S. at 640; see notes 44-49 and accompanying text *supra*.

¹⁵⁰ See notes 43-49 and accompanying text *supra*.

¹⁵¹ The City of San Jose, California, in considering restrictions on airline operations to reduce cumulative noise impact, acknowledged that the procedure might unduly burden interstate commerce. R. P. Farlin, Memorandum to Legislative Committee Regarding Federal Aviation Noise Legislation 2 (May 17, 1979). See also notes 50-51 and accompanying text *supra*.

¹⁵² For example, Los Angeles International Airport has instituted a regulation that will prohibit Boeing 707s from landing at the airport by 1985. The City of Los Angeles recognizes that such a regulation may impose an undue burden on interstate commerce, particularly if other airports continue to accept 707 service. BUS. WEEK, Nov. 24, 1980, at 144. See also notes 50-57 and accompanying text *supra*.

¹⁵³ See note 52 *supra*.

quire caution and thorough consideration of the possible safety and constitutional implications.

The Act's limitation on airport operator liability for noise is a recognition of the inadequacies of the noise compatibility program. Furthermore, it is an unwarranted substitute for effective noise abatement procedures. There is simply no justification for the claim limitation as it presently stands. First, it does nothing to reduce the problem of noise pollution, but merely attacks a symptom of the problem.¹⁵⁴ Second, it is unnecessary as an incentive for participation in noise compatibility planning programs.¹⁵⁵ Third, it is debatable whether airport operators should be afforded any kind of immunity.¹⁵⁶ Finally, the provision is open to abuse and is likely to create injustice.¹⁵⁷

¹⁵⁴ Section 2107 may have been intended to provide relief for airport operators, who are generally the defendants in damage suits. See note 22 and accompanying text *supra*. Barring suits, however, does not reduce the harm done to plaintiffs. See notes 11-14 and accompanying text *supra*. Even assuming that airports are entitled to relief, it is doubtful that § 2107 can provide it. Since the bar applies only to those who purchase land after publication of the noise exposure map, see note 113 and accompanying text *supra*, many neighbors may still sue. Boston's Logan Airport, for example, is surrounded by long-term residents. See note 130 *supra*.

¹⁵⁵ The persistent threat of lawsuits is already a powerful incentive to develop a noise compatibility program. See note 15 and accompanying text *supra*. In California, the potential for continuing liability for *personal injury* is also a motivational factor. See notes 35-38 and accompanying text *supra*.

¹⁵⁶ Some courts have upheld the "coming to the nuisance" defense and denied damages where the plaintiff acquired land after the nuisance existed. See, e.g., *Bove v. Donner-Hanna Coke Corp.*, 236 App. Div. 37, 258 N.Y.S. 229 (1932) (denying plaintiff's claim even though she acquired her land before the nuisance since she had been aware of the potential development of the site). There is no sound basis for the conclusion that priority in time of land acquisition should determine land use control. Recent legislation controlling air and water pollution implies legislative rejection of the "coming to the nuisance" theory. Hill, *supra* note 116, at 44. Indeed, continued risk of liability is an important incentive to minimize the nuisance where an operation cannot be enjoined. See, e.g., *Boomer v. Atlantic Cement Co.*, 26 N.Y.2d 219, 257 N.E.2d 870, 309 N.Y.S.2d 312 (1970).

¹⁵⁷ The bar could become a convenient way for the federal government and local airport authority to avoid responsibility for noise reduction. By approval of a noise exposure map, the FAA can appease the airport operator, who is at least insulated from suits by new neighbors. In view of the historic distrust of the FAA's commitment to noise abatement, see note 68 *supra*, suspicion of abuse is warranted.

