A STATUS REPORT ON THE FLORIDA MOTOR VEHICLE NOISE CONTROL PLAN

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Florida's noise control program began in 1971, when the Florida legislature amended the statutory responsibilities of the Florida Department of Pollution Control (FDPC) to cover noise as well as air and water pollution. However, because of severe statewide budgetary limitations, funds were not provided to support noise control activities at that time.

In early 1972 the Florida Department of Transportation (FDOT), anticipating noise study requirements of the Federal Highway Administration (FHWA), began to research and develop methods of investigating present and future highway traffic noise levels. However, no funds were available specifically for noise control activities until July 1972, when $36,000 was authorized for FDPC to hire 1 staff engineer and to obtain contractual services. During the next fiscal year, funding was increased to $62,000.

Recognizing the increasing legislative and public interest in noise control, FDPC designed and implemented a unique low-cost support system involving Florida's academic community. Under the system the Florida Board of Pollution Control approved contracts with the 5 state universities for basically the following services:

1. Provide encouragement and technical support to individual municipalities throughout Florida in the development of comprehensive effective local noise control programs;
2. Conduct research and development activities necessary to support the establishment of an overall noise control program for

the state;

3. Act as expert witness on behalf of FDPC at legislative and public hearings; and
4. Coordinate and conduct training programs at the state, regional, and local levels for governmental officials with interests in and responsibilities for noise control.

The universities were located in 5 geographic regions as follows:

University	Region
University of West Florida, Pennsacola	Northwest
University of Florida, Gainesville	Northeast
Florida Technical University, Orlando	Central
University of South Florida, Tampa	West central and southwest
Florida Atlantic University, Boca Raton, and Florida International University, Miami	Southeast

Funding for the 1974 fiscal year noise control activities was increased to $88,000, mainly because staff positions were increased to three. However, the major increase in state noise control funding accompanied the establishment of a motor vehicle noise enforcement section within the Florida Highway Patrol (FHP), and that will be discussed further in a subsequent section. Figure 1 shows the organizational structure of full-time noise control support personnel.

NOISE CONTROL PROGRAM RESPONSIBILITIES

The Noise Control Section of the FDPC has as its key responsibility the development of a comprehensive statewide program for the prevention, control, and abatement of all excessive and unnecessary noise. Figure 2 shows a noise identification system that the section has developed. In fulfilling its responsibilities, the section conducts research, develops plans, enforces noise laws, coordinates with other agencies and groups, and provides for the dissemination of pertinent information.

NOISE CONTROL LEGISLATION BEFORE 1974

Since the onset of the noise program, the legislature has been primarily concerned with motor vehicle noise. In 1972 the legislature passed a law that required the establishment of a maximum decibel level by FDPC for motor vehicle exhaust systems and further directed that it be enforced by FHP through the state's official motor vehicle inspection stations.

In 1973, 2 noise control bills were filed for consideration: a senate bill that basically adopted the Chicago noise ordinance for Florida and a house bill that called for the use of vegetative noise barriers for the control of highway noise. Both failed to pass.

The attitude of the Florida legislature has definitely changed with respect to noise. In the 1971 session, the senate chamber rang with laughter as one senator joked about little decibels flying about the chamber. However, in 1974 the atmosphere was quite different as will be shown in a later section.

MOTOR VEHICLE NOISE CONTROL PLAN

From the beginning of the noise program development, transportation noise control has been recognized and treated as the highest priority area. Fifty percent of all noise complaints in Florida at the state and local levels are related to motor vehicles.

Figure 1. Organization of the noise program.

