

Highway Scenic Potentials

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•THE title of this paper, Highway Scenic Potentials, is precisely chosen. If it were to be labeled Scenic Highway Potentials, the subject matter would have to be specific. This is a generalized essay on visual surroundings as seen from the vehicle. It is preliminary to research which will be undertaken by the Department of City Planning at Yale in collaboration with the Connecticut State Highway Department.

What is highway scenery? In one sense it can be of any known nature, since there are few places in which highways cannot be built. However, because highway construction has tended to follow certain prescribed patterns both in city and countryside, some fairly typical views have become familiar to the road user. One of these is the city view which bears little or no relation to the previous street pattern through which the freeway or expressway runs. We are all conversant with those views of the backs of properties in blighted areas of the city which used to be the prerogative of the traveler by train and now can be seen by anyone on his daily trip to work. The urban prospect requires very special consideration. An 80-ft median divider with gently sloping grassy banks is not likely to solve the visual problem. I am not going to suggest what should be done about it here, nor am I going to discuss how automobile wrecking yards can be screened from elevated expressways—a vexing topic which is more amenable to a planning solution than a landscaping one.

What makes a scene special to the highway, apart from problems that have grown up with the development of new means of travel in old land-use patterns, is the manner in which it is viewed.

There are constraints on the viewer of highway scenery which indicate that certain compositions can be more rewarding than others, especially where travel is associated with speed. Driving along a traffic-free country lane at a very low speed enables one to examine the flora of the roadside in some detail, even down to herbaceous plants and ground covers; whereas in the same ecological belt on a high-speed route these plants merge into a foreground blur, broken only when some vivid color or contrasting shape obtrudes with sufficient strength. As Pushkarev and I pointed out in "Man-Made America," visual responses are not instantaneous. It takes about a second to change focus from the dashboard to roadside images. Further, the image itself is viewed very briefly unless it is far distant, where the point of concentration must lie from the point of view of safety. There are many other constraints which will be familiar to all traffic and highway engineers. They do not all apply to the passenger in an automobile as well as to the driver; nevertheless, there are factors connected with the vehicle's design and its speed which make it difficult for the passenger to discriminate among objects or to disperse his visual energies as opposed to the viewer who is standing in one place. This is mentioned mainly because of the growing importance of recreation trips, in which the number of passengers per vehicle is higher than for work trips, and also because of the growing recognition of the importance of visual education for young children.

THE TRANSURBAN VIEW

Taking into account that the pavement always forms part of the picture (up to 28 percent of the visual field at a speed of 60 mph) and that its own design has a great deal to

do with channeling views, etc., the kind of landscape that can be seen with the least effort or danger is the distant panorama. Ideally, the viewer is above, looking down into the distance, or on a relatively flat and open plain with an unobstructed view of an urban skyline or a distant mountain range. If this is comprehensible for what it represents and is at a scale of several miles away, the sequential characteristic of vision in motion is for a time eliminated, although there may be an element of anticipation in the viewer's thought process. This gives the driver and rider a sense of ease and an ability to savor the prospect equal to the most favored observer of landscape looking from a picture window.

The provision of such views probably should not be a dominating factor in freeway location, but it could well be a deciding factor, everything else being equal. Portions of the Governor Thomas E. Dewey Thruway (New York) are said to have been located with such views in mind, and it may very well be that in cases where a higher elevation above a valley does not pose special problems, this route would be preferable to the valley floor. Instead of following and crossing a river, the possibility of viewing the river in longer stretches should not be overlooked. This type of vista is accommodated on the newer parts of Connecticut Route 8, which afford, first, a panorama of the whole of the city of Waterbury lying in its bowl of hills, and second, dramatic views of the Naugatuck River valley from a superior elevation, opening out in bell-shaped sequences from vertical crest curves with no obstruction to the eye.

In a similar vein is the use of environmental considerations as a basis for highway alignment and location decisions. The decision to go under rather than over—in the face of greater costs and construction problems—may be the correct decision, when a road's relation to its environment is fully taken into account. Perhaps the treatment of the Delaware Expressway in Center City, Philadelphia, will emerge as a classic example of "more costly" depressed treatment.

The transurban or campaniform view can be considered apart from the question of those from turnouts or picnic areas. One of the most dramatic of these static viewing areas has recently been engineered on I-95 to give a panorama of Old Mystic Seaport, Connecticut, across water with its early 19th century skyline practically intact. Roadside furniture could serve to enhance such views.

PROBLEMS OF SEQUENTIAL VIEWING

It seems that we should be looking for opportunities of this nature—highway views which are part of the whole process of travel. Few places may occur where really comprehensive prospects are possible, except in plains country where the arch of the sky substitutes for them everywhere; however, there are many types of scenic beauty of a lesser scale which can be adapted to a sequential manner of observation.