Moreover, in the absence of adequate notice to the land purchaser, a bar on suits is unjustified. The notice provisions do not seem reasonably calculated to

Effective noise compatibility planning depends on a substantial federal commitment and not on insulating airport operators from liability. Federal support is warranted because air transportation is a vital national interest¹⁵⁸ and because extensive federal control has severely restricted the ability of lesser entities to reduce noise.¹⁵⁹ Land acquisition, retroactive zoning, and structural modification cannot be viable without federal support through grants¹⁶⁰ and other incentives.¹⁶¹

An explicit Congressional directive on airport noise could solve several problems. By articulating the powers belonging to airport operators,¹⁶² Congress would reduce much of the uncertainty concerning areas of pre-emption.¹⁶³ Clarification would facilitate the airport proprietor in its noise reduction programs and it might also reduce the number of lawsuits challenging the constitutionality of proprietor actions. Furthermore, a forceful Congressional statement could provide the basis for a nationally-coordinated noise compatibility program, which would minimize the safety problems caused by potentially conflicting programs among individual airports.¹⁶⁴

assure plaintiffs sufficient time and information to make an intelligent decision. *See* note 113 and accompanying text *supra*. It is questionable whether the noise exposure map's publication in a county newspaper would adequately alert or inform potential purchasers of the noise problem. Their only assurance of actual notice is the requirement that they be furnished a copy of the map at the time the land is acquired. By that time, the map may no longer be useful. Finally, there is no requirement that the map be sufficiently nontechnical so that a layperson can understand it.

¹⁵⁸ *See* note 4 and accompanying text *supra*.

¹⁵⁹ *See* notes 43-47 and accompanying text *supra*.

¹⁶⁰ There must be appropriation and not mere authorization of funds. Furthermore, the funding levels must accurately reflect the cost of noise compatibility programs. *See* notes 120, 133, 138-43 and accompanying text *supra*.

¹⁶¹ An example of such an incentive would be a tax credit for soundproofing similar to credits for weatherizing homes. *See, e.g.*, 26 U.S.C. § 44C (Supp. III 1979). Indeed, soundproofing has an energy-saving benefit. DOT REP., *supra* note 134, at 32, 35.

¹⁶² For a discussion of the problems caused by uncertainty as to the powers possessed by airport proprietors, *see* notes 40-49 and accompanying text *supra*.

¹⁶³ In addition to clarifying powers which have not been pre-empted, Congress might address other constitutional issues raised by local regulation, *see* notes 50-52 and accompanying text *supra*, and provide appropriate guidance and authorization for certain kinds of local air regulation.

¹⁶⁴ For example, the institution of curfews can significantly affect traffic patterns, and therefore safety, throughout the air transportation network. *See*

B. Aircraft Compliance Waivers

1. Provisions of the Act

The most controversial provisions of the Act are those which extend compliance with FAR 36.¹⁶⁵ The FAR 36 requirements that two- and three-engine planes comply with the regulations by 1983, and four-engine by 1985, would have forced the industry to take short-term remedial measures which were unpopular with many aircraft operators.¹⁶⁶ Congress responded to industry sentiment by pushing back the deadlines substantially.¹⁶⁷ Although the Act left the deadline for four-engine aircraft in effect,¹⁶⁸ it granted broad waivers to two- and three-engine aircraft. The waivers are categorized as "New Technology Aircraft Incentive"¹⁶⁹ and "Small Community Service Exemption."¹⁷⁰

The New Technology Incentive Waiver extends FAR compliance dates two years for three-engine aircraft¹⁷¹ and three years for two-engine aircraft.¹⁷² The grant of a new technology waiver is in the discretion of the Secretary of Transportation, but it requires the airlines to submit an approved aircraft replacement plan.¹⁷³ A good faith effort to comply with FAR 36 is therefore necessary to qualify for a waiver.¹⁷⁴

The Small Community Service Exemption applies only to two-engine aircraft.¹⁷⁵ The Act grants all two-engine aircraft having one hundred seats or fewer a five-year extension beyond

note 149 *supra*.

¹⁶⁵ FAA Noise Standards: Aircraft Type and Airworthiness Certification, 14 C.F.R. § 36 (1980).

¹⁶⁶ Because of the short deadlines, airlines in many instances would have been forced to choose retrofit over replacement. The long economic life of aircraft, *see* note 96 *supra*, would prevent total phase-out and replacement by the compliance date. In addition, the enormous investment required for replacement aircraft would make retrofit more feasible. *See* notes 76-78 *supra*. *See also* note 185 *infra*.

¹⁶⁷ 49 U.S.C.A. §§ 2123, 2124 (West Supp. 1980).

¹⁶⁸ H.R. REP. No. 96-715, 96th Cong., 1st Sess. 23 (1979).

¹⁶⁹ 49 U.S.C.A. § 2123 (West Supp. 1980).

