

# LITERATUE SURVEY

The term intelligent transportation system (ITS) refers to efforts to add information and communications technology to transport infrastructure and vehicles, in order to improve safety and reduce vehicle wear, **transportation times**, and fuel consumption. ITS are advanced applications which, without embodying intelligence as such, aim to provide innovative services relating to different modes of transport and traffic management and enable various users to be better informed and make safer, more coordinated, and 'smarter' use of transport networks. Interest in ITS comes from the problems caused by traffic congestion and a synergy of new information technology for simulation, real-time control, and communications networks. Traffic congestion and a synergy of new information technology for simulation, real-time control, and communications networks. Intelligent transportation systems involve a variety of information and control systems methodologies, from cooperative systems which aim at traffic flow optimization by means of vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communication, to information fusion from multiple traffic sensing modalities. Various forms of wireless communications technologies have been proposed for intelligent transportation systems. Floating car' or 'probe' data collection is a set of relatively low-cost methods for obtaining travel time and speed data for vehicles traveling along streets, highways, freeways, and other transportation routes. Broadly speaking, three methods have been used to obtain the raw data. In developed countries a high proportion of cars contain one or more mobile phones. The phones periodically transmit their presence information to the

mobile phone network, even when no voice connection is established. Vehicle re-identification methods require sets of detectors mounted along the road. In this technique, a unique serial number for a device in the vehicle is detected at one location and then detected again (re-identified) further down the road. An increasing number of vehicles are equipped with in-vehicle GPS (satellite navigation) systems that have two-way communication with a traffic data provider. Position readings from these vehicles are used to compute vehicle speeds. City traffic management centers (TMCs) can get rapid visibility and notifications for trouble spots or city-wide issues affecting congestion on city streets, public safety and emergency response systems, in order to take action or communicate more effectively with other agencies and emergency responders. Beyond the better management, safety, and efficiency already discussed, there are several additional benefits that the general public, local governments, and the world at large can enjoy. These are:

1. Security
2. Environmental Considerations
3. Supply Chain Resiliency