**Department of Interdisciplinary Studies**

**Faculty of Information Technology**

**IS 2010 – Scientific Communication**

**Assignment 1**

**194108E**

**Mithusha S.**

A Critical Review of ‘Intelligent Traffic Light Control ' by Marco Wiering, Jelle van Veenen, Jilles Vreeken, and Arne Koopman, 2004.

This study demonstrates a model-based, multi-agent reinforcement learning algorithm that is proposed by Marco Wiering et al(2004), for controlling traffic lights. The research is focused on microscopic models of which the modeling and refinement of traffic light controllers were investigated to develop Green Light District, a traffic light simulator that enables users to try infrastructures and evaluate alternative traffic light controllers.

This study reveals that Intelligent Traffic Light Control is extremely advantageous since it improves traffic flow and reduces traffic congestion by letting drivers to pick the quickest route with minimum waiting time. On either extreme, the existing implementation is stated to suffer from saturation and oscillation, and the bucket technique did not perform well with the RL algorithms according to research.

In conclusion, the current study is close to being definitive, since testing findings show that the suggested adaptive traffic signal controllers surpass other fixed controllers by lowering idle time by more than 25% on all infrastructures investigated. Ongoing study is required, notwithstanding the methodological flaws, to the degree that this research is exploratory.