Smart Traffic Management: Automated Rerouting and Congestion Detection with Sensor Technology

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Abstract Traffic congestion is one of the unforeseen situations in travel and touring that makes a planned schedule incapable of taking care at the spur of the moment. The problem can even lead to fatal consequences when there is urgency such as fire tendering, healthcare and medical services, criminal investigations, law and order problems, disaster management, etc. The problem is felt more in urban metropolis as there is a sharp increase in the number of vehicles every day and the facilities are always networked among a cluster of roadways as well as their arteries and other transportation services. The proposed study is based on a sensor-based model for the detection of traffic congestion and automated retouring instructions along arterial routes for the commuters keeping the safety and time management as the highest priority goals. The process for resolution of traffic congestion includes automated data display in Wi-Fi connected devices in the vehicles as well as on the traffic control system display giving everybody enough time for decision making on on-the-fly alternate commutation. Furthermore, a prototype of traffic simulation has also been provided to assess the feasibility of the model and its validity using a number

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