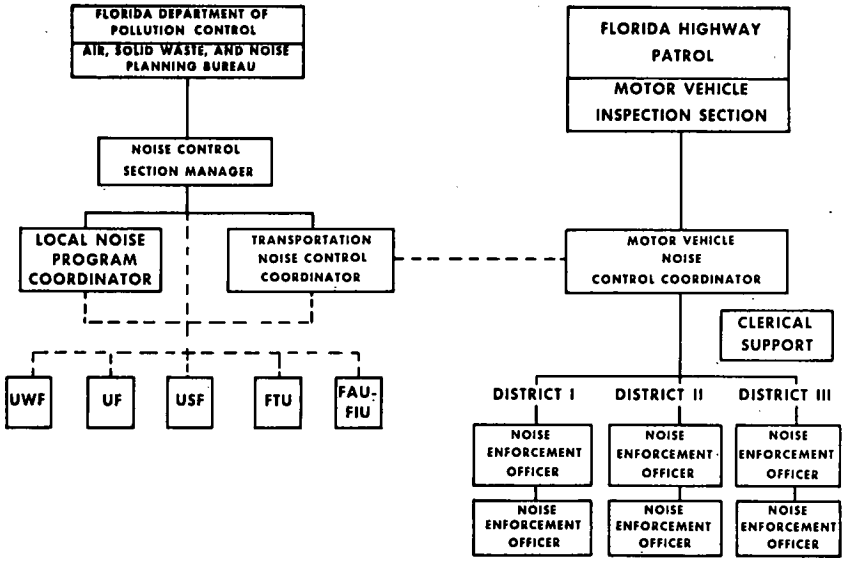
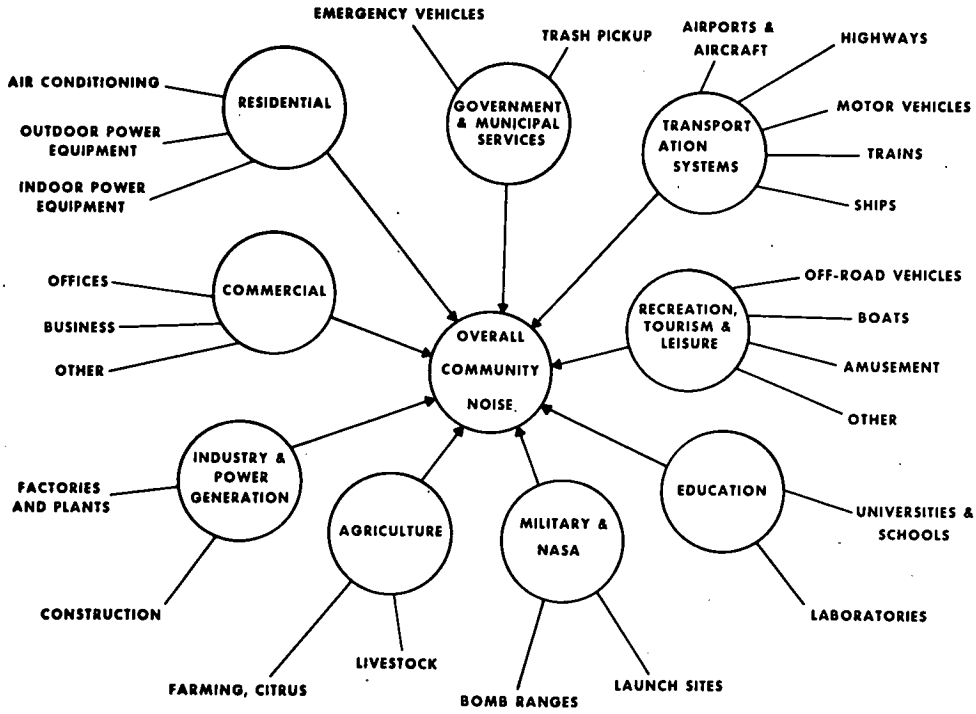


Figure 2. Noise identification system.



The noise control program manager spent approximately 60 percent of his time during the second half of 1972 and 1973 working with FDOT and FHP on the research and development of an in-station noise test procedure as called for by 1972 law. During the summer of 1973, 3 representatives from FHP and 2 from FDOT attended a course sponsored by the U.S. Department of Transportation on vehicle noise enforcement. The information gained from this course and the lack of success in developing a cost-effective means of stationary vehicle testing led to the development of an overall motor vehicle noise control plan.

The plan, which has recently been updated, consists of the 3 alternative control approaches shown in Figure 3. These approaches, source control, path control, and receiver control, are each then broken down into alternative control strategies (Figs. 4, 5, and 6). FDPC recognizes that source control is the most effective approach, but strongly feels that all 3 approaches are necessary to achieve a practical and meaningful reduction in noise levels generated by motor vehicles.

