STATE AND LOCAL NOISE CONTROL ACTIVITIES 1977-1978

MAY 1979

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF NOISE ABATEMENT AND CONTROL
WASHINGTON, D.C. 20460

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NOTICE

This report was prepared for the Environmental Protection Agency, Office of Noise Abatement and Control, by ORI, Inc., under Contract Number EPA-68-01-5040, using material developed by Wyle Laboratories under Contract Number EPA-68-01-4694. The contents of this report reflect the views of the Contractors, who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official policy of the Environmental Protection Agency.

PREFACE

In 1971, the U.S. Environmental Protection Agency, Office of Noise Abatement and Control (EPA/ONAC), surveyed the 50 States and the nation's larger cities to determine the scope of the noise control problem. The 1971 survey was part of a comprehensive EPA study of noise and its health and welfare effects which documented the need for Federal noise control legislation.

The results of the EPA assessment of the problem were summarized in the 1972 "Report to the President and Congress on Noise"[1] and treated in greater depth in the EPA publication entitled "State and Municipal Non-Occupational Noise Programs."[2] This assessment of State and municipal 1971 noise control efforts concluded that States and communities[3] were only beginning to deal with noise in 1971, and, with few exceptions, were in the exploratory stages of developing a noise control program. It was realized that State and local noise control programs must be the backbone of a national noise control program if the nation is to reduce appreciably its noise control problem.

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[1] "Report to the President and Congress on Noise," Senate 92-63 (February 1972).

[2] "State and Municipal Non-Occupational Noise Program," NTID 300.8 (December 1971).

[3] In this report, the terms "local" and "communities" have been used in most instances to refer to governmental units below the State level, i.e., for cities, counties, regional authorities, etc.

The Noise Control Act of 1972 stipulates that EPA provide technical assistance to States and communities to facilitate development and implementation of their environmental noise control programs. To assure that the EPA technical assistance program is responsive to changing State and local requirements, EPA assessed the status of State and local noise control efforts in 1971, 1974, and 1978.

The first assessment, conducted in 1971, of communities with populations greater than 100,000, was instrumental in writing the Noise Control Act, with its provision for a technical assistance program.

The second assessment conducted under this policy was based on a survey conducted in early 1974. The resulting report[1] presented an assessment of the environmental noise control effort and noise control needs in the 50 States and 235 incorporated municipalities with populations greater than 75,000. The survey results have been used by EPA as a guide for the development of the present EPA technical assistance program. The document was also prepared for use as a planning and reference guide for public administrators and other officials engaged in the development and implementation of environmental noise control programs.

This report presents the third assessment conducted under the policy of periodically determining the status of State and local noise control efforts. A survey, conducted in 1978, was the major component of this assessment. It was intended to cover all States and territories and 824 communities in the U.S. with populations greater than 25,000. Responses were obtained from 40 States,[2] and 562 communities.[3]

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[1] "State and Municipal Noise Control Activities 1973-1974," U.S. Environmental Protection Agency, EPA 550/9-76-006, January 1976.

[2] Including Puerto Rico and the Virgin Islands.

[3] Including the District of Columbia.

The 1978 survey is considerably more comprehensive than the 1971 and 1974 surveys because there has been a dramatic increase in State and local noise control legislation and capability since 1971. The survey is the principal source of material for the assessment. However, other relevant data available to ONAC has been used to supplement the survey results where they complemented, or substantiated these results. Given the new legislative mandate of the Quiet Communities Act of 1978 it is increasingly important for EPA to identify the specific mechanisms, structures, and resources that have been developed by States and communities and to assess their present problems and needs if a responsive and coordinated program is to be implemented at all levels of government.

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EXECUTIVE SUMMARY

By passing the Noise Control Act of 1972, Congress responded to an increasing concern for "an environment for all Americans free from noise that jeopardizes their health and welfare." Section 14 of the Act authorizes EPA to provide technical assistance to facilitate the development of State and local noise control programs. In the interest of speeding up and increasing the level and effectiveness of this assistance, Congress passed the Quiet Communities Act of 1978 which gave the EPA additional authority to assist States and communities in developing noise control programs.. As a result EPA's technical assistance program has been expanded to include authority to develop a financial assistance program for State and local noise control programs.

EPA conducted a comprehensive assessment of the State and local noise programs in 1977 and early 1978 to obtain a better understanding of State and local requirements. The major element of the assessment was a survey questionnaire mailed to officials in the 50 States and 2 territories, and to 824 communities with a population greater than 25,000. This was supplemented with information obtained from other studies and surveys. The goal of the assessment was to:

- Examine critically the status of State and local noise control programs
- Ascertain the problems these programs are encountering and technical assistance needed to overcome them

- Assess State and local progress in developing noise control legislation and in reducing specific noise problems.

Thirty-eight States, 2 territories and 562 communities returned completed questionnaires for an overall response rate of 69 percent. In contrast to two earlier State and local surveys (1971 and 1973), the 1977-78 survey was expanded to include more questions and additional communities. For example, the 1973 survey was mailed to all communities with a population greater than 75,000.

The findings and conclusions of the 1977-78 assessment have been arranged in six categories:

- Public Awareness
- Legislation
- Implementation
- State and Local Resources
- Program Progress
- Technical Assistance.

PUBLIC AWARENESS

Environmental noise is perceived by the majority of both State and local government officials as a problem of growing concern. The survey asked State and local officials tp rate 14 different noise sources as to the significance of each as a problem in their State or community. Motorcycle noise was rated the most significant problem (58 percent for State officials and 68 percent for local officials). For communities the next most frequently designated noise problems are in order: trucks, automobiles, railroad operations, and buses. Table A lists the frequency with which the fourteen noise sources were identified by community officials. These findings agree with those of previous surveys.

Government officials at both State and local levels obtain an understanding of the seriousness of their noise problems principally through formal complaints (38 percent) and noise surveys (24-28 percent). Since the number of complaints filed in a community represents only a fraction of the people bothered by noise, complaints should not be viewed as an accurate barometer of the

TABLE A

COMMUNITY NOISE CONTROL ACTIVITIES FROM IDENTIFICATION OF NOISE SOURCES TO REDUCTION THROUGH PROGRAM IMPLEMENTATION

Specific Noise Sources	Identified as a Significant Problem	Noise Legislation for Source with Performance Provisions	Full Scope Implementation of Noise Programs
Motorcycles	369[a]	165	55
Trucks	353	158	46
Automobiles	315	164	48
Railroad Operations	226	49	19
Buses	188	142	16
Aircraft	188	40	9
Animals	170	102	57
Construction	151	129	44
Entertainment	147	149	59
Industrial Activities	145	166	77
Garbage Compactors	124	66	27
Recreational Vehicles	79	91	16
Home Power Equipment	69	109	36
Public Svc. Vehicles	63	68	15

[a] Number of Communities Responding

extensiveness of a community's noise problems. In recent years, social-attitudinal and noise monitoring surveys have provided a more accurate assessment of the noise climate. The results of these surveys have been used as guidance in the enactment of recent State and local laws and ordinances, (e.g., Allen-Pennsylvania).

LEGISLATION

In discussing types of noise control legislation, there is an important distinction between those that incorporate quantitative criteria (performance standards) as a basis for determining permissible sound levels and those which describe illegal noise in qualitative terms. By 1978, 19 States and 166 communities had adopted quantitatively described noise source legislation. Recreational vehicles are most frequently mentioned sources in such State legislation. Other sources mentioned, in order, are motorcycles, trucks, automobiles, and buses.

At the community level the noise source category covered by the largest amount of legislation having performance standards is industrial activities (166). Following closely behind are: motorcycles, automobiles, trucks, and entertainment equipment.

Approximately one-half of the communities which reported significant vehicular noise problems (Table A) have developed legislation with performance standards in an attempt to control such problems. Thus, there is a substantial gap between the number of communities which reported significant noise problems and those which have developed quantitative legislation to counteract such problems. Furthermore, only about 20 percent of the communities with significant aircraft and railroad problems have attempted to develop noise legislation in the hopes of reducing these problems. Federal preemption in these areas may have discouraged localities from attempting to handle these sources. However, in cases such as ground operation noise from aircraft, the problem can be dealt with through airport cooperation and operational restrictions.

IMPLEMENTATION

Noise control laws are fully implemented in very few of the 31 States responding to this portion of the survey. The implementing agencies are most often police/safety (33 percent) followed by a growing number of environmental pollution control agencies (30 percent). Inadequate manpower and lack of priority are the two major problems which limit the extent and effectiveness of noise control implementation efforts at the State level.

Noise control ordinances also are not fully implemented in all the responding communities. The type of legislation most often implemented (52 percent) is a municipal ordinance containing a range of specifically prohibited noise offenses, followed by zoning ordinances (17 percent), and vehicular ordinances (10 percent). As with State noise control efforts, implementation at the local level is accomplished most often by police/safety personnel. Lack of priority, inadequate manpower, and inadequate instrumentation are the problems frequently identified as causing failure to carry out the intent of legislation.

STATE AND LOCAL RESOURCES

State Noise Control Budgets

Nineteen States and Puerto Rico budgeted funds for noise control activities in 1977-78. Thus, 31 States and the Virgin Islands (including the 12 States which did not respond to the survey) did not have any line items in their budget for noise, which is a serious deficiency in a noise control effort. The total amount budgeted by the States was $3.6 million. Seven States budgeted in excess of $100,000, led by California's $1.6 million. On a per capita basis, Hawaii ranks first in planned expenditures at 17.6 cents per resident. Using the $2 million figure for State budgets in 1973 as a baseline amount, noise budgets have been increasing, on the average, at 16 percent per year over the last four years. However, in comparing the individual State budgets for 1977-78 to those of 1973, budgets for seven States decreased while those of ten States increased.

Local Noise Control Budgets

Noise control budgets were reported by 140 communities. This is a threefold increase in the number of communities since 1973 having noise control budgets. However, the number of communities sampled in the present survey is much larger than the earlier one. The total reported local expenditures have increased from $1.9 million in 1973 to approximately $2.7 million in 1977-78. In the earlier survey, 20 communities reported budgets for noise control of $10,000 or more. In the last survey, this figure increased to 55 communities. Overall, for communities responding to both surveys, noise control expenditures increased in 20 communities while decreasing in 16.

Adequacy of Budgets

The total reported State and community budgets for noise control activities increased by 59 percent in four years, i.e., to $6.2 million in 1977-78 compared to $3.9 million in 1973. The obvious lack of adequate funds still remains a major obstacle to the development and implementation of successful noise control programs. Only two-thirds of the States with noise legislation have funds budgeted for noise control. Nearly 300 communities with noise control ordinances lack a noise control budget. In addition, over 150 communities identifying noise as a growing community concern do not have funds budgeted for noise. Here again, there is a serious deficiency between the growth of noise programs and the necessary fiscal commitment to implement meaningful programs.

Personnel

Twenty-eight States reported having personnel working in noise control. However, of these only 16 have personnel spending at least 20 percent of their time on noise control. Since 1973 the number of States reporting noise control personnel increased from 19 to 28.

The total number of noise control personnel working in State programs in 1977-78 was 275. Of these, 54 persons spend at least 20 percent of their time and 221 persons spend less than 20 percent of their time on noise control activities. Thus, many States apparently view noise control as a part-time activity to be added to an employee's existing duties. The

kinds of personnel employed by State noise control programs may be an indication of the direction State programs are taking. The sharp decline in inspection positions and the increase in pollution control positions since 1973 may point to a greater emphasis by States in providing technical assistance to local governments, as opposed to direct involvement with noise issues at the local level.

At the local level, only 67 communities of 562 responding have personnel working 20 percent or more of their time on noise control activities. Public health specialists, engineers and environmental technicians/inspectors filled most of the program positions. There are another 218 communities with nearly 5500 part-time staff members working less than 20 percent of their time on noise-related activities. By far, the largest number of these 5500 are police officers. They are enforcing motor vehicle noise laws and responding to nuisance complaints as a part of their normal police duties.

Most State and local programs, therefore, are staffed by a larger number of part-time than full-time people. These part-time people have their major responsibility in areas other than noise control. Also, another sizable related problem is the number of personnel enforcing noise laws without training in acoustics. Although over half of the State and local noise control personnel are either engineers or environmental scientists, only 10 percent have experience in acoustics. This may impede their effectiveness unless supplementary training is provided.

Instrumentation and Equipment

Only 24 States and 174 communities possess one or more sound level meters, the basic instrument for making noise measurements. More States and communities are purchasing, however, sophisticated pieces of equipment such as outdoor monitoring systems, frequency analyzers, and graphic level recorders. Such equipment is being used for noise monitoring surveys and to substantiate enforcement cases in court.

Although a number of communities have noise legislation, many of these lack noise measurement equipment for enforcement. Analysis of survey responses in 1977-78 also reveals 133 communities enforcing their noise legislation without any noise measurement equipment. Without measurement capability, enforcement efforts remain minimal. The 1977-78 survey results clearly demonstrate that unless existing legislation is supported by measurement capability, current programs cannot be effectively carried out.

PROGRAM PROGRESS

Progress toward achieving noise abatement and control is not easily defined. Before community noise can be noticeably reduced, legislation must be enacted, resources appropriated, abatement plans implemented and their enforcement carried out. Although there is no single evaluation system for rating program progress, the main program elements must at least be in place before there can be any significant reduction in environmental noise.

Enforcement emphasis at the State or local level depends on government jurisdiction at that level. States, for example, concentrate enforcement actions against motor vehicles of all types, since they control the licensing of such vehicles. On the other hand, many communities have noise ordinances aimed at controlling animals, an area of obvious local jurisdiction. This segregation of enforcement by jurisdiction also involves the Federal government. For example, there is often confusion as to whether Federal laws preempt the jurisdiction of local ordinances regulating airport/aircraft noise. Noise from commercial aircraft accessing an airport is controlled by FAA; but noise from equipment and operations at the airport itself is the responsibility of the airport proprietor, which, in many cases, is the local government.

The importance of obstacles facing noise control efforts was ranked by State respondents as:

- Lack of manpower
- Inadequate budget
- Lack of political support
- Lack of effective legislation.

Community respondents ranked their obstacles as:

- Inadequate budget
- Lack of manpower
- Untrained personnel
- Lack of effective legislation.

TECHNICAL ASSISTANCE

Responses to the 1977-78 noise control program assessment confirm the need of States and communities to have comprehensive technical assistance programs. The Quiet Communities Act of 1978 authorizes EPA to develop assistance programs in a more comprehensive manner than was permitted by the Noise Control Act of 1972.

When asked which areas of EPA assistance would be of significant value in meeting legislative and programmatic needs, the number of replies was:

(a) at the State level:

- Personnel Training/Workshop (25)
- Noise Measurement Instrumentation (21)
- Effective Noise Control Methods (21)
- Manpower (19)
- Public Information Materials (18)

(b) at the community level:

- Effective Noise Control Methods (303)
- Personnel Training/Workshops (300)
- Noise Control Program Guidelines (285)
- Noise Measurement Instrumentation (277).

In summary, both State and local noise control programs require:

- Comprehensive in-depth Federal assistance

- The development of and access to Federally developed technical and research data, tools, and information relating to noise abatement and control.

A comparision between the results of the 1973 survey and the 1977-78 surveys reveals that there has been little significant change in these requirements. However, EPA anticipates that significant progress in noise reduction will be made in the immediate future. The added authority which the Quiet Communities Act gives to EPA in the area of financial and technical assistance should help to achieve this objective.

I. INTRODUCTION

OBJECTIVES OF THE 1978 ASSESSMENT

The objectives of the 1978 assessment of State and local noise control activities and requirements were to:

1. Gather information on the current types and amounts of State and local noise control activities
2. Evaluate State and community progress in noise control since the 1971 and 1974 assessments
3. Provide States and communities with a basis for judging their noise control needs, approaches, and performance vis-a-vis that of other similar communities
4. Develop an updated baseline from which the status and progress of State and community noise control efforts may be assessed in future years
5. Identify State and local government needs necessary for the successful establishment and operation of a national noise control program
6. Provide information necessary for the development of an EPA technical assistance program responsive to identified State and local needs.

GENERAL APPROACH

The general approach followed in making the assessment involved the following steps:

- Design and conduct of a survey of States and communities
- Compilation of relevant demographic data
- Analysis and integration of data from the survey
- Correlation of survey data with demographic factors
- Addition of relevant non-survey material
- Examination of the chain of local noise program development from awareness of the problem, passing of legislation, organizing a program, enforcement of laws, to progress in abatement of noise
- Examination of trends in State and local noise control activities and the change in their effectiveness since the 1974 assessment
- Identification of the needs of State and local governments in carrying out noise control
- Examination of the current usage of various areas of EPA assistance to State and local governments
- Solicitation of planned usage of various areas of EPA assistance to State and local governments.

SURVEY METHODOLOGY

The report on the 1974 EPA survey presented an assessment of the State and local noise control programs that existed in 1973 to 1974. In that survey information was requested from 53 States and territories and 235 incorporated communities with populations greater than 75,000. Over 180 million persons were represented by the State survey respondents; 55 million persons were covered in the community responses.

To update the results of the 1973-1974 survey, and to enlarge the population base, a more comprehensive survey was conducted in 1977 and early 1978. A new questionnaire was mailed to 50 States, 2 territories, and to 824 U.S. local communities with populations 25,000 or greater.[1] Governors, mayors, and noise control officials were the original recipients of the questionnaire. The publications, U.S. 1970 Census and Mayors of America's Principal Cities, July 1977, were used to determine which communities met the population criteria. Follow-up contacts were made to stimulate the greatest number of responses. In this report, the terms "community" and "local" are used for the cities, towns, and county governments to which the survey was directed.

A cover letter explaining the purpose of the survey and a questionnaire with instructions were mailed to State and local governments. A copy of the questionnaire is included in Appendix A. The questionnaire requests very specific answers; however, space is provided for "other" or comments. It consists of 11 areas designed to determine the status and needs of the community and State noise control programs. In order to avoid the need for constantly referring to the survey questionnaire, and to aid the reader in interpreting responses to questions, each question is given with the table of data derived from replies to the question. Where no such question appears, data in the table are derived from non-survey sources.

Table 1-1 presents a breakdown of survey respondents and the population covered by the States and communities that submitted a questionnaire.[2] Of 876 surveys which were mailed, 602 were returned for a 69 percent response. Approximately 87% of the U.S. population was represented by the States' respondents; approximately 62% by the communities' responses.

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[1] The population solicited, i.e., that of the 824 communities having over 25,000 population, is not necessarily a random sample of the total U.S. population. The population of the 562 responding communities is, in turn, a self-selected sample of the population solicited.

[2] Submission of a questionnaire does not mean that a particular question was answered. Thus, different numbers of responses apply to various questions.

TABLE 1-1

AN ANALYSIS OF SURVEY RESPONDENTS

Survey Categories	Total Number Surveyed	Number of Respondents	Percent Responded	Total Population Surveyed (Thousands)	Population of Respondents (Thousands)	Respondent Population as a Percent of Population Surveyed
States	50	38	76	202,455	177,007	87.4
Territories	2	2	100	2,774	2,774	100.0
Communities	824	562	68.2	97,838	60,119	61.7
Distribution of Communities by Population [1]						
25,000 - 49,999	454	281	61.9	15,772	9,577	60.7
50,000 - 99,999	221	157	71.0	15,124	11,340	74.9
100,000 - 250,000	93	76	81.7	17,151	10,156	59.2
Over 250,000	56	48	85.7	49,791	29,046	58.3
TOTAL	824	562	68.2	97,838	60,119	61.7

[1] Based on 1970 Census and Mayors of America's Principal Cities.

Several general limitations of this survey are discussed below. Specific limitations are presented, as appropriate, in the text.

- Some contradictions and inconsistencies can be found within the responses. For example, numerous communities indicated that they have specific noise standards in their legislation; however, a review of their legislation indicated only nuisance regulations with no quantitative standards specified.
- A number of questionnaires were incomplete in that some questions, and in some cases parts of questions, were not answered.
- Some questionnaires were returned too late to be included in the survey data.
- In a few cases, communities known to have noise control programs did not return questionnaires.
- The questionnaire was sent to governors' and mayors' offices. Replies were received from police chiefs, sanitation engineers, public health officers, etc. These persons may not be representative of the general public in the community.
- The effects of the composition of the sample, discussed in footnote 1, have not been investigated. That is, small communities (population less than 25,000) and non-cooperative communities did not contribute to the data. However, Table 1-1 indicates coverage of the U.S. population is high. Hence, the impact of the communities not represented in the sample is probably small.

ORGANIZATION OF REPORT

Chapter II documents the public's concern for noise as a significant problem in modern life.

Chapter III summarizes the efforts of State and local governments to combat noise by means of legislation and enforcement.

Chapter IV is devoted to the resources, i.e., personnel, money and equipment, available at the State and local levels to implement their noise control programs.

Chapter V discusses the accomplishments of State and local governments in controlling noise together with the problems they have encountered.

Chapter VI uses the results of the assessment to create a list of the needs of State and local governments in the field of noise pollution control.

Chapter VII discusses the organization and characteristics of the EPA State and local assistance program, both as it existed at the time the survey was undertaken and as it has been modified by the Quiet Communities Act of 1978.

II. PUBLIC AWARENESS OF THE NOISE PROBLEM

NOISE AS A HEALTH AND WELFARE PROBLEM

Unwanted sound is one of America's most widespread nuisances. But noise is more than just a price paid for living in a modern world, for it constitutes a real and present danger to people's health. However, the effects of noise on health are often misunderstood or unrecognized. For example, hearing loss is usually considered to be strictly an occupational hazard. Of the many health hazards related to noise, hearing loss is the most clearly observable and measurable by health professionals. As many as 19 million Americans suffer from hearing loss that may be related to noise from all sources.

Recent studies have produced evidence relating the stress, irritability, annoyance, and interference with work, rest, and thought caused by noise to widespread physiological, psychological, and performance problems. Noise may be associated with many of the nation's major health problems, such as heart disease and high blood pressure. Eastern European studies have shown an association between noise and potential hypertension, and representatives from the scientific community, including the National Academy of Sciences, are of the opinion that this relationship should be studied in more detail.

Noise is also suspected of interfering with children's learning and with normal development of the unborn child. Noise is reported to have triggered extremely hostile behavior among persons presumably suffering from emotional illness. It is suspected that noise lowers our resistance, in some cases, to the onset of infection and disease.

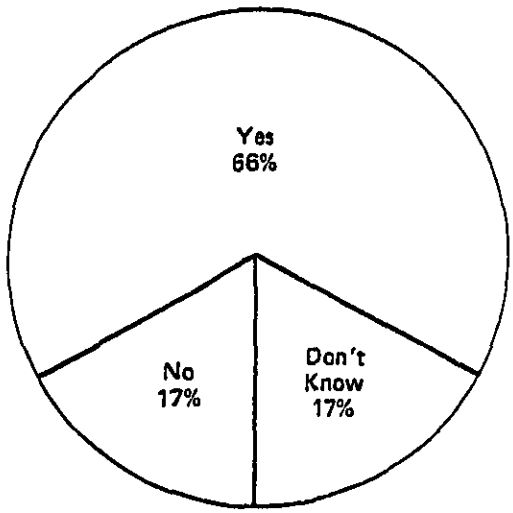
However, many Americans are largely unaware that noise may pose possible dangers to their health and welfare. Noise is only one of many environmental stresses to which a person is subjected, and therefore cannot be easily pinpointed by the layman as the source of a particular physical or mental ailment. Biomedical and behavior research are now at the point where health hazards stemming from noise can actually be identified, though specific links have yet to be determined.

Recent surveys indicate that the majority of Americans view noise in their communities as a growing concern, although this does not mean they understand its potential impact on their health and welfare. However, a survey conducted in Allentown, Pa., of 500 citizens in 1978, showed that this understanding may be developing. In response to a survey question, approximately 40 percent of the people interviewed believed that noise had affected their "physical or emotional health and well-being."

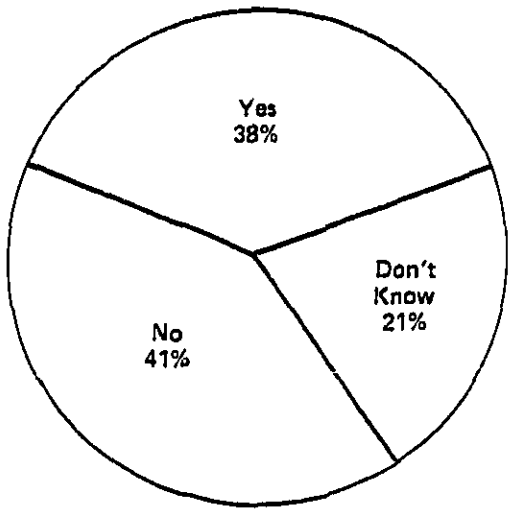
This reaction was also evident in answer to the survey question that asked if noise was perceived as a problem affecting the health and welfare of the community. Replies to this question (Figure 2-1) indicated that 66 percent of the 28 responding States answered affirmatively. At the community level, only 38 percent of the 494 community respondents perceived noise to be such a problem.

Figure 2-1 also shows that 17 percent of the States and 21 percent of the local communities don't know if noise is viewed by their citizens as a health problem. This may be due to a lack of public education and information concerning the potential seriousness of the problem. On the other hand, besides the issue of hearing loss that affects almost 20 million persons, scientific evidence has only recently shed light on the possible non-auditory effects of noise.

The survey revealed additionally that there is a strong tendency to view noise as a health and welfare problem in the limited number of communities that have noise ordinances and that actively enforce such ordinances.



RESPONSES FROM 28 STATES



RESPONSES FROM 494 COMMUNITIES

FIGURE 2-1

PERCEPTION OF NOISE AS A PROBLEM

Question 2C. "Is the noise issue viewed as a problem affecting the health and welfare of the citizens in the community?"

GROWTH OF CONCERN OVER THE PROBLEM OF NOISE

As many as 86 percent of the States and 52 percent of the communities feel that noise is a growing problem (Figure 2-2).[1] The reason for the disparity between these percentages probably is based on the fact that a number of States have already developed noise policies. That is, a number of States have developed programs and policies for noise control and other pollution controls, whereas local governments may have many different problems competing for limited resources. As a consequence, they have given priority to environmental problems mandated by Congressional legislation as well as to those Federal programs that have made funds available for their program development. In spite of these competitive factors, a 52-percent expression of concern for growth of the noise problem in communities is significant.

Also, since States traditionally control one of the greatest sources of noise—motor vehicles—they are more likely to be aware of the growth of concern for this noise source.

Another survey that analyzed the concern for growth of the noise problem was conducted by the Gallup Organization for the National League of Cities in November 1978. A sample of urban residents was asked to rank four pollution problems:

- Air pollution
- Pollution of drinking water
- Pollution of waterways
- Noise pollution.

Sixty percent viewed noise pollution as "not too serious." However, 57 percent of the residents perceived noise as a more serious problem than five years earlier, and 48 percent felt that "not enough is being done about it." These percentages demonstrate that the noise problem is getting worse and is deserving of more attenti n.

