INTRODUCTION
There is loss of life due to the delay in the arrival of ambulance to the hospital in the golden hour. This delay is mainly caused by the waiting of the ambulance in the traffic signals. The main theme behind this scheme is to provide a smooth flow for the emergency vehicles like ambulance to reach the hospitals in time and thus minimizing the delay caused by traffic congestion. The idea behind this scheme is to implement ARSPTS which would control mechanically the traffic lights in the path of the ambulance. The ambulance is controlled by the control unit which furnishes adequate route to the ambulance and also controls the traffic light according to the ambulance location and thus reaching the hospital safely. The controller identifies the location of the accident spot through the accelerometer in the vehicle and thus the controller walks through the ambulance to the spot. This scheme is fully automated, thus it finds the accident spot, controls the traffic lights, helping to reach the hospital in time.
OBJECTIVES
Currently there is no technology for accident detection. As it is done manually, there is loss of life in golden hours. The accident victim is dependent on the mercy of others to rush him to hospital. Many times accident goes unnoticed for hours before help comes in. Due to all these factors there is high rate of mortality of accident victims. In addition to this there is a delay in the ambulance reaching the hospital due to the traffic congestion between accident location and hospital which increases the chances of death of victim.

In order to overcome the existing problem we implement a new system in which there is an automatic detection of accident. A GSM, GPS, Accelerometer unit fitted in the vehicle detects the accident and sends the accident location to the main server unit and ambulance is rushed into accident spot which carries the patient to hospital and along with this controlling the traffic lights signals in the path of the ambulance to provide the clear path. This will minimize the time required to by the ambulance to reach the hospital.

METHODOLOGY
Automatic Ambulance Rescue System Our system consists of four main units, which coordinates with each other and makes sure that ambulance reaches the hospital without any time lag. Thus our system is divided into following four units.

The Vehicle Unit

The Main Server

The Ambulance Unit

The Node Circuit. (Traffic Junction Unit).

The vehicle unit installed in the vehicle senses the accident and sends the location of the accident to the main server. The main server finds the nearest ambulance to the accident spot and also the shortest path between the ambulance, accident spot. The server then sends this path to the ambulance. Also using this information the server controls all the nodes in the path of ambulance and make it ON, which ensures that the ambulance reaches the hospital without delay. The architecture of this system is shown in the fig 1
Vehicle Unit

According to our system, every vehicle should have a vehicle unit. The vehicle unit consists of accelerometer, controller, siren, a user interface, GPS system and a GSM module. On impact on the vehicle, information about the accident is sent to the main server. This information consists of the location of the accident detected by the GPS module installed in the vehicle. The GPS system finds out the current position of the vehicle (latitude and longitude) which is the location of the accident spot and gives that data to the GSM module. This information to the main server is conveyed by the GSM module. There is also a provision of avoidance of accident by using the accelerometer. Accelerometer alerts the driver and public by turning on the buzzer whenever the position deviates from the normal.

The GPS system finds out the current position of the vehicle (latitude and longitude) which is the location of the accident spot and gives that data to the GSM module. The GSM module sends this data to the main server whose GSM number is already there in the module as an emergency number.

Main Server

The main server is the central brain of our ITS. It communicates as well as controls every part of the system. The server objectives can be mainly classified into:

A. FINDING THE NEAREST AMBULANCE TO THE ACCIDENT SPOT
B. SENDING ACCIDENT LOCATION TO THE AMBULANCE.
C. CONTROLLING THE NODES
• **Ambulance unit**

Ambulance unit has a GPS SYSTEM and a GSM MODEM for transmitting GPS data to the Main Server. The server receives the GPS data sent by the ambulance at intervals of time. The server sends the co-ordinates of all the nodes in the path to the ambulance. The server will indicate the accident spot and ambulance location respectively. The ambulance unit on receiving the co-ordinates plots them on to a map with the last two co-ordinates as the accident spot and the hospital location to get the shortest path to the hospital.

• **Traffic unit**

Whenever traffic signal section receives the information about accident, the controller in this section is turned ON to search for ambulance nearing the traffic signal. Whenever the ambulance reaches near to the traffic signal (approximately 100m), the traffic signal will be made to green. Thereby the ambulance is recommended to reach the hospital in time.

**CONCLUSION**

This system will definitely help to traffic police to give the way to the ambulance when there is heavy traffic on the road. Also the accident zone is detected and the location is sent to the controller, and the nearest ambulance is alerted and the message is sent to the police station. The design and implementation of this technique is directly targeted for traffic management so that emergency vehicles on road get clear way to reach their destination in less time and without any human interruption. The main feature of this operation is the ability to communicate with purpose using GSM and GPS. It is very smart to find the location of emergency of VIP vehicle and the ambulance to clear path to pass on.

**FUTURE ENHANCEMENTS**

A novel idea is proposed for controlling the traffic signals in favour of ambulances during the accidents. With this system the ambulance can be moved carefully using the concept of ARSITM can be proved to be effectual, to control not only ambulance but also authoritative vehicles. Thus ARSITM if implemented in countries with large population like INDIA can produce better results. The ARSITM is more accurate with no loss of time. But there may be a delay caused because of GSM messages since it is a queue based technique, which can be reduced by giving more priority to the messages communicated through the controller. When a lot of messages are sent to main server from the GSM there will be a delay caused due to which there will be a delay in reaching the accident spot. In addition to this hospital databases can also be included that consists of the records of the doctors currently available in the hospital and also an alert message can be sent to the hospital.