

## **TRAFFIC LIGHT CONTROL ALGORITHM FOR INTELLIGENT TRANSPORT SYSTEM**

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### **ABSTRACT**

Traffic Lights Controllers (TLC) are devices that define a road intersection behavior by controlling when each traffic light becomes red or green and for how long. We use a wireless sensor network (WSN) to dynamically control traffic lights. WSN are a kind of ad-hoc network in which elements have limited capacities in terms of energy, memory, computation power and communication.

In this paper, we compare various algorithms for traffic light control for intelligent transport system using wireless sensor networks and propose changes to existing algorithm to include new parameters and factors involved in deciding the priority of traffic queue. The algorithm considers a single intersection for traffic signal control. We use a wireless sensor network architecture that does not depend on a centralized coordinator and we separate logically this distributed network into 4 levels of hierarchy.

We select the priority of a traffic movement based on factors like relative queue length, starvation time of each movement and priority for emergency vehicles. If properly tuned, this algorithm has the capacity to reduce average waiting time at an intersection, while avoiding starvation for multiple load levels.

**KEYWORDS:** Traffic Lights Controllers (TLC), Simulation of Dynamic, Wireless Sensor Network