# LITERATURE SURVEY

## 1.Automatic road traffic signs detection and recognition using 'You Only Look Once' version 4 (YOLOv4)--Publisher IEEE W. H. D. Fernando; S. Sotheeswaran--Date Added to IEEE Xplore: 25 October 2021

*The traffic sign detection and recognition system (TSDR) play an essential role in the intelligent transportation system (ITS). TSDR can be utilized for driver assistance and, eventually, driverless cars to reduce accidents
*TSDR allows drivers to view traffic sign information without having to divert their attention.
*YOLOv4 was evaluated on our dataset, which consisted of manual annotations to identify 43 distinctive traffic signs classes. It was able to achieve an average recognition accuracy of 84.7%. *Overall, the work adds by presenting a basic yet effective model for real-time detection and recognition of traffic signs.

## 2.An Efficient Real-Time Traffic Sign Recognition System for Intelligent Vehicles with Smart Phones--Publisher: IEEE Ching-Hao Lai; Chia-Chen Yu--Date Added to IEEE Xplore: 20 January 2011

*The traffic sign recognition system is one kind of driving assistance system (DAS) which is used to automatically inform the driver the traffic sign information by a head up display (HUD), monitor, or speaker device.
*The proposed scheme can integrate in-vehicle computing devices and smart phones to construe an in-vehicle traffic sign recognition system.
* This scheme contains four major stages: video frame capturing and transmitting, image preprocess, traffic sign detection, and character/icon extraction and recognition.
*smart phone first captures videos,these extracted frames can be transmitted to an in-vehicle computing device by a wireless network (Bluetooth, WiMAX, Wi-Fi etc.)
*Lower computing complexity, however it still can obtain a well accuracy.

## 3. Wireless digital traffic signs of the future publisher: IET-Chai K. Toh;Juan-Carlos Cano; Carlos Fernandez-Laguia;Pietro Manzoni;Carlos T. Calafate October 2018

*With advancements in wireless communications, embedded electronics, and software, the author worked on the system where it has digital traffic sign posts will be able to wirelessly broadcast traffic sign information to drivers, transforming our roads into intelligent highways where In-vehicle displays will prompt and automatically display signs to warn the driver.
*No longer is it necessary to exercise caution for traffic signs since automatic wireless detection will be used.
*This change will ease the pressure on the drivers, allowing them to concentrate more on the traffic up ahead while they are driving. Additionally, the development of wireless digital sign posts integrate nicely with the idea of future smart cities, where intelligent transportation

## 4. Automated Real-Time Intelligent Traffic Control System for Smart Cities Using Wireless Sensor Networks Adil Hilmani, Abderrahim Maizate, and Larbi Hassouni

In recent years, traffic jams have become one of the main challenges for engineers and designers to create an intelligent traffic management system capable of effectively detecting and reducing the overall density of traffic in most urban areas visited by motorists such as offices, downtown, and establishments based on several modern technologies, including wireless sensor networks (WSNs), surveillance camera, and IoT. In this article, we propose an intelligent traffic control system based on the design of a wireless sensor network (WSN) in order to collect data on road traffic and also on available parking spaces in a smart city. In addition, the proposed system has innovative services that allow drivers to view the traffic rate and the number of available parking spaces to their destination remotely using an Android mobile application to avoid traffic jams and to take another alternative route to avoid getting stuck and also to make it easier for drivers when looking for a free parking space to avoid unnecessary trips. Our system integrates three smart subsystems connected to each other (crossroad management, parking space management, and a mobile application) in order to connect citizens to a smart city.