Traffic prediction based on modified Nagel-Schreckenberg model. Case study for traffic in the city of Darmstadt.

Łukasz Gosek, Fryderyk Muras, Przemysław Michałek, Jarosław Wąs
AGH University of Science and Technology
Krakow, Poland
lgosek@student.agh.edu.pl, fryderyk.muras@gmail.com
przemcom@gmail.com, jarek@agh.edu.pl

In this study authors present a model for traffic flow prediction based on Nagel-Schreckenberg's Cellular Automata model. The basic model was expanded to allow simulation of multi-lane roads along with representing different types of cars and drivers psychological profiles found in urban traffic. Real traffic data from sensors in Darmstadt city (Germany) were used to perform a set of simulations on presented model.

Keywords: Traffic prediction, Cellular Automata, Nagel - Schreckenberg model.