
NOISE CONTROL IN THE URBAN ENVIRONMENT†

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I. THE GROWING AWARENESS OF NOISE AS A SUBJECT FOR LEGAL CONTROL

An environmental problem that has been the subject of increasing attention in recent years is the high level of noise that has become so characteristic of the urban environment. The effort to deal with the noise problem by legislative controls has resulted from a number of trends: (1) the seemingly continual increase in the noise level and expansion of the areas affected, brought about by the appearance of new sources of noise (such as the addition of more and more mechanical equipment—air conditioning, ventilation, and other systems—to the typical new building) and the multiplication of existing offenders (notably the automobile); (2) recent scientific findings associating long exposure to modern noise levels with permanent hear-

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ing impairment and other medical conditions; and, most dramatically, (3) the angry controversy—which has increasingly drawn the attention and participation of political leaders—over the almost intolerable noise problem faced by those in the immediate vicinity of jet airports.

Excessive noise has long been a subject of governmental regulation, though with limited effect and with no real attempt to deal with the problem systematically. The recurrence of extremely harsh or disturbing noises (particularly in the vicinity of a dwelling at night) could well amount to what the law recognizes as a “public nuisance”—just as would the emanation of excessive dust or smoke, noxious odors, or any other result of the use of property that severely interferes with the quiet enjoyment of their property by others. A public nuisance is subject to total or partial abatement by a court injunction, granted on the petition of any affected person, even in the absence of a specific law against it. In addition, such specific laws do exist in most jurisdictions; they may consist of general prohibitions against excessive and unnecessary noise, or of specific prohibitions of particular noise problems that attract attention at the moment, or both. Specific prohibitions include such ancient police regulations as the laws against noises that disturb public worship and the prohibition of peddlers’ cries during certain hours, as well as more modern laws, such as ordinances against unnecessary horn blowing by motorists.

The recent attention given to the noise problem has led to efforts to develop legal controls more sweeping and more effectively enforceable than these usually ignored statutes. The new proposals involve both broader and more stringent control of the sources of noise, as well as the development of an entirely new set of legal standards to ensure that dwellings provide a reasonable level of protection from noise.

The most important factor contributing to the modern concern over noise and its control, however, is the problem of aircraft noise. This affects all those in the path of low-flying aircraft and the sonic boom threatens anyone under a flight path. The most immediate and acute problem, however, is that faced by those who live adjacent to take-off or landing paths at major airports. The protest of homeowners located close to airport runways has been the chief impetus to federally sponsored research into the possibilities of insulating dwellings against excessive sound levels and has forced action by the government and the airline industry to curb the noise level at its source—or at least to deflect that source away from the affected homes.

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There are several apparent reasons for the special attention paid to the plight of those in the path of airport noise. First is the exceptional severity of the airplane noise problem and, even more significant, noise is virtually a constant fact of life for those affected. A particular group of persons are victims of the problem and this makes it different from the noise problem that faces everyone who lives in a city, or everyone whose house is near a busy highway, or everyone whose street may at one time or another be ripped up by a jackhammer. Furthermore, by the very nature of airport placement, those affected are generally suburban homeowners. Ordinarily, noise and other undesirable factors in the environment have the greatest impact on the poor; the undesirable environmental factors are likely to be one reason why a neighborhood is left to the poor. Thus the environment pollutants have chiefly affected those who are most likely to accept bad living conditions as "the way things are," who are likely to be least articulate in dealing with public authorities, and who have the least political strength.

Airport noise, on the other hand, hits directly at a group that is not prepared to accept such an imposition and has little difficulty in making its voice heard loudly and insistently in Congress and the state legislatures. Airport noise, more so than most other noise problems, often causes a direct and significant impairment of the value of the affected homes. Rightly or not, government is likely to find a far more significant need for action when the property of homeowners is being affected than when faced with a "mere" public health problem. These remarks are not meant to suggest that those in the path of low-flying jet planes are not the victims of a unique and acute problem, but simply to suggest why their plight has been largely responsible for the current spate of governmental attention to noise, a long-developing but until recently largely ignored problem.

Most of the following discussion, which deals with developments before the enactment of the new New York City Building Code in 1968, focuses on legal controls other than housing or construction standards. Until very recently, control of noise meant control at the source or (in a very few cases such as the zoning limitations on certain industries and the planning of major highway routing in populated areas) control by separation of the source from residences. Neither the state of building technology, the ability to formulate meaningful quantitative standards and measurements, nor the perception of noise as an environmental hazard to be guarded against had reached

the stage where requirements for noise insulation of housing were even contemplated. The airport problem and the problem of noise transmission within apartment buildings—along with the developing technology of noise measurement and control—have now led for the first time to the development of housing standards to protect against noise. The progression described below is thus one isolated from laws against particular sources of noise, largely in the public streets, to comprehensive control aimed at reducing the generation and transmission of noise in industry and elsewhere, and, ultimately, at protecting the home against the intrusion of noise that cannot be reduced at its source, as well as the reduction of noise that originates in the building itself.