At the end of 1973 the only part of the plan that had been implemented was a visual check in the inspection stations to determine whether exhaust systems were in working order. FDPC and FHP were receiving more and more pressure to establish a quantitative noise test procedure for in-station use. Both agencies agreed that, even if a test could be developed that would accurately identify noisy motor vehicles, the cost of retrofitting more than 1,400 Florida stations and equipping and training the necessary personnel would be prohibitive, especially since the legislature failed to provide any funds for research and development related to or for implementation of the 1972 noise law. Furthermore, both agencies knew that the effectiveness of this control would be severely limited because of the "put-the-muffler-back-on" and "get-the-thing-fixed" syndrome related to the annual vehicle inspection. Florida needed a more comprehensive control.

NOISE CONTROL LEGISLATION IN 1974

In the 1974 session of the Florida legislature, 3 bills directly related to noise control were introduced: a bill that would limit motor vehicles to one horn or warning device with a sound emitting capability no greater than the vehicle manufacturer's original equipment (failed); a bill that directed FDOT to incorporate in the construction of state highways both artificial and natural means of abating highway noise (passed both houses); and a bill that was related to motor vehicle noise prevention and control (passed with only minor amendments). This latter bill, sponsored by Representative Betty Easley and Senator John Vogt, is discussed in the following sections.

HISTORY OF VOGT-EASLEY BILL

In early January 1974 FDPC was requested by Representative Easley of Clearwater to provide technical assistance in the drafting of a motor vehicle noise control bill. A preliminary meeting was attended by Representative Easley and representatives from FDPC, FHP, and FDOT. It was decided that FDPC would coordinate the drafting of a motor vehicle noise control bill; the California Vehicle Code and the Chicago Noise Ordinance would be used as models. It was also suggested that Senator Vogt of Cocoa Beach, who in 1973 sponsored an unsuccessful noise control bill similar to the Chicago Noise Ordinance, be invited to join in the development of a bill concerning motor vehicle noise alone.

A second meeting was held in Orlando on February 15, 1974, attended by Representative Easley and Senator Vogt and representatives of FDPC, FHP, University of South Florida, Florida Technological University, a local pollution control department, and Bolt Beranek and Newman (BBN), at that time under contract to FDPC to research and develop a static vehicle noise test. A preliminary draft bill presented by FDPC was discussed and revised, and a strategy was developed for introducing companion bills in each house of the legislature and for identifying support requirements for the

Figure 3. Alternative approaches to motor vehicle noise control.

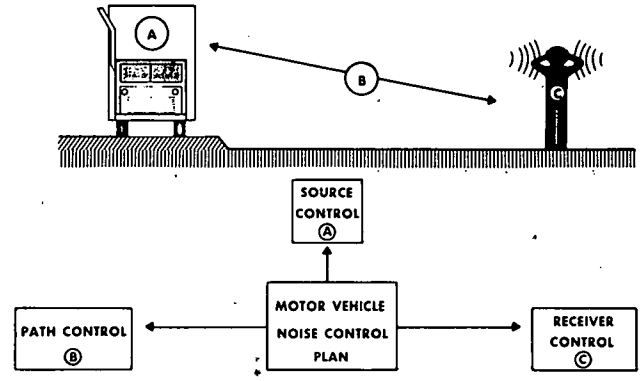


Figure 4. Noise source control strategies.

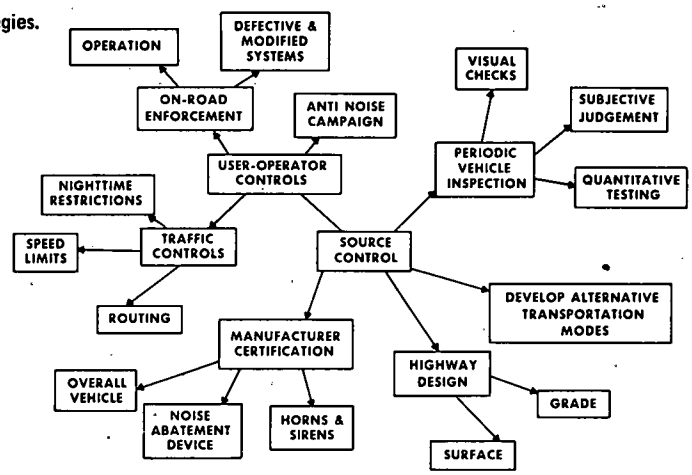


Figure 5. Noise path control strategies.

