

The Evaluation of the Street Landscape with Sequential Scenes

Takamasa AKIYAMA & Tsutomu HATTORI

The urban streets are public creatures which give sequential image as traffic routes. In this study, three trunk streets from the northern suburb to the city centre are considered. The sequential landscapes of the street sections are taken by photographs. The image profiles of the landscapes are illustrated through the survey. The survey is designed to obtain the impression of the landscapes through SD (Semantic Differential) method. Four main features are known from the result of factor analysis to summarize the images. In the next stage, the images are classified to show the difference among them the relation between the physical elements and the impression of the landscape is formulated to estimate and suggest the proper design of the streets in terms of landscape. The neural network model is introduced to describe the complex relationship between them the impact of the physical change to the image of the streets can be estimated precisely by the proposed model. Furthermore, influence to the evaluation of the streets by physical change of the street sections was calculated. Application of the fuzzy integral is proposed as well. The estimation result is useful to consider the modification of the street structures.

Correlation between Built-up Density and Visual Evaluation of Residential Street

Kiyotaka FUKAHORI, Yoichi KUBOTA & Akiko BUKASA

The major purpose of this paper is to clarify the salient relationship between physical or spatial factors and the visual evaluation of residential streets. Physical factors considered in this study are area size of a housing site, building coverage, depth of front set back, width of frontage of building, interval of buildings, and fence height, width of street, all per each residential unit. Psychological factors such as perception of spaciousness may be caused by low density of buildings.

The first step was to analyze the relationship between the physical shape of street space and psychological factors. Next, factor analysis was applied after psychological experiments. And photomontage images of residential streets with different sets of five factors were created. The results of analysis show that dominant factors determining spaciousness are width of street and depth of front setback as was expected.

In the second step, authors tried to create several diagrams to estimate the score of spaciousness in order to express the relationship among building coverage, depth of front setback, and spaciousness in various conditions according to width of street, pitch of buildings, and width of frontage. These analyses through diagrams have implications for a methodology for planning residential area quantitatively.

The Visual Threshold Carrying Capacity (VTCC) Approach for Managing the Urban Landscape

Kyushik Oh

The deterioration of the landscape in downtown Seoul has resulted mainly from the cumulative effects of large scale developments. This article presents the Visual Threshold Carrying Capacity (VTCC) approach for maintaining and enhancing the landscape quality of the area. VTCC can be generally defined as the visual standard by which the value and significance of landscapes can be maintained. Using GIS and computer graphics techniques, VTCCs in this study are analyzed in two main respects: the visibility of landscape resources, and street scale. Subsequently, areas for intensive landscape management can be identified based upon the VTCCs established. The VTCC approach presented

in this article integrates visual considerations with the process of developmental decision-making and establishes a visually sound framework for the formulation of development proposals. Further research should be conducted to test the transferability and applicability of this approach to other urban landscapes and their related problems.

The Interrelations between Visual Environments and Psychological Evaluation of Town Streets - An Analysis of Taichung City -

Naishen Hsiao, Seiji SATO, Takafumi ARIMA,
Kyunghee Kim & Tatsumi KAMENO

The purpose of this research is to clarify the characteristics of townscape in the center of Taichung City, according to the interrelations between visual environments and psychological evaluation. The analysis consists of three parts. In the first part, to analyze the characteristics of the visible environments (physical analysis) we proposed the visible volume index, the physical volume index, the visible distance index, the ratio of interrupted sky index and the average distance to interrupting buildings. In the second part, we analyzed the psychological evaluation using the S.D. method to explain the psychological structures of space of town streets, and used factor analysis to extract the types of space. In the last part, according to the interrelations between the psychological axes of factor and the physical quantities of vision, the characteristics of townscape in the center of Taichung City were clarified. The results are as follows. The buildings on both sides of roads are not rising to the absolute height permitted in Taichung City. Taichung City is characterized as dense, crowded with houses, noisy and dynamic. Even where the physical quantities of vision are low, there is openness in wide roads, and even where the physical quantities of vision are high, there is an oppressive feeling in the narrow roads.