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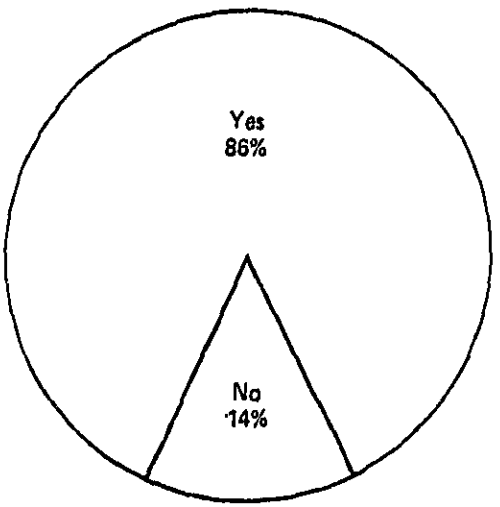
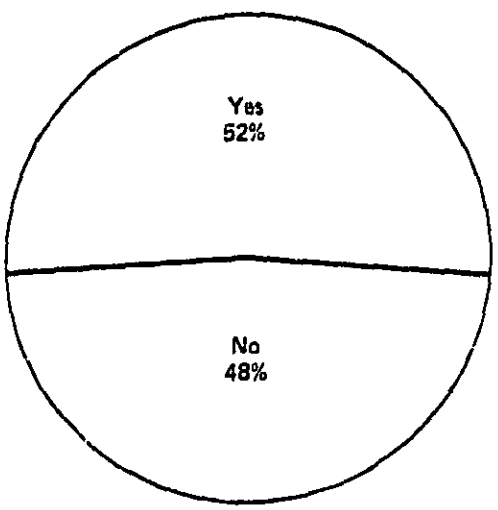
[1] Recall, however, that 12 States did not respond. Lack of response may indicate a lack of concern.



STATE RESPONSES



COMMUNITY RESPONSES

FIGURE 2-2. PERCEPTION OF NOISE AS A GROWING CONCERN

Question 2B. "Is the noise issue a growing concern in your community?"

In the EPA survey, concern with noise is a strong function of population. In Figure 2-3, survey data show quite vividly that concern increases directly with population. In cities having populations greater than 250,000, 76 percent of respondents consider that the problem is growing.

Expressions of the intensity of public concern for the noise problem can be obtained from a series of four surveys of particular States and communities. Table 2-1 shows answers to questions concerning the public's willingness to pay for noise control by taxation. For Allentown and Spokane, approximately 60 percent of the respondents would pay additional taxes for noise control.

Communities that have expressed the most concern about the growth of noise are located in Midwestern and Southwestern States (Figure 2-4).

CONTRIBUTIONS TO THE NOISE PROBLEM

A key objective of this survey was to determine the noise sources causing the greatest problems. Respondents were asked to rate significant contributions to the noise problems from 14 specified noise sources. Table 2-2 lists significant noise sources ordered by the number of States responding. Table 2-3 gives a similar listing for communities.

Transportation vehicles of all types were identified most frequently as the most significant contributors to the noise problem. Specifically, motorcycles were identified most frequently, closely followed by trucks, autos, railroads, buses, and aircraft.

For the eight non-transportation sources,[1] these rankings are fairly consistent regardless of population and for States and communities. Except for the industrial source, the rankings of these sources varies very little.

Several observations can be made about the specific sources in addition to the above general ones. For example, aircraft noise annoyance increases with population as expected, since the number of aircraft operations usually increases with population. Railroads are more significant noise contributors in small cities where a greater portion of the population may live near the railroad than in larger cities.

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[1] See Table 2-3.

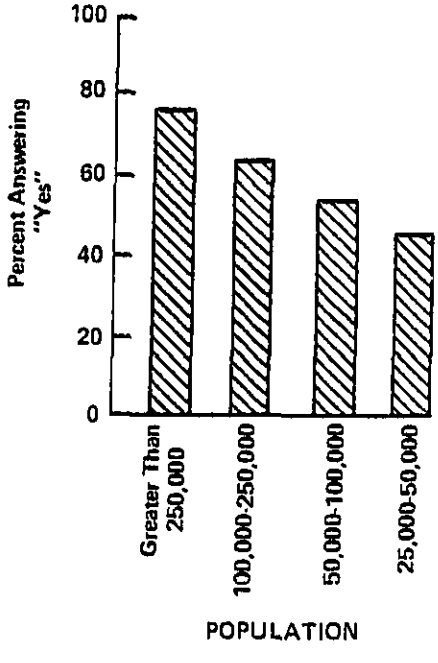

FIGURE 2-3. GROWING CONCERN WITH NOISE

Question 2B. Community Data (Figure 2-2) Grouped by Population.

TABLE 2-1

WILLINGNESS TO PAY FOR NOISE CONTROL

ALLENTOWN, PENNSYLVANIA SURVEY

How much are you willing to pay in additional taxes for a noise control program?

Amount	Percent
Will pay extra (total)	60.6%
$ .10 per person	5.6%
$ .25 per person	5.0%
$ .50 per person	6.2%
$1.00 per person	30.3%
$2.50 per person	7.6%
Greater than $2.50 per person	5.9%
Will not pay extra	39.4%

SPOKANE, WASHINGTON SURVEY

Summer 1978

How much are you willing to pay in additional taxes for a noise control program?

Amount	Percent
Will pay extra (total)	57%
$ .10 per person	10%
$ .25 per person	7%
$ .50 per person	8%
$1.00 per person	18%
$2.50 per person	11%
Greater than $2.50 per person	3%
Will not pay extra	43%

TABLE 2-1 (CONT'D.)
STATE OF FLORIDA SURVEY
Fall 1976

Of the taxes you pay how much should be used to control noise? (No tax increase.)

Amount of Taxes	Percent
Nothing	21%
Less than $1	23%
$1 to $5	34%
$5 to $10	15%
$10 or more	7%
	100%

JACKSONVILLE, FLORIDA SURVEY
Fall 1977

If $1 of your tax money goes to Environmental Control Programs, how would you like to see it distributed?

Pollution Programs	Cents
Air	32
Water	27
Solid Waste	21
Noise	20

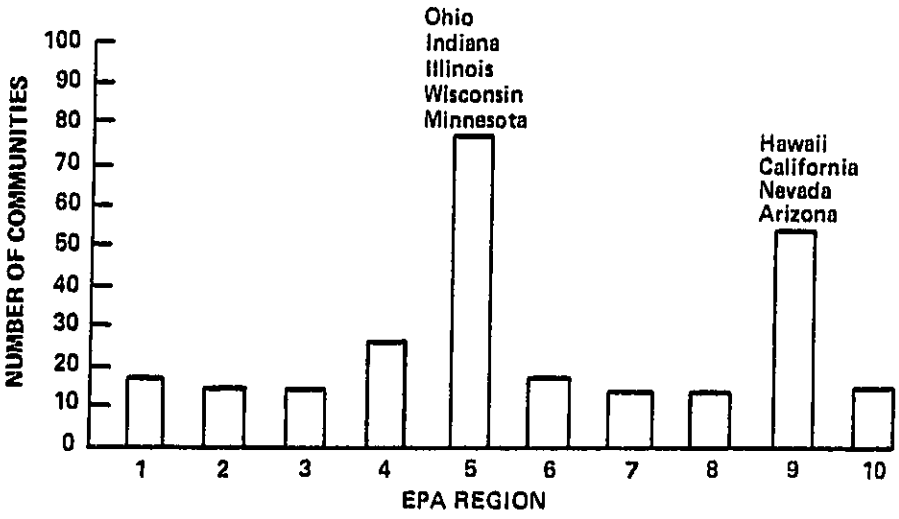

FIGURE 2-4. GROWING CONCERN WITH NOISE
(512 Communities)

Question 2B. Community Data (Figure 2-2) Grouped by EPA Region.

TABLE 2-2

STATE RATING OF VARIOUS NOISE SOURCES AS A SIGNIFICANT PROBLEM

Rating	Noise Source	Number of States	Percent of Responding States
1	Motorcycles	22	58%
2	Trucks	22	58
3	Industrial Activities	18	47
4	Automobiles	17	45
5	Aircraft	17	45
6	Buses	16	42
7	Construction Equipment	13	34
8	Railroad Operations	11	29
9	Garbage Compactors	9	24
10	Recreational Vehicles	8	21
11	Public & Private Entertainment	7	18
12	Public Service Vehicles	6	16
13	Animals	6	16
14	Home Power Equipment	6	16

(38 States' Responses)

Question 2E. "Please rank the following noise sources on the basis of their contribution to your area's noise problem."

TABLE 2-3

COMMUNITY RATING OF VARIOUS NOISE SOURCES AS A SIGNIFICANT PROBLEM

Rating	Noise Source	Number of Communities	Percentage Of Responding Communities
1	Motorcycles	369	68%
2	Trucks	353	65
3	Automobiles	315	58
4	Railroad Operations	226	42
5	Buses	188	35
6	Aircraft	188	35
7	Animals	170	31
8	Construction Equipment	151	28
9	Public & Private Entertainment	147	27
10	Industrial Activities	145	27
11	Garbage Compactors	124	23
12	Recreational Vehicles	79	15
13	Home Power Equipment	69	13
14	Public Service Vehicles	63	12

(524 Communities' Responses)

Question 2E. "Please rank the following noise sources on the basis of their contribution to your area's noise problem."

Industrial sources are more of a problem in the nation's largest cities than in smaller cities. For example, industrial noise is ranked as the sixth most important problem in cities having populations greater than 250,000, but as the tenth most important problem in cities having populations with less than 50,000. There are several reasons for this ranking. Perhaps many small communities don't have noisy industries. On the other hand, those small communities that have such industries may be dependent upon them and hence reluctant to complain. Many small communities also are bedroom communities for the larger cities. In such communities the commuting transportation noise problem may be generated by the presence of the noisy industries in the adjoining larger city.

In line with these rankings, EPA (and DOT) have promulgated or are proposing regulations for the top six transportation noise sources and for a seventh frequently cited source, construction equipment.

In almost all regions of the country, motorcycles, trucks, and automobiles are consistently ranked as the major noise offenders. Reaction to the other three transportation sources, i.e., railroads, buses and aircraft, is also fairly uniform across regions.

EXPERESSIONS OF PUBLIC CONCERN

There are several ways in which a governmental unit gains an understanding of the extent of the noise problem in its area. The EPA survey asked respondents to rate the importance of the following methods of gaining such an understanding: formal complaints, group actions, public hearings, surveys/monitoring, news media, other, and don't know. Relative importance was determined for those respondents who consider each of these methods significant. The results for both States and communities is shown in Figure 2-5.

Both levels of government seem to obtain their understanding of the noise problem primarily from formal complaints (States 38 percent, communities 38 percent), followed by surveys/monitoring (States 28 percent, communities 24 percent). The other three methods trail these two.

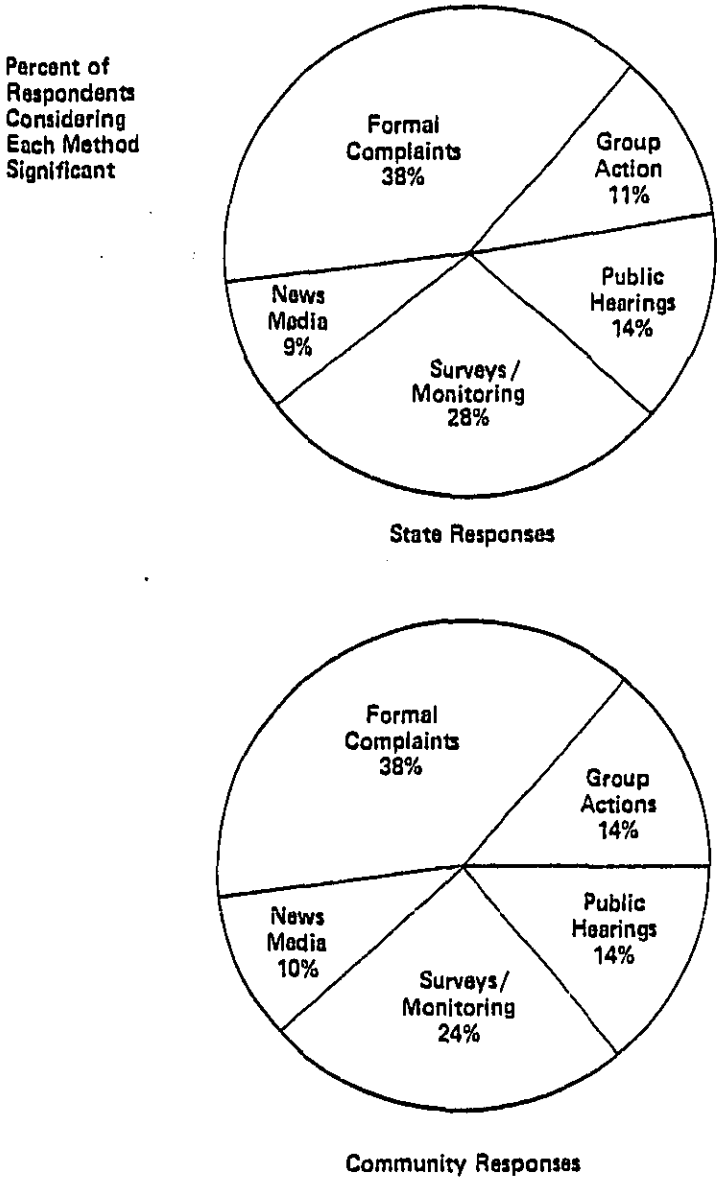

FIGURE 2-5. METHOD OF GAINING UNDERSTANDING OF THE IMPORTANCE OF THE NOISE PROGRAM

Question 2D. "How has your government gained an understanding of the extent of the noise problem in your area?"

Very likely news media, public hearings, and group actions are the means by which individuals gain an understanding of the noise problem. Having gained an understanding, such individuals are then able to make formal complaints to their local government unit. Also, the number of complaints filed in a community represents only a fraction of the number of people annoyed by noise.

NOISE AS A COMMUNITY PROBLEM

The various aspects of the studies of community noise, summarized briefly, demonstrate the existence of a noise problem. The next step is to measure its magnitude. This was done in the EPA survey by asking respondents to note significant community problems; i.e., crime, urban renewal, housing, air pollution, noise pollution, water pollution and traffic. Approximately 32 percent of the communities view noise pollution as a significant problem. However, another survey produced somewhat different results.

A comprehensive national housing survey is sponsored annually by the U.S. Housing and Urban Development Department, with technical support from the U.S. Bureau of Census. Since 1973, HUD has performed an Annual Housing Survey in an effort to determine the quality of housing. Questions are included concerning local neighborhood conditions throughout the United States. Each sample has ranged between 69,337 and 74,005 residences during the years 1973-1976.

One question asks respondents to identify undesirable conditions in their area from a list of possible objectionable neighborhood conditions, including:

- Noise
- Heavy traffic
- Street lighting
- Street repair
- Crime
- Commercial and industrial development
- Litter
- Odor

- Deteriorating housing
- Abandoned buildings.

Since 1973, noise has been consistently the most frequently mentioned undesirable condition in residential neighborhoods (see Figure 2-6). In 1975, 42 percent of homeowners and 50 percent of renters mentioned noise as an undesirable problem. These values were fairly consistent for white, black and Spanish households. In contrast to crime, which seems to receive the nation's primary attention, noise was mentioned twice as often.

Thus, for individuals, noise appears to be a major environmental factor influencing the quality of a neighborhood. For many, it is a sufficiently undesirable condition to cause them to move.

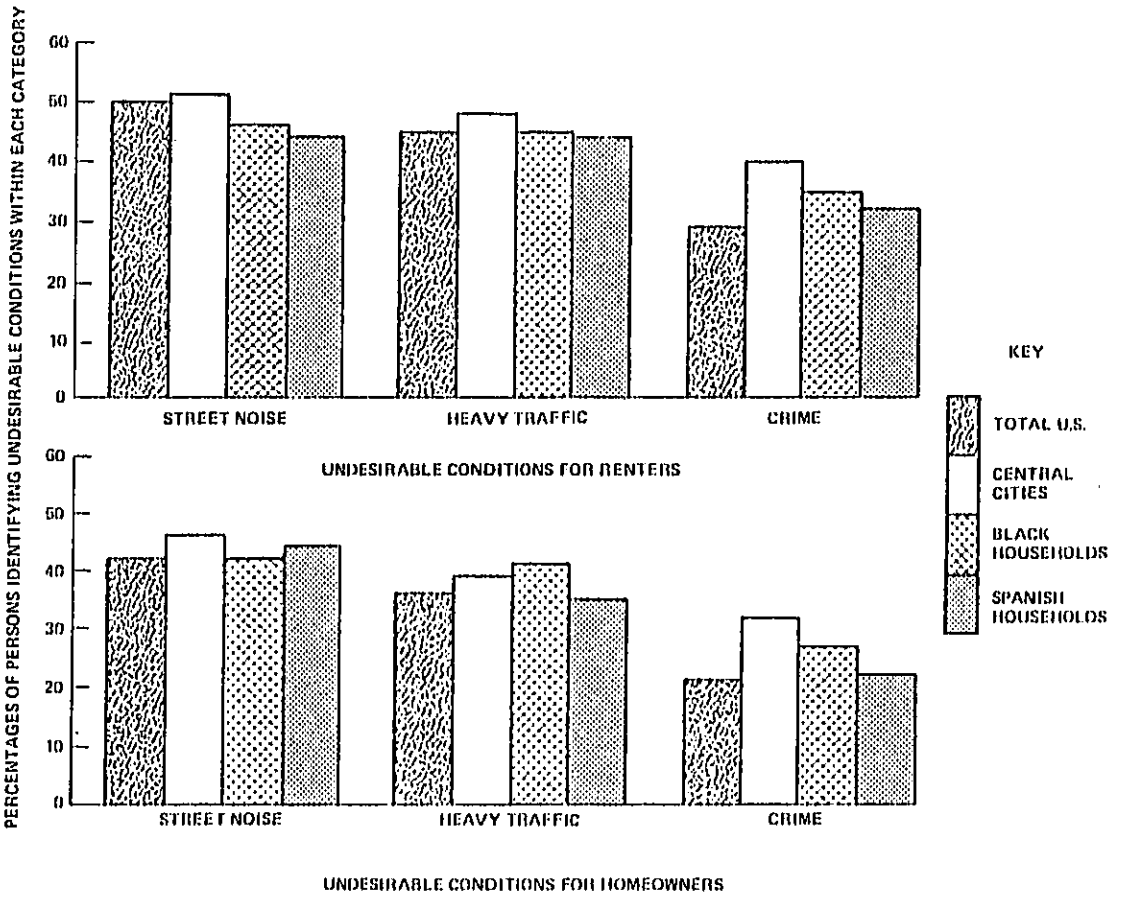

FIGURE 2-6. THE THREE MOST UNDESIRABLE NEIGHBORHOOD CONDITIONS
(Percentages identified in 1975 HUD/Census Bureau Survey of Homeowners)

III. LEGISLATION AND ENFORCEMENT

ENABLING LEGISLATION

Enabling noise legislation is a declaration of policy by a State legislature describing the need for noise control, outlining program goals and objectives, and establishing an organizational framework for carrying out noise control objectives. Communities do not require enabling legislation. Enabling legislation is often an initial step toward formulation of a noise control program and includes delegation of authority to a specific agency or agencies or city, and stipulation of those agencies' functions and powers. Typical enabling legislation contains the following provisions:

- The scope of the proposed noise control efforts
- The specific noise criteria, standards, and regulations to be formulated
- An outline of the regulatory development process
- A timetable for development.

Thirty-one States responded to the question[1] concerning the enactment of enabling legislation. Fifteen of these stated that such enabling legislation had been enacted. The States which did not have enabling noise legislation were

[1] Question 3A. "Has enabling legislation been enacted to establish an environmental noise control program?"

asked whether such legislation was being proposed at the current session of their legislatures. Twelve States responded to the question, five of them affirmatively.

CONTENTS OF EXISTING LAWS AND ORDINANCES

State Legislation

Thirty-two States responded to a question concerning noise control laws. Nineteen of these States have laws which incorporate noise control legislation.

Following are brief discussions of the major categories of State noise control legislation.

- Zoning/Land Use. Six States have noise regulations based on zoning or land use. These regulations stipulate permissible noise levels for three land use categories – residential, commercial, and manufacturing.
- Vehicles. Most States regulate three types of motor vehicles – trucks, automobiles, and motorcycles. Approximately 17 States which regulate trucks have adopted the same noise emission limits as EPA.
- Recreational Vehicles. This is a category of noise emission which is coming under increasing State regulation. The initial impetus for these regulations was the mushrooming use of snowmobiles. Subsequently, other varied-terrain vehicles, such as dune buggies, engine-powered water skis, and motor boats, have come under regulation.
- Railroads. Very little noise legislation at the State level concerning railroads was in existence during the period 1971-1977. Some States regulate railroad yards. The Environmental Protection Agency is in the process of issuing noise regulations for all interstate rail carriers.

- Aircraft. Only California has established aircraft noise limits. The initial law established a maximum noise level for each single aircraft flyover and also a 24-hour maximum noise level for certain sized airports, based on aircraft operations. The legality of the regulation of individual aircraft has been questioned: this provision appears to be in conflict with the Federal Aviation Act and the Federal responsibility to regulate navigable airspace.
- Construction Sites. Only one State, Maryland, has any regulation on construction site noise. It is based on classifying construction as an industrial activity. Construction site noise must be within the permissible level allowed for industrial use.
- Building Codes. California is the only State that has a building code with noise limits. The code applies to the intrusion of environmental noise in public buildings. When these are exceeded, the code requires ameliorative action.

Community Legislation

Seventy-six percent of communities report some type of noise control law or ordinance. There is a very high correlation between the communities that reported noise as a growing concern and those with existing noise control laws. Thus the legislation in these communities appears to follow increasing awareness of noise as a problem. Table 3-1 shows the breakdown of these responses by population and by population density. The

TABLE 3-1

COMMUNITIES WITH SOME TYPE OF NOISE CONTROL LAW

Population & Density	Number of Responses		
	Yes	No	Total
Population			
Over 250,000	39	6	45
100,000 - 250,000	58	10	68
50,000 - 100,000	112	36	148
25,000 - 50,000	195	74	269
Total	404	126	530*
Population Density			
Over 5,000/sq. mi.	105	29	134
2,500 - 5,000/sq. mi.	157	53	210
Under 2,500/sq. mi.	97	31	128
Total	359	113	472*

* Totals are not consistent because population density (or area) was not available for some communities.

Question 4A. "Are there existing laws or ordinances which incorporate noise control provisions?"

data indicate that noise laws are common in cities over 100,000 in size but there appears to be little dependence on population density.

During the seventies, a major increase occurred in the amount of local noise legislation. As late as 1971, just 59 municipal governments had adopted quantitative noise control laws. By 1977, this total was well over 400.

Following are brief discussions of the major categories of community noise control legislation.

- Zoning/Land Use. Land use controls were the first form of local noise legislation incorporating quantitative provisions. The basic land categories addressed generally are the same as in State statutes — residential, business/commercial, and industrial. Often a more definitive breakdown of land uses is contained in ordinances which correspond to the Standard Land Use Classification Manual (SLUCM) or the Standard Industrial Classification (SIC).
- Vehicles. Regulation of motor vehicles is for many communities the largest category of local noise control. Generally, trucks categorized in terms of weight, motorcycles and automobiles are regulated. Many communities are adopting emission levels comparable to those in the EPA Interstate Motor Carrier Regulation.
- Recreational Vehicles. Approximately one-third of the communities establishing vehicle laws have some acoustic provision regulating such vehicles as snowmobiles, trail bikes, dune buggies, and motor boats. Snowmobiles and motor boats with outboard engines are the most commonly regulated sources. In addition to establishing source-specific levels, many jurisdictions are beginning to examine controls over the area in which, and when, recreational vehicles are permitted to operate.

- Railroads. Railroad activity is not a usual source for regulation at the local level. Occasionally limits are established for particular railroad-related sources such as train whistle, refrigerator car, and locomotive engine exhaust noise. When EPA regulations for interstate railroad noise are put in effect, most communities with interest in this area will begin to enforce noise limits compatible with the EPA regulations.

- Aircraft. Aircraft noise, although a local noise problem, is not commonly regulated at the local government level. Usually cities have refrained from enacting legislation because of Federal preemption and the question of interference with interstate commerce. The area of greatest local interest has involved regulating noise generated by maintenance and repair of aircraft. This narrow involvement by local governments may be changing as the courts interpret the role of the proprietor in airport noise liability.

  Today, just 26 communities have any type of quantitative air-noise emission requirements. In a new category of concern are the various types of rotary wing aircraft (i.e., police and traffic surveillance helicopters) that use considerable latitude in their height restrictions, thereby impacting residential areas.

- Construction Sites. Most construction site regulation is of a non-acoustic nature, e.g., regulation of hours during which construction is permitted. Acoustical criteria vary considerably, some communities regulating specific pieces of equipment. Others aggregate construction site noise. Some communities utilize property boundaries for

noise measurement; others specify measurement distances up to 1,000 feet. More populated cities are beginning to reference the EPA compressor noise emission regulation, a trend which will increase the total number of communities having acoustical provisions.

- Building Codes. Building codes rarely contain quantitative noise emission provisions. These codes apply to a select type or portion of a building structure and its associate accessory equipment. To date, there are very few comprehensive building codes. This appears to be changing, since some municipalities are establishing energy requirements for building construction which have added benefits of reducing sound transmission. Furthermore, model building codes are being revised to incorporate noise provisions.

TYPES OF LEGISLATION

EPA Model Legislation

In cooperation with the Council of State Governments, EPA developed model state enabling legislation for noise control. The model law was published in the Council's 1974 handbook of suggested State legislation. In September 1975, EPA published a model community noise control ordinance in conjunction with the National Institute of Municipal Law Officers. The model legislation is intended to be a basic tool that communities can use to construct noise control ordinances suited to local needs and conditions. The model ordinance includes both nuisance and performance provisions and covers stationary and mobile noise sources, together with land use planning. The preamble contains an extensive discussion on Federal preemption in addition to other explanatory material. EPA has also prepared a model code of recommended practices for proper enforcement of the ordinance.

Table 3-2 contains the number of responses by communities to the question of using EPA model legislation. The data are arranged by population and by population density.

Thirty-two communities out of the 156 communities responding used EPA's model in formulating noise legislation. Since the model was not published until September 1975, the number of its users is not a fair indication of its usefulness. Communities of 50-100,000 population were relatively greater users (31 percent) of the ordinance than other-sized cities.

TABLE 3-2
COMMUNITY UTILIZATION OF EPA MODEL LEGISLATION

Population & Density	No. of Responses		
	Yes	No	Total
Overall	32	124	156
Population			
Over 250,000	4	16	20
100,000 - 250,000	6	21	27
50,000 - 100,000	11	25	36
25,000 - 50,000	11	57	68
Population Density			
Over 5,000/sq. mi.	12	35	47
2,500 - 5,000/sq. mi.	8	52	60
Under 2,500/sq. mi.	8	24	32

Question 3C. "Was EPA's Model Community Control Ordinance used in formulating this legislation?"

Quantitative and Qualitative Legislation

Any discussion of types of noise control legislation must make clear the distinction between quantitative and non-quantitative regulations. Noise control regulations incorporating quantitative (or acoustical) criteria are referred to as performance standards. Such standards specify permissible sound levels, which, if exceeded, are in violation of the regulations and subject to enforcement. Non-quantitative noise control regulations have restrictions couched in such general terms as "unnecessarily loud" or "disturbing." The use of such so-called nuisance regulations continues because they

can be applied to any source of noise. Their disadvantage stems from lack of a precise definition that can be measured quantitatively and thus objectively enforced.

