

# **Literature survey**

## **PAPER 1: Better signs for better road safety**

This study investigates the effectiveness of traffic signs, as described in the Vienna Convention, in sending information, warnings, and orders to drivers to create a safe driving environment. This study assumes traffic signs affect the driver's mind and consequently driving behaviour. Confusing traffic signs therefore increases traffic accidents and traffic disturbances.

This paper hypothesises that:

- 1) Some symbols and signs are ambiguous and not easily understood;
  - 2) Some symbols give a meaning different from design intentions;
  - 3) Some symbols give more than one meaning; and
  - 4) Some signs give drivers the impression they are allowed to take actions that are dangerous.
- The methodology used is based on field research, interviews, and surveys. Traffic signs and their usage were observed, documented, and photographed in 23 countries around the world. Drivers and other interested parties were interviewed. The survey included questions about sixteen traffic signs, which need review and reconsideration. The surveys were conducted at random to 6,000 drivers in England, France, Iran, Kuwait, Bahrain, and Ukraine. Then the survey forms were numbered and entered into the computer using SPSS statistical analysis.

**AUTHOR:** 1. Al-Yousifi, Adel

**YEAR:** 2001

## **PAPER 2: Traffic Control Systems Used Worldwide**

Road infrastructure has seen consistent improvement in the last few years. Connectivity has improved and road transportation has become a focus of rapid development. Roads are providing better access to services, ease of transportation and freedom of movement to people. But in metropolitan cities traffic congestion is increasing rapidly, it results in chronic situation in dense downtown areas. Traffic signals play a significant role in the urban transportation system. They control the movement of traffic on urban streets by determining the appropriate signal timing settings. Adaptive traffic signal controllers as the principle part of intelligent transportation systems has a primary role to effectively reduce traffic congestion by making a real time adaptation in response to the changing traffic network dynamics. Many methods used for traffic signal timing optimization under different criteria's. In this paper different methods are proposed by reviewing different research papers for traffic signal control, which gives best adaptability & optimization ideas in traffic signal control.

**AUTHOR:** Vaishali Mahavar

**YEAR:** 2017

### **PAPER 3: Smart Vehicle Connectivity for Safety Applications**

Connected vehicle technology aim to solve some of the biggest challenges in the transportation in the areas of safety, mobility and environment. The safety application for Intelligent Transport System (ITS) is one of the main objectives in this project. Safety application is research and industrial initiative which aim to contribute to the global advancement of automobile industry. In this project we focus on V2V communication, once cars are connected which is able to share data with other cars on the road and which help to reduce Highway accidents. Ultimately, vehicles are connect via multiple complementary technologies of vehicle to-vehicle (V2V) and vehicle-to-infrastructure (V2I) connectivity based on Wi-Fi, GPS, Dedicated Short Range Communication (DSRC). VA NETS are also considered as one of the most important Simulator for safety of intelligent transportation systems. The use of the DSRC technologies support low latency vehicle-to-vehicle (V2V) communication. Automobile manufacturers all over the world are currently developing, exhibiting, producing and promoting new vehicle features that make possible the exchange of information with the Internet via specific interfaces, bringing the Internet into the automobile world.

**AUTHOR:** Usha Devi Gandhi, Arun Singh

**Year:** 2013

## **PAPER 4: A survey on road safety and Traffic efficiency vehicular applications based on C-V2X technologies**

In recent years, the use of cellular network technologies to provide communication based applications to vehicles has received considerable attention. 3GPP, the standardization body responsible for cellular networks specifications, is developing technologies to meet the requirements of vehicular communication applications, and the research community is testing and validating the ability of those technologies to implement different applications. This survey presents the body of work dealing with the use of cellular technologies to implement communication-based applications for the connected vehicle. We focus on basic and advanced road safety and traffic efficiency applications, which are critically important for the future of vehicular networks. We start by describing the different cellular-related technologies that have a role to play in providing services to the connected vehicle, propose a classification of types of communication used in vehicular applications, and then apply this classification to organize and present recent research work on the topic. Finally, we identify the main challenges in the use of cellular technologies to develop applications for the connected vehicle.

**AUTHOR:** Maria Calderona

**Year:** 2020

## **PAPER 5: A Survey on Road Traffic Sign Recognition System using Convolution Neural Network**

Road Traffic accidents are one of the major reasons for deaths taking place in India. These accidents not only result into serious injuries but may also lead to deaths. Image recognition technology is one of the widely used techniques used in various fields in research like agriculture, medicine, automobile etc. At present, majority of the Image recognition techniques use artificial feature extraction technique which is not only time consuming but also is very complex. Hence, various researchers are basically working in order to improve the algorithms, and make them more and more efficient and robust. Initially, traditional principle of convolution neural network was introduced briefly. Its numerous applications in the domain of Image Processing were presented. Finally, the challenges faced by Convolution Neural Network in terms of time complexity and accuracy were analyzed, and then our recent work was introduced in order to overcome the efficiency related issues. The remaining contents of the paper are as follows.

**AUTHOR:** Yuga Hatolkar, Poorva Agarwal and Seema Patil

**Year:** 2017