

시지각특성을 기반으로 한 경관계획 개선방안 연구
- 건축물 등의 경관자원을 중심으로 -

Visual Recognition Experiment on Urban Landmarks for Cityscape Planning Improvement

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The purpose of this study is to present the direction of improvement of cityscape planning based on the viewpoint of the general observer who uses urban space and landscape in reality, and to support the plan to be improved so as to improve the effectiveness of landscape plan at the viewpoint of the observers who routinely experience urban cityscape. We will conduct a review of the factors. Based on the empirical understanding of observer perception of cityscape resources and the existing urban design theories, it is necessary to realistically arrange the plan elements within the range of perceivable visibility of observers, and as a result, I would like to suggest measures to make it more effective and reasonable.

In the background where the observer's view does not become a fundamental standard of cityscape planning, there are formal regulations on the cityscape planning elements prescribed by the Enforcement Decree of the Cityscape Act and the Cityscape Act, in particular the Cityscape Planning Guidelines.

In the case that the main cityscape resources are located in the urban area, more active cityscape management plan is being established and the simulation technique including the detailed building information is changed to be closer to reality than the previous cityscape information was reflected. The basic elements of visual perception related to the existing cityscape plan are as follows: (1) view point as a position of an observer, (2) viewpoint as a subject of visual perception, (3) viewpoint as a viewpoint, It can be compressed in three ways.

It can be seen from the previous studies that the experiments on the field

are very uncommon, and the research to derive the visual limit based on the distance is not common in the framework of the study. In this study, the experiment is conducted on the spot rather than existing experiments which is mainly applied to photographs and images, and the change of cityscape perception along the distance is experimentally confirmed.

As a concrete experimental method, we planned to conduct a questionnaire survey by moving a group of persons to a site where cityscape resources were located and moving the observing location at regular intervals. However, To approach the selected cityscape resources, to measure the distance from the cityscape resources in the main access road, and to relocate the observation points every 20m, while the experimenter responds to the questionnaire about the cognitive intensity. It was decided to repeat.

Experiments were conducted to show the visual cognitive change of the observer according to the view distance change from the cityscape resources, the difference according to the differentiation of cognition, and the estimation limit of the visual cognition based on the experimental result. Particularly, in the content aspect of cognition, experiments were carried out in terms of cognitive intensity, color intensity, and semantic intensity, and a response to the overall evaluation of the scenery at the observation point was also requested. These experiments were designed on the basis of general perceptual cognitive processes. There is a difference between the perception of actual objects and the perception ability of color, and the perceptual object is meaningful in the whole background. And the ability to distinguish them from each other is a situation that occurs only after one more psychological step in the cognitive process. In addition, we examined the change in the evaluation of cityscape according to the distance by examining the influence of the limit change in the cognitive process on the evaluation of the overall cityscape.

As a result of the visual perception limit of the cityscape resources on the observation distance, the intensity of the color decreased by 1.5 points / 100m on the basis of the 9 point scale, and it was analyzed to be the most sensitive to the distance. Next, the strength (cognitive strength) of the form was 1.3 points / 100m, and the strength (meaning strength) of the meaning was 1.2 points / 100m. Based on this, the visual perception limit for color is not well recognized based on 270m, but

it is estimated that visual perception limit is almost impossible to recognize from 530m. The visual perception limits for cognitive intensity and mean intensity are 600m and 670m, respectively. Nevertheless, it is suggested that correlations with the observation distance variables, which are highly correlated with the recognition, color, and semantic intensity, are presented through multiple regression analysis.

In this study, we show the changes of the visual perception of the observer according to the change of view distance from the cityscape resources through the experiment, and the estimation of the limit of the visual perception based on the difference according to the content differentiation of the cognition and the experimental result. Particularly, in the content aspect of cognition, experiments were carried out in terms of cognitive intensity, color intensity, and semantic intensity, and a response to the overall evaluation of the scenery at the observation point was also requested.

According to the experimental results, all the visual perception reaction intensity decreased with increasing distance, and the perceived intensity and color intensity decreased at regular intervals and showed high correlation. The absolute intensity of color intensity appears to be similar to the change in cognitive intensity, though it is somewhat low. In addition, the change of the mean intensity with distance increases is more conservative than that of cognitive intensity and color intensity. This is because, despite the perception limits of cognition and color, It can be seen that the difference is relatively reduced.

In the general evaluation of cityscape, although the distribution of evaluation results is widened as the distance increases, in general, it is found that the value is relatively fixed compared to the change of visual perception. The result of this conservative analysis of cityscape evaluation is that the existing psychological theory showing the psychological adaptability of the external stimulus given to the environment according to the psychological process of perception - interpretation - evaluation is applicable to some extent.

Although this study has theoretical limitations in terms of overall explanatory power of cityscape awareness, it correlates with observation distance variables that are highly correlated with cognitive, color, and semantic strength through large-scale

demonstration experiments and analysis of cityscape resources. In addition, it is possible to apply the concept of the viewable distance in the view point and the view plan in the existing cityscape plan. In the simulation, we tried to improve the field of cityscape planning by suggesting a basis to apply the visual limit more appropriate to realistic judgment.