

# **environmental goals for highway organizations**

Ray Lappegaard  
Minnesota Department of Highways

I believe we can agree that we hold one assumption in common: Those of us in highway organizations have a deep and an abiding concern for environmental quality. We are all passengers, whether we like it or not, on the spaceship Earth, and we have no choice but to do our part in keeping the ship in working order. It is quite possible that we in highway organizations can make a sizable contribution toward improving the quality of the environment.

Our contribution is primarily made through the manner in which we conduct our operations in the areas of construction and maintenance. In a way, we are experts in a specialized form of land use—land use for transportation purposes. In his Sand County Almanac, Aldo Leopold, the respected wildlife conservationist, stated a concept about land that we should consider: "We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect."

I would like to suggest three overall goals and some subgoals and functions for highway organizations, and I believe they are in accord with the goals and objectives of others in our society who are concerned with environmental protection.

The goals are (a) avoid any detrimental effects on the environment; (b) minimize detrimental effects on the environment, if they cannot be completely avoided; and (c) enhance the environment whenever it is possible to do so.

The most obvious means of achieving the first goal is to do nothing—build no new highways and make no improvements to existing highways. I suggest that the first criteria to be applied to proposed new construction or improvement is whether it should be done at all. That is the equivalent of the management consultant asking why a function is performed at all before he addresses the question of how to perform it more efficiently.

It seems reasonable to assume that every highway organization in this country has been subjected to the charge of having built a roadway where a minimal need, if any,

existed. Accordingly, the question of whether a particular project or facility should be undertaken is a valid consideration and is indeed the first question that should be asked by responsible members of a highway organization. The second question is, If a facility is required, are there alternatives available that would have less damaging environmental effects? Alternatives would include other possible modes of transportation. Only after these questions are answered can a meaningful analysis be made of ways to balance the need for mobility against the environmental effects, the social costs, the economic costs—in short, all the complex factors that go to make up a rational decision as to public policy.

The second goal, minimizing the effect of a needed roadway or roadway improvement on the environment, may require a reorientation of many traditional thoughts and attitudes that have influenced highway design, construction, and maintenance. I am thinking, particularly, of the traditional concern for costs of highway construction. In Minnesota highway designers and those in charge of construction have tried to get as many miles as possible for each dollar of tax funds available. Quite often, the results were detrimental to the environment in terms of cuts, fills, destruction of vegetation, upsetting water erosion, and so forth. It is not fair to fault those designers and builders because they were being extremely responsive to the public will, which was to spend as little as possible and get as much road as possible. Only recently has an equal concern been expressed for the environment to be taken into account, even though costs may be increased as a result.

Another aspect of achieving the goal of minimizing environmental consequences is to make sure that the initial investment is adequate to care for needs as far ahead as we can see. Quite often we have not built facilities either large enough or sophisticated enough to really provide the service that is subsequently desired. Improvements must then be made to the initial construction, creating an additional impact on the environment during and after construction. Stated another way, we have support from the public for additional expenditures to minimize the environmental impact of facilities and to provide facilities that can sufficiently serve for longer periods so that disruptions can be avoided.

There is an equal responsibility placed on those who work in departments of natural resources or departments of conservation. They must recognize that people desire mobility and economic growth. Their response simply cannot be that whatever is proposed is going to be bad for the spawning habits of fish, for game production, or for the vegetation in the area. They must join with us in balancing the cost of the detriment to the environment with the desire for a transportation facility so that we can determine the right course of action.

The third goal of having highway programs enhance the environment is entirely appropriate, even though some of our critics would believe such an event can never occur. I am thinking of the enhancement of already built-up, man-made areas, particularly within our cities. A highway facility may provide an opportunity for many individuals to enjoy a parklike facility or a beautiful garden setting.

In this area of potential environmental enhancement, we must assume that we will have a beneficial effect on the environment through technology, legislation, and enforcement relating to the control of emission of noise and air pollutants from automobiles. When those pollutants have been significantly reduced, an opportunity will be provided for highway facilities to actually enhance the urban environment. Although a freeway can split a neighborhood, it can also define and limit neighborhoods into areas that lend themselves to innovative and creative lifestyles that may truly be the wave of the future. Such an area in Minneapolis is the Cedar-Riverside area, often called "a new town in town" by officials of the U.S. Department of Housing and Urban Development, who are extremely interested in this entire project.

I would strongly urge highway organizations to have a deep and compelling commitment to environmental goals, primarily because I think that that is a responsibility of all public servants. Highway department employees are not merely highway advocates but rather public servants engaged in the design, construction, and maintenance of highways. Similarly, employees of state agencies concerned with environmental pro-

tection are not advocates for a single group or a single cause but rather public servants who have particular skills and who serve all the people to the best of their ability.

There are some activities in which we who work in highway organizations can engage that will serve our own benefit and better enable us to serve the public. One of these is a willingness to meet with, talk with, debate with, and take part in discussions with those who espouse environmental concerns and social values as their primary interest. In this way, we can contribute to a balance between our desire for mobility and the need to preserve the environment. We should strongly support the efforts of those who are most concerned with environmental degradation and support legislation designed to eliminate the source of detrimental effects on the environment. There are documented instances of ill effects and ill health suffered by individuals as a result of noise and air pollution from automobiles. School children in Los Angeles were not permitted to play outside during certain times of the day, and football players in New Jersey suffered chest pains and respiratory illness directly traceable to these emissions. We cannot make apology for those instances; we should not be expected to do so in our role of serving the whole public.

We should also resist the extreme positions advocated by those who would impose a narrow lifestyle on everyone and those who are self-styled, instant experts on the environment and ecology. I suggest that you read Peter Drucker's article *Saving the Crusade* in the January 1972 issue of Harper's magazine. He said, "The sewage-treatment plants that are urgently needed all over the world will be designed, built, and kept running not by purity of heart, ballads, or Earth Days but by engineers working in very large organizations, whether businesses, research labs, or government agencies."

Highway organizations and those who work in them should support, and in fact, should initiate contacts and discussions with other departments and governmental agencies at the state, municipal, and federal levels to provide opportunities for training and education of their staff members and to expose them to concerns that are being voiced by environmentalists. Although government agencies should work cooperatively, they do not very often do so and can never do so unless their people talk, meet, and work together.

Specifically, we encourage the development and implementation of land use controls on a wider basis than simply within the rights-of-way that are under our jurisdiction. This, obviously, must and should involve other departments. We also encourage the development of policies and procedures that will permit the early identification and preservation of future rights-of-way so that we can design highways that will not have to be compromised because inadequate land-use controls allowed construction to develop before the right-of-way was protected.

In addition, I would suggest that highway organizations strongly support the centering of overall planning in a statewide agency. Overall planning will have a helpful effect on the transportation planning engaged in by the highway organization.

Our design ability has advanced, and we are learning more about the problems of noise and noise attenuation. We are more aware now of the aesthetic values of freeway construction, particularly in the urban setting. The public seems willing to bear the costs for aesthetics and for maintaining environmental quality. We must be careful that we do not become too specialized in viewing our responsibility as providing highways only and as designing highways to gain the greatest distance at the lowest cost.

Finally, it seems to me that those of us in highway organizations are uniquely qualified to take part in the next phase of environmental concerns. To quote Peter Drucker again, "The time for sensations and manifestos is about over; now we need rigorous analysis, united effort, and very hard work." The ability of people in highway organizations to engage in rigorous analysis, to bring about united effort, and to perform very hard work has already been demonstrated and will be demonstrated again now with a new dimension—a greater emphasis on environmental concerns.