Table 3-3 lists the numbers of States having quantitative noise regulations for various noise sources. It is apparent that various types of vehicle standards predominate in State legislation, but there has been significant expansion into other areas in recent years. For instance, in 1973, only three States had performance standards for land use noise. By 1977, the figure had doubled to six. In addition, several States have adopted well-planned and far-reaching noise control programs featuring quantitative provisions. Florida had a seven-man motor vehicle noise enforcement team, which, by its own measurement efforts and its training of local enforcement officers, had succeeded in reducing truck noise in the State by 3 decibels. The Florida program emphasized regulations which will reduce noise at its source, as in planning construction of buildings and roads so that unnecessary levels of noise are designed out from the start.

Table 3-4 shows the number of quantitative noise standards for various noise sources in communities. The regulation of noise from motor vehicles, industry, construction equipment and even entertainment is predominant. This is a nearly tenfold increase in the number of comparable standards shown in 1974 surveys.

Table 3-5 compares the number of communities with specific noise standards in legislation with those which perceive the same noise sources as significant problems. It can be seen that legislation in many source categories lags behind perception of problems. This is strikingly apparent in the case of motor vehicles. Railroad noise is also a significant problem which forthcoming EPA legislation will help to alleviate. Relatively few noise sources -- industrial activities, home power equipment, recreational vehicles, and public service vehicles among them -- have adequate amounts of coverage in legislation having performance standards.

TABLE 3-3

QUANTITATIVE NOISE STANDARDS USED BY STATES
BY NOISE SOURCE CATEGORIES

Source of Noise	Number of States
Recreational Vehicles	20
Motorcycles	13
Trucks	12
Automobiles	10
Buses	9
Industrial Activities	8
Public and Private Entertainment	8
Land Use	6
Construction Equipment	5
Home Power Equipment	5
Building Requirements	4
Garbage Compacting Truck	4
Public Service Vehicles	3
Railroad Operations	3
Animals	2
Aircraft	1

Question 4C. "If answer to 4A is 'yes' please respond to the following:

(Identify) the noise source controls covered under the noise control provisions of your legislation. Identify only those that include performance standards (decibel noise levels)."

TABLE 3-4

QUANTITATIVE NOISE STANDARDS IN COMMUNITIES
BY NOISE SOURCE CATEGORIES

Source of Noise	Number of Quantitative Standards
Industrial Activities	166
Motorcycles	165
Automobiles	164
Trucks	158
Entertainment	149
Buses	142
Construction Equipment	129
Land Use	118
Home Power Equipment	109
Animals	102
Building Requirements	94
Recreational Vehicles	91
Public Service Vehicles	68
Garbage Compacting Trucks	66
Railroad Operations	49
Aircraft	40
Total	1,810

Question 4C. "If answer to 4A is 'yes' please respond to the following:

(Identify) the noise source controls covered under the noise control provisions of your legislation. Identify only those that include performance standards (decibel noise levels)."

TABLE 3-5

NOISE LEGISLATION IN COMMUNITIES COMPARED
TO THEIR PERCEPTION OF NOISE PROBLEMS

Source of Noise	Number of Quantitative Standards in Legislation	Number of Communities Perceiving Noise Sources as Significant Problem
Industrial Activities	166	147
Motorcycles	165	369
Automobiles	164	315
Trucks	158	353
Entertainment	149	145
Buses	142	188
Construction Equipment	129	151
Home Power Equipment	109	69
Animals	102	170
Recreational Vehicles	91	79
Public Service Vehicles	68	63
Garbage Compacting Trucks	66	124
Railroad Operations	49	226
Aircraft	40	188

See Tables 2-3 and 3-4 for survey questions.

Many cities have built outstanding programs with the help of performance standards, frequently with very limited budgets. New York City, for instance, despite cutbacks in manpower and funding, has begun a 10-year program to lessen subway noise. Work is done with the manufacturers of equipment to determine how much noise reduction is technologically feasible. Then suitable noise level standards are built into the law so that future equipment can be designed and built to comply with the reduced decibel levels required.

For example, in Boulder, Colorado, a task force of concerned citizens, in a careful study extending over a year and a half, discovered that noise over 70 decibels could result in up to a 20 percent loss of effectiveness in jobs that require concentration. The result of their study was a municipal ordinance specifying noise level allowances for both vehicular and non-vehicular noise. Allowable noise levels between 7:00 A.M. and 11:00 P.M. are 55 decibels for residential areas, 65 decibels for commercial areas, and 80 decibels for industrial areas. Monitoring for this program is handled by a team of three officers operating about 20 hours a week in a specially equipped and marked car. Their salaries and the cost of the equipment for this effort come out of a modest $36,000 budget.

Of the 126 communities which answered no to the question of having noise control ordinances, 93 responded to the question of whether they anticipated the development of such legislation over the next two years. The respondents split almost evenly, 48 answering that they did anticipate noise control legislation, 45 responding that they did not. If the overall figure of 52 percent expecting to develop legislation is accepted, then the total percentage of communities with noise control ordinances will increase from 404 to 470, or from 76 percent to 88 percent.[1]

ENFORCEMENT

The designation by a State or community of a particular agency as the responsible organization for noise control often provides a nucleus from which to develop a comprehensive noise control program. When more than one State or local agency is involved, a fragmented or functionally divided situation

[1] See Table 3-1.

may arise. Fragmentation frequently cannot be avoided, however, because of the inherent responsibilities of established agencies. In such cases, a strong coordinating office, willing to cooperate with other agencies and even train personnel in such agencies (the noise control section of the Florida Department of Environmental Regulations is a good example) can often provide overall direction. Appointment of joint task forces for noise control is another solution to the fragmentation problem.

Enforcement by States

Table 3-6 gives the number of States enforcing noise control laws for each of 14 noise sources. Note that these numbers are not an answer to question 5C as quoted under the table. That is, the numbers given are the number of States, not the number of enforcement actions. Five of the first seven controlled sources are surface transportation vehicles.

Table 3-7 correlates types of legislation and enforcement agencies at the State level. From the data it is evident that States rely heavily on public safety officers. However, the use of specialized Environmental Pollution Control Officers is second in frequency and is a growing factor. The table also reveals frequent enforcement by State agencies of municipal codes.

To the survey question regarding treatment of violations (question 5B), State responses indicated that very few noise investigations result in the issuance of citations. This does not necessarily indicate weakness of enforcement, since the process of investigation itself often results in removal of the violation. As one environmental protection officer in Colorado put it, the objective of an ordinance is to achieve quiet, not to collect fines.

Respondents were asked to identify the most significant problems hindering their enforcement efforts. States answering this question indicate inadequate manpower most frequently as the problem limiting the effectiveness of their noise control efforts. The second most pressing problem was the lack of prioritization.

Enforcement by Communities

Table 3-8 gives the number of communities enforcing noise control laws for each of 14 noise sources. As mentioned above, this is not a direct answer

TABLE 3-6

NUMBER OF STATES ENFORCING NOISE CONTROL LAWS
FOR EACH NOISE SOURCE

Source of Noise	Number of States	Percent of States Responding*
Trucks	4	13%
Industrial Activities	4	13%
Public and Private Entertainment	4	13%
Motorcycles	3	10%
Buses	2	6%
Automobiles	2	6%
Railroad Operations	2	6%
Construction Equipment	2	6%
Public Service Vehicles	2	6%
Garbage Compactors	2	6%
Recreational Vehicles	2	6%
Home Power Equipment	2	6%
Animals	1	3%
Building Requirements	1	3%
Land Use/Zoning	1	3%
Other (Grain Elevators)	1	3%
Aircraft	0	0

* Based on 31 States responding.

Question 5C. "Please list the number of enforcement actions for each of the following noise source controls." (See text.)

TABLE 3-7

TYPES OF LEGISLATION AND ENFORCEMENT AGENCIES
FOR STATES

Legislation	Enforcement Agencies										
	Police/ Safety	Public Health	Environmental Pollution Control	Planning/ Developing	Public Works	Building/ Zoning	Transpor- tation	Natural Resources	Other	Total	Percent
Municipal Code	2	1	1	1	0	0	0	0	0	5	18.5
Zoning Code	0	1	0	1	0	0	0	0	0	2	7.4
Vehicle Code	3	0	0	0	0	0	1	0	0	4	14.8
Building Code	0	0	0	0	0	0	0	0	0	0	0
Health/Safety Code	0	2	1	0	0	0	0	0	0	3	11.1
Aircraft/Airport Code	0	0	0	0	0	0	0	0	0	0	0
Administrative Code	1	0	5	0	0	0	0	0	0	6	22.2
State Statute	3	0	1	0	1	0	0	1	1	7	25.9
Other	0	0	0	0	0	0	0	0	0	0	0
Total	9	4	8	2	1	0	1	1	1	27	
Percent	33.3	14.8	29.6	7.41	3.70	0	3.70	3.70	3.70		

Question 4B. "Please indicate each type of legislation and respective type of enforcement agency."

TABLE 3-8

NUMBER OF COMMUNITIES ENFORCING NOISE CONTROL LAWS FOR EACH NOISE SOURCE

Source of Noise	Number of Communities	Percent of Communities Responding*
Industrial Activities	77	14.7%
Public and Private Entertainment	59	11.2%
Animals	57	10.9%
Motorcycles	55	10.5%
Automobiles	48	9.2%
Trucks	46	8.8%
Construction Equipment	44	8.4%
Home Power Equipment	36	6.9%
Garbage Compactors	27	5.2%
Railroad Operations	19	3.6%
Buses	16	3.1%
Recreational Vehicles	16	3.1%
Public Service Vehicles	15	2.9%
Aircraft	9	1.7%

* Based on 524 community responses.

Question 5C. "Please list the number of enforcement actions for each of the following noise sources." (See text.)

to question 5C. Animals as a noise source receive more attention at the local level as compared with the State level. Otherwise, the leading controlled sources are somewhat the same at both levels.

A slight trend was noticeable toward increased enforcement as community size and density increased. And 72 percent of the communities which perceive noise as a growing concern enforce their noise laws.

Table 3-9 indicates that municipal or city ordinances are the most common type of legislation (52 percent), followed by zoning ordinances (17 percent), and vehicle codes (10 percent). The following modes of enforcement were most common:

Legislative Type	Enforcement Agency
Municipal Code	Police/Safety
Zoning Code	Building/Zoning
Vehicle Code	Police/Safety

Almost 50 percent of all enforcement is conducted by Police/Safety personnel, 21 percent by Building/Zoning personnel. Only 8 percent of enforcement is conducted by Environmental/Pollution Control personnel. Environmental/Pollution Control personnel may not be directly involved in enforcement but they often train police personnel in proper measurement procedures and enforcement techniques. They often provide valuable consulting and training to personnel in other local offices who have responsibilities in some phase of noise control enforcement.

The communities were asked to identify the most significant problems hindering their enforcement efforts. Table 3-10 shows the percentages of communities identifying specific political, financial, and programmatic problems as obstacles to their noise control programs. The lack of prioritization by enforcement authorities stands out as the most frequently identified problem. This is not too surprising, since, as was indicated above, police assign their officers to what they perceive to be their most important duty, that of combatting crime.

TABLE 3-9

TYPES OF LEGISLATION AND ENFORCEMENT AGENCIES FOR COMMUNITIES

Legislation	Enforcement Agencies										
	Police/ Safety	Public Health	Environmental Pollution Control	Planning/ Development	Public Works	Building/ Zoning	Transpor- tation	Natural Resources	Other	Total	Percent
Municipal Code	250	39	28	19	18	30	1	1	7	393	52.1
Zoning Code	9	5	3	26	2	80	0	0	1	126	16.7
Vehicle Code	62	1	5	0	1	0	1	0	2	72	9.5
Building Code	3	1	0	0	4	36	0	0	0	44	5.8
Health/Safety Code	8	16	4	1	1	1	0	0	1	32	4.2
Aircraft/Airport Code	0	0	1	0	0	2	1	0	4	8	1.1
Administrative Code	1	0	4	0	1	2	1	0	0	9	1.2
State Statute	27	3	16	2	0	4	4	0	4	60	7.9
Other	7	1	0	1	0	1	0	0	1	11	1.5
Total	367	66	61	49	27	156	8	1	20	755	
Percent	48.6	8.74	8.08	6.49	3.58	20.6	1.06	0.13	2.65		

Question 4B. "Please indicate each type of legislation and respective type of enforcement agency."

TABLE 3-10

COMMON PROBLEMS IN ENFORCEMENT OF NOISE REGULATIONS IN COMMUNITIES

Problem	Percentage of Respondents Rating Problem as Significant
Enforcement Authorities Do Not Prioritize Noise	43
Inadequate Manpower	28
Inadequate Instrumentation	24
Inadequate Enforcement/Measurement Procedures	22
Ambiguous Legislation	19
Lack of Citizen Support/Awareness	18
Unenforceable Legislation	17
Actions Not Upheld in Court	15

Question 5D. "What are the major enforcement problems reducing the effectiveness of your noise control effort?"

The second limiting factor in effective enforcement by police forces is that of inadequate manpower. Noise legislation has been enforced through the assignment of limited numbers of officers to noise enforcement in addition to their regular duties. Given the appropriate training and equipment, police officers often can make significant contributions to noise control.

Without adequate manpower, however, enforcement efforts are subject to failure, and the good intentions behind the development of noise control legislation negated. Noise control requires two things: an active public education program and an active enforcement effort. With both these factors in operation, the public will be educated to the need for restriction of excessive noise producing activities, and a large degree of voluntary compliance can be achieved.

CONCLUSIONS

It is important that the Environmental Protection Agency address enforcement problem areas by an intensified public education program, by conducting more workshops to train local personnel in the most feasible enforcement techniques, by assisting communities in drafting non-ambiguous and technically adequate legislation, and by demonstrating effective noise control techniques in selected communities.

IV. STATE AND LOCAL RESOURCES

This section discusses the resources available to the States and local governments to conduct environmental noise control programs. The resources addressed are personnel, budget allocations, and the availability of sound measurement and analysis instrumentation.

SUMMARY

Personnel Resources

Trained personnel in adequate numbers able to devote a substantial portion of time to noise control activities are essential for the effective administration and enforcement of a noise control program. The increasing number of States and communities that have adopted noise control legislation in the last few years requires a corresponding increase in the availability of expert manpower.

Of the 40 responding States and territories, 16 States, including Puerto Rico, reported personnel who devoted at least 20 percent of their time to noise control activities in 1977. In addition, 12 States had at least one person who devoted some time to noise functions in the State. The total number of personnel reported in 1977 was 275, with 54 persons spending at least 20 percent of their time and an additional 221 persons spending some time but less than 20 percent of their time on noise control activities.

Sixty-seven communities reported that they had 142 noise control personnel who devote 20 percent or more of their time to noise control activities. In addition, there are 218 communities with as many as 5,456 part-time

staff members who devote some time (less than 20 percent) to noise control activities. Almost 80 percent of the personnel working in noise-related activities at the local level are police engaged in the enforcement of noise control ordinances, investigating complaints, etc.

Budget Allocations

Nineteen States and Puerto Rico, or 45 percent of the 44 States[1] and territories responding to the 1978 survey, budgeted funds for noise control activities in 1977. In the earlier survey, budget data were provided by 16. or 36 percent, of the 45 responding States.

California's $1.6-million 1977 budget ranks first among the responding States. Seven of the 20 States reported budgets in excess of $100,000. Overall, the budgets for the reporting States increased from about $2.0 million in 1973 to approximately $3.6 million in 1977. Thus, the total reported budgets for the States' noise control activities increased by about 80 percent over the four-year period.

On a per capita basis, Hawaii ranks first among the reporting States, with a planned expenditure of 17.6 cents per resident. Two additional States, Arizona and Oregon, reported per capita budgets in excess of 10 cents.

Noise control budgets were reported by 140 communities, or 25 percent of the 562 communities responding to the 1978 survey. In the 1974 survey, 46 communities, or 26 percent of the 184 communities responding provided budget data. Overall, the local noise control budgets increased from about $1.9 million in 1973 to about $2.7 million in 1977, an increase of over 40 percent.

Instrumentation and Equipment

Only 24 States and 174 communities possess one or more sound level meters, the basic instrument for making noise measurements. More States and communities are purchasing, however, sophisticated pieces of equipment such as outdoor monitoring systems, frequency analyzers, and graphic level recorders. Such equipment is being used for noise monitoring surveys and to substantiate enforcement cases in court.

[1] Forty States responded to the survey. Budget data only were obtained for four additional States.

Although a number of communities have noise legislation, many of these lack noise measurement equipment for enforcement. Analysis of survey responses in 1977-78 also reveals 133 communities enforcing their noise legislation without any noise measurement equipment. Without measurement capability, enforcement efforts remain minimal. The 1977-78 survey results clearly demonstrate that unless existing legislation is supported by measurement capability, current programs cannot be effectively carried out.

NOISE PROGRAM PERSONNEL

Survey Coverage

In the 1978 survey, States and communities were requested to provide the number of personnel affiliated with their noise programs, categorized by position and training and percentage of their time devoted to noise control.

Twenty-eight States and 285 communities reported personnel associated with noise control activities in 1977. Table 4-1 lists the number of personnel by State and percent of time devoted to noise activities. The percentage of time State and local personnel spent on noise control activities was broken down into two categories: more than 20 percent and less than 20 percent. Table 4-2 lists the aggregated number of personnel reported by responding States by position category and percentage of time devoted to noise activities. The number of States with personnel in each position category is also shown. Table 4-3 presents reported local personnel data using a similar format.

State Noise Control Personnel

Of the 40 responding States and territories, 16 States, including Puerto Rico, reported personnel who devoted at least 20 percent of their time to noise control activities in 1977 as shown in Table 4-1. In addition, 12 States had at least one person who devoted some time to noise functions in the State; thus, at least 12 States and territories did not have even one part-time person engaged in noise activities. The number of personnel, if any, in the 12 States which did not respond to the survey, is uncertain. Figure 4-1 shows the regional distribution of the State noise control personnel. Noise control personnel totalled 275, with 54 persons spending at least 20 percent

TABLE 4-1

NUMBER OF PERSONNEL BY STATE
AND PERCENTAGE OF TIME DEVOTED TO
NOISE CONTROL ACTIVITIES, 1977

State	At Least 20 Percent	Less Than 20 Percent	Number of Persons[a]
Alabama	–	2	2
Arkansas	–	140*	140
Arizona	3	1	4
California	9	18	27
Delaware	–	1	1
Florida	2	4	6
Georgia	1	1	2
Hawaii	8	2	10
Illinois	4	–	4
Indiana	–	2	2
Kentucky	2	–	2
Louisiana	–	1	1
Maryland	2	–	2
Massachusetts	4	–	4
Michigan	1	b	1
Mississippi	–	20*	20
Montana	–	2	2
Nebraska	–	1	1
New Jersey	4	6	10
New York	2	–	2
North Dakota	1	1	2
Ohio	–	1	1
Oregon	6	9	15
Puerto Rico	4	2	6
South Carolina	–	1	1
Tennessee	–	1	1
Texas	–	5	5
Washington	1	–	1
TOTALS	54	221	275

a Total number of personnel who devote some time to noise control activities.
b 200 conservation officers enforce snowmobile noise regulations.
*Police Department personnel

Question 6A. "Please (list) each individual who devotes at least 20% (less than 20%) of his/her time to noise control activities, using the position codes indicated below."

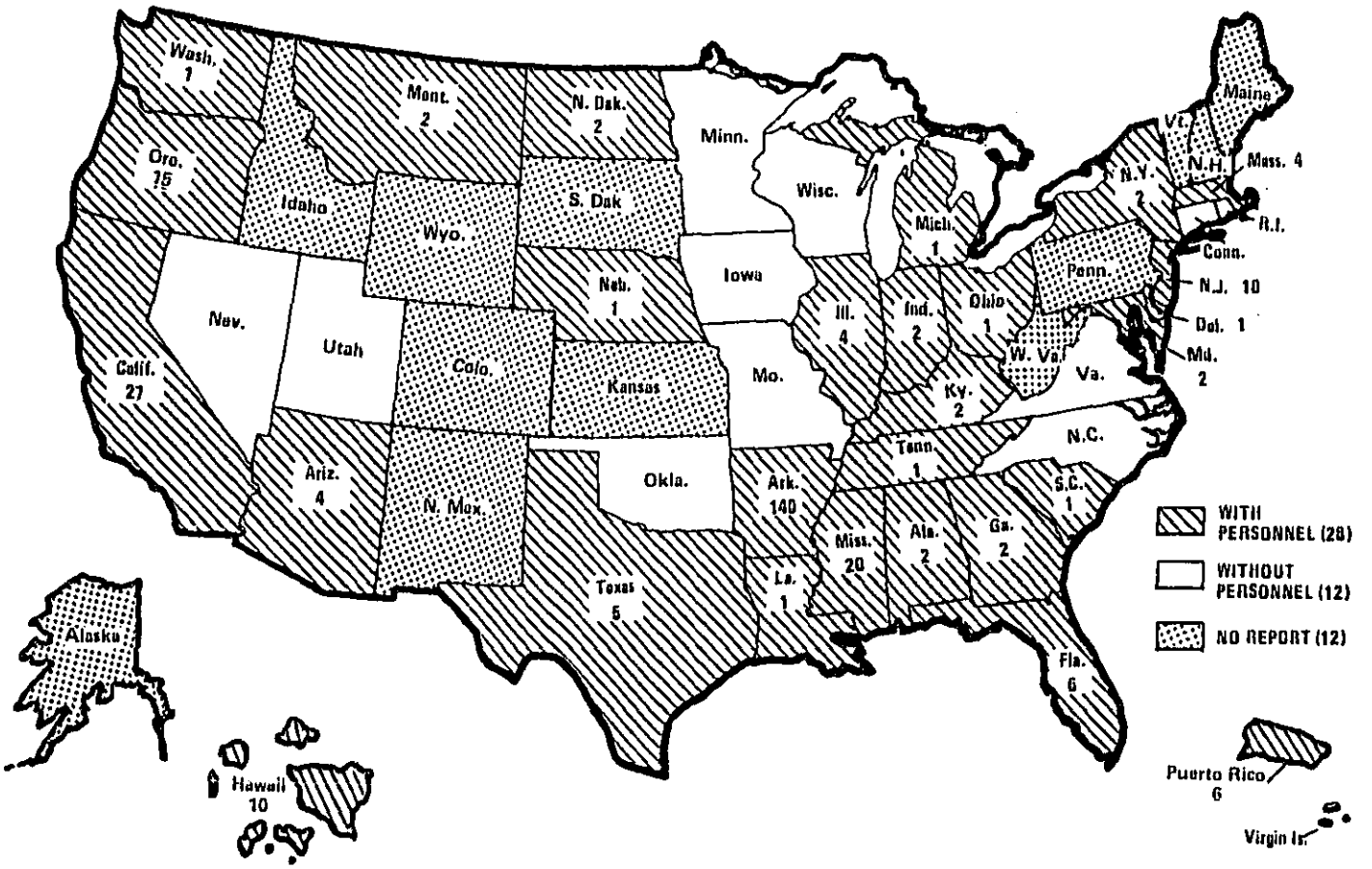

FIGURE 4-1. STATE NOISE CONTROL PERSONNEL, 1977

of their time and 221 persons spending some time but less than 20 percent of their time on noise control activities.

There has been some improvement in the personnel situation at the State level since 1973. In the 1974 State and local survey, 19 States reported that personnel were engaged in noise control activities, with a total staffing of 105 persons identified. California reported the largest number of personnel — 50 staff members or 48 percent of the total reported State personnel. In the 1978 survey, nine additional States brought on noise control personnel. In 1973, 42 percent of the States responding to the survey had at least one full- or part-time noise personnel position. In the 1978 survey, this number had jumped to 70 percent (28 out of 40 States responding).

Table 4-2 shows the number of personnel by position category at the State level and the number of States who had at least one person in each of these positions. It is evident from this table that the position categories cited by the greatest number of States are the Pollution Control Program Director and Environmental Specialist. The prevalence of these two categories within many State programs may be attributable to the application of manpower from other environmental areas (e.g., air and water pollution programs) to noise control efforts. Since a number of States have just recently passed legislation, the persons in these two categories have been given the responsibility to set up noise strategies within States and plan the details of the noise effort. This may account for a sizeable number of these particular categories. It also apparently reflects the emphasis at the State level on development of regulations and/or legislation as well as provision of expert guidance to communities.

Trends (1977 vs. 1973). Over the four years between the surveys, the number of States reporting noise control personnel increased from 19 to 28 and the number of personnel who spend some time on noise control activities increased sharply from 105 to 275, an increase of 170 personnel. Nearly all of the increase (162 persons) is accounted for by the two States (Mississippi and Arkansas) which reported enforcement of noise ordinances by State police. Other positions to show increases are Pollution Control Program Director and

TABLE 4-2

STATE PERSONNEL BY POSITION CATEGORY, 1973 and 1977

Position Category	1973		1977			
	Number of Persons	Number of States[a]	At Least 20 Percent	Less Than 20 Percent	Number of Persons	Number of States[a]
Pollution Control Program Director	–	–	11	8	19	15
Environmental Specialist	15	10	10	8	18	13
Engineer	18	6	10	3	13	8
Physical Scientist	–	–	1	8	9	3
Public Health Specialist or Sanitarian; Industrial Hygienist	7	2	9	14	23	7
Urban Planner; Land Use Analyst	1	1	–	–	–	–
Attorney	–	–	1	1	2	2
Environmental Technician or Inspector	35	5	2	1	3	3
Police	16	2	2	176	178	4
Clerical or Secretarial	11	10	5	–	5	4
Other	2[b]	2	3	2	5	4
Total Personnel	105		54	221	275	
Number of States Reporting Personnel		19				28

a Number of States reporting personnel in category

b Includes administrative personnel

Question 6A. "Please (list) each individual who devotes at least 20% (less than 20%) of his/her time to noise control activities, using the position codes indicated below."

Public Health Specialist/Industrial Hygienist categories. The number of personnel reported in the Environmental Technician/Inspector category declined sharply as did that in the Engineer and Clerical categories. These trends indicate the maturing of the State programs with less emphasis on inspections (except enforcement activity by police) and increased emphasis on program direction and assistance to local communities.

Communities' Noise Control Personnel

Five hundred and sixty-two responses to the 1978 survey were received from communities. Out of this number, only 67 communities had personnel who specifically devote 20 or more percent of their time to noise control activities. A total of 142 local noise control personnel are distributed in various positions, as shown in Table 4-3. In addition, there are 218 communities with as many as 5,456 part-time staff members who devote some time — less than 20 percent — to noise control efforts.

Position Categories. As is evident from Table 4-3, of the personnel who devoted at least 20 percent of their time to noise control efforts in 1977, the three professional categories with the largest number of assigned personnel were Public Health Specialist/Industrial Hygienist, Engineer, and Environmental Technician/Inspector. In the less than 20 percent category, the large number of police overshadows all other job categories. Almost 80 percent of the personnel working in noise-related activities at the local level are police engaged in the enforcement of noise control ordinances, investigating complaints, etc. Most are engaged in motor vehicle noise enforcement. Motor vehicle noise, as previously discussed, is the most widespread noise problem. It is also the source that has caused the development of the most noise control legislation and is the most frequently enforced. Police have the power to pursue motor vehicle noise offenders, pull them over to the side of the road and issue noise citations. It is often one part of their many responsibilities in law enforcement.