II. THE LEGAL BASIS FOR NOISE CONTROL

Although meaningful governmental regulation aimed at securing a quieter residential environment is a new development, the legal basis for such controls is clear. Thus government may act in this area without much of the uncertainty that often arises when new forms of legislation are called for to meet new problems, even though questions of jurisdiction may prove troublesome. For example, a municipality seeking to control flights over its territory from a neighboring jet airport by a local anti-noise ordinance is likely to meet with the contention that it is conflicting with preemptive federal regulation of aviation.¹ But with respect to the substantive power to regulate—the question of whether noise limitation is a legitimate purpose of police regulation—there is little likelihood of any serious challenge.

The problem of noise is now recognized as a serious threat to the public health. When government acts to protect the health and safety of its citizens, it is using the police power, the most basic and ancient of its powers, and the propriety of its use need hardly be argued. It is becoming apparent that the incidence of noise in parts of the urban environment is a threat to the mental and, potentially, the physical well-being of many residents. This is so clearly indicated by the evidence now available that the propriety of legal controls cannot intelligently be disputed. The legislature would probably be remiss if it chose not to act on the basis of present knowledge. Current studies of the effects of noise clearly show irritability, discomfort, and loss of ability to concentrate; severe nervous tension and other adverse psychological effects in the case of such repeated assaults of loud noise

1. See note 52 *infra*.

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as those from low-flying jet aircraft; and, in the event of exceptionally severe and prolonged exposure, loss of hearing acuity and other relatively permanent damage. The contemporary noise problem is, in short, a threat to the public health.²

What this means is that noise control legislation, unlike many other attempts to protect the quality of the residential environment, is not even dependent on the modern view that government's "police power" includes the general enhancement of the public welfare and an affirmatively better life as well as the direct protection of health and safety.³ Noise control does, of course, play a part in preserving the "amenities" by requiring that residential development produce a livable and attractive environment. In most jurisdictions today, sound insulation requirements would be (and should be) sustainable as a proper form of regulation on such affirmative grounds alone. But these requirements, unlike some of the others mentioned above, need not rely on a "general welfare" concept of police power or on an artificially strained definition of "health" or "safety" that has often been used by courts reluctant to accept the broader concept openly. Excessive noise is *literally* a public health hazard.⁴ Noise control legislation thus resembles air pollution, radiation, and pesticide control. In each case contemporary technology has created or greatly intensified the problem, modern research has discovered the danger, and new legislation is needed for control. But in each case that legislation rests not on any novel legal theory but on the elementary power of government to preserve the public health and safety.

Another important basis for legislation, both to control noise at its source and to insulate residences from it, is the protection of the enjoyment and, hence, the value of residential property. As noted earlier, a serious noise problem comes within the ancient legal concept of "nuisance" as a serious interference with the rights of others—

2. See NOISE AS A PUBLIC HEALTH HAZARD, Proceedings of the Conference of the American Speech and Hearing Association, Washington, D.C., June 13-15, 1968; BARON, *THE TYRANNY OF NOISE* (1970); BURNS, *NOISE AND MAN* (1969); *Hearings on Noise: Its Effect on Man and Machine Before the Special Investigating Subcomm. of the House Comm. on Science and Astronautics*, 86th Cong., 2nd Sess. (1960).

3. *E.g.*, *Berman v. Parker*, 348 U.S. 26 (1954).

4. Noise has been recognized as a health hazard for some time. *E.g.*, *Shawinski v. J. H. Williams & Co.*, 273 App. Div. 2d 826, 76 N.Y.S.2d 838, *aff'd*, 298 N.Y. 546, 81 N.E.2d 93 (1948), in which noise-caused hearing loss was first held to be a compensable disability under a workmen's compensation law.

particularly insofar as it impairs their rights to derive the full benefit of their own property.⁵ If excessive noise significantly diminishes the peace and related values that a home is supposed to afford (and, in addition, reduces the economic value of the affected residences), government may properly take protective action. Legislation is justified both to control the source of the noise and to require that future residential construction—at least in affected areas—be properly protected. Many provisions of zoning laws and land subdivision regulations are designed to ensure that residences will be located and built so that their desirability as places to live will be protected. The same consideration justifies a municipality containing a large airport or other major noise generator in requiring that homebuilders take the problem into account in their construction plans.

That a chronic noise problem can impair or destroy the value of property is shown most dramatically in the airport situation. The Supreme Court has ruled that the noise and vibrations of constant low-flying planes can so clearly deprive a neighboring landowner of the full use of his land that the government has “taken” part of it (just as if it had run an access road to the airport over the private land) and must, under the Constitution, pay “just compensation.”⁶ And more recently the Court ruled that where a home was directly under the flight paths of a commercial field, and the almost constant noise rendered it virtually uninhabitable, the owner could recover compensation for a “taking” from the county that operated the airport.⁷ Two justices dissented, agreeing that there was a taking of the property but arguing that since federal aviation laws had in effect nationalized the airways as a public highway, the federal government, rather than the county, was liable to pay.⁸ It is thus clear that noise as the destroyer of the value of a home is not merely a figure of speech used by an angry homeowner but also a tangible legal reality that has been recognized by the courts and should receive consideration in the formulation of building codes.

