Proposing Simulation Model for Traffic of Urban Network Intersections Using Scheduled Traffic Lights

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Abstract

In today's world that man-made instrument for the welfare of his life, Safety and ability of road to allow pass sufficient number of vehicles with minimum delay and discomfort for users (drivers and pedestrians), positively relates to discipline of traffic flow. Dedicating priority for passing right to different directions which are performed by traffic lights is very effective to improve quality of traffic. In this research, due to different density of traffic in different times and entry port of each traffic light has been affected by its previous exits, then simulating traffic lights in one network in certain area of urban region with scheduling method, is implemented in Arena software, and finally results have been assessed and the needed solutions are offered. Also, according to node creation at intersections in the time of phase shift, analyzing this and a suggested method is offered in order to prevent cross interference. Results and finding of analysis in this research show that it is possible to reduce density of traffic and its following incidents, largely.

Keywords: Schedule, Simulation, traffic, traffic light, urban network