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An Exploration of Renewal Utilization of Under-bridge Space Based on Spatial Potential Evaluation - Taking Chongqing Municipality as an Example

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Abstract: Urban "organic renewal" based on the development of existing resources in high-density urban areas has become the mainstream of urban development in the new era. As an important stock resource of public space in high-density urban areas, promoting its value remodeling is an effective way to alleviate the shortage of public space resources. However, due to the lack of evaluation links in the process of underpass space renewal, a large number of underpass space resources have been left idle, facing the problems of low space conversion efficiency, lack of accuracy in development decision-making, and low adaptability of functional positioning to citizens' needs. Therefore, it is of great practical significance to construct the evaluation system of under-bridge space renewal potential and explore the renewal mode. In this paper, some of the under-bridge spaces in the main urban area of Chongqing are selected as the research object. Through the questionnaire interviews with the users of the built excellent space under the bridge, three types of six levels and twenty-two potential evaluation indexes of "objective demand factor, construction feasibility factor and construction suitability factor" are selected, including six levels of land resources, infrastructure, accessibility, safety, space quality and ecological environment. The analytical hierarchy process and expert scoring method are used to determine the index weight, construct the potential evaluation system of the space under the bridge in high-density urban areas of Chongqing, and explore the direction of renewal and utilization of its suitability. To provide feasible theoretical basis and scientific decision support for the use of under bridge space in the future.

Keywords: high density urban area, potential evaluation, space under bridge, updated using **Conference Title:** ICUSS 2023: International Conference on Urban Sustainability and Strategies

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