Noise can come into the home not only from outside but also, in the case of multiple dwellings, from neighboring apartments. When government seeks to control this form of noise transmission, it is serving not only the interests discussed above to the extent applicable

5. *E.g.* *Stevens v. Rockport Granite Co.*, 216 Mass. 486, 104 N.E. 371 (1914).

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

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

8. *Id.* at 90 (Justices Black and Frankfurter).

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but also another value which has received increasing attention from the law in very recent years: personal privacy. That the home is a place where a man should be able to speak without being overheard by those outside was an accepted concept long before it was challenged by modern electronic eavesdropping devices.⁹ If this privacy is now additionally impaired by walls that do not insulate, a building code should prevent such construction. Indeed, transmission of noise from apartment to apartment also invades the privacy of the unwilling listener.

Several years ago, some time before the recent Constitutional emphasis on a right to privacy, the United States Supreme Court considered a suit contending that the refusal of a regulatory agency to stop the practice of subjecting bus riders in the District of Columbia to amplified radio broadcasts was an unconstitutional invasion of privacy. The Court of Appeals had ruled that such a practice was invalid, at least in the case of commercial messages.¹⁰ The Supreme Court upheld the broadcasts, but largely on the basis of its acceptance of findings that relatively few passengers objected, and with at least a hint that the result might be different if the broadcast had included "objectionable propaganda."¹¹ Justice Douglas dissented on the grounds that the broadcasts invaded the right of privacy in violation of the first amendment.¹² Justice Black dissented in the belief "that subjecting Capital Transit's passengers to the broadcasting of news, public speeches, views, or propaganda of any kind and by any means [in other words, apparently anything but mere music] would violate the First Amendment."¹³ In perhaps the most extraordinary aspect of this remarkable case, Justice Frankfurter declined to participate in the decision on the ground that judges should disqualify themselves when they fear that their emotions may override the exercise of reason and that, "My feelings are so strongly engaged as a victim of the practice in question that I had better not participate in judicial judgment upon it."¹⁴

If, then, it can be seriously debated whether unwanted broadcasts *in a public place* are such an assault on privacy that government has

9. See generally A. F. WESTIN, *PRIVACY AND FREEDOM* (1961).

10. *Pollak v. Public Utilities Commission*, 191 F.2d 450 (D.C. Cir. 1951), *rev'd*, 343 U.S. 451 (1952).

11. *Public Utilities Commission v. Pollak*, 343 U.S. 451 (1952).

12. *Id.* at 467.

13. *Id.* at 466.

14. *Id.* at 467.

a constitutional *duty* to prohibit them, it is clear that the danger of intrusion of conversation and other noise into a private apartment justifies the imposition of noise transmission controls as a protection of privacy, independently of the other grounds for such law. Noise control laws, then, are regulations with several clear legal justifications. They are an attempt to reduce a developing hazard to the public health. They seek to ensure that the value of new residential construction will not be eroded. And they help protect what Justice Brandeis once called "the right to be let alone—the most comprehensive of rights and the right most valued by civilized men."¹⁵

III. EXISTING NOISE CONTROL LEGISLATION

A. *Early Regulation Efforts*

Legislation directed at the problem of excessive noise exists in virtually every jurisdiction,¹⁶ largely in the form of miscellaneous police regulations, many of them clearly reflecting the concerns of an earlier day. Indeed, perhaps the one valid generalization that can be made about these laws is that they are almost completely ineffective in dealing with the modern noise problem. The most notable facts about these laws are the following:

1. Existing legal controls have been conventionally directed solely at the creation of noise and not at the protection of the individual, within a dwelling or elsewhere, from whatever noise does exist.

2. There has been no systematic attempt to regulate. A large number of the early statutory provisions are directed at highly specific nuisances, for example the ringing of bells by street merchants after dark in residential areas. Broader provisions, on the other hand, are apt to be completely vague and generalized; an ordinance will prohibit, for example, any "loud, raucous, or unnecessary noise."

3. There is virtually no attempt to define prohibited noise levels or to set any other kind of quantitative standard. This is not surprising in the light of the mid-nineteenth century origins of most of these statutes.

4. The laws generally provide that violation of anti-noise regulations constitutes a minor misdemeanor. Since the type of acts pro-

15. *Olmstead v. United States*, 277 U.S. 438, 478 (1928) (dissenting opinion).

16. There are an estimated "1,500 to 2,000 state and local noise control laws . . ." COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY, 2ND ANNUAL REPORT 47 (1971).

