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COMMITTEE ACTIVITY

Committee AL 001 - Eminent Domain and Land Use
Legal Resources Group, Highway Research Board

EMINENT DOMAIN AND LAND USE MEMORANDUM

1969 COMMITTEE REPORT OF THE LOCAL GOVERNMENT LAW SECTION OF THE AMERICAN BAR ASSOCIATION

The Local Government Law Section of the American Bar Association last year initiated a new policy which provides for a joint publication of the annual reports of the section's many committees. The reports are to be published each year in time for the section's annual meeting.

The first such publication combines the reports of twelve of the section's twenty-eight committees. A notable exception to the joint report policy is the Committee on Condemnation and Condemnation Procedure, which for many years has published its own annual report as a separate volume including a digest of all appellate cases relevant to condemnation and appendixes of materials of interest to those concerned with condemnation law.

Committees including their reports in the joint volume are: Committee on Housing and Urban Renewal, Committee on Individual Rights, Committee on Liaison with the National Institute of Municipal Law Officers, Committee on Local Government Personnel, Committee on Municipal Home Rule, Committee on Municipal Tort Liability, Committee on Ordinances and Administrative Regulations, Committee on Planning and Zoning, Committee on School Districts, Committee on Special Assessments and Taxing Districts, and Committee on Urban Public and Private Passenger Transportation.

The reports usually run from 20-30 pages, though there is one as short as five pages and one as long as 97 pages. The reports usually include a discussion of trends in the court cases relevant to the committee reporting; and the discussions usually refer to several of the more important cases of the year.

The full volume runs 382 pages and is available from the Division of Legal Practice and Education, American Bar Association, 1155 East 60th Street, Chicago, Illinois 60637, Telephone (312) 493-0533.

HIGHWAY RESEARCH BOARD
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THE CONGRESS AND THE ENVIRONMENT.

There are a multitude of different problems concerning the environment these days, but there are three basic approaches to each environmental problem.

The three basic viewpoints on environment are marketplace economics, the health aspect, and the ecology aspect.

Marketplace economics approach is concerned with inducing the industrialists responsible for pollution to pay the costs of pollution abatement and return the waters and air to as natural a state as possible. Modern technology has developed methods that are at least partially able to accomplish this. However, a problem with marketplace economics is the tendency of industry to perpetually expand in a world which ecologists say will eventually reach equilibrium. This expansion will preclude a stable high-quality environment.

The human health viewpoint of environment assumes that humans will willingly finance programs that will be good for our health, or rather, that will eliminate things that are bad for our health. This theory works on environmental factors that are directly, obviously, bad for us. However, there are factors involved with human health that are sometimes hard to determine, that take years or even decades to affect us, and not only do we often lack the foresight to pay for programs involving such factors now, we often do not even recognize the factors until too late.

The third viewpoint is concerned with ecology. The major problem with planning programs around ecology is the lack of complete data. Not enough is known yet to form a comprehensive program to preserve ecological stability. The ecological viewpoint sees man as an "ecological dominant," who changes the natural ecology of the planet. Again, man has too many commitments to industry and to his life style to be able to exercise the drastic control measures necessary to repair and stabilize our ecological system.

Far more numerous than the three viewpoints of environment are the problems stemming from it. In the past several months, Congress has been involved with the following factors related to the environment.

Programs and analysis deal with evaluation of present laws and programs concerning environment, with policies and implementations of policies, with trends and strategies of national environmental goals, with all aspects of administration of environmental programs.

Pollution is one of the better known environmental problems. Man has contaminated the air, water and land around him with his liquid, solid and gascous wastes. A subset of pollution control would be noise control.

Agriculture is also a sign of man's disruption of the natural ecology of the earth. Congress is involved in a number of programs from foreign food trade to agricultural waste.

The urban factor of environment includes Congress' involvement with parks, recreation facilities, and city beautification programs as well as zoning and traffic problems.

International implications of environmental problems concern the application of Western technology in less-developed countries, the possibility of continent wide environment programs, and other such facets.

An aspect of the environment problem that will become critical in the next few years is the depletion of our resources. Long-range legislation is presently being considered to protect and recover as much of our resources as is possible.

