

# **Application of Space Syntax and GIS in Assessment of Accessibility Factors Affecting Urban Residential Land Values**

## **(a Case Study in Trung Hoa – Nhan Chinh Area, Hanoi City)**

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**Key words:** Access to land; Real estate development; Spatial planning; Space syntax; accessibility factors; urban land value; Trung Hoa-Nhan Chinh area

### **SUMMARY**

Transport is the underlying force in the location, growth, rank-size and functional differentiation of cities. Apart from the economic role, transportation has always played an important role in influencing the formation of urban societies. Because it exhibits a very close relation to the style of life, and meets requirement of connection with society of people, such as working, shopping, studying, etc. The more easy access from land parcels to locations as parks, schools, or centers, the higher land values are, and vice versa. Trung Hoa – Nhan Chinh area is located in the South-western of Hanoi City, and it is considered as one of "new centers" of Hanoi.

The objective of this study is to assess those accessibility factors that have the most impact on urban residential land values in Trung Hoa – Nhan Chinh area. The accessibility factors are analyzed by space syntax method, network analysis method, as well as correlation analysis method. The space syntax method is used to calculate street configuration measures (connectivity, integration). The network analysis method is used to calculate distances from each parcel to the nearby urban areas, hospitals, markets and parks. GIS play the role of foundation to integrate the results of space syntax analysis and network analysis in a geodatabase. Finally, the correlation analysis method is used to reveal those factors that have most impact on urban residential land values. In the study area, we identified five main factors: (1) street ranking, (2) location of land parcel, (3) integration, (4) distance to the urban areas, and (5) connectivity.

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