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hibited are often either isolated ones that occur more or less at random or else emanate from moving vehicles, such as a blaring sound truck. Violations will escape notice, unless by mere chance a policeman happens to be near. This enforcement problem is compounded by the fact that the criminal law has been generally ineffective in providing sanctions for minor regulatory matters. Most anti-noise laws are, therefore, unworkable.¹⁷

5. Noise control laws are almost always left to the police to enforce rather than to a specialized agency. Other health laws, housing codes, and safety regulations encounter similar enforcement problems, but ordinarily there is at least a force (however inadequate) of health inspectors, housing inspectors, air pollution control inspectors, and others who have some special training, and whose primary task is a specified area of environmental control. In the case of noise control, however, there is no special enforcement agency, and enforcement activities are left to the policeman, for whom it is a very low-priority matter. Without massive neighborhood pressure or a campaign against noise the police will pay very little attention to these laws.

In consequence, there is very little enforcement of these statutes. A municipality will run an occasional campaign against horn blowing; an anti-noise ordinance may be used as the most convenient weapon against teenage drag racers or motorcyclists; but there is virtually no use of these laws in any continuing, overall attack on the problem of noise.

One other fact about this body of legislation is notable. Noise legislation has been, and on the whole remains to this day, local legislation. Almost every state has enacted laws requiring mufflers on vehicles to prevent excessive noise,¹⁸ but only California,¹⁹ Connecticut,²⁰ and New York²¹ have legislation that establishes enforceable

17. On the difficulty of using the criminal process to enforce public health regulations generally, see GRAD, *PUBLIC HEALTH LAW MANUAL*, ch. 14 (1965). See also HALL, *GENERAL PRINCIPLES OF CRIMINAL LAW* 337-46 (2d ed. 1960); PACKER, *THE LIMITS OF THE CRIMINAL SANCTION* 270-295 (1968).

18. For a tabulation of these laws, see Kaufman, *Control of Noise through Laws and Regulations*, in *NOISE AS A PUBLIC HEALTH HAZARD*, *supra* note 2, at 340 & n.29. Another excellent collection of such laws may be found in 115 CONG. REC. 32178 (1969).

19. CAL. VEHICLE CODE § 23130 (West Supp. 1971).

20. CONN. GEN. STAT. ANN. § 14-80 (1971).

21. N.Y. VEH. TRAF. LAW § 386 (McKinney 1965). For a description of the operation of the law, see Hildebrand, *Noise Pollution*, 70 COLUM. L. REV. 653, 676-77 (1970).

maximum decibel levels for motor vehicles on their highways. Recent enactments in Florida²² and North Dakota²³ authorized their respective air and water pollution control agencies to establish noise standards. But in spite of a beginning state interest in the area, regulatory activities are mainly based on local ordinances. Further, it is local legislation of a particular kind, the set of miscellaneous prohibitions typically collected in local codes under some such heading as "Police Ordinances." These are usually composed largely of matters too trivial to appear in the state's general penal code and usually too neglected in modern times to be brought together in public health laws or similar codes. The fact that the states have generally not legislated against noise and that local laws are largely recompilations of old ordinances suggests both the lack of attention paid to the problem and the low expectation of enforcement activity.

Examination of the typical anti-noise laws in a few large American cities will illustrate the general points discussed above. In New York City, the relevant provision prohibits "the creation of any unreasonably loud, disturbing and unnecessary noise" or of noise "of such character, intensity and duration as to be detrimental to the life or health of any individual."²⁴ This is followed by a list of specific acts that "among others" shall be deemed to be violations of the general prohibition. Some of these are themselves phrased in terms of "loud" or "unnecessary" or "disturbing" noises of various kinds; some are more concrete standards: horn blowing except as a danger signal, failure to use a muffler, construction work except between 7 a.m. and 6 p.m. on weekdays (except by special permit).²⁵ A first offense is punishable by a fine of from five to ten dollars or imprisonment for one day, a subsequent offense by a fine of from ten to twenty-five dollars or imprisonment for ten days, or both.²⁶ Another section regulates sound trucks and other amplifying devices in public; in general, such apparatus may not be used "in, on, near or adjacent to any public street, park or place" for commercial advertising and may be so used for other purposes only pursuant to a permit to be issued by the Police Commissioner, which is to carry appropriate restrictions.²⁷ Violations

22. FLA. STAT. ANN. § 403.061 (13) (Supp. 1972).

23. N.D. CENT. CODE § 23-01-17 (Supp. 1971).

24. NEW YORK CITY ADMINISTRATION CODE § 435-5.0a (1970)

25. *Id.* § 435-5.0(b).

26. *Id.* § 435-5.0(c).

27. *Id.* § 435-6.0.

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carry a penalty of a fine up to twenty-five dollars or imprisonment for thirty days, or both.

