

# ESTAR Combined Spider Approach for Effective V2V Communication

J.Veneeswari<sup>1</sup>, C.Gurulakshmi<sup>2</sup>, V.Ishwarya<sup>3</sup>, P.Nithya<sup>4</sup>

<sup>1</sup>Assistant professor, Computer Science & engineering, P.S.R. Rengasamy college of engineering for women, Sivakasi, India.

<sup>2</sup>Final year student Computer Science & engineering, P.S.R. Rengasamy college of engineering for women, Sivakasi, India.

<sup>3</sup>Final year student Computer Science & engineering, P.S.R. Rengasamy college of engineering for women, Sivakasi, India.

<sup>4</sup>Final year student Computer Science & engineering, P.S.R. Rengasamy college of engineering for women, Sivakasi, India.

## Abstract

The desire to improve road safety information between vehicles to prevent accidents and also improve road safety was the main motivation behind the development of the vehicular ad-hoc networks (VANETs). VANET are a promising technology to enable communication among vehicles on roads. They are a special form of mobile ad-hoc network that provide vehicle-to-vehicle communication. Propose a novel spider web-like Transmission Mechanism for Emergency Data (TMED) in VANET. We taken web link based networking system in VANET. Intelligent Transportation System (ITS) that will change our way to drive and help emergency service. VANETs allow vehicles to easily communicate among them and also with fixed infrastructure. This will not only improve the overall road safety, but also raise new commercial opportunities. Each vehicle is equipped with a short range communication device and controller nodes are placed in the intersection with traffic lights.

**Keywords** - Vehicular Ad Hoc Network, emergency data transmission mechanism, spider web-like model, priority queue, VANET routing, GPCR, GPSR, ACAR.

## I. INTRODUCTION

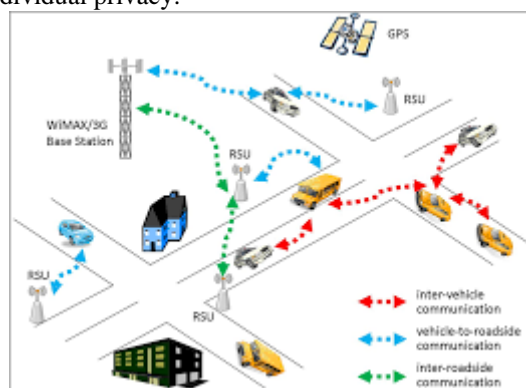
Vehicular ad-hoc network (VANET) technology has emerged as an important research area over the last few years.

Being ad-hoc in nature, VANET is a type of network that is created from the concept of establishing a network of cars for a specific need or situation.

VANET have now been established as reliable networks that vehicles use for communication purpose on highways or urban environments.

Along with the benefits, there arise a large number of

challenge in VANET such as provisioning of QoS, high connectivity and bandwidth and security to vehicles and individual privacy.



## II. GUIDELINES

### A. Existing System

In Existing system, they use a static and dynamic performance evaluation of low-cost RTK GPS receivers.

The performance of low-cost RTK (real-time Kinematic) GPS receivers has been compared to a state of the art system as well to each other. Both static and dynamic performance have been compared. The dynamic performance has been evaluated using a vehicle with driving robot on the AstaZero proving ground.

The assembly of the low-cost RTK GPS receivers is presented, and the test set-ups described. Besides having a lower data output frequency, two of the low-cost receivers have static and dynamic performance not as far from that of the state of the art-system.

