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## A study on correlation analysis between spatial structure and traffic accidents by space syntax

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n 2014, a total of 223,552 traffic accident happened with 4,762 deaths and 1,792,235 injuries in Korea. Social costs caused by traffic accident amount to 27 billion dollar in Korea. Personal damage and economic loss due to traffic accidents hugely exceed the level which citizens can afford, which has become a serious social problem. Existing studies focused on examining the correlation between traffic accident and direct factors of spatial structure as a variable. However, spatial structure of a city has a close relationship with each other and a variable of space syntax by correlation among spaces is in correlation with traffic factors. Accordingly, a variable of space syntax has an effect on the formation and expansion of traffic network. In addition, considering the patterns of space use of human beings, they use spaces, by optimizing chances and constraints provided by spatial structure, which Hillier defines as 'movement economy.' Namely, it means that since human beings move on the basis of accessibility to the next space, when using spaces, their pattern of space use is influenced by all the areas. Traffic accident occurs in the course of space use of man, correlation between spaces and pattern of space use of human being have an effect on traffic accident. Therefore, this study investigates the correlation between spatial structure and traffic accident by examining spatial configuration and pattern of space use objectively and macroscopically by space syntax, widely used worldwide for analysis of spatial configuration of cities and buildings and pattern of space use and it also analyzes the significance between a variable of space syntax and traffic accident by means of multiple regression analysis. As a result, the study indicates that not only existing direct spatial configuration, but also a variable of space syntax by spatial correlation could be reflected in traffic accidents. Moreover, by assuming that correlation between spatial configuration and traffic accident and a variable of space syntax will serve as a factor affecting traffic accidents, the study proposes traffic network to reduce traffic accidents, on the basis of correlation with existing space.

## Biography

Sinhoi Goo has completed his Master's degree from Gyeongsang University. He is pursuing a Doctorate in Urban Engineering at Yonsei University. He is the Researcher of National Disaster Management Research Institute (NDMI) in Korea.

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