



Traffic Lights Control using Wireless Ad-Hoc Sensor Networks

AbdulMomen Kadhim Khlaif¹, Muayad Sadik Croock, Ph.D.²

Shaimaa Hameed Shaker, Ph.D.³

^{1,2,3} Computer Engineering Department, University of Technology

e-mail: a.bluemix@gmail.com

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Abstract – Wireless sensor networks undergo tremendous applications to be utilized for. In this paper, we propose a wireless ad hoc sensor network architecture that does not depend on a centralized unit to urban city's vehicular control, by applying different sensors distribution for main and side streets. On this architecture, we define and evaluate through simulation the effectiveness of our work against the traditional fixed-time traffic light model. Traffic lights coordination is addressed in master and local controllers by executing green-wave algorithm at our architecture. Simulation results show that this architecture achieves great reduction in total waiting time on the city been projected

Keywords: – vehicular traffic control, wireless ad hoc sensor networks, green-waved traffic.