¹⁷⁰ *Id.* § 2124.

¹⁷¹ *Id.* § 2123(a).

¹⁷² *Id.* § 2123(b).

¹⁷³ *Id.* § 2123.

¹⁷⁴ The operator must enter into a binding contract for replacement aircraft to be delivered prior to the new deadlines. *Id.*

¹⁷⁵ *Id.* § 2124(a).

the FAR compliance date.¹⁷⁶ Two-engine planes with more than one hundred seats are exempt for at least two years beyond the FAR deadline.¹⁷⁷ If an airline orders replacements of such aircraft, the exemption is for three years.¹⁷⁸

The purpose of both waivers is to discourage the use of retrofit for complying with FAR 36 and to encourage aircraft replacement.¹⁷⁹ Under FAR 36, retrofit was the most accessible alternative because it cost considerably less than aircraft replacement.¹⁸⁰ The airline industry in general had opposed retrofit because of its alleged fuel inefficiency and its disputed effectiveness.¹⁸¹ The waivers permit airlines to postpone their financial outlay so that, at least theoretically, they can later invest a larger amount on new technology.

2. Analysis and Recommendations

The most serious consequence of the waiver provisions is that

¹⁷⁶ *Id.* § 2124(b)(2).

¹⁷⁷ *Id.* § 2124(b)(3).

¹⁷⁸ *Id.* § 2123(b).

¹⁷⁹ The supporters of the Act disputed the effectiveness of retrofit to reduce noise perceptibly. Estimates vary as to the actual decibel reduction caused by retrofit, but most experts agree that it is approximately 5 dB. There is evidence that the human ear can reliably discern noise levels differing by 5 to 6 dB. *See Hearings, supra* note 87, at 309-615 (testimony of Paul Borsky.) In an informal flyover test conducted for senators and their staffs, approximately 30% of the participants either could not distinguish between retrofitted and nonretrofitted engines or picked the wrong aircraft. 125 CONG. REC. S5007 (daily ed. May 1, 1979)(remarks of Sen. Javits). Supporters of the Act also rejected the "cumulative noise impact" theory on which retrofit is partially predicated. *See Hearings, supra* note 87, at 149 (testimony of George Bean). The theory assumes that annoyance is affected by the frequency of noise events. Therefore, even a slight noise reduction gained through retrofit would become significant with the accumulation of noise events. *See note 9 supra*. Critics of the theory argue that the most significant annoyance comes from communication interruptions and not from any cumulative effect. *See generally Hearings, supra* note 87, at 149 (statement of George Bean). Retrofit reduces noise on take-off and approach but is relatively ineffective in reducing sideline noise. *See DOT POLICY, supra* note 3, at 38. Former FAA Administrator Bond argued that the FAA program, which relied heavily on retrofit, would benefit approximately one-third of the airport neighbors currently experiencing "unacceptable" noise (about two million people) and roughly two-thirds of those suffering from severe noise levels (approximately 400,000 people). 125 CONG. REC. S4997 (daily ed. May 1, 1979)(remarks of Sen. Javits).

¹⁸⁰ *See note 166 supra*.

¹⁸¹ *See notes 76-78, 179 supra*.

they impede immediate noise relief. In addition, it is questionable whether the waivers will promote the objectives ascribed to them. With respect to the New Technology Incentive Waiver, there is no guarantee that extending the deadlines by several years will induce aircraft operators to replace airplanes. Since aircraft replacement is an enormous financial undertaking, the decision to replace is based on economics.¹⁸² Because planes have a long economic life,¹⁸³ retirement is determined largely by the age of the plane and its operating efficiency.¹⁸⁴ In addition, the availability of the necessary capital to invest in new aircraft is crucial.¹⁸⁵ The Act ignores these economic factors and merely assumes that a time extension will solve financial impediments. Moreover, the Act does not assure that the necessary technology will be available in time to comply with the new deadlines. At present, there are no suitable replacement models for some existing aircraft.¹⁸⁶ Given the lag time between design and market availability of aircraft,¹⁸⁷ replacement may not be possible for years after the extended deadlines.

The Small Community Service Exemption is defective because

¹⁸² 126 CONG. REC. H442-43 (daily ed. Jan. 31, 1980)(remarks of Rep. Mineta). See also text accompanying notes 194-95 *infra*.