### 1) Proposed system

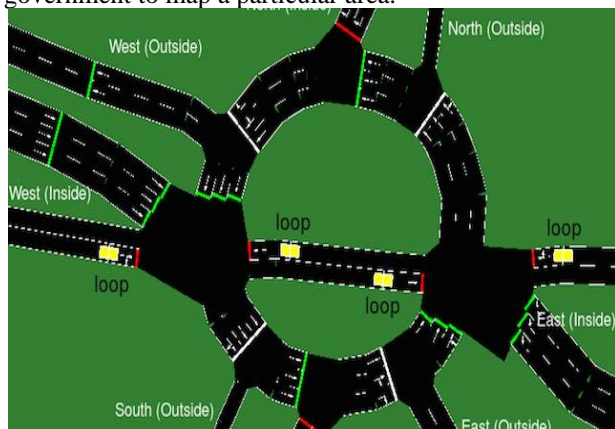
- The main idea of TMED is as follows. The source vehicle obtain its location the destination vehicles location and road topology according to GIS and electronics map.
- By analysis these information ,all available paths consisting of intersection form the source vehicle to the destination vehicle can be found.
- Proposed a intelligent transportation system with the following features
  1. **Car following model**
  2. **Intelligent driving model**
  3. **Lane changing model**
- For using these three model we will attain the intelligent system in **sumo**

## II. MODULES EXPLANATION

- Importing OSM
- Network Creation
- Car following model
- Intelligent driving model
- Emergency data transmission

### A. Importing Osm

First we have to collect traffic data from real world data which is available in open street map. OSM is a collaborative project to create a free editable map of the world. Rather than the map itself ,the data generated by the project is considered its primary output. Map data is collected from scratch by volunteers performing systematic ground surveys using tools such as handheld GPS unit, a notebook, digital camera ,or a voice recorder. The data is then entered into the OSM database. Map competition events are also held by OSM team and by non –profit organization and local government to map a particular area.



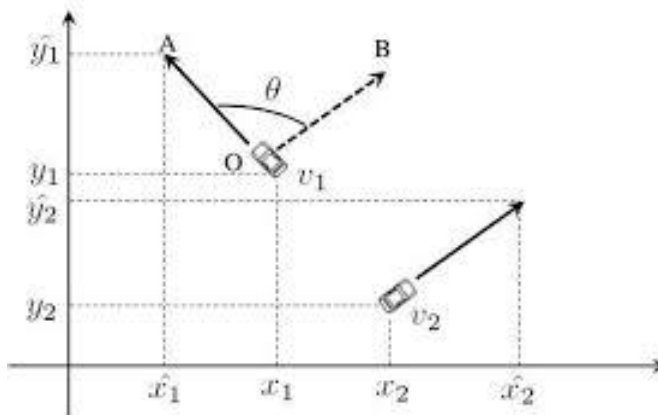
### B. Network Creation

The input of OSM is given to the next process which create the network .

We consider web link based emergency data transmission.

This have the following parameters.

- Type
- Edge
- Junction
- Connection



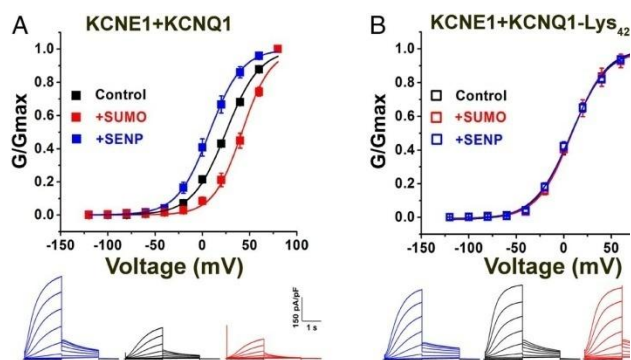
### C. Car Following Model

This is the First model for our process. First we have to set Open Street Map data for any area. OSM is a collective project to create a free editable map of the world. Rather than the map itself ,the data generated by project is considered its primary output . The creation and growth of OSM has been motivated by restrictions on use or availability of map information across much of the world ,and the advent of inexpensive portable satellite navigation devices.OSM is considered a prominent example of volunteered geographical information.

### D. Intelligent driving model

From the OSM file the car following model produces map.net.xml file. After the successful generation of map.net.xml we go for intelligent driving model. In this modules ,we identify the route and route alternatives of the given data. This will product map.rou.Xml and map.rou.alt xml for further lane changing model.

### III. FIGURES



### IV. ABOUT REFERENCES

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