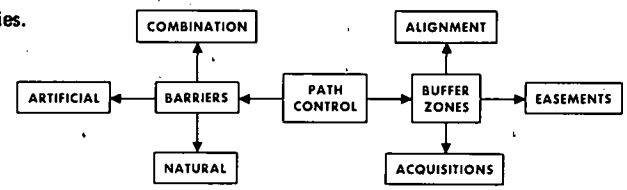
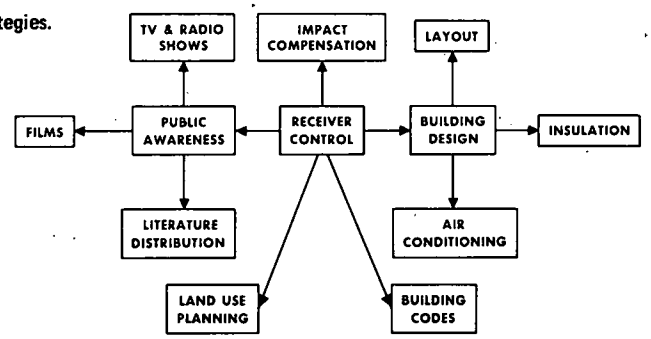


Figure 6. Noise receiver control strategies.



bill, such as resolutions of support, documentation on the effectiveness of the bill and its compatibility with existing and anticipated federal, state, and local noise control legislation, and expert witnesses for backup.

On February 19, 1974, the Florida Board of Pollution Control extended an existing agreement held with BBN to act as an advisor to the state; evaluate and refine the draft bill in such a manner as to maintain its original intent; document the bill, that is, explain its purpose and compatibility with existing and anticipated federal, state, and local regulations; and provide expert testimony at legislative hearings on technical aspects of the bill.

A final review and organizational meeting was held in Tallahassee on April 3, 1974, the day after the legislature convened. Attending the meeting were Representative Easley and staff, Senator Vogt and staff, and representatives of FDPC and FHP. The final draft of the noise bill was reviewed and accepted. The funding requirements for the proposed program were presented by FHP and FDPC. The program would establish 1 new FDPC position at a cost of $17,000 and 8 new FHP positions—1 sergeant, 6 troopers, and 1 clerk—at a cost of $185,000. FDPC and FHP joined in requesting that the bill be killed if funding provisions were eliminated or severely limited. Representative Easley also announced that Representative Ted Randell had agreed to cosponsor the house companion bill. The sponsors of the bill held a press conference on April 10, 1974, to announce the filing of their companion bills and to explain the purpose and content.

CONTENT OF VOGT-EASLEY BILL

The bill, which was entitled Florida Motor Vehicle Noise Prevention and Control Act of 1974, essentially amended 3 existing chapters of Florida Law as shown in Figure 7.

1. Chapter 403, Environmental Control, was amended to include section 403.414, which provides definitions, prohibits the sale of new motor vehicles that produce a maximum sound level in excess of specified limits, requires the establishment of test procedures for determining compliance, requires certificates of compliance, prohibits the sale of mufflers or other noise abatement devices that increase the noise above that of the motor vehicle as originally manufactured, and provides for uniformity of its provisions throughout the state.
2. Chapter 316, State Uniform Traffic Code, was amended to include section 316.293, which provides definitions, prohibits the operation of motor vehicles that produce a sound level in excess of specified limits, provides for the establishment of measurement procedures for enforcement, prohibits the modification of motor vehicles to increase their noise above that emitted by the vehicle as originally manufactured and prohibits the operation of a vehicle so modified, and provides for exempt vehicles.
3. Chapter 320, Motor Vehicle Registration, was amended to include section 320.834, which prohibits the registration of the new motor vehicle for which certification of compliance with new motor vehicle noise limits has not been made.

The bill further provided for a joint study by FDPC and FHP on the effectiveness of the act and set October 1, 1974, as the effective date.

In summary, the bill required that new motor vehicles be manufactured to operate quietly and that individuals maintain their vehicles so as to ensure the continuance of the original sound level. It prohibits the modification of any noise abatement device that would increase the overall sound level of the vehicle. Finally, the bill outlawed the sale of noise abatement equipment replacement components that when installed as directed would increase the overall sound level.

LEGISLATIVE ACTION ON VOGT-EASLEY BILL

After being introduced in the respective houses, House Bill 3365 and its companion

Figure 7. Florida Motor Vehicle Noise Prevention and Control Act of 1974.

