

# Esthetic Criteria in Freeway Design\*

BORIS PUSHKAREV  
Regional Plan Association  
New York City, New York

Much research has gone into the structural and operational aspects of highway design, whereas the visual form of the highway as such has merited only scanty attention. Moreover, investigations carried out in this field pertain mostly to the "fitting" of the highway into the landscape, and planting and grading standards; they do not treat the ribbon of pavement itself as the visually and esthetically dominant element of design, particularly on freeways.

Applying the tools of formal esthetic analysis, this paper attempts to systemize the elements that make a highway beautiful within the following framework:

## Internal Harmony of the Freeway

1. Continuity of alignment: continuity of form and scale in plan (the visual need for spiral transition curves, for longer radii, eventually for a continuous curvilinear alignment to replace the presently dominant long tangent-short curve alignment), continuity of scale in profile (the need for longer vertical curves to match the horizontal curvature).

2. Three-dimensional coordination: coincidence of vertical and horizontal curvature with regard to length and location, subject to certain practical and visual restrictions.

3. Harmony of enclosed areas: the shape of the median divider, as seen in perspective; changes in median width and in difference of elevation between roadways to begin on curves, not on tangents.

## External Harmony of the Freeway

1. Integration with the macro-environment (desirability of parallel or perpendicular relationships to street grids and railroads; rivers; need for curvilinear and oblique crossings of ridges, forests).

2. Integration with the micro-environment (continuity of lateral space under bridges and overpasses; the need for flat, generously rounded side slopes; the problem of elevated vs depressed freeways).

3. Definition of elements (desirability of wider rights-of-way; of better definition for traveled lanes, shoulders, and medians).

4. Frequency and progression of focal points (the need to eliminate billboards and overhead wiring near freeway rights-of-way; the need to exploit significant vistas on the axis of vision by manipulating alignment; the need for a consciously designed progression of landmarks and focal points).

\*The paper from which this abstract was taken is published in full in HRB Proc., 41: 89-108 (1962).