**Literature survey**

**TEAM MEMBERS:**

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**1.SURVEY ON PROTOCLOLS OVER VEHICULAR NETWORKS FOR AUTOMATIC SPEED FINE SYSTEM:**

**Date of Publication:** 16 July 2021

**Author:**[Dustin Carrión-Ojeda](https://ieeexplore.ieee.org/author/37088488207)

School of Mathematical and Computational Sciences, Yachay Tech University, Ecuador.

**Publisher:**IEEE

**ABSTRACT:**

Vehicular accidents cause severe problems in our society including economic, material, and even life losses. The cause of those situations relies on several factors such as traffic density, vehicular flow, lack of traffic signaling and speed limit violations. Some of these problems cannot completely be eliminated but could be mitigated by proposing solutions such as people's awareness or intelligent radars to monitor speed limit violations. This work proposes a system to automatically generate fines in case of speed limit infractions. Our approach uses vehicular networks to monitor the vehicles' speed. We also propose a dissemination protocol to ensure the propagation and delivery of the generated fines at the road-side units, achieving a 94.99% and 99.91% fine delivery rate in urban scenarios with vehicles' densities of 30 and 200 vehicles per km 2, respectively.

**2.THE FEEDBACK METHOD TO IMPROVE ROAD SAFETY**

**Date of Conference:**14-17 December 2020

**Date Added to IEEE *Xplore*:**14 June 2021

**Conference Location:**Liverpool, United Kingdom

**Author:**[Irina Makarova](https://ieeexplore.ieee.org/author/37085418948)

Kazan Federal University, Russian Federation

**Publisher:**IEEE

**ABSTRACT:**

In order to improve road safety, an analysis to identify the causes that significantly affect the severity of accidents was conducted. Within the framework of the developed algorithm for managing the road safety system, methods of descriptive statistics and analysis of variance were used. In addition to the often used time factor, which includes the month, the day of the week and the time of the day when the accident occurred, such factors as weather, road and surrounding infrastructure, driver condition, type of accident and type of violation were taken into account. The factors significantly influencing the target variable characterizing the severity of the accident - the number of people injured in a traffic accident - were identified and ranked. It has been found that the activities carried out that influence the selected factors have been effective.

3.ACCURATE ROAD SAFETY LEVEL ASSESSMENT FOR EFFECTIVE ROAD SAFETY INSPECTION

**Conference Location:**Czech Republic

**Date of Conference:**24-25 May 2018

**Date Added to IEEE *Xplore*:**05 July 2018

[**Author:** Tomáš Padělek](https://ieeexplore.ieee.org/author/37085775262)

Ceske Vysoke, Praha, CZ

**Publisher:**IEEE

**ABSTRACT:**

The article presents a new approach to safety level assessment by conducting road safety inspections. The current methodology for safety level assessment by conducting road safety inspections is insufficient because it uses an inaccurate safety level indicator that prevents an accurate comparison of localities according to the safety level. A “new” methodology, developed at the Czech Technical University, Faculty of Transportation Sciences, uses an improved description of the safety level by using a combined safety level indicator, which contains an indicator of the traffic environment risk level and an indicator of the road users' behavior. The new methodology determines the procedures for accurate comparison of localities according to the safety level, for estimating the safety level in a post-remediation state, and for assessing the efficiency of the proposed remedial measures to facilitate the selection of localities for remediation.

# 4.IOT-DRIVEN ROAD SAFETY SYSTEM

**Date of Conference:**15-16 December 2017

**Date Added to IEEE *Xplore*:**08 February 2018

**Published in:**[2017 International Conference on Electrical, Electronics, Communication, Computer, and Optimization Techniques (ICEECCOT)](https://ieeexplore.ieee.org/xpl/conhome/8274997/proceeding)

**Author:** [Dasari Vishal](https://ieeexplore.ieee.org/author/37086335424)

Department of Electronics and Communication Engineering, Amrita University, Bengaluru, India

**ABSTRACT:**

Roads are integral part of human civilization. They are the nervous system of any country; hence these are being laid on hill sides and narrow ridges which is a major hazard to human life. As roads play a crucial role in our daily routine these can be modelled in a smart manner to serve us with enhanced capabilities. The architecture of IoT is comprised of an ability to make things more coherent and effective. This paper synchronizes the concept of IoT with roads to make them smart. The paper talks about using the IoT technologies, with the onset of smart cities, to reduce the risk of run off road collisions. As every vehicle is IoT enabled and connected to the internet, we have an effective technique to guide emergency service vehicles through the road within least time. This IoT system is a combination of simple cost-effective antenna technology and internet platforms which works with complete automation. These abilities will make the system to serve us with better accuracy and delicacy.

# 5.SMART TRAFFIC LIGHT CONTROL SYSTEM

**Date of Conference:**21-23 April 2016

**Date Added to IEEE *Xplore*:**19 May 2016

**Published in:**[2016 Third International Conference on Electrical, Electronics, Computer Engineering and their Applications (EECEA)](https://ieeexplore.ieee.org/xpl/conhome/7467330/proceeding)

**Publisher:**IEEE

**Conference Location:**Beirut, Lebanon

**Author:** [Bilal Ghazal](https://ieeexplore.ieee.org/author/37945212600)

Faculty of Sciences IV, Lebanese University (UL), Zahle, Lebanon

**Abstract:**

Traffic light control systems are widely used to monitor and control the flow of automobiles through the junction of many roads. They aim to realize smooth motion of cars in the transportation routes. However, the synchronization of multiple traffic light systems at adjacent intersections is a complicated problem given the various parameters involved. Conventional systems do not handle variable flows approaching the junctions. In addition, the mutual interference between adjacent traffic light systems, the disparity of cars flow with time, the accidents, the passage of emergency vehicles, and the pedestrian crossing are not implemented in the existing traffic system. This leads to traffic jam and congestion. We propose a system based on PIC microcontroller that evaluates the traffic density using IR sensors and accomplishes dynamic timing slots with different levels. Moreover, a portable controller device is designed to solve the problem of emergency vehicles stuck in the overcrowded roads.