¹⁸³ See note 96 *supra*.

¹⁸⁴ See notes 76-78, 96, 182 *supra*.

¹⁸⁵ U.S. airlines will require approximately 2,000 new aircraft in the 1980s. See *AV. WEEK & SPACE TECH.*, Oct. 20, 1980, at 47. The Air Transport Association estimates that airlines must spend approximately \$4.4 billion per year throughout the decade to satisfy the industry need for new aircraft. *AV. WEEK & SPACE TECH.*, Nov. 3, 1980, at 52. To generate the capital necessary for this investment, the airlines require an annual return on investment of 13-15%. *Id.* The average annual net profits required for the investment are approximately \$5.8 - 7.8 billion. *Id.* In view of the fact that the airlines have met the requisite level of return on investment only once in the past twenty years, it is questionable whether they will be able to achieve an average annual return of 13-15%. See *id.* In addition, the airlines have recently experienced staggering losses amounting to over \$1 billion in the second half of 1979 and \$475 million in the first half of 1980. *Id.*

¹⁸⁶ Aircraft are selected for their flight characteristics as well as their passenger capacity. See *AV. WEEK & SPACE TECH.*, Oct. 20, 1980, at 47; *AV. WEEK & SPACE TECH.*, Jan. 12, 1981, at 25. Replacement is therefore not simply a matter of exchanging one plane for another. At present there are no replacement aircraft for the two-engine jet DC-9 or the BAC-111. 126 CONG. REC. H444 (daily ed. Jan. 31, 1980)(remarks of Rep. Ambro).

¹⁸⁷ Development of new aircraft may take up to five years. Delivery may require an additional two years. R. MANDELL, *supra* note 96, at xvi.

of its inflexibility. Aircraft operators have up to five years to comply with noise standards beyond the FAR deadline,¹⁸⁸ regardless of the operator's ability to comply at an earlier date.¹⁸⁹ Blanket waivers are not justified since the underlying rationale of the waivers was to alleviate the harshness of the regulations where compliance would be either very burdensome or impossible.¹⁹⁰ Certainly blanket waivers are inappropriate for airlines that can meet the deadlines without unnecessary hardship.

It is also debatable whether the Small Community Service Exemption will in fact protect small communities from any loss of air service which purportedly might result from requiring compliance with the original deadlines. The airlines had suggested that small community service was expendable because it was less profitable than service to larger communities.¹⁹¹ Congress therefore concluded, in the face of short compliance deadlines, that aircraft operators would retire planes and discontinue small community service rather than replace or retrofit.¹⁹² However, there is no proof that the expense of retrofit would have encouraged airlines to cease serving smaller communities.¹⁹³ Moreover, since routes are chosen on the basis of profitability,¹⁹⁴ it is

¹⁸⁸ See 49 U.S.C.A. § 2124 (West Supp. 1980); DOT POLICY, *supra* note 3, at 6, 40-41.

¹⁸⁹ Unlike the New Technology Aircraft Incentive Waiver, 49 U.S.C.A. § 2123 (West Supp. 1980), the Small Community Service Exemption is automatic. *Id.* at § 2124(a).

¹⁹⁰ See generally notes 166, 186 *supra*.

¹⁹¹ See generally 126 CONG. REC. H437-38 (daily ed. Jan. 31, 1980)(remarks of Rep. Shuster); see also note 193 *infra*.

¹⁹² See 126 CONG. REC. H444 (daily ed. Jan. 31, 1980)(remarks of Rep. Ambro).

¹⁹³ Representative Ambro argued that threatened aircraft retirement was attributable to airline deregulation and not to FAR 36. 126 CONG. REC. H444 (daily ed. Jan. 31, 1980). To blame noise abatement for the problem of maintaining adequate small community service was a "cruel hoax," according to Rep. Mineta, since routes are determined largely on the basis of economic profitability. *Id.* at H442. Prior to airline deregulation, scheduled air routes were dependent upon CAB approval. Airlines could not withdraw service without obtaining permission. Deregulation has permitted airlines to discontinue unprofitable routes. For a discussion of airline deregulation, see V. ROLLO, AVIATION LAW 104-113 (1979).

