

## Research on Hangzhou Commercial Center System Based on Point of Interest Data

**Authors :** Chen Wang, Qiuxiao Chen

**Abstract :** With the advent of the information age and the era of big data, urban planning research is no longer satisfied with the analysis and application of traditional data. Because of the limitations of traditional urban commercial center system research, big data provides new opportunities for urban research. Therefore, based on the quantitative evaluation method of big data, the commercial center system of the main city of Hangzhou is analyzed and evaluated, and the scale and hierarchical structure characteristics of the urban commercial center system are studied. In order to make up for the shortcomings of the existing POI extraction method, it proposes a POI extraction method based on adaptive adjustment of search window, which can accurately and efficiently extract the POI data of commercial business in the main city of Hangzhou. Through the visualization and nuclear density analysis of the extracted Point of Interest (POI) data, the current situation of the commercial center system in the main city of Hangzhou is evaluated. Then it compares with the commercial center system structure of 'Hangzhou City Master Plan (2001-2020)', analyzes the problems existing in the planned urban commercial center system, and provides corresponding suggestions and optimization strategy for the optimization of the planning of Hangzhou commercial center system. Then get the following conclusions: The status quo of the commercial center system in the main city of Hangzhou presents a first-level main center, a two-level main center, three third-level sub-centers, and multiple community-level business centers. Generally speaking, the construction of the main center in the commercial center system is basically up to standard, and there is still a big gap in the construction of the sub-center and the regional-level commercial center, further construction is needed. Therefore, it proposes an optimized hierarchical functional system, organizes commercial centers in an orderly manner; strengthens the central radiation to drive surrounding areas; implements the construction guidance of the center, effectively promotes the development of group formation and further improves the commercial center system structure of the main city of Hangzhou.

**Keywords :** business center system, business format, main city of Hangzhou, POI extraction method

**Conference Title :** ICAUS 2019 : International Conference on Applications of Urban Science

**Conference Location :** Barcelona, Spain

**Conference Dates :** May 23-24, 2019