Figure 4-2 shows the relative distribution of noise control positions at the State and local levels in 1977. At both the State and local levels the Police category dominates all others. Public Health Specialist/Industrial

TABLE 4-3

COMMUNITY PERSONNEL BY POSITION CATEGORY, 1973 AND 1977

Position Category	1973	1977		
	Number of Persons	Number of Persons		Total Number of Persons
		At Least 20 Percent	Less Than 20 Percent	
Pollution Control Program Director	7	15	47	62
Environmental Specialist	29	17	54	71
Engineer	35	21	161	182
Physical Scientist		3	4	7
Public Health Specialist or Sanitarian; Industrial Hygienist	35	30	435	464
Urban Planner; Land-Use Analyst	16	7	114	121
Attorney	5	0	24	24
Environmental Technician or Inspector	74	22	99	120
Police	18	15	4357	4372
Clerical or Secretarial	20	6	21	27
Other	6	6	140	146
Building Inspector	15	–	–	–
Total Personnel	260	142	5456	5598
Total Less Police	242	127	1099	1226
Number of Communities	59	67	218	285

Question 6A. Please (list) each individual who devotes at least 20% (less than 20%) of his/her time to noise control activities, using the position codes indicated below."

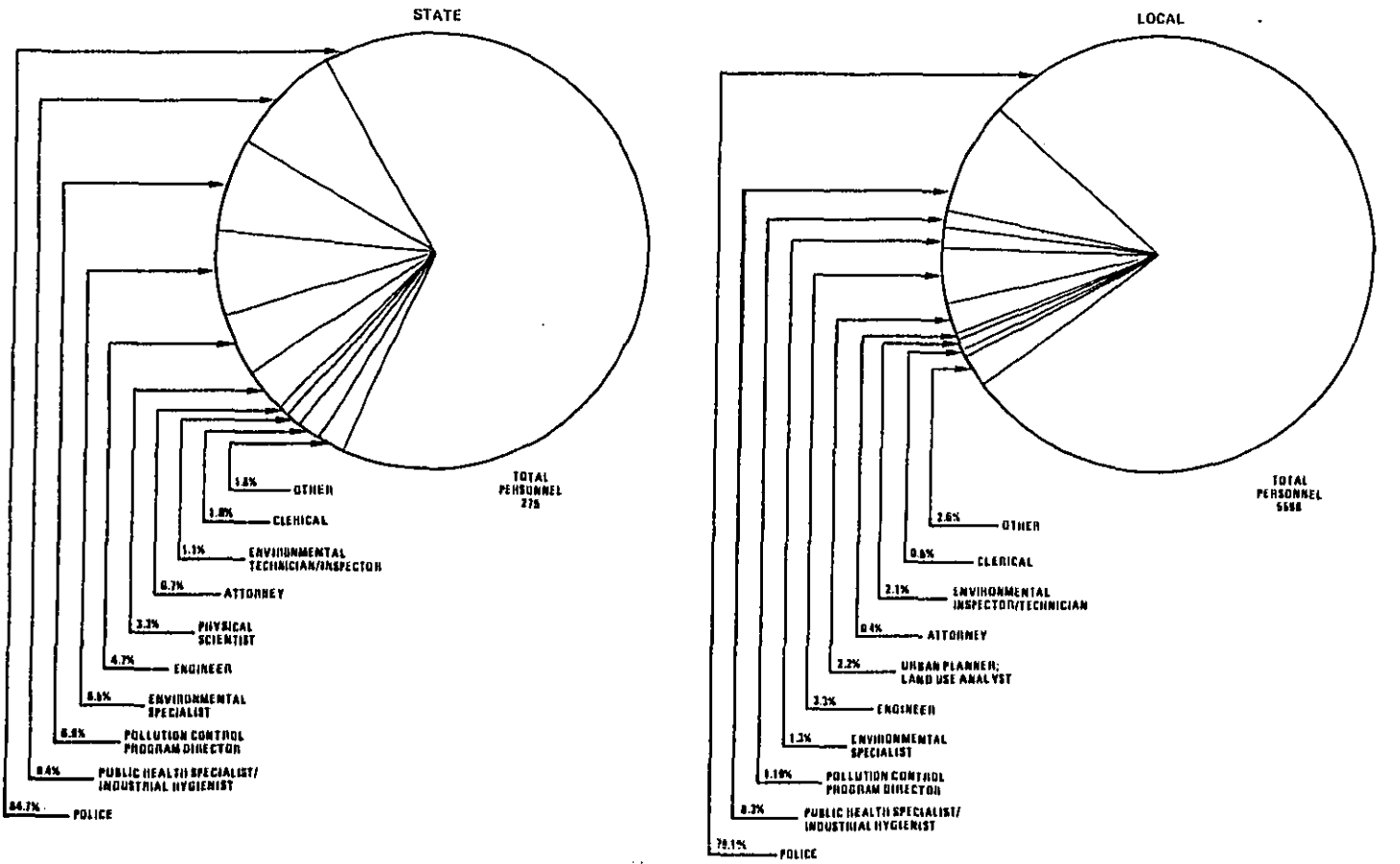

FIGURE 4-2. DISTRIBUTION OF NOISE CONTROL PERSONNEL POSITIONS AT STATE AND LOCAL LEVELS, 1977

Question 6A. "Please (list) each individual who devotes at least 20% (less than 20%) of his/her time to noise control activities, using the position codes indicated below."

Hygienist is the second largest category at both State and local levels. Personnel in this category are about eight percent of the total personnel at State and local levels. The third most dominant position at the State level is in the Pollution Control Program Director category while at the community level it is in the Engineer category.

Trends (1977 vs. 1973). The number of communities surveyed in 1978 was much larger than in the 1974 EPA survey. Therefore, a direct comparison between surveys is not entirely accurate. However, there are indications that there are a rapidly growing number of communities which have assigned personnel to noise control activities. In 1973, 59 communities responding to the survey had at least one full- or part-time noise personnel position. In 1978, this had increased to 285 communities. Unfortunately, there are communities whose noise control activities have been reduced or terminated (e.g., Boston) causing a reduction in personnel. In some cases, after the program has been operational, responsibilities have shifted to part-time personnel.

As indicated in Table 4-3, there has been a dramatic increase in the reported number of police who work part-time on noise enforcement. The number of personnel in the Public Health Specialist/Industrial Hygienist category also increased sharply between 1973 and 1977, reflecting perhaps the increased awareness of occupational noise hazards and the addition of these personnel to local health departments to handle the air and water pollution problems. Another noticeable increase was the Program Director/Administrator category. This probably reflects the formalization of noise programs at the local levels and the designation of at least part-time noise program directors.

Table 4-4 shows the relative ranking of the top six position categories cited in the 1978 survey compared to the rankings in 1973. In 1977, the most frequently cited position category was Police, followed by Public Health/Industrial Hygienist and Urban Planner/Land-Use Analyst. In 1973, the position cited by the greatest number of communities was that of Environmental Specialist, closely followed by Environmental Technician/Inspector. These shifts in the position categories are to be expected as the communities move from program planning to program implementation with its emphasis on inspections and enforcement.

TABLE 4-4

RANK OF POSITION CATEGORIES USED
IN COMMUNITY NOISE PROGRAMS

1973 vs. 1977

Rank in 1977	Number of Communities[a]	Position Category	Rank in 1973	Number of Communities[a]
1	102	Police	8	7
2	86	Public Health/Sanitarian/ Industrial Hygienist	3	16
3	62	Urban Planner/Land-Use Analyst	5	14
4	61	Environmental Specialist	1	18
5	55	Environmental Technician/ Inspector	2	17
6	52	Engineer	6	13

[a]Number of communities reporting personnel in position category shown.

Question 6A. Analysis of responses.

Fields of Experience

The 1978 survey requested information on the fields of experience of those personnel who devote at least 20 percent of their time to noise program activities. Comparable data were not requested in the 1974 survey. A summary of the 1978 survey is presented in Table 4-5 for both State and community personnel. Forty-seven percent of the community personnel and 37 percent of the State personnel are either engineers or environmental scientists. Experience in the field of acoustics is lacking; only two percent of the State and four percent of the community personnel indicated that their experience is primarily in acoustics.

TABLE 4-5

FIELD OF EXPERIENCE OF STATE AND COMMUNITY PERSONNEL WHO DEVOTED AT LEAST TWENTY PERCENT OF THEIR TIME TO NOISE CONTROL ACTIVITIES, 1977

Field of Experience	Community		State	
	Number	Percent	Number	Percent
Engineering	31	22	17	31
Acoustics	5	4	1	2
Physical Science	3	2	3	6
Environmental Science	35	25	3	6
Medical Science	1	1	2	4
Biological Science	9	6	3	6
Public Health Science	16	11	1	2
Social Science	3	2	2	4
Law	2	1	1	2
Police	13	9	-	-
Community Planning	6	4	3	6
Transportation Operations	1	1	-	-
Safety Operations	2	1	-	-
Not Classified	15	11	18	33
Total	142	100	54	100

Question 6A. Analysis of responses.

Problem Areas

As will be discussed in a later section, the lack of an adequate number of trained personnel is a critical factor in the State and local noise control activities as indicated in Table 4-6. Almost half of the 40 responding States indicate they enforce noise control laws, but only 12 States reported personnel who devote at least 20 percent of their time to noise control activities. Similarly, of the 328 communities that enforce their noise laws, only 55 have personnel who devote 20 percent or more of their time to noise control activities. Clearly, manpower is a critical factor.

TABLE 4-6

PERSONNEL STAFFING COMPARED TO
ENFORCEMENT OF NOISE CONTROL LAWS, 1977

Enforcement / Personnel	Number of States Which:		Number of Communities Which:	
	Enforce	Don't Enforce	Enforce	Don't Enforce
At least 20 percent of time on noise control	12	4	55	12
Part-time on noise control but less than 20 percent	3	9	167	51
No personnel reported	2	10	106	170
Total	17	23	328	233

Comparison of Responses to Questions 5A and 6A

STATE AND COMMUNITY NOISE CONTROL BUDGET ALLOCATIONS

Adequate funding is crucial to the development and implementation of an effective noise control program. Such a program requires establishing a fiscal budget for the necessary resources, including personnel and equipment. Without initial appropriations to get a new program off the ground once legislation is enacted, and without a sustained level of funding to operate the program once initial standards, criteria, and administrative procedures have been established, noise control efforts will be undermined.

The 1978 EPA survey requested a breakdown from the States and communities of their specific noise control program budgets related to each program activity. This section provides a summary of the budgetary data reported by the States and communities and compares the 1977 budgets for noise control with those reported for 1973 under the previous EPA survey.

State Noise Program Budgets

Nineteen States and Puerto Rico, of the 44 States and territories responding to the 1978 survey, budgeted funds for noise control activities in 1977. In the 1974 survey, budget data was provided by 16 of the 45 responding States and territories. Table 4-7 lists the States which provided budget data for 1973 and/or 1977 and their noise control budgets both in total amounts and on a per capita basis. The per capita data (in cents) are based on 1970 census figures and are used as a comparative index since they standardize the budgets for variations in population. The noise control budgets and per capita data for all the States and territories which responded to either the 1974 or 1978 surveys are listed by EPA region in Appendix B.

California's $1.6-million 1977 budget ranks first among the responding States. Seven of the 20 States (including Puerto Rico) reported budgets in excess of $100,000. The total amount budgeted for noise control in 1977 was $3.6 million. The average noise control budget for the 44 responding States was approximately $81,000. This was the equivalent on a per capita basis of about 1.9 cents per resident. Figure 4-3 shows the geographical distribution of per capita funds budgeted for noise control activities in 1977.

TABLE 4-7

STATE BUDGETARY DATA, 1973 AND 1977

State	1970 Population	1973			1977			
		Budget ($)	Percent	Per Capita (¢)	Budget ($)	Percent	Per Capita (¢)	Change from 1973
Arizona	1,770,900	1,500	0.1	0.1	215,000	6.0	12.1	+ 213,500
California	19,945,715	1,348,800[a]	67.7	6.8	1,645,000	45.9	8.3	+ 296,200
Connecticut	3,031,709	0	-	0.0	24,353	0.7	0.8	+ 24,353
Florida	6,789,443	45,000	2.3	0.7	93,000	2.6	1.4	+ 48,000
Georgia	4,589,575	0	-	0.0	22,000	0.6	0.5	+ 22,000
Hawaii	768,561	56,491	2.8	7.3	135,132	3.8	17.6	+ 78,641
Illinois	11,109,935	200,000	10.0	1.8	304,400	8.5	2.7	+ 104,400
Indiana	5,193,669	0[b]	-	-	39,270	1.1	0.8	+ 39,270
Kansas	2,249,071	1,925	0.1	0.1	Not Reported	-	-	Unknown
Kentucky	3,218,706	0[c]	-	-	92,075	2.6	2.9	+ 92,075
Louisiana	3,643,180	4,650	0.2	0.1	0	0.0	0.0	- 4,650
Maryland	3,922,399	0	-	0.0	24,000	0.7	0.6	+ 24,000
Massachusetts	5,689,170	23,860	1.2	0.4	400,000	11.2	7.0	+ 376,200
Michigan	8,875,083	0	-	0.0	164,935	4.6	1.9	+ 164,935
Montana	694,409	2,000	0.1	0.3	3,000	0.1	0.5	+ 1,000
Nevada	488,738	127	-	0.03	0	0.0	0.0	- 127
New Hampshire	737,861	0	-	0.0	810	0.0	0.1	+ 810
New Jersey	7,268,164	89,900	4.5	1.3	75,000	2.1	1.0	- 14,900
New York	18,236,951	147,800	7.4	0.8	50,000	1.4	0.3	- 97,800
North Carolina	5,082,959	7,000	0.4	.1	0	0.0	0.0	- 7,000
Oklahoma	2,559,253	1,000	0.1	0.04	0	0.0	0.0	- 1,000
Oregon	2,091,385	44,300	2.2	2.1	215,600	6.0	10.3	+ 171,300
Puerto Rico	2,719,000	0	-	0.0	47,077	1.3	1.7	+ 47,077
South Carolina	2,590,516	16,800	0.8	.7	700	-	0.0	- 16,100
Washington	3,409,161	0	-	0.0	30,000	0.8	0.9	+ 30,000
TOTALS		$1,991,093	100		$3,581,852	100		+ 1,590,000

[a] Excludes one-time expenditure of $11,000,000 for construction costs for a school noise attenuation program.

[b] No funds budgeted in 1973 or 1974; $20,000 projected for 1975.

[c] No funds budgeted in 1973; $20,000 projected for 1974.

Question 8A. "Please provide a breakdown of your current noise control program budget. If budgetary breakdowns are not available, provide a figure for the total allocation."

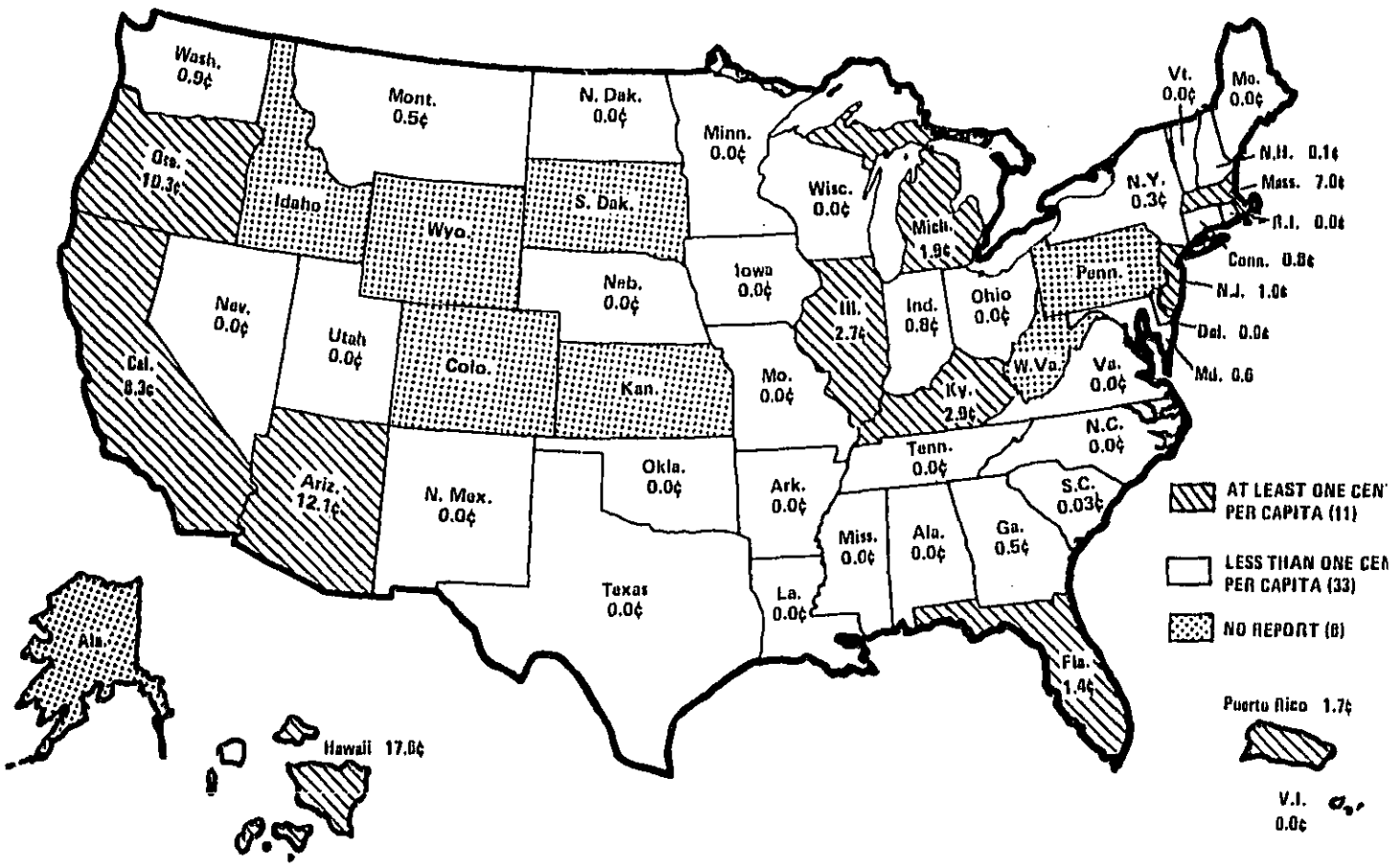

FIGURE 4-3. STATE PER CAPITA BUDGETS FOR NOISE CONTROL, 1977

On a per capita basis, Hawaii ranks first among the reporting States, with a planned expenditure of 17.6 cents per resident. Two additional States, Arizona and Oregon, reported per capita budgets in excess of 10 cents. A total of 11 States had per capita budgets of one cent or more as shown in Figure 4-3.

Trends. The number of States reporting a noise control budget increased from 16 in 1973 to 20 in 1977, an increase of 25 percent. Overall, the budgets for the reporting States increased from about $2.0 million in 1973 to approximately $3.6 million in 1977, an increase of $1.6 million, or 20 percent per year, over the four-year period. As can be seen in Table 4-7, budgets of seven States decreased while the budgets in ten States increased. In addition, six States which did not report budget data in 1973 reported budgets for noise control in 1977. Kansas, which reported a budget of $1,925 in 1973, did not respond to the latest survey. The average per capita budget for noise control activities of the States responding to the survey increased from about 1.2 cents in 1973 to about 1.9 cents in 1977.

Community Noise Control Budgets

Noise control budgets were reported by 140 communities, or 25 percent of the 562 communities responding to the 1978 survey. In the 1974 survey, 46 communities, or 26 percent of the 184 communities responding, provided budget data. Overall, the noise control budgets of the reporting communities increased from approximately $1.9 million in 1973 to about $2.7 million in 1977. Appendix C lists, by EPA region, the budgets and per capita data for the communities that reported noise control budgets in 1973 and/or in 1977.

Discussion and Analysis. There is a large variation in budgeted funds and planned per capita expenditures among the responding communities, reflecting different stages of noise program development. New York City had the largest 1977 budget ($250,000)[1] followed by Phoenix, Arizona ($215,000). Only five other cities reported budgets of $100,000 or more: Chicago, Illinois;

[1] Information provided by EPA regional representative.

Los Angeles and Long Beach, California; New Rochelle, New York; and Salt Lake City, Utah.

The communities with a noise control budget of $10,000 or more and/or planned per capita expenditures for noise control activities of 15 cents or greater in 1973 and/or 1977 are listed in Table 4-8. In the 1974 survey, 20 communities reported budgets for noise control of $10,000 or more, and in 1978, 55 communities reported budgets of $10,000 or greater. Of these, 43 had populations in excess of 75,000 (which was the basis for the earlier survey), providing some indication that more communities are allocating funds for noise control activities.

On a per capita basis, New Rochelle, New York, ranks first among the 562 responding communities, with planned expenditures of about $1.33 per resident. Olympia, Washington, ranks second with per capita expenditures of $1.20. At the other end of the spending scale, Oakland, California, reported a 1977 per capita figure of about 0.1 cents, and 422 of the responding communities did not have a noise control budget in 1977.

Thirty-seven communities reported per capita budgets of 15 cents or more in 1977 compared to only eight communities in 1973, as shown in Table 4-8. Twelve of the 37 communities are in California. The higher per capita expenditures in this area reflect the concentration of well-established noise control programs in the State. There is some evidence that 15 cents per capita for noise control may be an adequate funding level for carrying out a comprehensive noise control program. However, several communities with established noise control programs have allocated less, others considerably more, depending on the severity of local noise conditions and the extent of citizen commitment to noise control and abatement.

Trends. From the limited data available, there is evidence that a number of communities are increasing their budgets for noise control activities. A comparison of the budget data of the communities responding to both the 1974 and 1978 surveys reveals that budgets were increased in 20 instances and decreased in 16 others. Those communities are listed in Table 4-9. Another indication is evidenced by the fact that 22 communities with populations greater

EPA Region/Community	1973		1977	
	Budget $	Per Capita ¢	Budget $	Per Capita ¢
Region I				
Boston, MA	31,000	4.81	18,500	2.8
Lewiston, ME	NR		10,000	22.9
Region II				
Nassau County, NY	41,280	2.9	NR	
Trenton, NJ	NR		75,000	71.7
New Rochelle, NY	758	1.0	100,000	132.7
New York, NY	950,000	12.0	250,000	3.2
Baltimore, MD	97,957[a]	6.4	0	0.0
Region III				
Wilmington, DE	NR		20,000	24.9
Allentown, PA	0	0.0	67,000	81.8
Pittsburgh, PA	42,000	8.1	NR	
Arlington, VA	0	0.0	15,800	9.7
Norfolk, VA	1,200	0.4	24,000	7.8
District of Columbia	0	0.0	43,200	6.7
Region IV				
Gainesville, FL	NR		35,000	34.3
Miami Beach, FL	NR	0.0	35,000	40.3
Huntsville, AL	0	0.0	10,000	7.3
Ft. Lauderdale, FL	0	0.0	10,000	7.2
Jacksonville, FL	1,015	0.2	18,316	3.5
Columbus, GA	0	0.0	15,000	9.7
Region V				
Lincoln, MI	0	0.0	18,206	18.5
Saginaw, MI	1,520	1.7	19,580	21.4
Akron, OH	0	0.0	43,900	15.9
Chicago, IL	208,500	8.1	127,155	3.8
Gary, IN	20,778[a]	11.8	NR	
Indianapolis, IN	2,800	0.5	28,270	5.3
Grand Rapids, MI	10,000	9.06	26,614	13.5
Bloomington, MN	NR		43,200	52.7
Minneapolis, MN	10,319	2.4	10,000	2.3
Milwaukee, WI	12,298	1.7	26,893	3.8
Region VI				
Oklahoma City, OK	17,219	4.7	23,000	6.3
Norman, OK	NR		18,000	34.5
Albuquerque, NM	NR		20,868	8.6
Houston, TX	20,480	0.8	24,733	2.0
Region VII				
Prairie Village, KA	NR		25,000	58.9
Lincoln, NE	6,000[a]	3.3	25,800	17.3
Region VIII				
Aurora, CO	39,000	62.13	500	0.8
Boulder, CO	NR		38,000	63.8
Colorado Springs, CO	41,000	30.37	47,847	35.4
Denver, CO	0	0.0	37,280	7.2
Grand Forks, ND	NR		6,000	20.6
Salt Lake City, UT	NR		100,000	56.8
Region IX				
Fresno, CA	3,480	2.1	20,000	12.0
Anaheim, CA	0	0.0	25,000	16.1
Culver City, CA	NR		8,000	15.9
Fremont, CA	0	0.0	20,000	19.8
Inglewood, CA	61,400	67.1	34,900	38.8
Long Beach, CA	NR		108,551	29.8
Menlo Park, CA	NR		8,500	31.8
Modesto, CA	NR		11,100	18.0
Los Angeles, CA	92,500	3.3	100,000	3.6
Ontario, CA	NR		50,922	79.4
Paramount, CA	NR		18,300	46.8
San Diego, CA	0	0.0	56,300	7.2
Santa Monica, CA	13,750	15.83	NR	
Santa Rosa, CA	NR		20,000	40.1
Simi Valley, CA	NR		8,900	19.7
Torrance, CA	23,478	17.5	40,000	29.7
Pasadena, CA	1,277	1.1	10,000	8.8
Stockton, CA	28,468[a]	24.1	NR	
Phoenix, AR	0	0.0	215,000	22.2
Region X				
Anchorage, AK	NR		40,000	83.1
Eugene, OR	0	0.0	12,980	17.0
Portland, OR	167,800	43.7	61,750	16.2
Everett, WA	NR		12,980	24.2
Olympia, WA	NR		30,000	120.0
Seattle, WA	66,000	12.4	99,200	28.7

NR - no response received, less than 75,000 population.

a - 1974 budget estimate; no noise control budget in 1973.

TABLE 4-8

COMMUNITIES WITH NOISE CONTROL BUDGETS OF $10,000 OR MORE OR 15 CENTS OR MORE PER CAPITA BUDGETED FOR NOISE CONTROL, 1973 AND 1977.

Question 8A. "Please provide a breakdown of your current noise control program budget. If budgetary breakdowns are not available, provide a figure for the total allocation."

than 75,000 which did not have a budget for noise control in 1973 reported noise control budgets in 1977. (Only communities with populations of 75,000 and over were included in the 1974 survey.) These communities are also listed in Table 4-9. However, considering all cities over 75,000 in population, there was a net decrease in funding as shown in the table, due to the large decreases in New York City and Chicago noise control budgets.

Total Funds Allocated for Noise Control Programs

The total reported State and community budgets for noise control activities in 1977 was $6.2 million compared to $3.9 million in 1973. A comparison of the 1973 and 1977 reported budgets is shown in Table 4-10.

Table 4-10 indicates that the reported amount budgeted by the States and communities increased about 60 percent between 1973 and 1977. As indicated in this table, the funds budgeted in 1973 for noise control activities were almost evenly divided between the States and communities. In 1977, the States accounted for 57 percent of the total.

