INTELLIGENT TRAFFIC MANAGEMENT SYSTEM CASE STUDY

BACKGROUND

For the sake of safety traffic management is a must. People who travel daily are forced to face various problems when it comes to a poor traffic management. The population of our country is vast and almost every human has a vehicle. The vehicle is being purchased for convenience but sometimes the convenience of one can prove out to be the inconvenience for others. Traffic needs to be maintained under rules regulations and most importantly actions. That's why traffic must be managed. Traffic needs a management not just in roadways but also in other modes of transportation like railways , airways ,waterways . So as to ensure the safety of people who are footwalkers this is the basic necessity.

SOLUTION

Intelligent Traffic Management System is specially designed and architected to replace tedious manual processes to track, regulate and analyze vehicle movement on roads, and to enforce traffic rules for the safety citizens and their properties. It acts as a true decision support system for traffic planners and traffic law enforcement agencies.

The vital unit of Intelligent Traffic Management System is Traffic Management Centre. This controls all the functioning of this system and is being controlled by traffic authority.

In this all the data is collected and then analyse the further operations. For the control management of local transportation it plays a very major role. There are four foremost steps over which this traffic management is based

1. Data Collection
2. Data Analyzation
3. Data Transmission
4. Traveller Information

1.Data Collection: Data Collection is very important because through the precise ,prompt and extensive collection of data the further strategic planning can become very easy .There are further many devices through which the data is collected like Automatic Vehicle Identifiers, GPS based automatic vehicle locators, sensors, camera etc. The main general things that are being recorded by these devices are the traffic count, surveillance, travel speed and travel time, location, vehicle weight, delays etc. These devices are further connected to the servers located at different data collection centres which stores the data for further analysis.

2.Data Analyzation The data that is being collected is further analysed for various steps i.e. error rectification ,data cleaning ,data synthesis and adaptive logical analysis. All the problems in the data are being rectified by the specialized softwares. After this procedure the data is further analysed to predict traffic scenario which is available to deliver appropriate information to users.

3. Data Transmission:-Communication is the modest way of communication to send and receive the information. Real time and fast transmission is the key to proficiency in ITS implementation so this

aspect of ITS consists of the transmission of collected data from the field to TMC and then sending back that analyzed information from TMC to travelers.

Other methods of communications are dedicated short-range communications (DSRC) using radio and Continuous Air Interface Long and Medium Range (CAILM) using cellular connectivity and infra-red links. Through the internet the traffic related announcements are communicated to the travellers.

4. Traveller Information: Travel Advisory Systems (TAS) is used to inform transportation updates to the traveling user. The system delivers real-time information like travel time, travel speed, delay, accidents on roads, change in route, diversions, work zone conditions etc. This information is delivered by a wide range of electronic devices like variable message signs, highway advisory radio, internet, SMS, automated cell.

BENEFITS

- Increases the safety and convenience of people.
- Reduction in traffic
- Maintenance of mobility in the cities.

FEATURES

Mobility is the key factor when it comes to traffic. With the advancement of technology and in the era of digital societies several new way outs have been made to cope up with the needs and facilities of people. As a result Intelligent Traffic Management came into consideration. In this the travellers are already given prior information about the traffic availability of their respective areas, local convenience real-time running information, seat availability etc. which reduces travel time of commuters as well as enhances their safety and comfort. This system can save a lot of time and can make the cities more smarter. Through this traffic efficiency can be achieved to a very greater extend. Travel System is the most common thing used by the people to travel throughout the city when it comes to people of all generations. This system is being widely used by various countries nowadays for efficient traffic management and congestion control which further enhances the road safety. The daily commuters who use public buses and other modes of transportation can easily check current location of the bus, time taken to reach a particular destination, next location of the bus and the density of passengers inside the bus.