

A Framework of Large-Scale Virtual City Simulation with Land-Use Model

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Abstract— Digital twin for city simulation is a technology that replicates real city infrastructure and predicts the future of cities through various analysis and simulations. In this paper, we propose an integrated virtual city model that utilizes the prediction data of the land-use model and the agent-based transport model. The land-use simulation model is a spatially explicit and integrated socioeconomic modeling approach that aims to predict the long-term impact of land-use and change in various management planning policy scenarios. The proposed virtual city simulation platform predicts changes in urban space demand and population movement, and simulates urban policy scenarios to compare and evaluate the results.

Keyword— Modeling and Simulation, Agent based Modeling, Smart City, Digital Twin, Land-Use Model



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