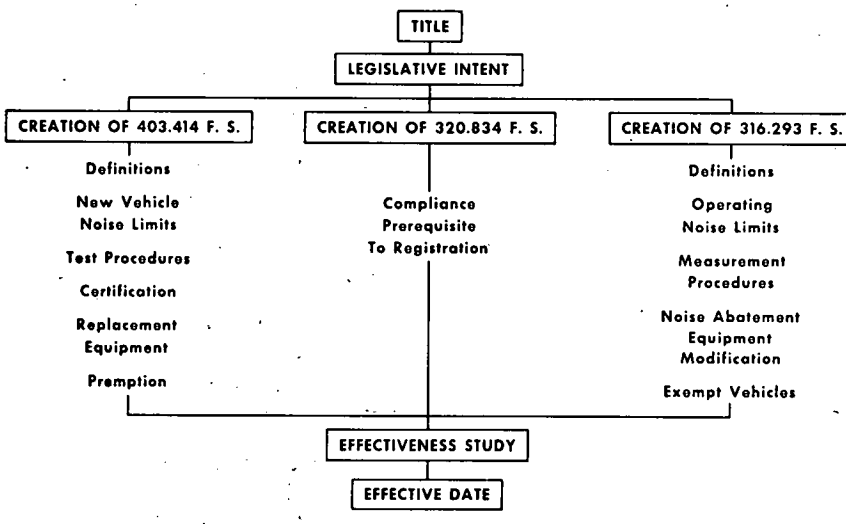
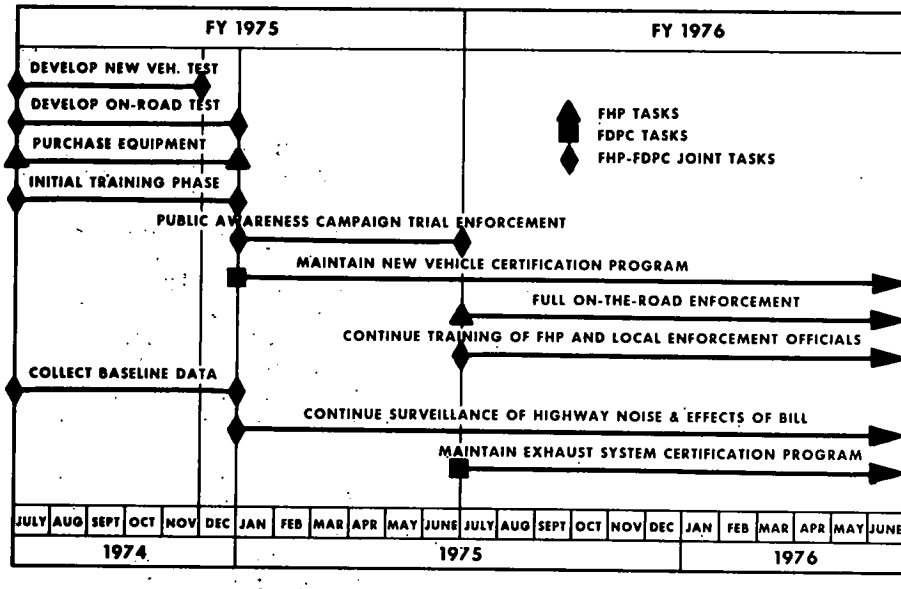


Figure 8. Program implementation of noise act.



Senate Bill 278 were referred to committees for technical review and fiscal impact investigation. The following major amendments were successfully made during the legislative review process.

1. The House Environmental Protection Committee insisted on adding to the newly created section 403.414 a subsection that would require the provisions to be uniform throughout the state, thus preempting any local efforts to implement manufacturers' noise limit requirements that differed from those in the state law. A similar requirement already exists within chapter 316; therefore, the provisions of newly created section 316.293 are likewise preemptive.
2. As a result of strong pressure exerted by representatives of major motor vehicle manufacturers, the sound-level limit was increased from 80 to 83 dBA for motorcycles manufactured between January 1, 1975, and December 31, 1977, and from 75 to 78 dBA for those manufactured after January 1, 1978. Also, the last change date in the timetable was postponed a year in all 3 vehicle categories, and the operating noise limits timetable in section 316.293 was adjusted to maintain consistency between the 2 sets of sound level limits. An amendment also exempted any motor vehicle not required to be licensed under the provisions of chapter 320.
3. The list of vehicles exempt from the provisions of newly created section 316.293 was extended to include motor vehicles engaged in a sanctioned professional or amateur competitive sports event; motor vehicles engaged in a manufacturer's engineering, design, or equipment test; and construction or agricultural equipment either on the job site or traveling on highways.