Furthermore, according to Sen. Javits, prior to the 1980 Act, the FAA possessed the authority to waive compliance if small community service would be jeopardized. 126 CONG. REC. S953 (daily ed. Feb. 5, 1980).

¹⁹⁴ 126 CONG. REC. H442 (daily ed. Jan. 31, 1980)(remarks of Rep. Mineta).

misleading to focus on the cost of aircraft alterations as the crucial factor in route selection. Because equipment modification requirements may affect an airline's entire fleet, the cost of modifying the small community service fleet would not necessarily be disproportionate. A profitable route will be retained regardless of compliance requirements, and an unprofitable route will be discarded on the same basis.¹⁹⁵

Even assuming that a special exemption is necessary to protect small communities, the exemption created is broader than necessary. It is not limited to two-engine planes serving small communities or economically marginal markets, but applies to all two-engine planes.¹⁹⁶ In fact, two-engine aircraft are responsible for a major portion of the noise at some of the nation's largest airports.¹⁹⁷ Thus, without justification, two-engine aircraft exclusively serving larger markets benefit from the compliance waivers.¹⁹⁸

The waivers have also been politically destructive. When the Act passed, several airlines had already made significant commitments to meet the old deadlines.¹⁹⁹ Consequently, airlines that delayed efforts to comply were rewarded for their inac-

¹⁹⁵ *Id.* at H442 (remarks of Rep. Mineta), H444 (remarks of Rep. Ambro). Indeed, forced replacement, where economically unfeasible, might also cause the airlines to discontinue small community service.

¹⁹⁶ 49 U.S.C.A. § 2124 (West Supp. 1980).

¹⁹⁷ Approximately 66% of all two-engine operations are at large- and medium-hub airports, which comprise only 14% of the airports in the United States. About 34% of La Guardia's jet operations are two-engine; at Logan, approximately 32%; at Atlanta, more than 40%; and at San Jose, approximately 38%. These airports are among the most severe noise sites in the country. 126 CONG. REC. H442 (daily ed. Jan 31, 1980) (remarks of Rep. Mineta). Admittedly, two-engine planes fly between small communities and large- and medium-hub airports. Nonetheless, the figures show that a substantial number of two-engine operations do not service small communities.

¹⁹⁸ The only plausible explanation for the waiver is that it permits carriers to avoid retrofitting where there are no appropriate replacement aircraft. See note 186 *supra*.

¹⁹⁹ By January 1980, Delta, Continental, North Central and United Airlines had begun efforts to comply with the FAA regulations. 126 CONG. REC. H449 (daily ed. Jan. 31, 1980)(remarks of Rep. Scheuer). Eastern Airlines had begun purchasing new technology three-engine planes. 125 CONG. REC. S5001 (daily ed. May 1, 1979)(remarks of Sen. Metzenbaum). Northwest Airlines had also made substantial investments in order to comply with the FAR 36 deadlines. 126 CONG. REC. S955 (daily ed. Feb. 5, 1980)(remarks of Sen. Durenberger).

tion.²⁰⁰ Moreover, the broad grant of extensions encourages the airlines to invest in lobbying rather than in complying with regulations. The extensions may well lead the airlines to return to Congress with new excuses for failing to comply with the new deadlines.²⁰¹

The waivers have also eroded the confidence of airport neighbors in congressional integrity. When the federal government announced its Aviation Noise Abatement Policy in 1976, it assured airport neighbors that most planes would be in compliance by 1983.²⁰² In 1980, with the passage of the Act, neighbors could no longer expect relief within three years but were made to wait an additional five to eight years.²⁰³ There are already some indications of public cynicism concerning the airlines' compliance with the new deadlines.²⁰⁴

Although not a panacea to the airport noise problem, source control is a vital part of the solution. A return to the original FAR 36 deadlines is the most efficient and immediate step toward aircraft noise reduction. Compliance waivers should be available only in instances of extreme hardship, and waiver determinations should be made on a case-by-case basis.²⁰⁵ Where compliance is feasible, aircraft operators must be required to meet the deadlines.

