

## Research on Road Openness in the Old Urban Residential District Based on Space Syntax: A Case Study on Kunming within the First Loop Road

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**Abstract :** With the rapid development of Chinese cities, traffic congestion has become more and more serious. At the same time, there are many closed old residential area in Chinese cities, which seriously affect the connectivity of urban roads and reduce the density of urban road networks. After reopening the restricted old residential area, the internal roads in the original residential area were transformed into urban roads, which was of great help to alleviate traffic congestion. This paper uses the spatial syntactic theory to analyze the urban road network and compares the roads with the integration and connectivity degree to evaluate whether the opening of the roads in the residential areas can improve the urban traffic. Based on the road network system within the first loop road in Kunming, the Space Syntax evaluation model is established for status analysis. And comparative analysis method will be used to compare the change of the model before and after the road openness of the old urban residential district within the first-ring road in Kunming. Then it will pick out the areas which indicate a significant difference for the small dimensions model analysis. According to the analyzed results and traffic situation, the evaluation of road openness in the old urban residential district will be proposed to improve the urban residential districts.

**Keywords :** Space Syntax, Kunming, urban renovation, traffic jam

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