Table 4-11 provides a summary of State and local 1977 budgets for noise control by EPA region. As would be expected, the States and communities with the largest per capita budgets generally are located where there are large industrialized metropolises and transportation centers. None of the States in Regions VI and VII had budgeted funds for noise programs. However, the larger urban areas in these regions have funded programs (e.g., Houston, Oklahoma City, Omaha).

The increasing trend in funding for noise control activities is clearly evident in Figure 4-4. Per capita planned expenditures in 1973 for the 16 States reporting noise control budgetary data in 1973 was 1.2 cents. In 1977, per capita planned expenditures reported by 20 States was 1.9 cents, or nearly 60 percent greater than the 1973 planned expenditures. Per capita expenditures at the local level increased to 6.8 cents from 5.7 cents, or about 30 percent, during the same period.

TABLE 4-9

COMMUNITIES WHICH INCREASED, INITIATED, OR DECREASED THEIR NOISE CONTROL BUDGETS BETWEEN 1973 AND 1977[a]

CITY AND STATE	CHANGE $	PERCENT
INCREASED BUDGET		
Colorado Springs, CO	6,847	17
Columbia, SC	3,080	145
Fresno, CA	16,520	475
Grand Rapids, MI	16,614	166
Houston, TX	14,283	137
Indianapolis, IN	35,470	933
Jacksonville, FL	17,300	1704
Kenosha, WI	7,550	1079
Los Angeles, CA	7,500	8
Milwaukee, WI	14,595	119
Norfolk, VA	22,800	1900
Oakland, CA	90	82
Oklahoma City, OK	5,721	33
Pasadena, CA	8,723	683
Pasadena, TX	147	42
Saginaw, MI	18,160	1195
Seattle, WA	33,200	50
Tampa, FL	4,504	164
Torrance, CA	16,522	70
Tulsa, OK	1,080	37
SUBTOTAL	250,706	
INITIATED BUDGET		
Akron, OH	43,900	100
Allentown, PA	67,000	100
Anaheim, CA	25,000	100
Arlington, VA	15,800	100
Columbus, GA	15,000	100
Denver, CO	37,280	100
Eugene, OR	12,980	100
Evansville, IL	8,876	100
Freemont, CA	20,000	100
Ft. Lauderdale, FL	10,000	100
Hammond, IN	4,250	100
Huntsville, AL	10,000	100

[a] Only those communities which had a population of 75,000 or more in 1970 are included.

Question 8A. Analysis of responses.

TABLE 4-9 (CONTINUED)

CITY AND STATE	CHANGE $	PERCENT
INITIATED BUDGET (Cont'd.)		
Livonia, MI	18,206	100
Newark, NJ	10,000	100
New Haven, CT	300	100
Norwalk, CT	635	100
Pawtucket, RI	1,000	100
Phoenix, AZ	215,000	100
Rockford, IL	1,500	100
San Diego, CA	55,300	100
Toledo, OH	4,800	100
Washington, DC	43,200	100
SUBTOTAL	620,027	
DECREASED BUDGET		
Aurora, CO	38,430	98
Austin, TX	3,750	100
Boston, MA	12,500	40
Bridgeport, CT	2,275	100
Charlotte, NC	75	100
Chicago, IL	79,345	38
Flint, MI	160	100
Inglewood, CA	16,500	32
Kalamazoo, MI	450	100
Lakewood, CA	3,574	95
Lakewood, CO	31,842	99
Minneapolis, MN	319	3
Montgomery, AL	560	100
New York, NY	700,000	74
Portland, OR	105,800	63
San Antonio, TX	4,018	100
SUBTOTAL	1,012,098	
Net Decrease	141,365	

TABLE 4-10

SUMMARY OF STATE AND COMMUNITY NOISE CONTROL BUDGETS, 1973 AND 1977

Noise Control Budgets	1973 $	1977 $
State	1,991,093 (16)[a]	3,581,352 (20)
Community	1,903,358 (45)	2,651,074 (140)
Total	3,894,451	6,232,426

[a] Numbers in parentheses are numbers of States/communities reporting noise control budgets.

Question 8A. Analysis of responses.

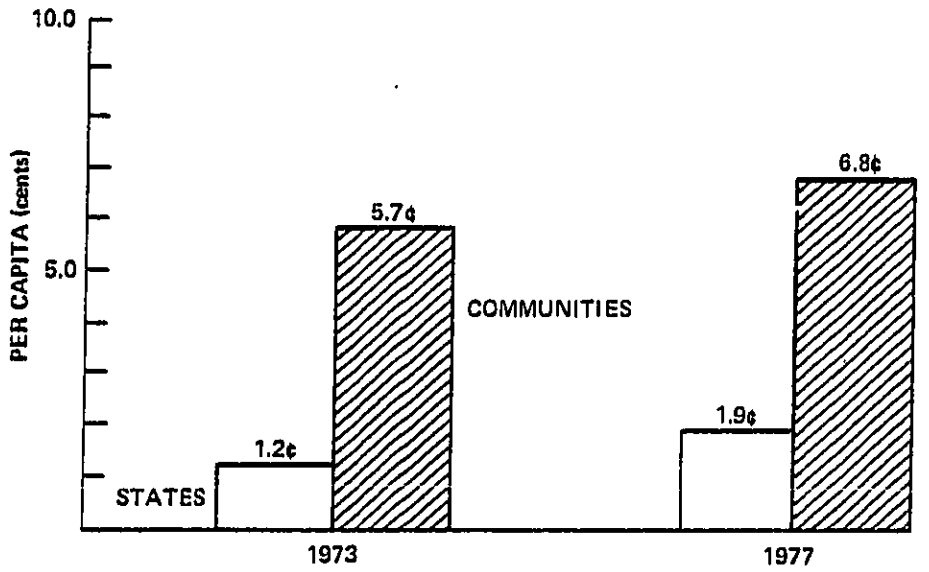

FIGURE 4-4. STATE AND COMMUNITY PER CAPITA BUDGETS FOR NOISE CONTROL ACTIVITY, 1973 AND 1977

The total population of the 20 States reporting a noise budget in 1977 was about 112 million, or about half the population of the United States. Although considerable progress has been made between 1973 and 1977, it is clear that funding for noise control activities falls far short of being adequate. Some of the noteworthy programs as well as problems are highlighted below.

TABLE 4-11

SUMMARY OF STATE AND COMMUNITY NOISE CONTROL BUDGETS
BY EPA REGION, 1978

EPA Region	States	States		Communities	
		Budget $	Per Capita[a] ¢	Budget $	Per Capita[a] ¢
I.	ME, NH, VT, MA, RI, CT	425,163	3.6 (3)[b]	31,635	2.3 (8)[b]
II.	NY, NJ, PR, VI	172,077	0.61 (3)	368,850	3.9 (9)
III.	PA, MD, DE, WV VA, DC	24,000	0.3 (1)	175,000	10.8 (7)
IV.	NC, SC, TN, KY, MS, GA, FL	207,775	0.7 (4)	146,265	7.1 (12)
V.	WI, IL, MI, OH, IN, MN	508,605	1.2 (3)	416,944	4.7 (29)
VI.	NM, OK, AR, LA, TX	0	0.0 (0)	96,327	4.1 (9)
VII.	NE, KS, IA, MO	0	0.0 (0)	70,373	4.3 (9)
VIII.	MT, ND, SD, WY, UT, CO	3,000	0.1 (1)	250,527	16.7 (15)
IX.	CA, NV, AZ, HI	1,995,132	8.7 (3)	835,293	10.5 (35)
X.	WA, OR, ID, AL	245,600	4.5 (2)	259,660	22.5 (7)
Total		3,581,352	1.9 (20)	2,651,074	6.8 (140)

[a] Per capita budget data are based on all States and communities responding to survey (see Appendices B and C).

[b] Numbers in parentheses are number of States/communities reporting noise control budgets.

Question 8A. Analysis of responses.

Noteworthy Programs

Among the States and communities reporting budgetary data, several were particularly significant either with respect to the total amounts of resources allocated for noise control activities or due to large increases in funding levels over the four-year period 1973-1977.

California ranked first among reporting States in overall planned expenditures and fourth in planned per capita expenditures. Their funds were allocated to the Office of Noise Control in the Department of Health for manpower ($200,000); the California Highway Patrol for motor vehicle enforcement activities ($375,000); the Department of Transportation for the Division of Highways ($870,000); and the Division of Aeronautics ($200,000).

Hawaii ranked first in planned per capita expenditures for noise control with 17.9 cents per capita. The reported 1977 budget totals $135,132 and is over twice the amount spent in 1973. Their planned expenditures are for personnel ($118,780) and operating expenses ($16,352).

Arizona reported the largest increase in total budget and per capita expenditures for noise control. It increased from $1,500 in 1973 to $215,000 in 1977 while per capita expenditures are projected to jump to 12.1 cents from .08 cents in 1973. Funds will go for personnel ($40,000), equipment/instruments ($10,000) and barriers ($165,000).

Among the reporting communities, New York City and Phoenix, Arizona, ranked first and second in 1977 for total funds budgets for noise control. Norfolk, Virginia, reported the largest increase in planned expenditures over 1973 of those communities which responded to both the 1974 and 1978 surveys. The Norfolk budget for noise control increased 1900 percent from $1,200 to $24,000 over the four-year period.

Problem Areas

Despite the increased number of States and communities with funded noise control programs, the lack of adequate funds is a major obstacle to the development, implementation, and enforcement of noise control programs.

Although the development and enactment of noise legislation represents a major hurdle (27 out of 50 States currently have noise laws), even a more difficult step is the establishment of a noise control program with a line item budget for noise control. This appears to be a major hurdle facing State governments, and may jeopardize the legislative intent and enforcement objectives. Despite the fact that 27 States have some law with quantitative provisions, only 19 States and Puerto Rico have budgets for noise control to support this legislation. While it is desirable to have a specific budget for noise control, other States and communities support noise control activities with funds from sources other than noise control budgets.

As will be discussed below, an inadequate operating budget ranked second behind the lack of manpower as a major problem facing the States.

Over 150 communities who responded that noise is a growing concern in the community did not have a noise control budget in 1977. The magnitude of the funding problem is also indicated by the nearly 300 communities that have existing laws or ordinances which incorporate noise control provisions, yet do not have a noise control budget. Clearly there is a tremendous gap between the growth of the problem and the fiscal commitment to counteract its growth.

INSTRUMENTATION AND EQUIPMENT

Definitions

One of the objectives of the survey was to determine the quantity of sound instrumentation on hand for noise control programs. Sound instruments are necessary for noise monitoring and for the effective enforcement of noise control laws.

Noise instrumentation has been classified into nine categories:

1. Sound Level Meter -- Used to determine sound levels in decibels. The more expensive versions are capable of measuring peak levels from impulsive sources with a peak hold mechanism, and contain an octave-band filter set for frequency analysis. The less expensive versions measure A-weighted sound levels only.

2. Microphone Calibrator -- Generates a known constant and high level sound pressure level, usually between 90 and 125 dB, at either a single frequency or at a series of frequencies.

3. Sound Spectrum Analyzer -- Sometimes referred to as a frequency analyzer, and is used to determine the frequency content of a given noise. Octave-band, 1/3 octave-band, and narrow-band capabilities are available.

4. Amplitude Distribution Analyzer -- Measures the percentage of time that the sound level falls within a given decibel range. Data obtained are used to develop sound level histograms, and to determine levels exceeded for a given percentage of time.

5. Graphic Level Recorder -- Creates a permanent, reproducible record of the results of a measurement by means of scribing a line on a moving paper tape. As an accessory to sound and vibration instruments, it can be used to record sound or vibration levels over periods of time.

6. Vibration Meters and Accelerometers -- Measure one or more of the following three parameters of a vibrating body: its acceleration, velocity, or displacement.

7. Magnetic Tape Recorder -- Creates a permanent reproducible record of a measurement by means of recording an electrical signal on a moving magnetic tape. As an accessory to sound and vibration instruments, it can be used to record sound or vibration phenomena over periods of time.

8. Real-Time Analyzer -- Provides a continuously varying display of the frequency content of a noise signal in real-time (i.e., as it occurs). This type of operation usually requires a parallel type of analyzer or some storage system. These units incorporate nine computers or microprocessors which digitize sound level measurements, perform statistical analyses and store the results in memory for later retrieval. Complete octave, 1/3 octave, or narrow-band analyses may be performed by real-time analyses on a continuous basis.

9. Community Noise Monitoring Systems -- Calculate the day-night sound level, equivalent sound level, and various statistical distributions. Such systems are extremely useful for monitoring over an extended period of time (24 hours or longer) without attendant personnel since they can accumulate and analyze large quantities of data.

Results

Table 4-12 identifies the types and quantity of instrumentation reported by States and local communities; sound level meters and microphone calibrators are the only items of instrumentation available in any significant quantity to the States and local communities. Twenty-four States and 174 communities have at least one sound level meter. Twenty-two States and 128 communities have at least one microphone calibrator. There are 106 communities with one sound level meter but only 76 of these communities have microphone calibrators. This could imply that there are 30 communities using sound level meters possibly out of calibration due to the unavailability of calibrators. The validity of such measurements would be questionable. If this were the case, however, responding States and localities may have taken it for granted that sound level meters cannot be used without calibrators and therefore would not separate these instruments in their responses.

More States and communities than ever are purchasing more sophisticated pieces of noise measurement and analysis equipment. In order to conduct the basic enforcement of property line/industrial legislation and vehicular noise legislation (the two most-often-found types of noise legislation), simple Type II sound level meters suffice. In the last couple of years, a number of communities have decided to include a time-weighted factor in their legislation. This usually requires equipment with greater analysis capabilities, such as the statistical analyzer, or more recently, the community noise monitoring equipment appearing in the market. Since advances have been made with smaller microprocessors, etc., this equipment is becoming less expensive.

In addition, dual purposes can be served by equipment such as community noise monitoring systems in monitoring community noise levels for baseline surveys, trends, and land use planning as well as for enforcement. Many more

TABLE 4-12

STATE AND LOCAL SOUND MEASUREMENT AND ANALYSIS INSTRUMENTATION

Instrument Quantity	Sound Level Meters	Microphone Calibrators	Sound Spectrum Analyzers	Amplitude Distribution Analyzers	Graphic Level Recorders	Vibration Meters & Accelerom-eters	Magnetic Tape Recorders	Real-Time Analyzers	Communi Noise Monitor System
State Respondents									
1	1	1	8	10	12	6	7	7	9
2	3	2	5	1	4	0	3	0	1
3 or more	20	19	4	1	1	1	4	0	3
Local Community Respondents									
1	106	76	39	10	30	11	21	4	18
2	39	28	4	2	4	0	11	0	3
3 or more	29	24	3	0	0	1	6	2	5

Entries are numbers of States or communities having indicated quantity of instruments.

Question 9A. "For each instrument or piece of equipment listed below, please indicate the quantity currently on hand for your noise control program."

tape recorders and graphic level recorders are being used to issue permanent records where enforcement violations are contested in court. For example, St. Louis County has never lost a noise enforcement case since these recordings are part of all enforcement proceedings.

For the most part, where noise legislation contains maximum noise levels not to be exceeded, simple sound level meters are adequate. Overall, different types of noise legislation will require different instrumentation. Thus, equipment requirements should be a decisive factor in the type of noise legislation developed.

Analysis

The quantity of equipment possessed by communities was compared with the legislative and enforcement results in an attempt to find correlations between these factors. There is a definite relationship between the stage of noise program development and the type and quantity of noise instrumentation. Ninety-one communities that have noise legislation with specific performance requirements and are enforcing their legislation reported having at least one sound level meter. A sound level meter is the fundamental piece of enforcement equipment. Fourteen communities with no program (neither legislation nor enforcement) have sound level meters, and a few of these communities also have other instrumentation to do a statistical analysis. It is possible that these communities have proposed legislation and the instruments were used to conduct baseline surveys and assist in the development of responsive legislation.

Table 4-13 shows that there are 200 communities (55 percent of those responding to the question) that have existing legislation but do not have any equipment on hand. This could be due to the fact that some of these communities only have nuisance-type legislation and hence do not require sound instruments. Only with quantifiable noise legislation, however, and the enforcement of this legislation with approved equipment will enforcement citations stand up in court. It is also interesting to note that there are 22 communities that have instrumentation but no legislation.

Table 4-14 presents the number of communities with equipment as a function of law enforcement. There are 129 communities that enforce legislation and have at least one instrument. However, there are 133 communities that

TABLE 4-13

NUMBER OF COMMUNITIES WITH EQUIPMENT
AS A FUNCTION OF THE EXISTING LAWS

Quantity of Equipment	Are There Existing Laws?	
	Yes	No
0	200	99
≥1	166	22

TABLE 4-14

NUMBER OF COMMUNITIES WITH EQUIPMENT
AS A FUNCTION OF THE NOISE LAW ENFORCEMENT

Quantity of Equipment	Do You Enforce Noise Laws?	
	Yes	No
0	133	117
≥1	129	30

TABLE 4-15

NUMBER OF COMMUNITIES WITH EQUIPMENT
AS A FUNCTION OF THE ENFORCEMENT PROBLEM
DUE TO INADEQUATE INSTRUMENTATION

Quantity of Equipment	Significance of Enforcement Problem Due to Inadequate Instrumentation	
	Minimal	Significant
0	63	28
≥1	43	60

enforce legislation but do not have any equipment. Again these communities may have no legislation yet or only nuisance-type of legislation. Note also, from Table 4-12 that 174 communities have at least one sound level meter. This implies that 174 communities have the capability of enforcing a noise ordinance specifying acoustic performance standards. However, it can be seen from Table 4-14 that only 129 of these communities enforce their noise laws. Thus, there are as many as 45 communities that have equipment, but do not enforce their legislation. This could be due to (1) the absence of noise legislation, (2) the lack of trained manpower, and (3) inadequate instrumentation.

The question then arises whether the available instrumentation meets the needs of the communities for noise legislation and enforcement requirements. As shown in Table 4-15, 60 communities with one or more sound level meters have significant enforcement problems due to inadequate instrumentation. It is difficult to mount an enforcement program effectively with only one or two sound level meters. Additional sound level meters, microphone calibrators and recording equipment may be necessary, and the legislation in some of these communities may stipulate criteria where more sophisticated instrumentation is required.

V. STATE AND LOCAL ACCOMPLISHMENTS

The initial step in creating a noise control program is to develop an awareness of the seriousness of the noise problem at the State and local level. Development of awareness is followed by the initiation of noise control legislation. Once legislation is enacted, a further step is the design of a program structured to carry out the mandate set forth in the legislation. An administrative structure must also be developed for the effective management and coordination of the program among the participating State and local agencies. And such a program requires establishing a fiscal budget for the necessary resources, allowing for the hiring of necessary personnel and the purchase of noise measurement equipment. Unfortunately, many States and communities have noise control laws on the books with no single program office or enforcement agency to conduct the program. Of those which do have some structure and enforcement capability, many report either no funding or inadequate levels of funding. Thus, a key problem which must be borne in mind when drawing conclusions based on this chapter is that there is no strict definition of what constitutes a "noise control program." These data represent the respondents' personal evaluations of what constitutes a noise control program.

EXISTENCE OF NOISE CONTROL PROGRAMS

State Programs

Table 5-1 gives the number of State noise control programs in existence. However, not all of these States have specific noise control budgets. In the States with no noise budget or a minimal one, the legislative intent and enforcement

objectives of programs are severely jeopardized. The failure to provide budgetary support gives the people in these States a false idea of the protection which they feel they are receiving from noise legislation.

TABLE 5-1
STATE NOISE CONTROL PROGRAMS

Number of State Responses	33
Number of States Having a Noise Control Program	18
Percent of Responding States Having a Program	55%

Question 7A. "Does your government have a noise control program?"

When the States were requested to rank the factors that inhibit establishment of noise control programs, they indicated their chief problem as one of giving noise a high priority in relationship to other programs. The next most important factor, as indicated in Table 5-2, was cost. A related factor, "not a problem," was third. (Some States responded in more than one category.) The perception of noise control efforts as costly demonstrates the misunderstanding of the minimal cost requirements of noise programs. Further educational efforts by EPA and other concerned agencies are clearly indicated.

TABLE 5-2
FACTORS DESCRIBING WHY STATES DO NOT HAVE NOISE CONTROL PROGRAMS

Factor	Number of States
Not a priority problem	9
Too costly	4
Not a problem	2
Nothing can be done	2
Not a responsibility of community	1
Opposition from industry	1

Question 7B. "Which of the following factors describes why your community does not have a noise control program?"

Community Programs

Table 5-3 gives the number of local noise control programs in existence.

TABLE 5-3
LOCAL NOISE CONTROL PROGRAMS

Number of Community Responses	539
Number of Communities Having a Noise Control Program	150
Percent of Responding Communities Having a Program	28%

Question 7A. "Does your government have a noise control program?"

Generally, large communities and communities with high population densities are the ones which have noise control programs (Table 5-4).

The principal reason for the absence of noise control programs in the communities, identified by 42 percent of the respondents, is the same as that at the State level, i.e., lack of priority. The second most important reason is cost, and here again, the inappropriateness of and need to remedy this perception must be emphasized. Table 5-5 illustrates the percentages accorded to each factor.

TABLE 5-4
COMMUNITIES WITH NOISE CONTROL PROGRAMS
(Percent Response)

Community Population and Density	Percent Yes Response
Population	
Greater than 250,000	45%
100,000 - 250,000	41%
50,000 - 100,000	29%
25,000 - 50,000	20%
Population Density (persons per square mile)	
Greater than 5,000	38%
2,500 - 5,000	29%
Less than 2,500	18%

Question 7A. Analysis of Responses by Population and Population Density.

TABLE 5-5

FACTORS DESCRIBING WHY COMMUNITIES DO NOT HAVE NOISE CONTROL PROGRAMS

Factor	Number of Communities
Not a priority problem	264
Too costly	139
Not a problem	139
Community not responsible	32
Opposition from industry	29
Nothing can be done	24

(627 RESPONSES)

Question 7B. "Which of the following factors describes why your community does not have a noise control program?"

Community response concerning operation of a noise control program (Table 5-3) revealed that the large majority (72 percent) do not have such programs. Out of 539 communities responding, only 150 replied affirmatively. This contrasts sharply with the positive response, also 539, to the question of having noise control laws. Table 5-6 illustrates the contrast.

TABLE 5-6

NOISE CONTROL LAWS COMPARED TO HAVING NOISE PROGRAMS IN SAME COMMUNITIES

Question	Yes	No	Total
Have noise control laws?	412 (76%)	127 (24%)	539
Have noise control programs?	150 (28%)	389 (72%)	539

COMPONENTS OF NOISE CONTROL PROGRAMS

State Programs

The respondents were asked to rate possible program activities in terms of importance to their programs. At the State level this rating is

shown in Table 5-7. Environmental impact report preparation is their major noise activity. These reports are required by the many capital expenditure projects, such as highways, undertaken by States. Nevertheless the budgetary resources and manpower required for this activity drain resources from activities which would have a more direct impact on State noise problems and on their citizens' awareness of these matters. The table indicates that registration of complaints is the third major activity. This may imply both great public concern with noise problems and the lack of a strong and comprehensive State and/or local program to resolve noise problems. Data are not available on the extent to which complaints made to State agencies may be referred to community enforcement agencies, but State-community cooperation is indicated in this area.

TABLE 5-7

STATE NOISE CONTROL ACTIVITIES
PERCENT OF PROGRAM EFFORT

Activity	Percentage
Environmental Impact Report Preparation	30.7%
Development of Noise Control Legislation	23.1%
Complaint Handling	15.4%
Monitoring/Social Services	15.4%
Enforcement	7.7%
Public Education	7.6%
General Administration	0
Research	0

Question 7C. "Please rank each of the following activities on the basis of the effort devoted to each by the noise control program."

Community Programs

In the communities, the major program effort by far is related to complaint handling, followed by enforcement, and the development of noise control laws and ordinances. Table 5-8 shows the percentage of responses for each activity.

TABLE 5-8

COMMUNITY NOISE CONTROL ACTIVITIES
PERCENT OF PROGRAM EFFORT

Activity	Percentage
Complaint Handling	27.8%
Enforcement	17.8%
Development of Noise Laws	13.7%
Environmental Impact	12.5%
Surveys	8.7%
Public Education	7.8%
General Administration	7.2%
Research	4.7%

Question 7C. "Please rank each of the following activities on the basis of the effort devoted to each by the noise control program."

MAJOR PROBLEMS IN CREATING PROGRAMS

States and communities were asked to rank the importance of nine specified problems encountered in establishing and enforcing noise control programs. The percent responses for these problems for States and communities, respectively, are shown in Tables 5-9 and 5-10.

The four major problems for States in order of rank are: lack of manpower, inadequate budget, lack of political support, and lack of citizen support. For communities, the leading problems are inadequate budget, lack of manpower, untrained personnel, and lack of effective legislation. The main difference in these rankings is the greater significance of untrained personnel at the community level and lack of political support and citizen support at the State level.

The community responses to the nine major problems listed in Table 5-10 were compared with the community responses to a number of other questions asked in the survey. In general, correlations were found between the major problems, enforcement problems, and the reasons for not having a noise control program. The major problem, lack of political support, is related to the enforcement problem (see Chapter III), lack of citizen support. This is perhaps obvious, since citizen support is necessary to generate political support. Also, a relationship apparently exists between lack of citizen support as a major problem, and "not a priority problem" as a reason for lack of a program.

TABLE 5-9

STATE RANKINGS OF MAJOR PROBLEMS
PERCENTAGE OF STATES CONSIDERING PROBLEM SIGNIFICANT

Major Problems	Percentage
Lack of Manpower	19.8%
Inadequate Budget	18.0%
Lack of Political Support	16.2%
Lack of Citizen Support	13.5%
Lack of Effective Legislation	12.6%
Untrained Personnel	8.1%
Enforcement Problems	6.3%
Inability to Demonstrate Success	2.7%
Inability to Meet Objectives	2.7%

Question 11A. "Please indicate the major problems facing your noise control efforts."

TABLE 5-10

COMMUNITY RANKINGS OF MAJOR PROBLEMS
PERCENTAGE OF COMMUNITIES CONSIDERING PROBLEM SIGNIFICANT

Major Problems	Percentage
Inadequate Budget	16.5%
Lack of Manpower	15.7%
Untrained Personnel	13.6%
Lack of Effective Legislation	12.7%
Enforcement Problems	10.9%
Lack of Political Support	10.8%
Lack of Citizen Support	9.5%
Inability to Demonstrate Success	5.3%
Inability to Meet Objectives	4.8%

Question 11A. "Please indicate the major programs facing your noise control efforts."

COVERAGE OF NOISE CONTROL PROGRAMS

Based on self-evaluation, the progress that has been made in combatting noise emanating from different noise sources by State and community programs is shown in Table 5-11 and Table 5-12. At both the State and community level, the greatest progress was made in controlling industrial and entertainment noise. Control of public and private entertainment noise is fairly easy, since non-quantitative, nuisance-type laws can be used by the local police. Hence, this ranking as number one for communities may simply indicate that many communities are doing what is easy to do. Also, young people, often major offenders in this category, have little political power in the community.