Since aircraft replacement is preferable to retrofit, incentives should encourage replacement where technology is available and

²⁰⁰ Congressman Wydler argued that the waivers were included to aid a recalcitrant minority of airlines who simply did not want to comply with regulations. 126 CONG. REC. H442 (daily ed. Jan. 31, 1980)(remarks of Rep. Wydler).

²⁰¹ The airlines have been resisting noise reduction for the last fifteen years in our country. I have seen it year after year. There are some airlines that are going to stonewall it right to the end. If we give them this extension, they will be back for other extensions as other problems arise for them in the years ahead. Once we start down this road, there is probably no place we can stop. *Id.*

²⁰² See generally DOT POLICY, *supra* note 3, at 6-7; 126 CONG. REC. S955 (daily ed. Feb. 5, 1980)(remarks of Sen. Durenberger).

²⁰³ See notes 171-78 and accompanying text *supra*.

²⁰⁴ For example, Massport, operator of Logan Airport, responded to constituent concerns by preparing dual sets of projections regarding future noise levels, one set based on airline compliance with the new deadlines and the other based on failure to comply. Interview with Claire Barrett, Manager, Massport Noise Abatement (Jan. 30, 1981).

²⁰⁵ For example, where replacement aircraft are not available or where immediate replacement is economically unsound.

aircraft retirement is economically feasible. Federal assistance will undoubtedly be necessary to further this end. Loan guarantees,²⁰⁶ tax credits²⁰⁷ or a ticket and waybill surcharge²⁰⁸ are possible sources of economic support. In exceptional circumstances, case-by-case consideration should determine the applicability of a retrofit requirement.

CONCLUSION

After years of study and attempted regulation, airport noise remains a significant national problem. It has extracted a heavy toll in human suffering and economic expense. The statutory and case law that developed in response to the problem has produced a remarkably disjointed result. On one hand, the federal government is found to have pre-empted direct control of aviation noise by state and local governments. On the other hand, airport operators, either private entities or local governments, are held exclusively liable for damages caused by noise. The consequence of this bifurcation has been a general lack of federal commitment to the problem and many unsuccessful local attempts to abate noise.

The 1980 Aviation Safety and Noise Abatement Act is the most recent evidence of this unsatisfactory division of responsibilities. Although the Act endorses local noise compatibility planning, it fails to provide the necessary authority, guidance and funding to ensure the efficacy of planning. Moreover, it rolls back compliance deadlines established by the FAA to quiet the national air carrier fleet. By allowing aircraft operators a longer period to reduce aircraft noise, the Act increases the burden on airports for noise abatement and eliminates the possibility of short-term noise relief.

While one alternative would be to impose upon the federal

²⁰⁶ Chrysler Corporation, for example, is a recent recipient of federally guaranteed loans. For a discussion of federally guaranteed loans to replace aircraft, see Olsen, *Acquisition and Financing of Aircraft by Air Carriers*, THE AVIATION INDUSTRY 749, 783-85 (Practicing L. Inst. 1978); 43 J. AIR L. & COMM., *supra* note 72, at 841.

²⁰⁷ For example, liberalizing the investment tax credits, R. MANDELL, *supra* note 96, at 111.

²⁰⁸ A passenger or waybill surcharge of approximately 2% has been suggested frequently. *E.g.*, H.R. 3802, 95th Cong., 1st Sess. (1977); H.R. 4539, 95th Cong., 1st Sess. (1977); H.R. 8124, 95th Cong., 1st Sess. (1977). For a discussion of these bills, see 43 J. AIR L. & COMM., *supra* note 59, at 855-58.

government exclusive liability along with exclusive control,²⁰⁹ a more reasoned view is to enhance federal commitment while retaining local airport liability. In view of the federal government's traditional laxity in airport noise control, it is doubtful that the government would be sufficiently responsive even if it were made liable. Local liability assures greater attention to the problem, but local action requires strong federal support. Congress must provide guidance and authorization for airport proprietors to act, and it must assure coordination among the national airport network. In addition, it must provide adequate funds to create viable noise compatibility planning programs. Finally, Congress should repeal the waivers for aircraft compliance with noise standards in order to provide immediate noise relief. If necessary, Congress should adopt a financing policy to ease the burden of rapid compliance.

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²⁰⁹ For an argument that the federal government should be held liable for noise damages, see 61 VA. L. REV., *supra* note 31, at 1335-36.

