Problem Defination

Vehicular Ad hoc network is the useful technology to improve the traffic safety because vehicular Ad hoc network (VANET) are created by applying the principles of mobile Ad hoc network. It is similar to the term inter vehicle communication because the focus is on the aspect spontaneous networking rather than roadside units or cellular networks. The purpose of VANET is to enhancement and growth the safety on roads and also communication for vehicles and roadside units. VANET protocol is used for communication between the vehicle to vehicle, vehicle to infrastructure, traffic controlling and navigation. The IEEE 802.11p is an approved amendment to the IEEE 802.11 standard to add wireless access in vehicular environments(WAVE), a vehicular communication system. This includes data exchange between high speed vehicles and between the vehicles and the roadside infrastructures.

IEEE 802.11p standard delivers the safety messages but very low percentage of messages are successfully delivered. To avoid the accidents intelligent broadcast protocol is implemented to provide the safety messages between vehicles and roadside units. This technique face the problem of storm broadcasting where the excessive broadcast packets are generated. It also creates the problem of message redundancy, generation of duplicate messages and higher message delivery latency causing the delay in message transmission but it can create the collision between two or more messages from vehicle to vehicle, vehicle to infrastructure and roadside units. The situation of collision detection and reduction in delay while transmission of messages in handled by VeMAC protocol. VeMAC is used because VeMAC decreases the transmission collision of messages. By assigning the time slots to vehicles more another for opposite direction as compare to Ad hoc. So, VeMAC protocol is beneficial for faster forwarding the messages from sender to receiver without any collision and delay between the message.

VeMAC is completely contention free protocol. This protocol support single-hop and multi-hop broadcast services uncontrol channel which provides smaller rate of access collision. In VeMAC these collision are reduce by assigning separate sets of time slots to cars moving is opposite direction and to roadside units. So, here the implementation of TDMA's VeMAC protocol is essential because TDMA allows several user to share the same frequency channel by dividing the messages in faster speed one after the another each using its own time slot. This allows the another vehicle and roadside units to share same frequency channel. so, here by implementing VeMAC protocol the vehicles and roadside units have proper time to send secure or safety messages without collision and provide the delay .