National parks and related aspects of environment are gaining more public notice. Vanishing species of wildlife, as well as vanishing forests and rural areas are receiving increasing protection by law.

Regulations concerning use of electric power and powerlines as well as the alternative of nuclear power are now being considered. There are already restrictions on where power plants can be placed.

Perhaps the most serious problem under the heading of environment is that of the population explosion. There are too many people for one planet and we are distributing ourselves badly over the planet's surface. The federal government has 700 million spare acres of land and allotment of this land is a major issue.

Congressional and public involvement with the environment gets more intense, but so do environmental problems. It is a certainty that all aspects of the country will be directly affected by the environmental problems for many years to come.

When an environmental issue is sent to Congress, it is classified and put under the jurisdiction of one of several committees, as there are no congressional committees on environment. The table on the following page lists the committees that usually handle environmental problems.

Principal congressional committees concerned with environmental quality and productivity (The appropriations committees in both houses are critical):

Committee	Chairman
	Senate
Agriculture and Forestry	Allen J. Ellender (D-La.)
Commerce	Warren G. Magnuson (D-Wash.)
Subcommittee on Energy, Natural Resources, and the Environment	Philip A. Hart (D-Mich.)
Government Operations	John L. McClellan (D-Ark.)
Subcommittee on Intergovernmental Relations	Edmund S. Muskie (D-Me.)
Interior and Insular Affairs	Henry M. Jackson (D-Wash.)
Labor and Public Welfare	Ralph Yarborough (D-Tex.)
Subcommittee on Health	Ralph Yarborough (D-Tex.)
Public Works	Jennings Randolph (D-W.Va.)
Subcommittee on Air and Water Pollution	Edmund S. Muskie (D-Me.)
	Joint
Atomic Energy*	John O. Pastore (D-R.I.) Chet Holifield (D-Calif.)
	House of Representatives
Agriculture	W. R. Poage (D-Tex.)
Government Operations	William L. Dawson (D-Ill.)
Subcommittee on Conservation and Natural Resources	Henry S. Reuss (D-Wis.)
Interior and Insular Affairs	Wayne N. Aspinall (D-Colo.)
Interstate and Foreign Commerce	Harley O. Staggers (D-W.Va.)
Merchant Marine and Fisheries	Edward A. Garmatz (D-Md.)
Subcommittee on Fisheries and Wildlife Conservation	John D. Dingell (D-Mich.)
Subcommittee on Oceanography	Alton Lennon (D-N.C.)
Public Works	George N. Fallon (D-Md.)
Subcommittee on Flood Control	Robert E. Jones (D-Ala.)
Subcommittee on Rivers and Harbors	John A. Blatnik (D-Minn.)
Science and Astronauties	George P. Miller (D-Calif.)
Subcommittee on Science, Research, and Development	Emilio Q. Daddario (D-Conn.)

The chairmanship of this joint committee alternates between the House and the Senate.*

The above discussion is adapted from the article "Information for Decisions in Environmental Policy," by Richard A. Carpenter, Science magazine, June 12, 1970.

HIGHWAY NOISE - MEASUREMENT, SIMULATION AND MIXED REACTIONS

Highway Noise; Measurement, Simulation and Mixed Reactions" by William J. Galloway, Welden E. Clark, and Jean S. Kerrick: Bolt Beranek and Newman, Van Nuys, California, issued as NCHRP Report No. 78, is a study of the effect of highway noise upon inhabitants of land near highways.

The study is part of a series of studies on various highway topics and is sponsored by the National Cooperative Highway Research Program. It can be obtained, along with the other reports, from the Highway Research Board, National Academy of Sciences, 2101 Constitution Avenue, Washington, D. C.

Following is a summary of the report:

To the confusion of unwanted sound which is called highway noise, the present study attempts to bring order and to expand the knowledge of noise and of the reaction of people to noise.

Two major studies formed the basis for a theory of traffic noise from which a simulation model was built, and computers were then put to work describing the noise of different highway situations. In addition to the model, a second innovation in the present work was a detailed interview with people living relatively near a freeway or highway. Those interviews formed the basis for predictions about residents' expressed annoyance with noise.

