

Statistical Traffic Generation Methods for Urban Traffic Simulation

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Abstract— The urban traffic analysis is an important issue in government strategies, and there are diverse researches to address urban traffic states including congestion states. In this paper, we focus on the traffic simulation technology of various methods to analyse urban traffic states. Especially, traffic demand estimation and generation is one of key functions for simulation results to reflect real urban traffic states well. Thus, we propose the traffic demand estimation process for urban traffic simulation using trip estimation model based on L1 regularized regression model and learning the trip estimation model with trajectory data in this paper. Also, we apply the traffic demand estimation process to a case of Gangdong-gu, Seoul. Finally, we show the estimation results and simulation results by the SALT Traffic Simulator based on SUMO (Simulation of Urban MObility), so that the estimated trips are similar to real traffic patterns and the simulation results from estimated trips is within about 10% errors coverage.

(Pt9)Keyword— Urban Traffic Simulation, Urban Traffic Generation Model, Traffic Demand (Trip) Estimation, Regularized Regression Models



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