Philadelphia's code of ordinances has a series of anti-noise provisions, the first of which prohibits unnecessary noise in the handling of trash cans²⁸—one of the most common sources of urban noise complaints in recent years, but a matter seldom referred to specifically in the laws. This is followed by a series of specific provisions barring construction work between 6 p.m. and 6 a.m.;²⁹ protecting the quiet of hospitals, churches, courthouses, and schools;³⁰ prohibiting outdoor amplifying devices for advertising purposes;³¹ regulating street peddlers;³² outlawing excessive vehicle noise and horn blowing "except when reasonably necessary to prevent accidents";³³ and a final prohibition of "all other loud and unnecessary noises upon or near to the streets and other public places in the City."³⁴ Violations are punishable by a fine of ten dollars for a first offense, twenty-five dollars for a second offense, and fifty dollars, or thirty days in jail if it is not paid, for a third or subsequent offense.³⁵

Prior to July 1971, Chicago's code was another example of noise control by a set of miscellaneous, specific prohibitions directed at whatever specific source of noise was creating the greatest annoyance at the time the prohibition was enacted. Thus one provision, which obviously dates back to (and is highly evocative of) the city's earlier days as the rapidly growing crossroads of America during its industrialization, provides that "rails, pillars and columns of iron, steel, or other metal which are being transported on the public ways of the city" shall be loaded so as to avoid the creation of loud noise.³⁶ Other provisions prohibit the use of hand organs and similar instruments before 9 a.m. or after 9 p.m.,³⁷ outlaw the use of auto horns except as a danger signal,³⁸ and prohibit the use of pile drivers and other power construction equipment within 600 feet of a residence or hospital be-

28. PHILADELPHIA, PA., GEN. ORDINANCES § 10-401 (1956).

29. *Id.* § 10-402.

30. *Id.* § 10-403.

31. *Id.* § 10-404.

32. *Id.* § 10-405.

33. *Id.* § 10-406.

34. *Id.* § 10-407.

35. *Id.* § 10-408.

36. CHICAGO, ILL., MUNICIPAL CODE § 99-58 (1970).

37. *Id.* § 99-57.

38. *Id.* § 27-264.

tween 9:30 p.m. and 8 a.m., a provision added as recently as 1951.³⁹ The most recent addition (even though probably not often enforced) is directed to a more current problem than most of the older provisions: a 1957 amendment prohibits the idling of truck engines for a period of more than two minutes within 150 feet of residential property.⁴⁰

Chicago has adopted a new comprehensive noise control ordinance, effective July 1, 1971.⁴¹ The ordinance requires manufacturers who sell specified vehicles and other equipment—including construction equipment—in the city of Chicago to certify that their equipment meets prescribed noise emission standards. The ordinance, which contains measurable, objective standards, require vehicle users, construction, and other noise-producing activities to meet regulatory requirements. Chicago may become the first city to have a special noise enforcement force—the city plans to have mobile teams cruising the city, listening for violations with portable sound meters.⁴²

The police ordinances contained in the Baltimore City Code, like many other older noise regulations, are essentially confined to the control of overly loud salesmen, both human and mechanical. Storekeepers and others may not use amplifying apparatus directed into the street;⁴³ traveling merchants may not create “disturbing and raucous noise within the normal hearing range of any house or other dwelling unit in the City, prior to the hour of 8:00 o’clock a.m. on any morning”⁴⁴ (but apparently may be as “disturbing and raucous” as they wish at other hours); and any street vending by crying out is prohibited after 10 p.m.⁴⁵

B. Noise Control at the Source: More Modern Legislation

It is clear from the examination of current municipal codes that present noise control laws enable a policeman to issue an occasional summons for a neighborhood nuisance, but, with few recent exceptions, they are hardly effective in regulating noise as the serious form of environmental pollution. There have, however, been some attempts to improve and broaden these laws.

39. *Id.* § 99-60.1.

40. *Id.* § 99-60.2.

41. *Id.* §§ 17-1.6—17-4.21.

42. Note 16 *supra*.

43. BALTIMORE, MD., CODE art. 19, § 76 (1966).

44. *Id.* § 78.

45. *Id.* § 148.

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The National Institute of Municipal Law Officers, as part of its program of developing model ordinances on a variety of common problems of local governments, has issued a "Model Ordinance Prohibiting Unnecessary Noises" as well as model ordinances regulating sound trucks and advertising broadcasts from low-flying airplanes.⁴⁶ The latter two are directed at highly specialized problems that involve considerations other than simple noise control. The general anti-noise ordinance, similar to the New York City law described above, is more comprehensive than most of the older statutes but still makes no attempt either to establish a quantitative standard to provide any effective method of administration. While it would be a useful aid to a community seeking to progress beyond the type of ordinance that simply regulates the half-dozen sources of noise that proved most troublesome in the past, it does not really take account of present scientific knowledge or of broader contemporary problems. Development of a model anti-noise law reflecting the recognition of noise as a form of hazardous environmental pollution, rather than a mere annoyance to be dealt with by passing an ordinance and then hoping people will behave themselves, would be an important contribution.

