

VEHICLE NOISE CONTROL PROGRAM OF THE NEW JERSEY TURNPIKE AUTHORITY

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The New Jersey Turnpike is located in a key corridor in the northeast United States. Its 120 miles (193 km) connect the southwest and northeast corners of the state and carry traffic in and out of the New York City area from and to all points south and, via the Pennsylvania Turnpike, from and to all points west.

In 1974, the New Jersey Turnpike was traveled by approximately 105 million vehicles including approximately 16 million trucks carrying nearly 128 million tons (116 000 Mg) of goods and supplies. One out of every 364 vehicle-miles (572 vehicle-kilometers) traveled in the United States is traveled on the New Jersey Turnpike.

The Turnpike Authority is an agency of the state, responsible to the governor. The enabling legislation, which created the Turnpike Authority in 1948, permits the authority to make and enforce traffic regulations to control vehicles operating on the turnpike. To the extent practicable, the regulations are to be consistent with the state's Motor Vehicle Code.

The turnpike passes through approximately 40 municipalities. Traffic growth caused the authority to widen the northern 25 miles (40 km) of the turnpike from 6 to 12 lanes. While the authority has tried to provide an efficient transportation facility within New Jersey, states adjacent to the turnpike have complained about the noise emanating from turnpike traffic. Originally, the authority adopted the position that it was the responsibility of the state legislature to deal with noise. In more recent years, the accentuated

concern for the environment, the establishment of environmental protection agencies, and the need to prepare environmental impact statements for the authority's ongoing expansion programs made it increasingly apparent that the Turnpike Authority itself had to do something about traffic noise.

STARTING THE PROGRAM

In early 1973, the authority became aware that the U.S. Environmental Protection Agency was to adopt vehicle noise emission regulations. In addition, the New Jersey Noise Control Act of 1971 provided that the state Department of Environmental Protection promulgate requirements for the control of noise for motor vehicles. The involvement of these agencies in the control of vehicle noise raised the question of what the Turnpike Authority should do.

After a period of time, it became obvious that the EPA regulation would not be promulgated soon enough to serve the authority's immediate timetable. In addition, the state Department of Environmental Protection had no immediate plans for a vehicle noise emission regulation. Enforcement by either of these agencies or other agencies that might be assigned the enforcement responsibility was uncertain. Therefore, in June 1973, the authority engaged a consultant to prepare noise emission regulations.

REGULATIONS

It was understood that the proposed EPA regulation preempted all other regulations pertaining to interstate carriers. So that it would not have to revise regulations at a future date and would be able to benefit from all studies made by the Environmental Protection Agency, the authority decided that its regulations would be identical to the proposed EPA regulations for heavy trucks without regard to whether they were engaged in interstate commerce. This distinction would be of no significance to the turnpike and would avoid the problem of authority personnel trying to determine which trucks were engaged in interstate commerce and which were not. But the authority wanted to control noise from all vehicles and, therefore, decided to adopt lower limits for light trucks, passenger cars, and motorcycles.

Because of a serious concern about a long-term solution to the problem of noise from ever-increasing traffic, the authority adopted stricter regulations for future years based on the best information available on future technology.

PUBLIC RELATIONS

The Commission of the Turnpike Authority adopted the noise regulations on March 26, 1974. The consultants had prepared a background document that incorporated data collected by other agencies but related exclusively to turnpike traffic. The authority invited municipal officials and the press to attend a noise measurement demonstration program. Both press and television reporters were interested in this program and gave major coverage in New York newspapers and on Philadelphia television stations. Many local newspapers also printed stories. Members of the New Jersey Motor Truck Association were invited to attend special meetings at which the regulations were explained and questions were answered.

In June 1974, a public hearing was held on the proposed noise regulations. Based on the position papers and the testimony presented, we concluded that the proposed regulation would be workable. Subsequently, on July 23, 1974, the authority adopted, in its final form, the vehicle noise emission regulation. All necessary requirements of the New Jersey Administrative Code were followed. In deference to some of the arguments presented by the Motor Truck Association, the stationary test and visual inspection tests were to become effective on January 1, 1975, and the pass-by test to

become effective October 1, 1974.

During August and September, the authority conducted a relatively extensive program to inform truckers whether their trucks were too noisy. On several occasions, arrangements were made to have trucks pass by the noise measurement site where officials of the Motor Truck Association were present at the microphone locations. There were also conferences at which the data collected during this period were made available to the officials of the Motor Truck Association.

A high percentage of tank trucks seemed to be in violation of the regulation, and the authority conducted special tests for tank trucks. First a stationary test was performed, and sources of noise from the vehicle were analyzed. Results revealed that two of the large truck companies that operated tank trucks on the turnpike were using certain tires that, when they were about 30 percent worn, imitated the effect of a "pocket" retread. We have been working with the New Jersey Motor Truck Association in correcting this problem.

