

MODELING MOBILE TRAFFIC AGENTS ON NETWORK SIMULATION

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Abstract: This article describes a new and novel approach to model dynamic simulation of mobile traffic agents such as pedestrians and cars on a simple network graph. The modeling approach is based on route choice self-organization of multi agents. In contrast to the traditional method of traffic assignment that assigns probability on each route based on a generalized travel cost, our model considers route probability as direct output of the simulation rather than an input to the network. The self-organizing route choice happens as a dynamic feedback loop that optimizes the product between global and local information.

Key Words: Route choice self-organization, dynamic traffic assignment, multi-agent simulation, macroscopic pedestrian simulation, sink propagation values