The relative progress between States and communities in a given field stems from the level of government which usually has jurisdiction in the field. For example, more local progress, as compared with State progress, has been made in controlling animals and building requirements. The reverse situation is true for motorcycles, automobiles, trucks, buses, and recreational

vehicles. These latter sources are all transportation areas in which State law usually predominates. Note that neither States nor communities have indicated much progress in the fields of aircraft and railroad operations, apparently feeling that Federal law must be used in these cases.

TABLE 5-11

SIGNIFICANT PROGRESS IN REDUCING NOISE LEVELS OF VARIOUS NOISE SOURCES MADE BY STATE NOISE CONTROL PROGRAMS

Noise Source	Number of States	Percent of 38 State Responses
Industrial Activities	6	16%
Public and Private Entertainment	4	11%
Motorcycles	3	8%
Trucks	3	8%
Automobiles	3	8%
Recreational Vehicles	3	8%
Buses	2	5%
Construction Equipment	1	3%
Home Power Equipment	1	3%
Aircraft	0	0
Animals	0	0
Railroad Operations	0	0
Garbage Compactors	0	0
Public Service Vehicles	0	0

Question 11B. "How much progress has been made by your program in reducing the noise levels or noise intrusiveness from the following noise sources?"

TABLE 5-12

SIGNIFICANT PROGRESS IN REDUCING NOISE LEVELS OF VARIOUS NOISE SOURCES MADE BY COMMUNITY NOISE CONTROL PROGRAMS

Noise Source	Number of Communities	Percent of 542 Community Responses
Public and Private Entertainment	104	19%
Industrial Activities	98	18%
Animals	69	13%
Construction Equipment	61	11%
Motorcycles	53	10%
Home Power Equipment	46	8%
Automobiles	44	8%
Garbage Compactors	42	8%
Trucks	39	7%
Recreational Vehicles	25	5%
Buses	25	5%
Public Service Vehicles	25	5%
Aircraft	21	4%
Railroad Operations	17	3%

Question 11B. "How much progress has been made by your program in reducing the noise levels or noise intrusiveness from the following noise sources?"

EFFECTIVENESS OF STATE PROGRAMS

The effectiveness of the State noise control programs described in this chapter can be determined from the data developed in previous chapters. This is done by tracing a path from public awareness to accomplishments. For example, the importance of each noise source as a State noise problem was discussed in Chapter II. Chapter III examined the relative amounts of legislation and enforcement that had been passed for each source. Finally the amount of State noise control program progress is examined in this chapter. Thus, a sequence has been established in which each noise source is viewed in terms of:

- The frequency with which the problem occurs
- The number of communities having the problem which have passed legislation with specific quantifiable provisions
- The number of enforcement actions taken under this legislation
- The effectiveness, in terms of source noise reduction, occurring as a result of the enforcement.

Table 5-13 is a summary of relevant data based on the sequence described. The fourteen noise sources have been set forth in the order that they are viewed as problems in the 38 responses tabulated.

For a program that is 100 percent effective, each source should have relatively constant values across the four columns, i.e., for the sequence from problem to progress. For example, if motorcycles are the number one noise problem, enactment and enforcement of motorcycle noise laws should have a high priority, and progress in controlling motorcycle noise should be indicated.

Examination of the entries in Table 5-13 shows that the range of effectiveness of noise control programs is very large, ranging from zero (railroad operations, garbage compactors, public service vehicles, and animals) to a maximum of 57 percent (public and private entertainment). For the most serious problem, motorcycles, noted by 58 percent of the States, only 59 percent passed appropriate legislation, only 14 percent enforced this legislation, and as a consequence, achieved only a 14 percent reduction in motorcycle noise.

EFFECTIVENESS OF COMMUNITY PROGRAMS

The effectiveness of the community noise control programs can be determined in the same manner as that used to determine the effectiveness of State programs.

Table 5-14 is a summary of relevant data based on the same sequence as described above for State programs. The fourteen noise sources have been set forth in the order that they are viewed as problems for the 542 tabulated responses. The last three columns give the number of responses for legislation, enforcement, and noise reduction.

TABLE 5-13

RANKING OF THE MOST OFTEN IDENTIFIED STATE NOISE PROBLEMS, THE RESPONSES TO THESE PROBLEMS, AND THE EFFECTIVENESS OF THE RESPONSES

Rating	Noise Source	Number Having Problem (Percent of 38 Total Responses)		Number With Quantifiable Legislation & Specific Noise Provisions (Percent of Those Having Problem)		Number With Enforcement Actions (Percent of Those Having Problem)		Number With Significant Reduction (Percent of Those Having Problem)	
1	Motorcycles	22	(58%)	13	(59%)	3	(14%)	3	(14%)
2	Trucks	22	(58%)	12	(55%)	4	(18%)	3	(14%)
3	Industrial Activities	18	(47%)	8	(44%)	4	(22%)	6	(33%)
4	Automobiles	17	(45%)	10	(59%)	2	(12%)	3	(18%)
5	Aircraft	17	(45%)	1	(6%)	0	0	0	0
6	Buses	16	(42%)	9	(56%)	2	(13%)	2	(13%)
7	Construction Equipment	13	(34%)	5	(38%)	2	(19%)	1	(8%)
8	Railroad Operations	11	(29%)	3	(27%)	2	(18%)	0	0
9	Garbage Compactors	9	(24%)	4	(44%)	2	(22%)	0	0
10	Recreational Vehicles	8	(21%)	7	(88%)	2	(25%)	3	(38%)
11	Public and Private Entertainment	7	(18%)	8	(114%)	4	(57%)	4	(57%)
12	Public Service Vehicles	6	(16%)	3	(50%)	2	(33%)	0	0
13	Animals	6	(16%)	2	(33%)	1	(17%)	0	0
14	Home Power Equipment	6	(16%)	5	(83%)	2	(33%)	1	(17%)

TABLE 5-14

RANKING OF THE MOST OFTEN IDENTIFIED COMMUNITY NOISE PROBLEMS, THE RESPONSES TO THESE PROBLEMS, AND THE EFFECTIVENESS OF THE RESPONSES

Rating	Noise Source	Number Having Problem (Percent of 542 Total Responses)	Number With Quantifiable Legislation & Specific Noise Provisions (Percent of Those Having Problem)	Number With Enforcement Actions (Percent of Those Having Problem)	Number With Significant Reduction (Percent of Those Having Problem)
1	Motorcycles	369 (68%)	165 (45%)	55 (15%)	53 (14%)
2	Trucks	353 (65%)	158 (45%)	46 (13%)	39 (11%)
3	Automobiles	315 (58%)	164 (52%)	48 (15%)	44 (14%)
4	Railroad Operations	226 (42%)	49 (22%)	19 (8%)	17 (8%)
5	Buses	188 (35%)	142 (76%)	16 (9%)	25 (13%)
6	Aircraft	188 (35%)	40 (21%)	9 (5%)	21 (11%)
7	Animals	170 (31%)	102 (60%)	57 (34%)	69 (41%)
8	Construction Equipment	151 (28%)	129 (85%)	44 (29%)	61 (40%)
9	Public and Private Entertainment	147 (27%)	149 (101%)	59 (40%)	104 (71%)
10	Industrial Activities	145 (27%)	166 (114%)	77 (53%)	98 (68%)
11	Garbage Compactors	124 (23%)	66 (53%)	27 (22%)	42 (34%)
12	Recreational Vehicles	79 (15%)	91 (115%)	16 (20%)	25 (32%)
13	Home Power Equipment	69 (13%)	109 (158%)	36 (52%)	46 (67%)
14	Public Service Vehicles	63 (12%)	68 (108%)	15 (24%)	25 (40%)

Examination of the entries in Table 5-14 shows that the range of effectiveness of noise control programs is very large, ranging from a low of 8 percent (railroad operations) to a maximum of 71 percent (public and private entertainment). For the most serious problem, motorcycles, noted by 68 percent of the communities, only 45 percent passed appropriate legislation, only 15 percent enforced such legislation, and, as a consequence, achieved only a 14 percent reduction in motorcycle noise.

Note that, in general, the greatest reductions have been obtained for the less significant problems. For the first five problems (all concerning land transportation) the reduction averages only 12 percent.

STATE PROGRAM ELEMENTS

A broad overview of current State activities in the field of noise control can be obtained by reviewing the responses to eight selected questions. These are summarized in Table 5-15. Almost three quarters of the respondents believe noise is of growing concern in their States, and almost all of these believe noise affects the health and welfare of the citizens in the State. Of the 29 States that view the noise issue with growing concern, 11, or about 38 percent, have indicated the existence of some sort of legislation designed to control noise, and have money, personnel and equipment to implement the legislation. Five States have enacted legislation without recognizing a growing concern for noise, and only one of these, Montana, viewed the issue as a health problem.

Exactly 70 percent, or 28, of the State respondents indicated possession of some sort of noise-measuring instrumentation. Twenty-five of these also indicated that the noise issue was of growing concern, but only 11 of the 28 had also enacted legislation and had appropriated money and assigned personnel. In the other 17 cases, the concern had apparently prompted action either in anticipation of a problem or to eliminate what was perceived as a problem.

Therefore, recognition of noise as a current or potential problem, having perhaps both health and economic implications, is a necessary first step in creating an enforceable noise control program. The fact that this first step was only partially followed by the required succeeding steps confirms a conclusion drawn from the survey which indicated that the most frequently desired area of assistance from EPA consists of education and training programs.

TABLE 5-15

SUMMARY OF STATE PROGRAM ELEMENTS

STATE	Responded	Growing Concern	Health Problems	Legislative	Budget	Personnel Above 20%	Enforcement	Equipment	Progress
Questionnaire No.		2B	2C	4A	8A	6A	5A	9A	11B
Alabama	X	X					X	X	
Alaska									
Arizona	X	X		X	X	X	X	X	
Arkansas	X		X				X		
California	X			X	X	X	X	X	X
Colorado									
Connecticut	X	X	X		X			X	
Delaware	X	X	X	X				X	
Florida	X	X	X	X	X	X	X	X	
Georgia	X	X	X		X	X		X	
Hawaii	X	X	X	X	X	X	X	X	X
Idaho									
Illinois	X	X	X	X	X	X	X	X	X
Indiana	X			X	X			X	
Iowa	X	X						X	
Kansas									
Kentucky	X	X	X		X	X		X	X
Louisiana	X			X					
Maine									
Maryland	X	X	X	X	X	X	X	X	X
Massachusetts	X	X	X	X		X	X	X	
Michigan	X	X		X	X	X	X	X	X
Minnesota	X	X						X	
Mississippi	X	X		X			X		X
Missouri	X								
Montana	X		X	X	X			X	
Nebraska	X	X	X	X			X	X	
Nevada	X								
New Hampshire									
New Jersey	X	X	X	X	X	X	X	X	X
New Mexico									
New York	X	X	X	X	X	X		X	
North Carolina	X	X	X	X					
North Dakota	X	X	X			X		X	
Ohio	X			X					
Oklahoma	X								
Oregon	X	X	X	X	X	X	X	X	X
Pennsylvania									
Rhode Island	X	X	X	X			X		
South Carolina	X	X	X		X				
South Dakota									
Tennessee	X	X						X	
Texas	X	X	X					X	
Utah	X	X	X					X	
Vermont									
Virginia	X								
Washington	X	X	X	X	X	X	X	X	X
West Virginia									
Wisconsin	X		X						
Wyoming									
Puerto Rico	X	X	X	X	X	X	X	X	
Virgin Islands	X	X						X	

☒ Yes or Significant

☐ No or Minimal or Don't Know

VI. TECHNICAL ASSISTANCE NEEDS

One of the major objectives of the 1978 survey was to provide the information necessary to make the EPA technical assistance program responsive to State and local needs. Officials were asked to rate nine areas of support presently available from EPA and to identify which of 11 possible areas of future assistance they considered most desirable in terms of meeting their needs.

VALUE OF AREAS OF EPA ASSISTANCE

State Programs

Table 6-1 ranks the perceived value for States of the nine areas of EPA support presently available. Of those products and services mentioned, general support, noise emission standards, and training workshops appear to be the most valuable, while assessment guides are the least valuable.

A substantial need exists on the part of States for a general, in-depth Federal assistance program. A majority of respondents identified several areas in which assistance was necessary if their noise control objectives were to be attained. States also require guidance on how to establish sound level values appropriate to varying configurations and magnitudes of noise sources.

The most frequent problem cited by State authorities in enforcing noise control legislation was inadequate manpower, and communities listed this as the second most significant problem. Well-conceived and well-planned training programs

and workshops under the sponsorship or direction of competent EPA personnel would go far toward relieving the shortage of manpower trained in environmental noise measurement and control.

TABLE 6-1

VALUE OF AREAS OF EPA ASSISTANCE TO STATES

Areas Of Assistance	Number Of Responses	Percent Responses
General Support	19	15.2%
Noise Emission Standards	17	13.5%
Training Workshops and Program Guidelines	16	12.8%
Instrumentation, Test, Loan or Advice	14	11.2%
Federal Regulations	13	10.4%
Model Legislation	13	10.4%
Cost and Technology Reports	12	9.6%
Noise Level Recommendations	12	9.6%
Assessment Guides	9	7.2%
Total	125	100%

Question 10A. "Please rank each of the following products or services available from the U.S. Environmental Protection Agency on the basis of their actual value to your program."

Community Programs

Table 6-2 gives the perceived value for communities of the nine areas of EPA assistance presently available. A comparison of communities with States shows that both value noise emission standards highly. However, training workshops and general support at the State level are replaced by noise level recommendations and model legislation at the community level.

TABLE 6-2

VALUE OF AREAS OF EPA ASSISTANCE TO COMMUNITIES

Areas Of Assistance	Number Of Responses	Percent Responses
Noise Emission Standards	151	14.5%
Noise Level Recommendations	143	13.8%
Model Legislation	140	13.4%
Federal Regulations	127	12.2%
General Support	118	11.3%
Training Workshops and Program Guidelines	115	11.0%
Instrumentation, Test, Loan or Advice	113	10.8%
Assessment Guides	73	7.0%
Cost and Technology Reports	62	5.9%
Total	1042	100%

Question 10A. "Please rank each of the following products or services available from the U.S. Environmental Protection Agency on the basis of their actual value to your program."

DESIRED AREAS OF EPA ASSISTANCE

State Programs

Table 6-3 gives the areas in which EPA assistance is desired by States. The first three areas of desired assistance are:

- Personnel training/workshops
- Noise measurement instrumentation
- Effective noise control methods.

It is somewhat difficult to compare the EPA assistance being used (Table 6-1) with the EPA assistance desired (Table 6-3) since somewhat different assistance areas were used in each case. However, training/workshops is both used and desired. This reinforces the conclusion reached previously, that adequate manpower is one of the greatest needs of the States. The other two most

desired assistance areas in Table 6-3 (instrumentation and control methods) could perhaps be equated with the General Support area of Table 6-1. Thus, States seem to be consistent in expressing a desire for additional assistance in areas that have proven valuable in the past.

TABLE 6-3
DESIRED AREAS OF EPA ASSISTANCE FOR STATES

Areas Of Assistance	Number Of Responses	Percent Responses
Personnel Training/Workshops	25	13.5%
Noise Measurement Instrumentation	21	11.4%
Effective Noise Control Methods	21	11.4%
Manpower	19	10.3%
Public Information Materials	18	9.7%
Noise Control Program Guidelines	16	8.7%
Enforcement Procedures	14	7.6%
Land Use Planning Guidelines	14	7.6%
Noise Assessment Guidelines	13	7.0%
Federal Noise Control Methods	12	6.5%
Model Legislation	12	6.5%
Total	185	100%

Question 10B. "Please indicate which of the following areas of EPA assistance would be of significant value to your noise control effort in meeting legislative and programmatic needs."

Community Programs

Table 6-4 shows the areas in which EPA assistance is desired by communities. A comparison of presently used assistance (Table 6-2) with future desired assistance (Table 6-4) for the first three areas in each table is interesting. Presently used assistance areas, i.e., standards, recommendations, and legislation, are those required in the earliest stage of noise program development. The desired assistance areas, i.e., control methods, personnel training, program guidelines, and instrumentation, are

those areas required in the following stage of noise program development. This confirms another conclusion reached previously, that at the local government level, noise control programs are at a very early stage of development.

DATA INTERPRETATION

Note that in Tables 6-1 through 6-4, the most "valuable" area is the one having the greatest number of responses. These responses are the sum of those received from several States. Unfortunately, every State did not evaluate each assistance area on the list. Thus, there is no single number of responding States applicable to the table.

The interpretation of question 10A as referring to present assistance areas and question 10B as referring to future assistance areas might be questioned. This interpretation hinges on the respondent's equating "actual value" with the present time (question 10A), and "would be of value" with future time (question 10B). A certain potentiality for confusion

TABLE 6-4
DESIRED AREAS OF EPA ASSISTANCE FOR COMMUNITIES

Areas Of Assistance	Number Of Responses	Percent Responses
Effective Noise Control Methods	303	10.7%
Personnel Training/Workshops	300	10.6%
Noise Control Program Guidelines	285	10.1%
Noise Measurement Instrumentation	277	9.8%
Noise Assessment Guidelines	277	9.8%
Enforcement Procedures	260	9.2%
Model Legislation	252	8.9%
Public Information Materials	246	8.7%
Manpower	212	7.5%
Federal Noise Control Methods	206	7.3%
Land Use Planning Guides	195	6.9%
Total	2,813	100%

Question 10B. *"Please indicate which of the following areas of EPA assistance would be of significant value to your noise control effort in meeting legislative and programmatic needs."*

would appear to exist in this situation. If this indeed occurred, then the consistency between present and future, reflected in the tables, would be somewhat fictitious.

SPECIFIC CONCLUSIONS

The areas of desired assistance bear a close relationship to the sequence of subjects discussed in previous chapters of this report. That is, the amount of desired assistance is inversely related to the program progress. Governments with little progress request a significant amount of assistance; those with well-established programs request less.

Inadequate resources frequently limited State and local efforts and were identified as major assistance requirements. The greatest resource needed was additional trained personnel. Requests in this category encompassed advice on upgrading the training of existing staff, EPA training courses, guidelines for the selection and hiring of personnel, and provision of supplementary personnel on an as-needed basis to increase the level of program expertise.

Many States and communities specifically cited inadequate funds as a factor limiting their noise control efforts or as an area where assistance was necessary. Due to the data limitations of the survey, the extent of State and municipal needs for financial assistance is significantly underrepresented. Further, fulfillment of many of the other identified requirements (e.g., additional personnel, purchase of instrumentation) is based upon the availability of additional monies. For those States and communities which have not initiated noise control activities, funding is a major barrier to establishment of a program.

VII. EPA'S STATE AND LOCAL TECHNICAL ASSISTANCE PROGRAM

This section describes those EPA activities and programs relating to, or having an impact on, the EPA State and local technical assistance program. These activities and programs were either inaugurated by the Quiet Communities Act of 1978, or are continuing programs originating in the Noise Control Act of 1972. The brief descriptions given in this section are intended to provide to State and local government officials an indication of the variety of EPA programs that are available to assist them in their noise control efforts. Also given is the statutory authority for the program and the EPA organization created to aid these officials.

THE STATUTORY BASIS FOR THE PROGRAM

The first national noise control legislation in the United States was the Noise Control Act of 1972. Under this law the Environmental Protection Agency was mandated to:

- Identify major sources of noise
- Regulate those identified sources
- Propose aircraft noise standards to the FAA
- Label noisy products
- Engage in research, technical assistance, and dissemination of public information, and
- Coordinate all Federal noise control efforts.

As provided in this Act, State and local governments retain primary responsibility for the control of noise. It neither imposed specific requirements on States and communities, nor did it establish a comprehensive Federal assistance program to support their activities. Furthermore, EPA did not have statutory authority to provide funds to other levels of government for the establishment or maintenance of noise control programs.

Recognizing the inability of the EPA to support State and local programs, Congress passed the Quiet Communities Act of 1978. On November 8th President Carter signed the Act into law. The primary purposes of the Act were to extend EPA authority under the Noise Control Act of 1972 and to significantly expand EPA involvement with State and local governments. The new Act includes a wide range of State and local assistance activities designed to stimulate and ultimately increase the capacities of States and communities to cope comprehensively and effectively with the potential dangers and ill effects of excessive noise.

OBJECTIVES OF THE ASSISTANCE PROGRAM

To carry out the expanded authority provided by the Quiet Communities Act, a revised State and local technical assistance program has been organized by EPA around the basic objectives of:

- Increasing the number of effective State and local noise control programs to complement Federal regulatory actions
- Expanding public knowledge and awareness of the effects of environmental noise on health and welfare
- Initiating and enhancing demonstration programs in all areas of State and local noise control
- Conducting research on noise reduction techniques applicable to the most prominent community noise problems
- Assessing cost requirements, feasibility and effectiveness of State and local noise control programs.

PROGRAM ORGANIZATION

EPA established the Technical Assistance Branch (in the State and Local Programs Division of the Office of Noise Abatement and Control) to achieve the technical assistance program objectives. The Regional Noise Program Chiefs in the ten EPA Regional Offices work with State and local government officials in implementing these programs.

The States included in each Regional Office's jurisdiction are shown in Figure 7-1. Each Regional Office has several noise control personnel, and EPA anticipates that this manpower level will increase in future years. Table 7-1 lists the name, address and telephone number of each Regional Noise Program Chief. To augment regional noise control capabilities, EPA, through contractors, has held noise training courses, provided technical services to the Regions, and used temporary personnel to supplement its permanent work force. For example, the Intergovernmental Personnel Act (IPA) of 1970 permits the temporary interchange of personnel among the Federal government, State and local governments, and institutions of higher education to perform mutually beneficial assignments.

TECHNICAL ASSISTANCE PROGRAMS AND ACTIVITIES

To establish and maintain State and local noise control capabilities, Congress emphasized the use of State and local financial and technical assistance in the Quiet Communities Act of 1978. As a result, EPA has developed financial and technical assistance programs and activities designed to help States and communities identify and remedy noise issues and problems. Brief descriptions of these programs and activities follow.

Training of Noise Control Personnel

EPA sponsors regional noise workshops and seminars for State and local officials. Early workshops focused on stimulating awareness of the noise problem through presentations on health effects, measurement techniques and instrumentation, and the EPA role in noise control activities. The program has now moved into its second phase, that of dissemination of specific data on the formulation and enforcement of State and local noise legislation. Although tailored to a particular audience, these seminars are more technically

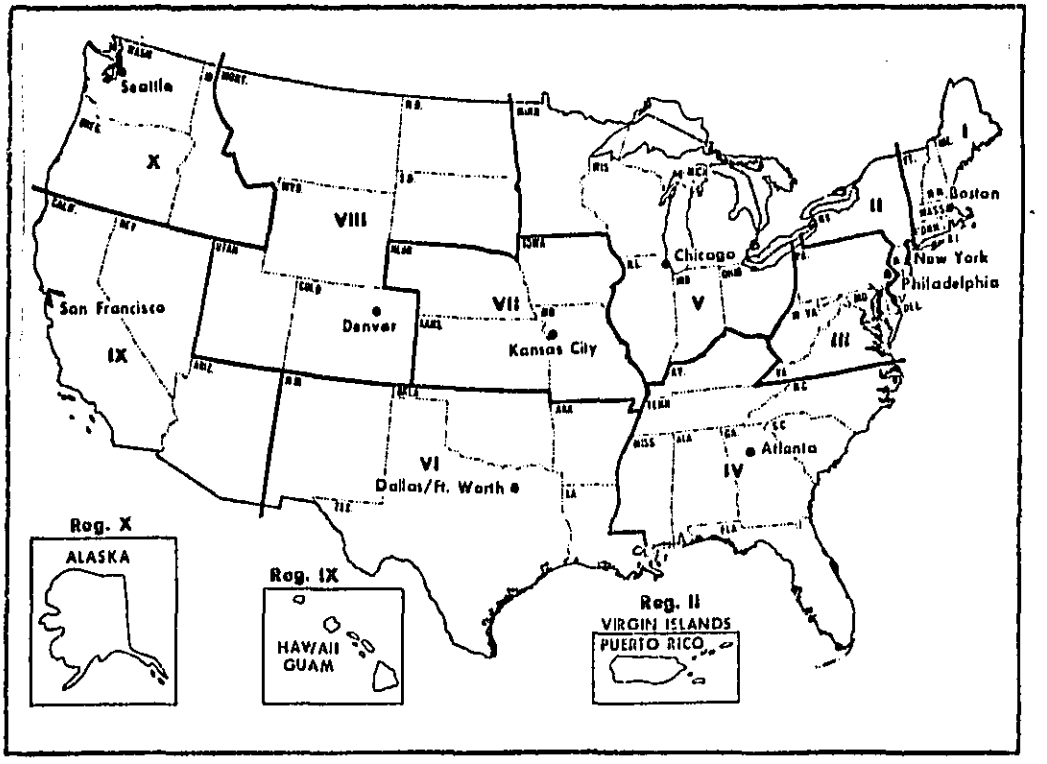

FIGURE 7-1. U.S. ENVIRONMENTAL PROTECTION AGENCY REGIONAL OFFICES

TABLE 7-1

EPA REGIONAL NOISE PROGRAM CHIEFS

EPA Region	States	Address	Noise Program Chief	Telephone
I	Maine, N.H., Vt., Mass., R.I., Conn.	JFK Building Room 2113 Boston, MA 02203	Mr. Al Hicks	617/223-5703
II	N.Y., N.J., P.R., V.I.	26 Federal Plaza Room 907G New York, NY 10007	Mr. Tom O'Hare	212/264-2109
III	Pa., Md., Del., W.Va., Va.	Curtis Building Room 225 6th & Walnut Streets Philadelphia, PA 19106	Mr. Patrick Anderson	215/597-9118
IV	N.C., S.C., Tenn., Ky., Miss., Ga., Fla., Alaska	345 Courtland Street Atlanta, GA 30308	Dr. Kent C. Williams	404/881-3067
V	Wisc., Ill., Mich., Ohio, Ind.	230 S. Dearborn Street Chicago, IL. 60604	Mr. Horst Witschonke	312/353-2205
VI	N.Mex., Okla., Ark., La., Tex.	First International Bldg. 1201 Elm Street Dallas, TX. 75270	Mr. Mike Mendias	214/749-3837
VII	Nebr., Kans., Iowa, Mo.	1735 Baltimore Street Kansas City, MO 64108	Mr. Vincent Smith	816/374-3307
VIII	Mont., N.Dak., S.Dak., Wyo., Utah, Colo.	1860 Lincoln Street Suite 900 Denver, CO 80203	Mr. Robert Simmons	303/837-2221
IX	Calif., Nev., Ariz.	100 California Street San Francisco, CA 94111	Dr. Richard Procunier	415/556-4606
X	Wash., Oreg., Idaho	1200 Sixth Avenue Room 11C Seattle, WA 98101	Ms. Deborah J. Yamamoto	206/442-1253

oriented and typically include laboratory measurement exercises and field trips to monitor specific noise sources and enforcement techniques.

In July 1975, EPA published guidelines for developing a training program in noise survey techniques. This material is intended to assist States and communities in training technicians to make reliable measurements of simple noise problems encountered in the community.

EPA has also developed a noise training manual for three target audiences: decisionmakers, environmental managers, and entry-level noise technicians. It is being adapted into an accredited correspondence course for State and local noise control officials.

Instrumentation Activities

EPA provides technical advice to State and local governments on the types and uses of sound measurement and analysis instruments. Regional offices loan noise equipment on a limited basis for support of State and community monitoring activities. EPA also evaluates instruments such as sound level meters and community noise monitoring systems.