The authority also decided that it would be to the benefit of the trucking industry to have a manually operated display sign that would tell drivers their noise level readings. One day a week was set aside for operation of the sign, and the trucking association informed drivers that appointments could be made at specific hours.

TRAINING AND ENFORCEMENT

A state police troop is assigned exclusively to the turnpike to enforce traffic regulations. An important decision for the authority was defining the role the state police were to play in enforcing the noise regulations.

The state police were included in all discussions during the development of the regulations and also in the training program. The state police also assisted the authority in the decision on the course of action with regard to identification of the source of excessive vehicle noise. On the heavily traveled turnpike, which does not offer wide areas for checking vehicles, identification of the source was deemed to be a hazardous job. Therefore, the authority agreed only to advise truckers of the possible sources of unwanted noise.

Because of the special training required, the limited staff (2 teams) of noise enforcement personnel, and the frequent turnover of state police officers assigned to the turnpike, the authority decided that equipment operators should be civilian employees of the Traffic Engineering Department inasmuch as the state police work through the Traffic Engineering Department, which is responsible for vehicle operations on the road. Therefore, the Traffic Engineering Department has full responsibility for the enforcement program. The state police are in radio contact with equipment operators, intercept the vehicle in violation, and issue the summonses.

For comfort of the operator throughout the year, a van was purchased that was fitted with an office desk and that allowed the operator to have a full view of the road. Because the van constituted a sound-reflecting surface that would have required site correction factors, a 120-ft (36.6-m) extension cable was used. To our knowledge, extension cables longer than 60 ft (18.3 m) had not been used before for enforcement of vehicle noise regulations.

The consultant conducted the first training program and certified the equipment operators and the state police involved in the initial enforcement effort of the program. In the future, we expect authority personnel to conduct training classes, except for the class on acoustics. State police officers attended the training program and, in addition, an officer of the state Division of Motor Vehicles was also invited to attend. At the conclusion of the course, certificates were presented to 9 graduates.

JUDICIAL CONSIDERATIONS

The authority wants to set a minimum fine for noise emission violators, but the statutes governing fines for traffic violations on the turnpike do not now permit this. The

minimum fine is determined by the municipal courts; the maximum allowable fine is \$200. The authority is trying to change the regulations pertaining to fines.

The authority invites municipal judges to witness noise measurement procedures, but the response so far has been minimal. To date, the courts have not established clear policies on how ticketed violators are to be handled.

Since the state police are represented by the Office of the Attorney General, a deputy attorney general is assigned to this vehicle noise emission regulation program for representation in court.

SITE SELECTION AND INSTRUMENTATION

The sites were selected by members of the Traffic Engineering Department, the Engineering Department, the state police, and the consultant. The Traffic Engineering Department is responsible for safety on the road and required that the van be located 30 ft (15 m) beyond the edge of the pavement or behind the guardrail. The state police were concerned about the position of their intercept vehicle and the distance available for the intercept vehicle to pull over a violating vehicle. A representative of the Engineering Department and the consultant inspected the sites so that they could certify on a site plan the nature of the engineering features and the sound-reflecting surfaces within the sound measurement site.

For each site, a monument was located at the microphone location to eliminate the need for the operators to make measurements at the site each time they set up the equipment and thus to eliminate a potential source of error. According to legal counsel and the state police, a certified site is of immense aid in the defense of any violation of a summons in court.

The authority relied on the consultant's expertise in the selection of the noise measurement equipment. Although the regulation requires only that the instrument meet specifications of the American National Standards Institute for sound level meters, the authority decided to invest in the best instruments available and thus acquired a precision sound level meter. We thought that the courts, knowing that we were using the best instruments available, would be more favorably disposed to ruling in favor of the enforcement action.

REMAINING PROBLEMS

Although the New Jersey Motor Truck Association has not undertaken any formal action at this time in contesting the noise regulation, it continues to indicate dissatisfaction with various aspects of it. Precisely what can be done with regard to the tire problem experienced by some tank trucks is unclear at this time. The Motor Truck Association has also focused a lot of attention on construction vehicles and the noise that they make; however, no material has been presented that indicates that these vehicles cannot be quieted.

The program funding is still a problem in these times of economic uncertainties. What the authority does on the turnpike has a major effect in adjoining states. Others are receiving the benefits of our efforts, for which we are pleased, but the program requires more than just positive action by the New Jersey Turnpike Authority. We hope that neighboring jurisdictions will soon adopt and enforce noise regulations.