A promising direction for effective noise legislation is pointed by two modern New York City statutes. The city's zoning resolution, enacted in 1960, attempts to deal with industrial noise and similar objectionable influences not only by the ordinary zoning technique of requiring separation of incompatible uses but also by imposing specific performance standards for various pollutants. Requirements are imposed with respect to noise; vibration; smoke, dust and other particulate air pollutants; odor; toxic emissions generally; radiation; fire and explosive hazards; and moisture; heat; and glare. The standards applicable to noise and the closely related problem of vibration are especially noteworthy.⁴⁷ They establish specific, quantitative standards of sound level and vibration intensity at various frequencies, and set forth methods of measurement. Yet these precise, quantitative requirements constitute a performance standard, rather than a set of specifications. It is noise and vibration at or beyond the lot line—the

46. National Institute of Municipal Law Officers, *Model Ordinances Prohibiting Unnecessary Noises; Model Ordinance Regulating and Prohibiting Certain Uses of Sound Trucks; Model Ordinance Prohibiting or Regulating Certain Uses of Sound Advertising From Aircraft* (NIMLO Model Ordinance Service, §§ 8-301, 8-401, 8-201, 1971).

47. NEW YORK CITY ZONING RESOLUTION §§ 42-20—21, 42-213—214, 42-22—52-225 (adopted Dec. 15, 1960; effective Dec. 15, 1961).

impact on neighboring premises—that is being regulated, and regulated more strictly where the neighboring premises are in a residential district. The owner may employ any combination of preventive measures—control at the source, isolation by distance where the size of his property permits, or (at least in the case of airborne noise) insulation by buffering—so long as the effect on the adjoining property is brought within the prescribed standards. Perhaps the most notable feature of the law is the provision contained in the third paragraph of § 42-20.⁴⁸ This provides that the specific performance standards shall prevail over the general scheme of the resolution (and of zoning laws generally) of legislating by groups of uses. This means that if an enterprise classified in the heavy-industry group, and therefore restricted to an M3 (low performance) zone, can meet all the performance standards for a more highly rated M1 or M2 district, it may be located there notwithstanding the general limitation of such zones to lighter industry. The zoning resolution thus seeks to establish comprehensive controls over noise and other forms of dangerous or offensive influence on the environment by industry. Yet it does so purely on the basis of performance standards, making use of contemporary technological capacity to measure the effects of environmental pollutants, and formulating its prohibitions in terms of these effects rather than in terms of the nature of the activity in question.

Another, more recent, New York City law, although not a noise regulation, suggests another important approach to such controls; it established an Environmental Protection Administration.⁴⁹ The administration took over the operating and related regulatory functions of the Departments of Sanitation, Air Pollution Control, Water Supply, and, with respect to sewers, the Department of Public Works. The statement of its jurisdiction contains the following provision:

Noise abatement. The administration shall have jurisdiction to enforce all laws, rules and regulations to eliminate noise disturbances. It shall make such investigations and studies as may be desirable to develop permissible sound levels, and to correct problems related to noise control, and, for such purposes shall have power to compel the attendance of witnesses and to take their testimony under oath.⁵⁰

48. *Id.* § 42-20.

49. Local Law No. 3 of 1968, adding Chapter 57 to the NEW YORK CITY CHARTER.

50. NEW YORK CITY CHARTER § 1403(3) (1971).

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The significance of this provision is that it represents a newly created jurisdiction; the agency is not here acting as the successor to any other agency. The city's existing noise laws, such as they are, are enforced by the police department by virtue of its general power to enforce the law and issue summonses to violators. There has never been a special noise control agency. Under this law noise is recognized as a form of environmental pollution, and its control is assigned to the agency with a general grant of power in the field. It is an agency, moreover, that has the necessary combination of public health and engineering emphasis and background that most forms of environmental control call for. The agency is given the power to enforce the existing laws, and while it has not been given the power to issue noise abatement regulations, it has a strong mandate to study the problem, which is but a first step in the direction of developing new standards. These are encouraging developments, but it must be noted that some three years later, the police department is still the agency that enforces noise standards.

With the exception of sound insulation standards for new construction (which, like most building code requirements, are comparatively self-enforcing because one must obtain advance approval of building plans), the effective enforcement of any anti-noise provisions will probably require the assignment of responsibility for the noise problem to a specialized agency. Meaningful control is never likely so long as noise is regarded as simply another matter for the cop on the beat to take care of when he has nothing more important to do.

IV. THE AIRPORT NOISE CRISIS AND THE SEARCH FOR NEW CONTROLS

As previously noted, it has been the problem of noise around major jet airports, and the political pressure it has generated, that has led to recent governmental studies of noise control and to an emphasis on protecting residential construction, in addition to cutting down on noise at the source. Control at the source is largely a matter of aircraft engineering. Isolation of the sources, because it involves the location of jet airports, is a matter of regional and even national planning,⁵¹ rather than the kind of local zoning involved in keeping a factory away from a residential area. Indeed, some of the major decisions on aircraft noise are ultimately questions of national policy

51. See Airport and Airway Development Act of 1970, 49 U.S.C. §§ 1712 *et seq.*; see also ENVIRONMENTAL STUDIES BOARD, NAT'L ACADEMY OF SCIENCES-NAT'L ACADEMY OF ENGINEERING, JAMAICA BAY AND KENNEDY AIRPORT (1971).

that have already been resolved by the assertion of federal preemption. The Federal Aviation Administration has clear and preemptive power to proscribe aircraft noise standards,⁵² and although the Senate Committee report that accompanied the legislation stated that airport owners acting as proprietors could deny the use of their airports to noisy planes on a non-discriminatory basis, this reservation of rights appears to have little practical value.⁵³ It follows that practically the only contribution of the lawmaking process in this area on the state and local level is limited either to protecting buildings from the effects of the airport noise or else to keeping homes away from airports.