The bill passed both houses and became the Motor Vehicle Noise Prevention and Control Act of 1974.

IMPLEMENTATION PLAN FOR THE ACT

FDPC has developed in cooperation with FHP a program for implementing the provisions of the act. Program phasing considerations and a breakdown of FDPC and FHP task requirements are shown in Figure 8.

Although the act was not to take effect until October 1, 1974, some efforts were started in June 1974 to collect base-line data on individual vehicle noise levels and to monitor overall highway traffic noise. A more detailed study of individual vehicle noise levels was conducted from October 1, 1974, to December 1, 1974, by FDPC noise staff and its 5 consultant universities, each collecting detailed information on 1,000 vehicles under a wide range of operation conditions for a total of 6,000 data points. A continued surveillance of both individual vehicle levels and overall highway noise levels will be maintained throughout program implementation to monitor its effectiveness.

Appropriations requested for the implementation of the act were approved by the legislature and during the fall of 1974 the positions were filled. The 6 troopers were put through an 80-hour training course designed by FDPC and FHP on the fundamentals of sound and the enforcement of the act. Shortly after the training session, the troopers contacted the state attorneys to brief them on the new program and to answer questions.

A new FDPC Rule on Test Procedures to be used for determining compliance with the law was developed by both agencies and promulgated by the Florida Board of Pollution Control at a public hearing on November 20, 1974. These procedures closely parallel the test procedures established by CHP and are, as the law requires, in strict conformance with the recognized standard procedures of the Society of Automotive Engineers.

FHP began a trial on-road enforcement program on December 1, 1974, and plans to go to full-fledged enforcement sometime in 1975. FDPC requested manufacturer certification of new vehicles by letter on November 20, 1974; the actual certification program was not implemented until January 1, 1975. Both agencies are working on a

strong public awareness campaign including press releases and public speaking engagements, and FDOT has designed road signs that might be used at some future date to alert travelers as they enter the state.

Since the on-road enforcement program is set up as a section under chapter 316, Florida's Uniform Traffic Code, local law enforcement officials are required to become involved in the enforcement. However, as required by the new rule on vehicle sound measurement, all officials involved in enforcement will have to be trained and certified by FDPC and FHP. A training program is currently being developed for local law enforcement officials and will probably be implemented in 1975.

The final phase of program implementation will involve the development of an exhaust system certification program as required by the act. This program is scheduled to begin on July 1, 1975.

HIGHWAY NOISE ABATEMENT ACT

As mentioned earlier, another bill was passed in the 1974 session of the Florida legislature that essentially directs FDOT to

1. Use noise control methods in the construction of state highways, especially where they abut residential development;
2. Consider both artificial and natural means of highway noise abatement, emphasizing the uses of vegetation for both physical reduction and psychological screening;
3. Expend the maximum amount of federal matching funds available for highway noise control;
4. Consult and cooperate with the Division of Forestry and FDPC in the study and use of noise control strategies; and
5. Report to the legislature prior to the 1975 regular session.

Although this act is not so comprehensive as the noise control and prevention act, it clearly expresses the legislature's desire for FDOT to accept a more responsible role in controlling motor vehicle noise.

SUMMARY

The recently enacted motor vehicle noise control legislation has established a means of implementing a number of high-priority control strategies within the motor vehicle noise control plan. The implementation of the act is continuing with visual checks of exhaust systems during periodic vehicle inspection, and FDPC is continuing its research in the area of quantitative static testing. The act established a means of implementing additional source control strategies, which can be classified as user-operator controls and manufacturer controls. The noise abatement act primarily directed the implementation of barrier-oriented control strategies. However, if strictly interpreted, it could be considered a directive to implement all alternative noise control strategies, for it speaks to the use of "noise control methods." Unfortunately, the only control strategies directly funded are those that were created by the noise control and prevention act, and even those funds are limited in terms of supporting a statewide program.