

Priestley, T., Oakland, California USA

THE ENVIRONMENT BEHAVIOR PERSPECTIVE AND ASSESSMENT OF LANDSCAPE AESTHETICS-
POWERLINE SITING AND ANALYSIS IN NORTH AMERICA

Summary

Analysis of landscape quality and the aesthetic effects of change is now an important component of North American landscape practice. This paper reviews the aesthetic analysis methods most commonly used in electric transmission line routing and project assessment. Most are based on a formalist conception of aesthetics and ignore the critical dimension of meaning. As a consequence, the analyses often are not reliable indicators of powerline acceptability in a given landscape. To improve the usefulness of these analyses, new methods are needed that reflect an environment behavior understanding of environmental experience and evaluation.

Abstract

"Visual analysis" -the assessment of landscape visual quality and the aesthetic implications of landscape change- has become an important area of professional practice for many North American landscape architects. To a large degree, this new sub-field is a product of the environmental legislation of the late 60's and early 70's which requires evaluation of the consequences of all major environmental alterations. Most of the legislation specifically requires that aesthetic and other qualitative factors be considered in addition to health, safety, and ecological effects.

A number of methods for assessing landscape quality and project aesthetic effects have emerged. This paper evaluates some of those methods from an environment behavior perspective. The focus is on methods commonly applied in electric transmission line routing and analysis studies. Because transmission facilities are generally large and highly visible, and have implications for huge swaths of landscape, transmission line routing and analysis has become one of the primary areas for visual analysis application and research.

Most of the methods now in use are based on a narrow, formalist conception of aesthetics, and as a consequence, fail to consider many of the perceptual and affective factors that are critical in determining transmission line acceptability. Review of transmission line controversies in Minnesota and elsewhere suggest the limited relevance of color, line, form, and other formal aesthetic properties used in aesthetic analyses, and the central importance of environmental meaning.

Some practitioners have recognized the need to consider more than just the landscape's formal aesthetic properties, and have started to use alternative procedures to assess landscape quality and transmission line impact. One approach has been to make environment behavior research an integral part of the project routing and impact assessment process. Surveys have been conducted to determine resident response to existing facilities, and to assess response to simulations of alternative routes and designs. A more direct approach has been use of a broadly based participatory process that allows residents to identify landscape sites

and characteristics of critical importance and to make trade-offs between landscape values and other concerns.

In spite of the innovation that is starting to take place, the visual analysis field can still benefit from the application of environment behavior understanding and research approaches. The central need is to learn more about how people respond to landscape change, and what variables are critical in determining that response. A related need is to design and validate visual analysis and project assessment procedures capable of capturing the critical variables and providing information useful for decision making.

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Seiwert, M. and Krampen, M., Berlin (West)

DEVELOPMENT AND VALIDATION OF SCALES ON ENVIRONMENTAL EXPERIENCES

The ENU ("Skalen zum Erleben der nichtmenschlichen Umwelt") is a German-language psychological instrument developed to obtain information about how people relate to their physical environment. The 62 statements cover various themes of environmental experiences, such as urban life, modern design, stimulus seeking, hobby crafting, privacy, nature, plants, and environmental concern. Many statements are from the "Environmental Response Inventory" (ERI) by McKechnie (1974). Some relationships between the ENU and demographic variables, environmental behavior, holiday preferences, postmaterialistic values and housing conditions are reported.

Introduction

A main problem of architects, city and regional planners, and other environmental designers is their insufficient knowledge of the users' needs and preferences. This causes environmental experts to base their design concepts on their own values and desires, assuming that these are also shared by the users. But this assumption is often wrong, and the created surroundings do not satisfy the users.

For research on environmental design we therefore require a psychological questionnaire which provides information on individual concepts, needs, values, preferences and interests concerning various aspects of the physical environment. Such a comprehensive, multiscale instrument has not yet been developed in Germany. But the Environmental Response Inventory (ERI) by McKechnie (1974) appears to be appropriate for this purpose. The ERI looks into "attitudes toward a wide array of environmental themes, including conservation, recreation and leisure activities, architecture and geography, science and technology, urban life and culture, aesthetic preferences, privacy and adaptation" (McKechnie, 1974, p.1). McKechnie developed the ERI "for interdisciplinary studies of man and the environment; these include research in the fields of architecture and urban design, city and regional planning" (McKechnie, 1974, p.1). In his contribution, Espe (1984) describes the rationale of the ERI, the meaning of the scales, and some research applications.

We feel that an environmental questionnaire based on the ERI but adapted to German conditions might prove useful in diverse research applications. We intend to employ it for the investigation of the