Development of Improved Methods for Measuring and Monitoring Noise

EPA has developed a community noise monitoring and assessment manual. This manual is designed to provide local community officials with uniform guidelines for the design and implementation of a community monitoring program, including a locally administered social and acoustical survey. EPA has developed an automated system called LISTEN (Local Information System to Evaluate Noise) to assist communities in assessing their noise problems and in planning their strategy for abating and controlling noise. Three manuals have been developed to describe the system and its associated computer programs. EPA will provide computer services to communities on a limited basis to assist in the analysis of community-collected data.

Preparation of Model State and Local Legislation

Both a Model Community Noise Control Ordinance and model State noise control enabling legislation have been developed by EPA. To date, 20 States have incorporated Model Ordinance guidelines in their noise control

programs. The model State law was developed in cooperation with the Council of State Governments and was published by them in 1974. As a complement to the model community ordinance, EPA is developing a Code of Recommended Practices with simple and technically correct local enforcement procedures.

Financial Assistance

Under authority of the Quiet Communities Act EPA has initiated a financial assistance program. The new Act mandates EPA to fund, through grants, cooperative agreements or contracts:

- Financial assistance to States and communities for:
  - Problem identification
  - Noise control capacity building
  - Transportation noise abatement
  - Evaluation and demonstration of noise control techniques
- Establishment of regional technical assistance centers
- Provision of assistance in staffing and training for State and local programs
- Maximum participation of older Americans in noise control programs
- Conduct of a national environmental noise assessment
- Development of educational materials
- Loans of equipment to States and communities
- Increased noise research.

Grants and agreements will be awarded in limited amounts for periods of less than two years. Their primary purpose is to provide financial assistance to States and communities that are in the process of establishing noise control programs. They are not available as a primary funding source.

The Quiet Communities Program

In September 1977, EPA launched its first Quiet Communities Program (QCP) research and demonstration project in Allentown, Pennsylvania. This is a pilot project to demonstrate the application of the best available techniques for local noise control, including a community noise assessment program,

model local noise control strategy, noise control legislation, and an enforcement program. The emphasis of the QCP effort is on total community involvement and action, aided by EPA guidance and fiscal support. Two additional pilot QCP demonstrations will be initiated in mid-1979.

Allentown has completed the first two stages of the program: (1) a comprehensive assessment study to identify and define their noise control needs, and (2) development of a local noise control strategy incorporating the assessment data. A responsive noise control ordinance has been drafted and is currently being considered by Allentown's City Council. It is anticipated that the noise ordinance will be in effect by May 1979. Design and development of responsive control and enforcement programs are currently underway and will be implemented when the noise ordinance becomes effective.

ECHO Program

EPA will be expanding the help it now gives to communities under the ECHO (Each Community Helps Others) Program. Under ECHO, communities that already have established noise abatement programs help others to set them up.

Currently, 51 communities are receiving, or are scheduled to receive, technical assistance through the ECHO program. Assistance activities conducted through ECHO during 1978 and 1979 include:

- Development or strengthening of existing ordinances
- Identification of specific community noise problems
- Initiation of public education programs
- Advice on land-use planning control
- Training of local staff.

Regional Technical Assistance Centers

A number of regional technical assistance centers, using the capabilities of universities and private institutions, will be established. These centers will supplement the Regional effort in providing technical assistance and training to State and local officials.

Local Information System to Evaluate Noise

EPA is authorized in the 1978 Act to "develop and implement a national noise environmental assessment program to identify trends in noise exposure and response, ambient levels, and compliance data, and to determine the effectiveness of noise abatement actions in communities through the collection of physical, social and human response data."

EPA has therefore developed a Local Information System to Evaluate Noise (LISTEN). Using sophisticated computerized techniques, LISTEN provides a tool for evaluating the nature and extent of a community's noise problems and aids in selecting the most cost-effective noise abatement procedures.

The first comprehensive application of LISTEN has been completed in Allentown, Pennsylvania. It is currently being applied in Spokane, Washington, and in 15 different Iowa communities.

Information Services

EPA has established a library of technical information to serve the noise control community. It uses a computerized information retrieval system to maintain noise data abstracted from journal articles. Inputs to the system include information on specific noise sources, control technology, health effects of noise, measurement methodologies, and noise laws and regulations. Copies of EPA reports and documents may also be obtained from the regional offices. An audiovisual library of training materials available for loan to State and local governments is also being developed.

ADDITIONAL EPA ACTIVITIES RELATED TO TECHNICAL ASSISTANCE

There are a number of EPA activities which have an impact on State and local noise control programs in addition to the technical assistance programs and activities discussed in the previous section.

Airport Noise Abatement Planning

EPA assists airport proprietors and local jurisdictions in analyzing airport noise problems and examining alternative approaches to noise control. The approach has been to suggest changes in both airport operations and in land use, which will be heavily stressed in the future. Cooperation of the Federal Aviation Administration has been essential.

EPA is presently assisting the following airports: Rochester, New York; Ft. Lauderdale, Florida; Omaha, Nebraska; Boston, Massachusetts; Atlanta, Georgia; and Philadelphia, Pennsylvania.

Railroad Noise Abatement Planning

EPA is promulgating a national regulation on noise emitted from railroad facilities and operations. The new Act authorizes EPA to assist communities in noise abatement planning around such facilities. Through EPA assistance, jurisdictions can assess the impact of current rail noise on their citizens and project the impact anticipated as a result of the proposed Federal regulation. Communities could then analyze prospects for taking various complementary noise abatement actions, especially in the land use area.

Highway Noise Abatement Planning

In cooperation with the Federal Highway Administration, EPA is developing a simplified highway noise prediction system for use by planners, highway officials and other citizens. This system will evaluate the noise impacts of highway system elements.

Public Education and Information

The Act directs EPA to expand its efforts in the area of public education and information on the effects of noise and what can be done to reduce or control it.

This expanded effort will include providing noise education units for schools, program kits for civic, fraternal and religious organizations, and information for hearing test centers, doctors, workers, public officials, and the general public.

EPA will provide assistance to communities to initiate community noise education and information programs.

The National Information Center for Quiet was established to assist with the processing of public requests for noise education and information materials and to conduct other activities which will increase national public awareness of noise effects.

Research

In 1978 EPA completed two investigations dealing with people's perception of noise and their attitudes about their noise environment:

- Comparison of Various Methods for Predicting the Loudness and Acceptability of Noise
- The Urban Noise Survey.

The findings and conclusions of both investigations are being employed in EPA environmental noise impact assessment procedures. The Agency is also currently studying State and Federal worker compensation programs for occupational hearing loss.

In a joint effort with the U.S. Air Force Aerospace Medical Research Laboratory, two other studies were completed in 1978:

- Typical noise exposures of Americans
- Effects of noise exposure greater than 24 hours on hearing.

In the area of technology research, a program with Purdue University dealing with identification of truck noise sources and engine enclosure investigations has been completed. Other programs initiated in FY 77 and continuing through FY 79 deal with:

- Quiet truck technology
- Quiet tire technology
- Internal combustion engine technology.

Transit and Pedestrian Malls

EPA is currently working with Portland and New York City on their transit and pedestrian mall noise problems. The Urban Mass Transit Administration (UMTA) of the U.S. Department of Transportation is cooperating. Under evaluation are retrofitting of buses and developing models for noise prediction. Similar activities are eligible for EPA assistance.

APPENDIX A

QUESTIONNAIRE FOR ENVIRONMENTAL NOISE CONTROL PROGRAM SURVEY

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U.S. ENVIRONMENTAL PROTECTION AGENCY

ENVIRONMENTAL NOISE CONTROL PROGRAM SURVEY

READ INSTRUCTIONS ON REVERSE BEFORE COMPLETING FORM.

NOTE: Participation in this survey program is strictly on a voluntary basis. All returned survey questionnaires will become public records.

1. RESPONDENT IDENTIFICATION

A. PLEASE TYPE OR PRINT THE FULL IDENTITY OF THE GOVERNMENT UNIT FOR WHICH YOU ARE RESPONDING

1. CITY OR TOWN	2. COUNTY
3. STATE	4. OTHER

2. ENVIRONMENTAL NOISE DESCRIPTION

A. PLEASE RANK THE FOLLOWING PROBLEMS IN YOUR COMMUNITY ON THE BASIS OF PUBLIC CONCERN *(0 = none, 1 = minimal, 2 = significant, 3 = most important)*

1. CRIME		5. NOISE POLLUTION	
2. URBAN RENEWAL		6. WATER POLLUTION	
3. HOUSING		7. TRAFFIC	
4. AIR POLLUTION		8. OTHER *(specify):*	

B. IS THE NOISE ISSUE A GROWING CONCERN IN YOUR COMMUNITY? ☐YES ☐NO

C. IS THE NOISE ISSUE VIEWED AS A PROBLEM AFFECTING THE HEALTH AND WELFARE OF THE CITIZENS IN THE COMMUNITY? ☐YES ☐NO ☐DON'T KNOW

D. HOW HAS YOUR GOVERNMENT GAINED AN UNDERSTANDING OF THE EXTENT OF THE NOISE ISSUE IN YOUR AREA? PLEASE RANK THESE FACTORS *(0 = none, 1 = minimal, 2 = significant, 3 = most important).*

1. FORMAL COMPLAINTS		5. NEWS MEDIA	
2. GROUP ACTIONS		6. OTHER *(specify)*	
3. PUBLIC HEARINGS		7. DON'T KNOW	
4. SURVEYS/MONITORING			

E. PLEASE RANK THE FOLLOWING NOISE SOURCES ON THE BASIS OF THEIR CONTRIBUTION TO YOUR AREA'S NOISE PROBLEM *(0 = none, 1 = minimal, 2 = significant, 3 = most important).*

1. AIRCRAFT		9. PUBLIC SERVICE VEHICLES/EQUIPMENT	
2. TRUCKS		10. GARBAGE COMPACTORS	
3. BUSES		11. RECREATION VEHICLES	
4. AUTOS		12. PUBLIC OR PRIVATE ENTERTAINMENT *(Including sound system)*	
5. MOTORCYCLES			
6. RAILROAD OPERATIONS		13. ANIMALS	
7. CONSTRUCTION EQUIPMENT		14. HOME POWER EQUIPMENT	
8. INDUSTRIAL		15. OTHER *(specify):*	

3. NOISE CONTROL PROGRAM LEGISLATIVE AUTHORITY

A. HAS ENABLING LEGISLATION BEEN ENACTED TO ESTABLISH AN ENVIRONMENTAL NOISE CONTROL PROGRAM? ☐YES ☐NO

B. PLEASE TYPE OR PRINT THE NAME OR TITLE OF THE ENABLING LEGISLATION ALONG WITH ANY APPLICABLE CHAPTER OR SECTION NUMBER. ALSO, PROVIDE THE DATE THAT THE ENABLING LEGISLATION WAS ENACTED.

1. TITLE	2. CHAPTER	3. SECTION	4. DATE ENACTED

C. WAS EPA'S "MODEL COMMUNITY CONTROL ORDINANCE" USED IN FORMULATING THIS LEGISLATION? ☐YES ☐NO

D. PLEASE TYPE OR PRINT THE IDENTITY OF THE OFFICIAL WHO DIRECTS THE NOISE CONTROL PROGRAM

1. NAME	2. TITLE	3. TELEPHONE *(Include Area Code)*
4. ORGANIZATION	5. ADDRESS *(Street, City, State and Zip)*	

E. IF YOU HAVE NO ENABLING LEGISLATION, HAS ANY BEEN PROPOSED FOR ENACTMENT BEFORE THE CURRENT SESSION OF THE GOVERNING BODY? ☐YES ☐NO

NOTE: It would be most appreciated if you would enclose a copy of any existing or proposed enabling legislation with your survey response.

4. NOISE CONTROL LEGISLATION

A. ARE THERE ANY EXISTING LAWS OR ORDINANCES WHICH INCORPORATE NOISE CONTROL PROVISIONS? ☐YES ☐NO

B. IS SO, PLEASE INDICATE EACH TYPE OF LEGISLATION AND RESPECTIVE TYPE OF ENFORCEMENT AGENCY, USING THE CODES LISTED ON THE FOLLOWING PAGE.	(LT)	(EA)
1. LEGISLATION TYPE (LT) AND ENFORCEMENT AGENCY (EA)		
2. LEGISLATION TYPE (LT) AND ENFORCEMENT AGENCY (EA)		

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B. IF SO, PLEASE INDICATE EACH TYPE OF LEGISLATION AND RESPECTIVE TYPE OF ENFORCEMENT AGENCY, USING THE CODES LISTED BELOW *(Continued.)*	(LT)	(EA)
3. LEGISLATION TYPE (LT) AND ENFORCEMENT AGENCY (EA)		
4. LEGISLATION TYPE (LT) AND ENFORCEMENT AGENCY (EA)		
5. LEGISLATION TYPE (LT) AND ENFORCEMENT AGENCY (EA)		

NOTE: It would be most appreciated if you would enclose copies of any existing or proposed laws or ordinances incorporating noise control provisions with your survey response.

LEGISLATION TYPE CODE (LT)	ENFORCEMENT AGENCY CODE (EA)	NO. OF EVENTS CODE
MC - MUNICIPAL OR CITY CODE/ ORDINANCE	PS - POLICE/SAFETY	0 NONE
ZC - ZONING CODE/ORDINANCE	PH - PUBLIC HEALTH	1 1-49
VC - VEHICLE CODE	EP - ENVIRONMENTAL/POLLUTION CONTROL	2 50 - 99
BC - BUILDING CODE	PD - PLANNING/DEVELOPMENT	3 100 - 249
HS - HEALTH/SAFETY CODE	PW - PUBLIC WORKS	4 250 - 499
AA - AIRCRAFT/AIRPORT CODE	BZ - BUILDING/ZONING	5 500 - 999
AC - ADMINISTRATIVE CODE	TR - TRANSPORTATION	6 1,000 - 2,499
SS - STATE STATUTE	NR - NATURAL RESOURCES	7 2,500 - 4,999
OT - OTHER	OT - OTHER	8 5,000 - 9,999
		9 10,000 AND OVER

C. IF ANSWER TO 4A IS "YES" PLEASE RESPOND TO THE FOLLOWING:

PLACE AN "X" NEXT TO THE NOISE SOURCE CONTROLS COVERED UNDER THE NOISE CONTROL PROVISIONS OF YOUR LEGISLATION. ONLY IDENTIFY THOSE THAT INCLUDE PERFORMANCE STANDARDS *(decibel noise levels).*

1. AIRCRAFT		10. GARBAGE COMPACTORS	
2. TRUCKS		11. RECREATION VEHICLES	
3. BUSES		12. PUBLIC OR PRIVATE ENTERTAINMENT *(including sound systems)*	
4. AUTOS			
5. MOTORCYCLES		13. ANIMALS	
6. RAILROAD OPERATIONS		14. HOME POWER EQUIPMENT	
7. CONSTRUCTION EQUIPMENT		15. BUILDING REQUIREMENTS	
8. INDUSTRIAL		16. LAND USE/ZONING	
9. PUBLIC SERVICE VEHICLES/EQUIPMENT		17. OTHER *(specify)*	

D. IF ANSWER TO 4 IS "NO" PLEASE RESPOND TO THE FOLLOWING:
DO YOU ANTICIPATE THE DEVELOPMENT OF ANY NOISE RELATED LEGISLATION OVER THE NEXT TWO YEARS? ☐ YES ☐ NO

5. ENFORCEMENT

A. DOES YOUR GOVERNMENT ENFORCE THE NOISE CONTROL PROVISIONS? ☐ YES ☐ NO IF YOUR ANSWER IS "NO" GO TO QUESTION 6.

B. PLEASE PROVIDE THE FOLLOWING ENFORCEMENT DATA FOR THE PAST ACCOUNTING YEAR. ENTER ONE LINE FOR EACH LEGISLATION TYPE LISTED IN RESPONSE TO QUESTION 4B, USING THE CODES INDICATED BELOW:

LT - LEGISLATION TYPE
NI - NUMBER OF NOISE INVESTIGATIONS MADE
NV - NUMBER OF VIOLATIONS FOUND
VC - NUMBER OF VIOLATIONS RESOLVED BY VOLUNTARY COMPLIANCE
IC - NUMBER OF VIOLATIONS RESULTING IN THE ISSUANCE OF CITATIONS
CO - NUMBER OF CITATIONS OVERRULED BY COURT ORDER

	LT	NI	NV	VC	IC	CO
1.						
2.						
3.						
4.						

C. PLEASE LIST THE NUMBER OF ENFORCEMENT ACTIONS FOR EACH OF THE FOLLOWING NOISE SOURCE CONTROLS. IF INFORMATION IS NOT AVAILABLE, WRITE "NA" NEXT TO THE NOISE SOURCE CONTROL.

1. AIRCRAFT		10. GARBAGE COMPACTORS	
2. TRUCKS		11. RECREATION VEHICLES	
3. BUSES		12. PUBLIC/PRIVATE ENTERTAINMENT	
4. AUTOS		13. ANIMALS	
5. MOTORCYCLES		14. HOME POWER EQUIPMENT	
6. RAILROAD OPERATIONS		15. BUILDING REQUIREMENTS	
7. CONSTRUCTION EQUIPMENT		16. LAND USE/ZONING	
8. INDUSTRIAL		17. OTHER *(specify)*	
9. PUBLIC SERVICE VEHICLES/EQUIPMENT			

D. WHAT ARE THE MAJOR ENFORCEMENT PROBLEMS REDUCING THE EFFECTIVENESS OF YOUR NOISE CONTROL EFFORT? PLEASE RANK THESE FACTORS *(0 = none, 1 = minimal, 2 = significant, 3 = most important).*

1. AMBIGUOUS LEGISLATION		5. LACK OF CITIZEN SUPPORT, AWARENESS	
2. UNENFORCEABLE LEGISLATION		6. INADEQUATE MANPOWER	
3. INADEQUATE INSTRUMENTATION		7. ENFORCEMENT AUTHORITIES DO NOT PRIOITIZE NOISE	
4. INADEQUATE ENFORCEMENT/MEASUREMENT PROCEDURES		8. ACTIONS ARE NOT HELD IN COURT	
		9. OTHER *(specify)*	

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6. PERSONNEL

A. PLEASE COMLETE ONE LINE FOR EACH INDIVIDUAL WHO DEVOTES AT LEAST 20% OF HIS/HER TIME TO NOISE CONTROL ACTIVITIES, USING THE CODES INDICATED BELOW.

PC - POSITION CODE
% - PERCENT OF TIME DEVOTED TO NOISE CONTROL ACTIVITIES
EXP - FIELD OF EXPERIENCE
ST - SUPPLEMENTARY TRAINING IN THE FIELD OF NOISE CONTROL *(combined length of all courses taken)*

	PC	%	EXP	ST
1.				
2.				
3.				
4.				

PLEASE INDICATE THE NUMBERS OF INDIVIDUALS, BY POSITION CODES AS IN "A" WHO DEVOTE LESS THAN 20% OF THEIR TIME TO NOISE CONTROL ACTIVITIES.

	PC	NO.
1.		
2.		

FIELD OF EXPERIENCE CODE (EXP)

100 ENGINEERING	301 BIOLOGICAL SCIENCE	700 COMMUNITY PLANNING
101 ACOUSTICS	302 PUBLIC HEALTH SCIENCE	800 TRANSPORTATION OPERATIONS
200 PHYSICAL SCIENCE	400 SOCIAL SCIENCE	900 SAFETY OPERATIONS
201 ENVIRONMENTAL SCIENCE	500 LAW	
300 MEDICAL SCIENCE	600 POLICE	

SUPPLEMENTARY TRAINING CODE (ST)

1. LESS THAN ONE WEEK
2. 1 TO 2 WEEKS
3. 2 TO 4 WEEKS
4. MORE THAN 4 WEEKS

POSITION CODE (PC)

01 POLLUTION CONTROL PROGRAM DIRECTOR
Plans, organizes, and directs the professional, administrative and technical activities of a legislatively decreed pollution control program; evaluates program and personnel effectiveness; initiates improvements.

02 ENVIRONMENTAL SPECIALIST
Directs, supervises, or performs work which involves providing advice and assistance in program and administrative matters relating to the development, execution, and maintenance of adequate environmental programs.

03 ENGINEER
Performs professional engineering work in an office or in the field; makes analyses and evaluations of engineering problems; provides professional advice.

04 PHYSICAL SCIENTIST
Administers, supervises or performs research or other professional and scientific work in the investigation and application of a particular field of the physical sciences.

05 PUBLIC HEALTH SPECIALIST OR SANITARIAN, INDUSTRIAL HYGIENIST
Plans, develops, administers, supervises, or performs work in detecting, eliminating, and preventing public, industrial, or environmental health hazards.

06 URBAN PLANNER, LAND USE ANALYST
Supervises or performs professional work in the development of plans for the orderly growth of metropolitan areas.

07 ATTORNEY
No job description deemed necessary.

11 ENVIRONMENTAL TECHNICIAN OR INSPECTOR I
Under general supervision, performs nonprofessional work of a technical nature in the environmental field.

12 POLICE
No job description deemed necessary.

13 CLERICAL OR SECRETARIAL
No job description deemed necessary.

99 OTHER
This category is to be used for individuals whose duties are not covered by any of the job descriptions provided above.

7. PROGRAM EFFORT

A. DOES YOUR GOVERNMENT HAVE A NOISE CONTROL PROGRAM? ☐ YES ☐ NO

B. IF ANSWER TO 7A IS "NO", PLEASE RESPOND TO THE FOLLOWING:

WHICH OF THE FOLLOWING FACTORS DESCRIBE WHY YOUR COMMUNITY DOES NOT HAVE A NOISE CONTROL PROGRAM? PLEASE RANK THESE FACTORS *(0 = none, 1 = minimal, 2 = significant, 3 = most important).*

1. NOT A PROBLEM		5. TOO COSTLY	
2. NOT A PRIORITY PROBLEM		6. OPPOSITION FROM INDUSTRY	
3. NOTHING CAN BE DONE		7. OTHER *(specify)*:	
4. NOT RESPONSIBILITY OF COMMUNITY			

C. PLEASE RANK EACH OF THE FOLLOWING ACTIVITIES ON THE BASIS OF THE EFFORT DEVOTED TO EACH BY THE NOISE CONTROL PROGRAM *(0 = none, 1 = minimal, 2 = significant, 3 = most important).*

1. ENFORCEMENT		6. MONITORING/SOCIAL SURVEYS	
2. COMPLAINT HANDLING		7. RESEARCH	
3. DEVELOPMENT OF NOISE LAWS AND REGULATIONS		8. GENERAL ADMINISTRATION	
4. PUBLIC EDUCATION		9. OTHER *(specify)*:	
5. ENVIRONMENTAL IMPACT REPORT PREPARATION/ REVIEW			

8. BUDGETARY DATA

A. PLEASE PROVIDE A BREAKDOWN OF YOUR CURRENT NOISE CONTROL PROGRAM BUDGET. IF BUDGETARY BREAKDOWNS ARE NOT AVAILABLE, PROVIDE A FIGURE FOR THE TOTAL ALLOCATION. IF THE NOISE CONTROL BUDGET IS NOT IDENTIFIABLE AS SUCH, ESTIMATES ARE ACCEPTABLE.

THE FOLLOWING DATA IS FOR THE YEAR BEGINNING *(Month/Year)*: _____

1. PERSONNEL	$	6. MONITORING/SURVEYS	$
2. ENFORCEMENT		7. RESEARCH	
3. EQUIPMENT/INSTRUMENTS		8. OTHER *(specify)*:	
4. PUBLIC EDUCATION		TOTAL *(If breakdown is not available)*:	
5. BARRIERS: NOISE CONTROL MATERIALS			

B. PLEASE INDICATE THE TOTAL CURRENT BUDGET FOR YOUR GOVERNMENTAL UNIT *(identified in Question 1A)*:

1 TOTAL GOVERNMENT UNIT BUDGET $ _____

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9. INSTRUMENTATION/EQUIPMENT

A. FOR EACH INSTRUMENT OR PIECE OF EQUIPMENT LISTED BELOW, PLEASE INDICATE THE QUANTITY CURRENTLY ON-HAND FOR YOUR NOISE CONTROL PROGRAM.

1. SOUND LEVER METERS		7. MAGNETIC TAPE RECORDERS	
2. MICROPHONE (Sound level) CALIBRATORS		8. REAL-TIME ANALYZERS	
3. SOUND SPECTRUM (Frequency) ANALYZERS		9. COMMUNITY NOISE MONITORING SYSTEMS	
4. AMPLITUDE DISTRIBUTION (Level) ANALYZERS		10. COMPUTERS/PROGRAMMABLE CALCULATORS	
5. GRAPHIC LEVEL RECORDERS		11. MOTOR VEHICLES	
6. VIBRATION METERS AND ACCELEROMETERS		12. OTHER *(specify):*	

10. EPA SUPPORT

A. PLEASE RANK EACH OF THE FOLLOWING PRODUCTS OR SERVICES AVAILABLE FROM THE U.S. ENVIRONMENTAL PROTECTION AGENCY ON THE BASIS OF THEIR ACTUAL VALUE TO YOUR PROGRAM *(0 = none, 1 = minimal, 2 = significant, 3 = most important).* IF A GIVEN ITEM HAS NOT BEEN USED BY YOUR PROGRAM, PLEASE ENTER THE LETTER "N".