The two studies basic to the simulation model involved first comparing various measures of sound, and deciding upon a simple, yet satisfactory physical measure of the level of sound, and then the measuring of noise produced by various kinds and classes of vehicles.

A physical measure of sound was judged acceptable if, through group judgments, it proved statistically equivalent to psychologically derived measures. Thus, physically measured sound was related to sound heard as different by human respondents. Four psychologically derived measures of sound were compared with two physical measures.

The physical measure of noise--sound level in decibels as measured on the A scale of a standard sound level meter--was selected as being statistically indistinguishable from the best psychologically derived measures in its reliability as a predictor of human response to vehicle noise. Most of the noise level results described in this report are expressed in terms of this measure, commonly referred to as "dBA."

Noise from individual motor vehicles has two major components: engine-exhaust, and tire-roadway interaction. By and large, most modern passenger cars as produced by the manufacturer generate as much noise by tire-roadway interaction as by engine-exhaust under normal operating conditions. Acceleration, however, produces more engine-exhaust noise.

Large diesel trucks represent a relatively small proportion of total traffic on urban highways, often 5 percent or less. They are, however, significantly noisier than cars. A high proportion of diesel trucks use reasonably good muffling practices. The ultimately controlling factor on total noise output is that produced by tire-roadway interactions. Assuming maximum muffling, mechanical noise control, and normal tire tread designs, a large diesel truck-trailer combination would be expected to produce 10 to 15 dB higher noise levels than a passenger car at the same road speed simply due to the relative contact areas of the tires with the road.

A survey of difficulties involved in the legislative control of vehicle noise suggests that only extreme and deviant noises can be controlled--such as noise produced by faulty mufflers. Both the objective measurements reported and the simulations undertaken here indicate that deviant noise sources are minor in their contribution to total highway noise.

Following the analysis of noise measures and of measured noise for various vehicles of various types, a computer simulation model was evolved which allows the engineer, designer or researcher to set the following conditions: average vehicle speed, number of lanes, density or flow of traffic, proportion of trucks to cars, and distance to the measurement site. Given those conditions, in any possible combination, computer estimates are made which are extremely close to those actually read from a meter. This simulation model enables the prediction of what vehicle noise will be for any existing or planned highway situation for freely flowing traffic.

Simulations made in the present study clearly show the effects of speed, of the proportion of trucks, and of traffic density on noise measured at different distances. At low speeds and with truck traffic wide variations in noise due to the intermittent peaks produced by trucks are found at a single site. But these variations decrease when speed and density are increased and truck traffic is decreased. In general, the simulations are used to obtain the time average noise level, and the noise level variations around this average, as a function of the these parameters. All simulations show the effect of traffic density and speed.

As might be expected, the range of noise levels around the time average decreases with increasing density of traffic. For an average density of 10 vehicles per mile, at 50 miles per hour, the time average noise level for passenger cars at a distance of 100 feet is about 60 dBA. The instantaneous noise levels normally distributed about this mean have a standard deviation of 4 dBA. Thus, 95 percent of the time (2 standard deviations) the instantaneous noise levels would be expected to lie between 52 and 68 dBA.

The addition of trucks to the passenger car mixture skews the time distribution of noise levels upward as the percentage of trucks increases due to the higher noise levels produced by individual trucks as compared to individual passenger cars.

It is important to observe that these results are aimed at describing the distribution of noise levels as a function of time. The maximum noise produced instantaneously by the passage of a single vehicle may be in excess of these values.

While these are general conclusions, specific guides are provided in the body of the report, allowing relatively precise noise determination for a number of common traffic situations. Thus, the planner or engineer can predict the effects of increasing density, speed, and trucks in a specific situation.

In interviews with more than 300 residents living within sight of a freeway, 70 percent of the upper socio-economic class residents living in an area of little freeway noise expressed annoyance, while only half of residents of the noisiest area did so. Yet the second area is almost four times as noisy as the first.

