
Abstract

The previous researches have produced traffic light system that is capable of handling of normal lanes and the BRT lanes. However, the system is not suitable for real life implementation. This research aims to fix such problem by creating a timed model that provides appropriate duration for each traffic lights. The system is represented in an LTL model and timed automata using TCTL as specification formulas suitable for UPPAAL model checker. Our model is verified using safety, fairness, and liveness specifications for LTL model, while TCTL is only used for verifying the resulting timed automata with respect to the safety and liveness properties.

Keywords: BRT, contraflow lanes, traffic light, timed automata, TCTL, UPPAAL