On the national level, in addition to research, the first step toward controls over the emission of aircraft noise, and the prospect of protecting future home construction from such noise have been seriously examined. The key development was the provision of the Housing and Urban Development Act of 1965⁵⁴ requiring the Secretary to

undertake a study to determine feasible methods of reducing the economic loss and hardship suffered by homeowners as the result of the depreciation in the value of their properties following the construction of airports in the vicinity of their homes, including a study of feasible methods of insulating such homes from the noise of aircraft⁵⁵

Extensive examination of the effects of aircraft noise, and the possibility of modifying home design to alleviate these effects, have resulted from this statute,⁵⁶ and investigation is continuing. While useful proposals are likely to emerge, it is improbable that the major answer to this problem lies in dwelling redesign. In any event, the early embodiment of such design criteria in legal regulations to com-

52. 49 U.S.C. § 1431, as last amended by Pub. L. 90-411, requires the Federal Aviation Administration to issue rules "to provide for the control and abatement of aircraft noise and sonic boom" and to apply such standards in determining whether to certify new types of aircraft for use in the United States. The preemptive effect of FAA regulations in the area had been previously established in *Allegheny Airlines v. Village of Cedarhurst*, 238 F.2d 812 (2d Cir. 1956) and in *American Airlines v. Town of Hempstead*, 398 F.2d 369 (2d Cir.), *cert. denied*, 393 U.S. 1017 (1969).

53. S. REP. NO. 1353, *accompanying* H.R. 3400, 90th Cong., 2d Sess. (1968). The point of view has been accepted by the FAA; *see* 34 Fed. Reg. 18356 (1969).

54. 42 U.S.C. § 1401 (1969).

55. *Id.*

56. *See, e.g.*, BOLT BERANEK AND NEWMAN, INC., A STUDY—INSULATING HOUSES FROM AIRCRAFT NOISE (Dept. of Housing and Urban Development, November 1966).

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bat aircraft noise is not likely.⁵⁷ Furthermore, since control of the aircraft noise level and placement of major airports are largely in the hands of other levels of government, perhaps the only significant legal control available to the typical municipality is in the nature of zoning. The areas abutting a major jetport and lying under the main take-off and approach paths could be restricted to industrial and many classes of commercial and institutional uses.

The concern and study relating to the airport problem has at least produced a new set of federal regulations for control of aircraft noise at the source,⁵⁸ but there has been less response at the receiving end. At the same time that private homeowners have been increasingly alarmed over aircraft noise, the first actual legal requirements for noise insulation appeared in response to a different set of complaints. Residents of postwar apartment buildings have found themselves subjected to the conversations of their neighbors and to annoying noise levels from mechanical equipment in the buildings. Even in "luxury" buildings, thin-wall construction and other cost-cutting methods are commonly used. In addition, the modern building itself has become a large machine. Central air conditioning or mechanical ventilation of certain interior spaces, pumps, and high-speed elevators required by high-rise construction, and additional shafts, chutes, and ducts, cause and transmit vibrations, noise, and reverberating echoes. The multiple dwelling has become a noisy environment in which to live. It is thus not surprising that the first systematic, specific requirements for the noise insulation of housing ever to be written into law have been directed at the noise problem within the modern apartment house.

V. NOISE PROTECTION IN APARTMENT BUILDINGS: NEW YORK CITY'S NEW BUILDING CODE AND ITS PROGENY

Probably the most significant legislative development in the recent history of noise control was the enactment, late in 1968, of a new building code for New York City⁵⁹ containing detailed, quantitative

57. See remarks of Leo L. Beranek on *General Aircraft Noise* in *NOISE AS A PUBLIC HEALTH HAZARD*, *supra* note 2, at 268.

58. 14 C.F.R. § 36 (1970); Larsen, *Improving the Airport Environment: Effect of the 1969 FAA Regulations on Noise*, 55 IOWA L. REV. 808 (1970).

59. The Building Code, replacing the prior Building Code as Title C of Chapter 26 of the NEW YORK CITY ADMINISTRATION CODE, was enacted by Local Law No. 76 of 1968.

performance standards applicable to all future construction of multiple dwellings, including provisions to afford apartment dwellers protection against noise emanating from halls, other apartments, and the building's own mechanical equipment. The code was the result of several years of work at a cost of more than a million dollars in an attempt to modernize building code standards, to permit new methods and techniques, and to utilize uniform national performance standards in place of specifications.

One of the most notable innovations in the code is the set of noise control standards for multiple dwellings. Although reference is made to national standards for the methods of testing for sound transmission and the characteristics of certain materials, the actual requirements imposed were developed especially for the new code. These provisions are likely to become a model for legislation elsewhere.

