

# Complex Network Analysis of the Korean Transportation Network

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## Abstract

We investigate various transportation systems in Korea using complex network theory. The traffic flow of the highway system, the passenger flow of the metro Seoul subway system, the intercity express bus traffic and the bus route data of the mid-size cities are analyzed in this study. We find the traffic flow between cities of the highway system forms a gravity model, and confirms the gravity model with the intercity bus data. We measure statistical properties and topological consequences of the subway system, and analyze the human mobility patterns, particularly trajectories of commuters, using the passenger flow of the subway system. We also study the bus route data considering the topological properties of the city.