1. FEDERAL REGULATIONS		6. ASSESSMENT GUIDES	
2. NOISE EMISSION STANDARDS		7. INSTRUMENTATION, TEST, LOAN OR ADVICE	
3. MODEL LEGISLATION		8. NOISE LEVEL RECOMMENDATIONS	
4. TRAINING WORKSHOPS AND PROGRAM GUIDELINES		9. GENERAL SUPPORT	
5. COST AND TECHNOLOGY REPORTS		10. OTHER *(specify):*	

B. PLEASE INDICATE WHICH OF THE FOLLOWING AREAS OF EPA ASSISTANCE WOULD BE OF SIGNIFICANT VALUE TO YOUR NOISE CONTROL EFFORT IN MEETING LEGISLATIVE AND PROGRAMMATIC NEEDS *(0 = none, 1 = minimal, 2 = significant, 3 = most important).*

1. MODEL LEGISLATION		7. LAND USE PLANNING GUIDELINES	
2. MANPOWER		8. NOISE MEASUREMENT INSTRUMENTATION	
3. PERSONNEL TRAINING/WORKSHOPS		9. PUBLIC INFORMATION MATERIALS	
4. NOISE CONTROL PROGRAM GUIDELINES		10. EFFECTIVE NOISE CONTROL METHODS	
5. ENFORCEMENT PROCEDURES		11. FEDERAL NOISE CONTROL METHODS	
6. NOISE ASSESSMENT GUIDELINES		12. OTHER *(specify):*	

11. NOISE PROGRAM EVALUATION

A. PLEASE INDICATE THE MAJOR PROBLEMS FACING YOUR NOISE CONTROL EFFORTS. PLEASE RANK THESE FACTORS *(0 = none, 1 = minimal, 2 = significant, 3 = most important).*

1. LACK OF CITIZEN SUPPORT		6. LACK OF EFFECTIVE LEGISLATION	
2. LACK OF POLITICAL SUPPORT		7. ENFORCEMENT RELATED PROBLEMS	
3. LACK OF MANPOWER		8. INABILITY TO DEMONSTRATE PROGRAM SUCCESS	
4. UNTRAINED PERSONNEL		9. GENERAL INABILITY TO MEET PROGRAM OBJECTIVES	
5. INADEQUATE OPERATING BUDGET		10. OTHER *(specify):*	

B. HOW MUCH PROGRESS HAS BEEN MADE BY YOUR PROGRAM IN REDUCING THE NOISE LEVELS OR NOISE INTRUSIVENESS FROM THE FOLLOWING NOISE SOURCES? PLEASE RANK THESE FACTORS *(0 = none, 1 = minimal, 2 = significant, 3 = most important).*

1. AIRCRAFT		10. GARBAGE COMPACTORS	
2. TRUCKS		11. RECREATION VEHICLES	
3. BUSES		12. PUBLIC OR PRIVATE ENTERTAINMENT	
4. AUTOS		13. ANIMALS	
5. MOTORCYCLES		14. HOME POWER EQUIPMENT	
6. RAILROAD OPERATIONS		15. BUILDING REQUIREMENTS	
7. CONSTRUCTION		16. LAND USE/ZONING	
8. INDUSTRIAL		17. OTHER *(specify):*	
9. PUBLIC SERVICE VEHICLES/EQUIPMENT			

COMMENTS:

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APPENDIX B

STATE NOISE CONTROL
BUDGETS 1973 AND/OR 1977
BY EPA REGION

APPENDIX B

STATE NOISE CONTROL BUDGETS 1973/1977

State	1970 Population	1973		1977	
		Budget $	Per Capita ¢	Budget $	Per Capita ¢
Region I					
Connecticut	3,031,709	0	0.0	24,353	0.3
Maine	992,048	0	0.0	0	0.0
Massachusetts	5,689,170	23,800	0.4	400,000	7.0
New Hampshire	737,861	0	0.0	810	0.1
Rhode Island	949,723	0	0.0	0	0.0
Vermont	444,330	0	0.0	0	0.0
Total 1973	11,844,841 [b]	23,800	0.2		
1977	11,844,841 [c]			425,163	3.6
Region II					
New Jersey	7,268,164	89,900	1.2	75,000	1.0
New York	18,236,951	147,800	0.8	50,000	0.3
Puerto Rico	2,719,000	0	0.0	47,077	1.7
Virgin Islands	62,468	(1,840)[a]	2.9	0	0.0
Total 1973	28,224,115	237,700	0.8		
1977	28,286,583			172,077	0.6
Region III					
Delaware	548,104	0	0.0	0	0.0
Maryland	3,922,399	0	0.0	24,000	0.6
Pennsylvania	11,800,766	0	0.0	No Report	-
Virginia	4,648,841	0	0.0	0	0.0
West Virginia	1,744,237	0	0.0	No Report	-
Total 1973	22,664,347	0	0.0		
1977	9,119,344			24,000	0.3
Region IV					
Alabama	3,444,354	0	0.0	0	0.0
Florida	6,789,443	45,000	0.7	93,000	1.4
Georgia	4,589,575	0	0.0	22,000	0.5
Kentucky	3,218,706	(20,000)[a]	0.6	92,075	2.9
Mississippi	2,216,994	0	0.0	0	0.0
North Carolina	5,084,411	7,000	0.1	0	0.0
South Carolina	2,590,516	16,800	0.7	700	0.03
Tennessee	3,926,018	0	0.0	0	0.0
Total 1973	28,641,311	68,800	0.2		
1977	31,860,017			207,775	0.7

[a] 1974 budget estimate, no noise control budget in 1973. Not included in totals.

[b] Population of States reporting budgets in 1973.

[c] Population of States reporting budgets in 1977.

APPENDIX B (CONTINUED)

State	1970 Population	1973		1977	
		Budget $	Per Capita ¢	Budget $	Per Capita ¢
Region V					
Illinois	11,109,935	200,000	1.8	304,400	2.7
Indiana	5,193,669	(23,000)[b]	0.4	39,270	0.8
Ohio	10,652,017	(1,844)[b]	0.02	0	0.0
Michigan	8,875,083	0	0.0	164,935	1.9
Minnesota	3,806,103	No Report	-	0	0.0
Wisconsin	4,417,821	0	0.0	0	0.0
Total 1973	24,402,839	200,000	0.8		
1977	44,054,628			508,605	1.2
Region VI					
Arkansas	1,923,322	0	0.0	0	0.0
Louisiana	3,643,180	4,650	0.1	0	0.0
New Mexico	1,017,055	0	0.0	0	0.0
Oklahoma	2,559,253	1,000	0.04	0	0.0
Texas	11,199,385	No Report	-	0	0.0
Total 1973	9,142,810	5,650	0.1		
1977	20,342,195			0	0.0
Region VII					
Iowa	2,825,368	0	0.0	0	0.0
Kansas	2,249,071	1,925	0.1	No Report	-
Missouri	4,677,623	No Report	-	0	0.0
Nebraska	1,485,333	0	0.0	0	0.0
Total 1973	6,559,772	1,925	0.03		
1977	8,988,324			0	0.0
Region VIII					
Colorado	2,209,596	0	0.0	No Report	-
Montana	694,409	2,000	0.3	3,000	0.4
North Dakota	617,792	No Report	-	0	0.0
South Dakota	666,257	0	0.0	No Report	-
Utah	1,059,273	No Report	-	0	0.0
Wyoming	-	No Report	-	No Report	-
Total 1973	3,570,262	2,000	0.1		
1977	2,371,474			3,000	0.1

[a] 1974 budget estimate, no noise control budget in 1973. Not included in totals.

[b] 1975 budget estimate, no noise control budgets in 1973 or 1974. Not included in totals.

APPENDIX B (CONTINUED)

State	1970 Population	1973		1977	
		Budget $	Per Capita ¢	Budget $	Per Capita ¢
Region IX					
Arizona	1,770,900	1,500	0.1	215,000	12.1
California	19,945,715	1,348,800	6.8	1,645,000	8.3
Hawaii	768,561	56,491	7.3	135,132	17.6
Nevada	488,738	127	0.03	0	0.0
Total 1973	22,973,914	1,406,918	6.1		
1977	22,973,914			1,995,132	8.7
Region X					
Alaska	-	No Report	-	No Report	-
Idaho	713,015	0	0.0	No Report	-
Oregon	2,091,385	44,300	2.1	215,600	10.3
Washington	3,409,163	0	0	30,000	0.9
Total 1973	6,213,563	44,300	0.7		
1977	5,500,548			245,600	4.5
GRAND TOTAL 1973	164,237,774	1,991,093	1.2		
1977	185,341,868			3,581,352	1.9

APPENDIX C

COMMUNITY NOISE CONTROL BUDGETS
1973 AND/OR 1977
BY EPA REGION

APPENDIX C

COMMUNITY NOISE CONTROL BUDGETS 1973/1977

City	1970 Population	1973		1977	
		Budget $	Per Capita ¢	Budget $	Per Capita ¢
Region I					
Bridgeport, CT	157,000	2,275	1.5	0	0.0
New Haven, CT	137,715	0	0.0	300	0.2
Norwalk, CT	79,192	0	0.0	635	0.8
Lewiston, ME	41,779	NR[a]		10,000	23.9
Boston, MA	641,053	31,000	4.8	18,500	2.9
Holyoke, MA	50,032	NR		400	0.8
Springfield, MA	163,886	No Report		700	0.4
East Providence, RI	48,135	NR		100	0.2
Pawtucket, RI	76,992	0	0.0	1,000	1.3
Totals 1973 1977	1,091,952[b] 1,395,784[c]	33,275	3.1	31,635	2.3
Region II					
Bridgewater, NJ	32,000	NR		1,200	3.8
Kearney, NJ	37,589	NR		2,100	5.6
Newark, NJ	382,377	0	0.0	10,000	2.6
Orange, NJ	32,565	NR		500	1.5
Perth Amboy, NJ	38,777	NR		400	1.0
Teaneck Twp, NJ	42,000	NR		1,500	3.6
Wayne Twp, NJ	49,000	NR		3,150	6.4
Nassau County, NY	1,428,000	41,290	2.9	No Report	

[a]Not requested to respond to 1974 survey.

[b]Population of communities reporting budgets in 1973.

[c]Population of communities reporting budgets in 1977.

APPENDIX C (CONTINUED)

City	1970 Population	1973 Budget $	1973 Per Capita ¢	1977 Budget $	1977 Per Capita ¢
Region II (Cont.)					
New Rochelle, NY	75,385	(759)[b]	1.0	100,000	132.7
New York City, NY	7,895,000	950,000	12.0	250,000	3.2
Baltimore, MD	905,759	(57,957)[b]	6.4	0	0.0
Totals 1973	9,705,377	991,290	10.2		
1977	9,490,452			368,850	3.9
Region III					
Wilmington, DE	80,386	NR[a]		20,000	24.9
Allentown, PA	109,521	0	0.0	67,000	61.9
Pittsburgh, PA	520,000	42,000	8.1	No Report	
Alexandria, VA	110,938	No Report		3,500	3.2
Arlington, VA	163,401	0	0.0	15,800	9.7
Chesapeake, VA	89,580	No Report		1,500	1.7
Norfolk, VA	307,951	1,200	0.4	24,000	7.8
Washington, DC	756,510	0	0.0	43,200	5.7
Totals 1973	1,857,383	43,200	2.3		
1977	1,618,287			175,000	10.8
Region IV					
Huntsville, AL	137,878	0	0.0	10,000	7.3
Montgomery, AL	133,000	560	0.4	0	0.0
Boca Raton, FL	28,542	NR		3,000	10.5

[a]Not requested to respond to 1974 survey.

[b]1974 budget estimates; no noise control budget in 1973; not included in totals.

APPENDIX C (CONTINUED)

City	1970 Population	1973 Budget $	1973 Per Capita ¢	1977 Budget $	1977 Per Capita ¢
Region IV (Cont.)					
Daytona Beach, FL	45,327	NR[a]		1,500	3.3
Ft. Lauderdale, FL	139,543	0	0.0	10,000	7.2
Gainesville, FL	64,510	NR		35,000	34.3
Jacksonville, FL	529,000	1,015	0.2	18,315	3.5
Miami, FL	335,000	1,200	0.4	No Report	-
Miami Beach, FL	86,974	No Report		35,000	40.3
St. Petersburg, FL	216,000	1,713	0.8	No Report	-
Tampa, FL	278,000	2,746	1.0	7,250	2.6
Columbus, GA	154,098	0	0.0	15,000	9.7
Biloxi, MS	48,486	NR		5,000	10.3
Charlotte, NC	241,000	75	0.03	0	0.0
Fayetteville, NC	53,510	NR		1,000	1.8
Columbia, SC	113,542	2,120	1.9	5,200	4.5
Totals 1973 1977	2,277,061 2,053,410	9,429	0.4	146,265	7.1
Region V					
Chicago, IL	3,362,825	206,500	6.1	127,155	3.8
Downers Grove, IL	32,700	NR		2,000	6.1
Normal, IL	26,346	NR		1,400	5.3
Rockford, IL	147,205	0	0.0	1,500	1.0
Evansville, IN	138,690	0	0.0	8,876	6.4
Gary, IN	175,415	(20,775)[b]	11.8	0	0.0
Hammond, IN	107,737	0	0.0	4,250	3.9

[a]Not requested to respond to 1974 survey.

[b]1974 budget estimates; no noise control budget in 1973; not included in totals.

APPENDIX C (CONTINUED)

City	1970 Population	1973		1977	
		Budget $	Per Capita ¢	Budget $	Per Capita ¢
Region V (Cont.)					
Indianapolis, IN	745,000	3,800	0.5	39,270	5.3
Birmingham, MI	26,181	NR[a]		700	2.7
Flint, MI	193,000	160	0.1	0	0.0
Grand Rapids, MI	197,534	10,000	5.1	26,614	13.5
Kalamazoo, MI	86,000	440	0.5	0	0.0
Livonia, MI	110,183	0	0.0	18,206	16.5
Saginaw, MI	91,820	1,520	1.7	19,680	21.4
Taylor, MI	70,082	NR		5,000	7.1
Warren, MI	179,000	85	0.1	No Report	
Bloomington, MN	81,948	No Report		43,200	52.7
Edina, MN	44,031	NR		500	1.3
Fridley, MN	29,215	NR		500	1.7
Minneapolis, MN	434,381	10,319	2.4	10,000	2.3
Minnetonka, MN	35,779	NR		2,500	7.0
Richfield, MN	47,242	NR		4,500	9.5
St. Cloud, MN	39,691	NR		4,500	11.3
Akron, OH	275,420	0	0.0	43,900	15.9
Cincinnati, OH	452,000	1,515	0.3	No Report	
Cleveland, OH	750,751	(71,351)[b]	9.5	0	0.0
Shaker Heights, OH	36,309	NR		2,000	5.5
Toledo, OH	384,015	0	0.0	4,800	1.3
Kenosha, WI	78,817	700	0.9	8,250	10.5

[a]Not requested to respond to 1974 survey.

[b]1974 budget estimates; no noise control budget in 1973; not included in totals.

APPENDIX C (CONTINUED)

City	1970 Population	1973		1977	
		Budget $	Per Capita ¢	Budget $	Per Capita ¢
Region V (Cont.)					
Manitowoc, WI	33,497	NR[a]		2,000	6.0
Marathon, WI	1,214	NR		100	8.2
Milwaukee, WI	717,124	12,298	1.7	26,893	3.8
Oshkosh, WI	53,155	NR		1,250	2.4
Racine, WI	95,193	0		2,700	2.8
West Allis, WI	71,691	NR		4,700	6.6
Totals 1973	7,877,892	247,337	3.14		
1977	8,802,139			416,944	4.7
Region VI					
Albuquerque, NM	243,751	No Report		20,869	8.6
Norman, OK	52,128	NR		18,000	34.5
Oklahoma City, OK	366,734	17,279	4.7	23,000	6.3
Tulsa, OK	331,800	2,920	0.9	4,000	1.2
Austin, TX	251,000	3,750	1.5	0	0.0
Bryan, TX	33,719	NR		2,000	5.9
Galveston, TX	61,813	NR		3,100	5.0
Houston, TX	1,232,407	10,450	0.9	24,733	2.0
Hurst, TX	27,239	NR		125	0.5
Pasadena, TX	89,316	353	0.4	500	0.6
San Antonio, TX	654,000	4,018	0.6	0	0.0
Totals 1973	2,925,257	38,770	1.3		
1977	3,343,907			96,327	2.9

[a]Not requested to respond to 1974 survey.

APPENDIX C (CONTINUED)

City	1970 Population	1973		1977	
		Budget $	Per Capita ¢	Budget $	Per Capita ¢
Region VII					
Ames, IA	39,699	NR[a]		4,750	12.0
Clinton, IA	34,719	NR		1,000	2.9
Council Bluffs, IA	60,588	NR		573	0.9
Dubuque, IA	62,313	NR		4,250	6.8
Kansas City, MO	507,330	(65,000)[b]	12.8	0	0.0
Prairie Village, KS	28,104	NR		25,000	88.9
Wichita, KS	389,000	No Report		1,000	0.3
Grand Island, NE	31,269	NR		2,000	6.4
Lincoln, NE	149,518	(5,000)[b]	3.3	25,800	17.3
Omaha, NE	347,380	No Report		6,000	1.7
Totals 1973 1977	0 1,649,920	0	0.0	70,373	4.3
Region VIII					
Arvada, CO	46,694	NR		1,000	2.1
Aurora, CO	74,868	39,030	52.0	600	0.8
Boulder, CO	66,870	NR		36,000	53.8
Colorado Sprngs., CO	35,017	41,000	30.4	47,847	35.4
Denver, CO	514,678	0	0.0	37,280	7.2
Greeley, CO	38,902	NR		5,300	13.6
Lakewood, CO	93,000	31,042	33.4	200	0.2
Pueblo, CO	97,453	No Report		4,000	4.1

[a]Not requested to respond to 1974 survey.

[b]1974 budget estimates; no noise control budget in 1973; not included in totals.

APPENDIX C (CONTINUED)

City	1970 Population	1973 Budget $	1973 Per Capita ¢	1977 Budget $	1977 Per Capita ¢
Region VIII (Cont.)					
Great Falls, MT	60,091	NR[a]		2,000	3.3
Helena, MT	25,000	NR		3,300	13.2
Grand Forks, ND	39,044	NR		8,000	20.5
Minot, ND	32,270	NR		1,600	4.9
Sioux Falls, SD	72,488	NR		2,500	3.5
Bountiful, UT	27,882	NR		1,100	3.9
Salt Lake, UT	175,813	No Report		100,000	56.8
Totals 1973 1977	817,563 1,500,070	111,072	13.6	250,727	16.7
Region IX					
Anaheim, CA	166,118	0	0.0	25,000	15.0
Arcadia, CA	44,602	NR		1,000	2.2
Buena Park, CA	64,124	NR		1,000	1.6
Costa Mesa, CA	72,729	NR		1,200	1.5
Covina, CA	30,405	NR		1,800	5.9
Culver City, CA	31,350	NR		5,000	15.9
Downey, CA	88,000	3,240	3.7	No Report	
Freemont, CA	100,870	0	0.0	20,000	19.8
Fresno, CA	165,972	3,480	2.1	20,000	12.0
Garden Grove, CA	123,000	2,180	1.9	No Report	
Gardena, CA	41,090	NR		2,900	7.1
Glendora, CA	31,349	NR		3,200	10.2

[a]Not requested to respond to 1974 survey.

APPENDIX C (CONTINUED)

City	1970 Population	1973		1977	
		Budget $	Per Capita ¢	Budget $	Per Capita ¢
Region IX (Cont.)					
Hayward, CA	93,000	296	0.3	No Report	
Inglewood, CA	90,014	51,400	57.1	34,900	38.7
La Habra, CA	41,298	NR[a]		3,000	7.26
Lakewood, CA	82,928	3,774	4.6	200	0.2
Livermore, CA	37,703	NR		4,000	10.6
Lompoc, CA	25,320	NR		500	1.97
Long Beach, CA	358,673	No Report		106,851	29.8
Los Angeles, CA	2,816,000	92,500	3.3	100,000	3.6
Menlo Park, CA	26,721	NR		8,500	31.8
Modesto, CA	61,712	NR		11,100	17.9
Monterey, CA	49,146	NR		7,000	14.2
Mountain View, CA	60,200	NR		2,000	3.3
Oakland, CA	361,613	110	0.03	200	0.1
Ontario, CA	64,105	NR		50,922	79.4
Paramount, CA	34,808	NR		16,300	46.8
Pasadena, CA	113,254	1,277	1.1	10,000	8.8
Rialto, CA	28,490	NR		3,000	10.5
San Diego, CA	765,000	0	0.0	55,300	7.2
San Francisco, CA	715,674	No Report		43,500	6.1
San Leandro, CA	68,698	NR		9,300	13.5
Santa Cruz, CA	32,076	NR		1,500	4.7
Santa Monica, CA	88,000	13,750	15.6	No Report	
Santa Rosa, CA	49,873	NR		20,000	40.1
Simi Valley, CA	56,676	NR		8,900	15.7

[a]Not requested to respond to 1974 survey.

APPENDIX C (CONTINUED)

City	1970 Population	1973 Budget $	1973 Per Capita ¢	1977 Budget $	1977 Per Capita ¢
Region IX (Cont.)					
Stockton, CA	109,963	(26,488)[b]	24.1	0	0.0
Sunnyvale, CA	95,200	No Report		2,300	2.4
Torrance, CA	134,507	23,478	7.5	40,000	29.7
Phoenix, AZ	968,000	0	0.0	215,000	22.2
Totals 1973	6,156,276	195,485	3.2		
1977	7,996,261			835,293	10.5
Region X					
Anchorage, AK	48,157	NR[a]		40,000	83.1
Corvallis, OR	35,153	NR		2,800	8.0
Eugene, OR	76,341	0	0.0	12,980	17.0
Portland, OR	383,000	167,500	43.7	61,700	16.2
Everett, WA	53,732	NR		12,980	24.2
Olympia, WA	25,000	NR		30,000	120.0
Seattle, WA	530,890	66,000	12.4	99,200	18.7
Totals 1973	990,231	233,500	23.6		
1977	1,152,273			259,660	22.5
Grand Totals					
1973	33,698,992	1,903,358	5.7		
1977	39,002,503			2,651,074	6.8

[a]Not requested to respond to 1974 survey.

[b]1974 budget estimates; no noise control budget in 1973; not included in totals.

APPENDIX D

STATE AND LOCAL ENVIRONMENTAL
NOISE CONTROL OFFICIALS:
NAMES, ADDRESSES, TELEPHONE NUMBERS

APPENDIX D STATE AND LOCAL NOISE CONTROL OFFICIALS

ALABAMA

Ludwig C. Hoffman, III
Alabama Air Pollution Control Commission
645 South McDonough Street
Montgomery, Alabama 36130

Anniston

R. C. Cheatham, City Mgr.
Anniston, Alabama 36201

Birmingham

Mayor
Birmingham, Alabama 35200

Dothan

Office, Board of (Zoning) Adjustment
City of Dothan,
P. O. Box 2128
Dothan, Alabama 36302
Telephone: 205-794-0361 Ext. 178

Gadsden

Mayor
P. O. Box 267
Gadsden, Alabama 35902

Mobile

City Hall
Mobile, Alabama 36660

Richard L. Smith
P. O. Box 1827
Mobile, Alabama 36601

Montgomery

J. Aronstein, Jr. Director
P. O. Box 1111
Montgomery, Alabama 36102

Selma

F. R. LaPorte
1300 Alabama Avenue
Selma, Alabama 36701
Telephone: 205-874-6611

ALASKA

Anchorage

Patrick C. Welch
Dept. of Health & Environmental Protection
825 L Street
Anchorage, Alaska 99501
Telephone: 907-264-4683

ARIZONA

John H. Beck, Chief
Bureau of Sanitation
Environmental Health Services
411 N. 24th Street
Phoenix, Arizona 85008
Telephone: 602-255-1160

ARIZONA (Cont'd.)

Phoenix

James E. Darre, Manager
Environmental Planning Services
Department of Transportation
206 S. 17th Avenue
Phoenix, Arizona 85007

City Hall
Phoenix, Arizona 85000

Tempe

James M. Casey
31 E. 5th Street
Tempe, Arizona 85281
Telephone: 602-968-8221

Tucson

Morris Franks, Zoning Administrator
Willis Lucas, Chief Building Inspector
250 W. Alameda
Tucson, Arizona 85726
Telephone: 602-791-4541 (Franks)
602-791-4564 (Lucas)

Yuma

City Hall
Yuma, Arizona 85364

ARKANSAS

Fayetteville

Carter B. Schell
P. O. Drawer F
Fayetteville, Arkansas 72701
Telephone: 501-521-7700 Ext. 241

Fort Smith

City Hall
Fort Smith, Arkansas 72901

Jonesboro

Oscar Medlock
Chief of Police
314 W. Washington
Jonesboro, Arkansas 72401
Telephone: 501-935-5553

Little Rock

Mary Lynn Walker
Citizen Complaint Representative
Markham and Broadway Streets
Little Rock, Arkansas 72201

Pine Bluff

Craig Hull, Environmental Planner
200 E. 8th
Pine Bluff, Arkansas 71601
Telephone: 501-536-7990

West Memphis

West Memphis City Council
205 S. Redding
West Memphis, Arkansas 72301

CALIFORNIA

A. E. Lowe
Chief, Office of Noise Control
State Department of Health
2151 Berkeley Way
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Design and Engineering
California Department of Transportation (CALTRANS)
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Sacramento, California 95814
Telephone: 916-445-4400

Warren M. Heath, Chief Engineer
Ross A. Little, Associate Automotive Equipment Standards Engineer
California Highway Patrol
P. O. Box 898
Sacramento, California 95804
Telephone: 916-445-3909

Alhambra

Leslie G. Palyi
Housing & Urban Development
City of Alhambra
111 S. First Street
Alhambra, California 91801
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Anaheim

Ellwyn G. Brickson, R. S.
Orange County Health Department
1011 South East Street
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Robert J. Kelley
Planning Department
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Anaheim, California 92805
Telephone: 714-533-5717

Antioch

Kenneth Shunk
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Antioch, California 94509
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Arcadia

R. Terry Basey
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Arcadia, California 91006
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Azusa

City Hall
Azusa, California 91702

Bakersfield

Cal Bidwell
1501 Truxton Avenue
Bakersfield, California 93301
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Baldwin Park

City Hall
Baldwin Park, California 91706

APPENDIX D (CONTINUED)

CALIFORNIA (Cont'd.)

Bellflower

Lee Whittenberg
9838 E. Belmont
Bellflower, California 90706
Telephone: 213-866-9003

Bell Gardens

Ferice Childers
Chief of Police
7100 Garfield Avenue
Bell Gardens, California 90201

Berkeley

Elijah B. Rogers, City Manager
2180 Milvia Street
Berkeley, California 94704
Telephone: 415-644-6580

Beverly Hills

M. W. Nash
450 North Crescent Drive
Beverly Hills, California 90210
Telephone: 213-550-4927

Buena Park

D. F. Sowder, Zoning Administrator
6650 Beach Boulevard
Buena Park, California 90620
Telephone: 714-521-9900

Burbank

Roland H. Schultz
P. O. Box 6459
Burbank, California 91510
Telephone: 213-847-9541

Burlingame

City Manager
501 Primrose Road
Burlingame, California 94010
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Carson

City Hall
Carson, California 90744

Chula Vista

Roy B. Hodge, Zoning Enforcement Officer
276 4th Avenue
Chula Vista, California 92010
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Costa Mesa

Richard O. Dahill, Division Chief
P. O. Box 1200
Costa Mesa, California 92626
Telephone: 714-556-5245

Covina

Michael A. Marquez, Planning Director
125 E. College
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Culver City

Charles F. Peregoy, Assistant Planner
9770 Culver Boulevard
Culver City, California 90230
Telephone: 213-837-5211

CALIFORNIA (Cont'd.)

Cypress

Brian N. Hawley, Planning Director
City of Cypress
5275 Orange Avenue
Cypress, California 90630
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Daly City

Don Fleming
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El Cerrito

City Hall
El Cerrito, California 94530

El Monte

Harold Johanson
11333 Valley Boulevard
El Monte, California 91734
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Escondido

Gene Ervin, Building Director
100 Valley Boulevard
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Fairfield

City Hall
Fairfield, California 94533

Fremont

Don Driggs, City Manager
Civic Center Drive
Fremont, California 94538
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Fresno

Gary Lancioni
Planning & Inspection
2326 Fresno Street
Fresno, California 93721
Telephone: 209-488-1591

Gardena

Shuji Takenaka, Principal Inspector
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Gardena, California 90247
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APPENDIX D (CONTINUED)

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Birmingham

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Chief of Police
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Burton

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APPENDIX D (CONTINUED)

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APPENDIX D (CONTINUED)

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Euclid

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Fairborn

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APPENDIX D (CONTINUED)

OHIO (Cont'd.)

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Lorain

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APPENDIX D (CONTINUED)

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City Hall
Amarillo, Texas 79101

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City Hall
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Brownsville, Texas 78520

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City Hall
El Paso, Texas 79901

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