While evaluation of the actual technical substance of the requirements in the new code is beyond the scope of a legal commentary, a number of general points about the standards are notable. The first is that the provisions are not directed at protection against noise emanating from outside the building (except with respect to some of the equipment servicing the building itself). It only governs multiple dwellings, as distinguished from one- and two-family homes; and it only relates to the transmission of sound from other parts of the building and from the associated mechanical equipment.

With this limitation, however, its coverage is comprehensive. The code requires the insulation of dwelling units against both airborne noise (applicable to both walls and floor-ceiling construction) and structure-borne or impact noise. Special attention is paid to openings in a wall that may tend to impair its effectiveness as a sound barrier. Compliance with the required rating may be determined either by tests conducted in accordance with certain standard methods or by reliance on specified official government and industry ratings of certain materials and assemblies.

In addition, noise from ventilating, air conditioning, and other equipment is to be reduced at or confined to the source. Boiler rooms and other mechanical equipment areas are to be enclosed with construction of a specified sound-insulating capacity. When this would be inadequate or inapplicable (as in the case of exterior equipment), the actual sound output of the equipment itself is limited. With reference to structure-borne noise, the code calls for the use of various types of vibration insulation between certain equipment,

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chutes, and piping and the structure of the building. More specialized provisions for types of equipment and construction that pose special sound problems are also included. Perhaps the most interesting of these is the provision limiting the maximum air velocity in ventilating ducts located directly over an apartment ceiling or in a shaft adjoining it; this is another matter that has become a source of constant complaint from tenants living in apartments containing areas relying on mechanical means of ventilation.

Thus, for the first time, specific, quantitative noise control provisions have been enacted as part of building regulations, and, unlike many first attempts to enact a new form of control, the noise standards form a detailed and comprehensive code. This code appeared just as the demand for such controls was making itself felt. In fact, New York State's Multiple Dwelling Law⁶⁰ was amended in 1968, while this very proposal was before the New York City Council, to require the Department of Buildings to issue "standards of sound retardation for the walls, partitions and floors and ceilings between apartments and between apartments and public spaces"⁶¹ in multiple dwellings to be built after January 1, 1970. The particular provision became academic in the light of the new code, which applies such restrictions to all new multiple dwellings, but its appearance quite independently of the building code revision is evidence of the rapidly developing trend toward requiring such controls.

Another indication of the movement toward such legislation is the issuance of the first set of statewide building regulations to contain noise control standards, in New Jersey in 1968.⁶² These were drawn largely from the new New York City Code, which thus saw some of its provisions become law elsewhere before it was enacted at home. The draft proposal for the New York City code, prepared by the Polytechnic Institute of Brooklyn, had been issued in July 1966, and was the subject of wide professional interest long before it was even introduced in the New York City Council. The New Jersey noise standards are part of a set of "Regulations for the Construction and Maintenance of Hotels and Multiple Dwellings" promulgated by the Division of Housing and Urban Renewal of the state's Department

60. N.Y. MULT. DWELL. LAW § 84, as added by Chapter 881 of the Laws of 1968.

61. *Id.*

62. Under authority of Hotel and Multiple Dwelling Health and Safety Law of 1967, as amended N.J. REV. STAT. § 55:13A-1 (Supp. 1971).

of Community Affairs. The regulations contain most of the elements of a building construction code and a set of housing standards; they were issued under the authority of a 1967 law.⁶³ The noise control standards are similar to the most important provisions of the New York City law but omit some of the detailed provisions for specified types of mechanical equipment and building service apparatus. On the other hand, with respect to impact noise control measurement, the New Jersey code does not rely on published standards but prescribes its own testing procedure instead.

It has been asserted that the new noise prevention requirements for multiple dwellings will add substantially to construction costs. In the light of housing shortage, it is likely that this raises a nice issue of priorities—as, indeed, do most proposals for effective environmental control.

VI. CONCLUSION

With the exception of airplane and automobile noise emission standards which, like air pollution standards, might be effectively enforced through requirements on manufacturers,⁶⁴ noise pollution control is likely to remain a matter of state, and predominantly local enforcement, for the foreseeable future. Although most existing noise control statutes and ordinances are backward and inadequate, a number of useful legislative developments have taken place that point the way for effective control in the future. There appears to be adequate technical capacity for setting standards, and measuring and monitoring of noise in the urban environment, and there are newly developing technical approaches to controlling the emission of noise at the receiving end—the ear of the citizen. In addition to wider adoption of the new approaches to noise control, what remains to be done is to devote greater attention to enforcement. This will require not only better legislation, but more generous appropriations. In the light of the fiscal problems of the cities, however, abatement of urban noise is not likely to receive an early priority.

63. *Id.*

64. Another area of major federal regulatory effort is that of industrial noise. In 1969, under the Walsh-Healy Act, 41 U.S.C. § 35 (1936), the U.S. Department of Labor has promulgated decibel limits for industrial noise to protect employees in all industrial establishments with Federal contracts in excess of \$10,000. 41 C.F.R. § 50-204.10 (1971).