

Congestion Management System for Emergency Vehicles using AT89S52

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Abstract: *Emergency vehicles face challenges when navigating congested roads, which can lead to delayed response time and decreased effectiveness in emergency situations. This paper presents a congestion management system for emergency vehicles using the AT89S52 microcontroller. The system uses real-time traffic data to dynamically adjust traffic signals and create an efficient path for emergency vehicles. The proposed system was tested and evaluated using simulation software, and the results demonstrate a significant reduction in response time for emergency vehicles in congested areas. In this project we are going to use IR communication to analyze traffic density. IR signals from IR receiver are given to microcontroller and microcontroller gives appropriate result according to traffic. For emergency vehicle congestion clearance, we use RFID transmitter for specific lane clearance, while RFID receiver remains active in the circuit. When RFID vehicle is detected, the lane gets the highest priority and its signal turns green, for congestion clearance. This model is very effective in metropolitan cities, urban cities or cities where high traffic is found at junctions.*

Keywords: Emergency vehicles, RFID , Traffic Congestion, AT89S52 Microcontroller

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