

Evaluation of Cultural Landscape Perception in Waterfront Historic Districts Based on Multi-source Data - Taking Venice and Suzhou as Examples

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Abstract : The waterfront historical district, as a type of historical districts on the verge of waters such as the sea, lake, and river, have a relatively special urban form. In the past preservation and renewal of traditional historic districts, there have been many discussions on the land range, and the waterfront and marginal spaces are easily overlooked. However, the waterfront space of the historic districts, as a cultural landscape heritage combining historical buildings and landscape elements, has strong ecological and sustainable values. At the same time, Suzhou and Venice, as sister water cities in history, have more waterfront spaces that can be compared in urban form and other levels. Therefore, this paper focuses on the waterfront historic districts in Venice and Suzhou, establishes quantitative evaluation indicators for environmental perception, makes analogies, and promotes the renewal and activation of the entire historical district by improving the spatial quality and vitality of the waterfront area. First, this paper uses multi-source data for analysis, such as Baidu Maps and Google Maps API to crawl the street view of the waterfront historic districts, uses machine learning algorithms to analyze the proportion of cultural landscape elements such as green viewing rate in the street view pictures, and uses space syntax software to make quantitative selectivity analysis, so as to establish environmental perception evaluation indicators for the waterfront historic districts. Finally, by comparing and summarizing the waterfront historic districts in Venice and Suzhou, it reveals their similarities and differences, characteristics and conclusions, and hopes to provide a reference for the heritage preservation and renewal of other waterfront historic districts.

Keywords : waterfront historical district, cultural landscape, perception, multi-source Data

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