The interview study began with the assumption that living near a freeway has both advantages and disadvantages. Statistical analysis, however, indicated that residents judge their living situation in four distinct ways: convenience, attractiveness, intrusion (including odor and vibration, as well as noise) and necessity for handling the existing traffic volume.

When environmental features other than noise--landscaping, distance to freeway, visual dominance, and so forth--were considered, they were found to be only moderatley related to voluntarily expressed annoyance with freeway noise. Predictions of spontaneous annoyance were actually not quite as good as predictions made from the interview data alone. Obviously, prediction of reactions must include consideration of both physical and psychological factors. Actually, 90 percent of those who did not express annoyance were accurately classified. It is clear that it is not only the actual noise level, but the total situation, including attitudes toward highways and freeways in general, which leads to expressed annoyance with noise.

TRANSPORTATION NOISE CONTROL

(Adapted from a presentation by Robert L. Paullin, Office of Noise Abatement, Office of the Secretary, Department of Transportation, at the 49th Annual Meeting of the Highway Research Board, Washington, D.C., January 12-16, 1970.)

Noise is a major and rapidly growing problem of our cities today. Scientists estimate that if city noise continues to rise at its present rate, one decible a year, city residents would be deaf by the year 2000. Today, it is probable the New Yorkers, for example, start to show a hearing loss at age 25. The Surgeon General has recently announced that between 6 and 16 million Americans are exposed to possible hearing damage from occupational noise.

Noise control is usually a neglected area in the planning of a transportation system. However, there are general transportation noise abatement programs, which have recently centered on external noise, to protect the community as well as the passenger from transportation noise.

Although Congress provided for noise abatement research in the Transportation Act of 1966, it wasn't until the amendments to the Federal Aviation Act of 1968 were passed in July, 1968 (Public Law 90-411) that there was specific government noise control. The 1968 amendment authorizes the Administration of the Federal Aviation

Administration to prescribe aircraft noise standards and regulations for the control and abatement of aircraft noise and sonic booms. However, most responsibility for determining noise levels for aircraft using an airport remains with the proprietor of that airport, in accordance with fundamental principles of property law.

Ground transportation has no law such as the Federal Aviation law to govern it. The Department of Transportation's approach to noise control, through its Office of Noise Abatement, has been to date one of research, analysis and cooperation with the cognizant groups involved with the noise problem.

Like the present aircraft noise control legislation, any Federal legislation to control surface transportation noise would probably be applied only to the design and manufacture of the vehicle.

The Department of Transportation has also been conducting research on means of reducing surface noise at the source and along the path to the receiver, developing standard measurement techniques and criteria, validating proposed control methods and theories, and analyzing the relationships between various aspects of technology, economics, psychoacoustics and community responses to surface noise control.

Several States have undertaken transportation noise abatement programs, including both air and surface transportation and dealing with control through design, operation, and path location.

In the field of aircraft control, California has adopted a strict law authorizing its Department of Transportation to adopt noise standards governing the operation of aircraft; and Minnesota and Illinois have enacted comprehensive zoning laws for land around airports.

Several States have set ground transportation noise control laws for both operation and design.

Seven motor vehicle noise sources have been identified by Dr. T. Priede, University of Southampton. The following five are significant with respect to noise outside the vehicle:

1. Engine and transmission airborne noise
2. Engine exhaust
3. Engine inlet
4. Fan Noise
5. Road excited tire noise.

Tire noise dominates at speeds over 50 mph. and increases with vehicle speed.

One of the major problems of highway traffic is truck noise. Several studies have measured noise levels of various traffic flows, and the general conclusion of

many researchers is that an increase in the proportion of trucks in the total traffic mix has more effect on the overall noise level than an increase in the number of cars on the road.

Truck manufacturers in 1954 adopted a voluntary new-vehicle noise specification of 125 sones measured at 50 feet; a sone being a psychological measure of loudness. However, the specifications are voluntary, they are for new vehicles only, they apply only to design, and they do not cover maintenance of mufflers and tires, so truck noise is still a problem.

The Department of Transportation plans to continue to cooperate with industry, academic community and cognizant local, State, and Federal organizations to seek answers to the problems of noise pollution.