One thing is clear: speed and safety requirements have eliminated an older type of right-of-way along which stately rows of trees grew close to the pavement. They had their place in a more leisurely age, and it is perhaps unfortunate that so much street-widening on this type of road was carried out in the last generation, eliminating or mutilating the trees, when some of these roads could have been retained for slower traffic and modern highways constructed nearby. The continual flick of alternate sun and shadow on such a road, while devastating to the composure of high-speed drivers, provides an interesting geometric pattern for slower travel. It should also be mentioned that the almost forgotten factor of shade is provided by these roads in summer, in some cases accompanied by an appreciable drop in temperature which provides welcome relief for riders.

We must substitute other forms of eye-appealing landscape than the avenue or tunnel type of planting, since the impact of smashed metal on tree trunks is one of the most common highway sights and sounds nowadays. There is, of course, another method of channeling the view, namely by man-made constructions like storage tanks, water-towers or even giant sculptures placed strategically in relation to curving alignments to direct the eye and avoid monotony. Such possibilities have been discussed fully in "Man-Made America." Mention will be made of some of the principles which can be applied to the treatment or manipulation of natural scenery as it is seen from the automobile.

I would be the first to recognize the potential of a French hunting forest for landscape viewing, especially if its geometrical layout contained broad diagonal "rides," or even a regularly planted apple orchard or orange grove. There is no escaping the fact that softness of outline (as well as actual physical softness of plant materials used) provides a more satisfactory objective for the roadside improvement than a strictly formal plan. The advantage surely lies in the fact that the composition can be blended in with natural surroundings to make the prospect seem more extensive than it actually is in numbers of specimens used and to give the impression that the foreground is an integral part of the scene. A minor advantage should be the availability of plant material similar in nature to that already in place.

It would probably be incongruous to use the method in open or farming country where a grid of field boundaries and regularly planted trees may be prominent. The principles of landscape design as developed over the centuries in Europe and North America can be restudied to provide a *modus operandi* for roadside improvement in a variety of situations. This is an especially useful method when something less than genius is available to compose it, since rules can be developed which can be fairly easily followed. Most designers would agree that a handbook is no substitute for genius, but since the cybernetic age is now with us we must all recognize the fact that genius will probably remain behind the console while others carry out its orders.

Here are the objectives, as described in an 18th century translation from the French of the Marquis de Girardin, the last patron of Jean-Jacques Rousseau.

1. To form the perspectives or side scenes of the foreground that may best connect the distances with the principal points of view.
2. To raise such elevations or scenes as may give relief even to an absolute flat.
3. To hide all disagreeable objects.
4. To give more extent to those that are pleasing by concealing their terminations behind a mass of wood; by which means the imagination continues them beyond the point where they are seen.
5. To give an agreeable outline to all surfaces, whether of land or water.

To these could be added for the sake of highway design: To use planting which anchors the road, or appears to, but does not encroach on it.

THE TASK OF COMPOSITION

The difference between the composition of views from the highway and the composition of the Marquis' estate of Ermenonville is that the latter was laid out all of a piece and the perspectives contained within it, whereas highway views must of necessity be incomplete, sequential and limited in control mostly to their foreground. (Easements, zoning controls and other devices used to control the more distant surroundings of scenic highways are, of course, an addition which tends to remove the last constraint.)

Even a relatively narrow right-of-way, providing it has some possibility for screening or massing, presents a challenge in composition. Nearby there may be a barn, a group of houses, a clump of trees, or a pond created on the site of a borrow pit, which can be revealed in an interesting way by manipulation of the foreground.

The task in most situations is to avoid treating the roadside as a ribbon along which plant material is clumped or dotted, and to consider it in relation to surrounding land uses which can be viewed or screened according to their desirability as highway scenery.

Right-of-way acquisition can be thought of at least partially in this light, to take advantage of existing views which help to make the roadside seem less of a ribbon and more as a foreground for angle viewing, remembering that those perspectives which can be studied best are produced by curvature of horizontal alignment.

Whatever is meant to be seen can be framed in such a way as to heighten or lessen its importance, to make it appear more distant or nearer than it actually is, by varying the height or nature of the materials. This is the art called by painters *chiaroscuro*; it has an application in landscape design. It is likely nowadays that shrubs rather than trees will be nearer to the observer, for reasons of safety, but the former can be extremely helpful in guiding the eye towards a bolder outline beyond them. In situations

where the ground falls sharply beyond the pavement, trees can probably be introduced without observing a strict rule of distance from possibly errant automobiles.

Problems of the intimate as distinct from the transurban view, of the treatment of medians and of screening from elevated highways where there is no room for planting, require special consideration, as does the treatment of the right-of-way on arterials in relation to the visibility of signs and premises. The potentials I have been describing refer mostly to outer suburban and rural areas. My colleagues and I hope to study the more frustrating aspects of highway scenic composition in places where conflicts of interest exist. We shall approach this partly from an investigation of appropriate functional uses of land to accompany each type of highway, and also as a study of suitability and appropriateness of conventional materials used in roadside development. We will base our investigations on case studies made to test hypotheses, such as that outlined previously.