# A REPORT ON INTELLIGENT TRANSPORT SYSTEM

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## ABSTRACT

*The future of ITS is promising. Yet, ITS itself, is anything but futuristic. Already, real systems, products and services are at work throughout the world. Still, the wide-scale development and deployment of these technologies represents a true revolution in the way we, as a nation, think about transportation. A broad range of diverse technologies, known collectively as intelligent transportation systems (ITS), holds the answer to many of our transportation problems. ITS is comprised of a number of technologies, including information processing, communications, control, sand electronics. Joining these technologies to our transportation system will save lives, save time, and save money.*

*Key Words:ITS, Technologies, communication*

## INTRODUCTION

While many aspects of our lives have been made more pleasant and productive through the use of advanced technologies, we have somehow been content to endure a transportation system whose primary controlling technology is the four-way traffic signal -- a technology that has changed little since it was first invented. It has taken transportation a long term to seize on, but now the industry is sprinting to capture up.

Satisfying the want for a countrywide system that is both economically sound and environmentally efficient calls for a brand new way ultra-modern searching at -- and fixing -- our transportation issues. The decades-old panacea ultra-modern really pouring cutting-edge concrete neither solves our transportation problems, nor meets the extensive imaginative and prescient modern day an green transportation machine. traffic accidents and congestion take a heavy toll on lives, productivity, and wastes power. hobby in ITS comes from the troubles because of site visitors congestion and a synergy modern-day facts generation for simulation, actual-time manage, and communications networks. traffic congestion has been growing worldwide state-of-the-art extended motorization, urbanization, population growth, and modifications in population density. Congestion reduces efficiency cutting-edge transportation infrastructure and will increase travel time, air pollution, and gas consumption.

## WIRELESS COMMUNICATIONS:

numerous sorts of wi-fi communications technologies were proposed for shrewd transportation structures. brief-variety communications (less than 500 yards) may be achieved the use of IEEE 802.11 protocols, mainly WAVE or the committed brief variety Communications well-known being promoted by way of the clever Transportation Society of the usa and america branch of Transportation. Theoretically, the variety of these protocols can be prolonged the use of mobile advert-hoc networks or Mesh networking.

Longer range communications were proposed the use of infrastructure networks such as WiMAX (IEEE 802.sixteen), global system for mobile Communications (GSM), or 3G. long-range communications using those techniques are nicely installed,

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however, unlike the fast-variety protocols, those strategies require good sized and very pricey infrastructure deployment. there is lack of consensus as to what commercial enterprise model must help this infrastructure.

## COMPUTATIONAL TECHNOLOGIES:

Current advances in automobile electronics have brought about a move in the direction of fewer, extra succesful computer processors on a automobile. a typical automobile inside the early 2000s might have among 20 and a hundred character networked microcontroller/Programmable logic controller modules with non-actual-time operating systems. The modern-day fashion is closer to fewer, greater highly-priced microprocessor modules with hardware reminiscence control and real-Time operating systems. the new embedded system structures allow for greater sophisticated software applications to be applied, which includes model-primarily based procedure manipulate, artificial intelligence, and ubiquitous computing. perhaps the maximum important of those for intelligent Transportation systems is artificial intelligence.

## FLOATING CAR DATA/FLOATING CELLULAR DATA:

Virtually every car contains one or more mobile phones. These mobile phones routinely transmit their location information to the network – even when no voice connection is established. This allows them to be used as anonymous traffic probes. As the car moves, so does the signal of the mobile phone. By measuring and analyzing triangulation network data – in an anonymous format – the data is converted into accurate traffic flow information. With more congestion, there are more cars, more phones, and thus, more probes. In metropolitan areas, the distance between antennas is shorter and, thus, accuracy increases. No infrastructure needs to be built along the road; only the mobile phone network is leveraged. Floating car data technology provides great advantages over existing methods of traffic measurement:

☐ much less expensive than sensors or cameras

☐ more coverage: all locations and streets

☐ faster to set up (no work zones) and less maintenance

☐ works in all weather conditions, including heavy rain

## Dynamic Traffic Light Sequence Algorithm Using RFID

The operation of widespread site visitors lighting which might be currently deployed in lots of junctions, are based totally on predetermined timing schemes, which might be fixed at some point of the set up and remain till in addition resetting. The timing is no greater than a default setup to manipulate what may be taken into consideration as ordinary traffic. even though every street junction with the aid of necessity requires specific visitors light timing setup, many existing systems function with an over-simplified series. This has instigated numerous thoughts and scenarios to solve the traffic trouble. To design an shrewd and efficient visitors control device, some of parameters that represent the popularity of the road

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situations need to be recognized and brought into attention. maximum of the present smart site visitors lighting fixtures are sensor based totally with a positive algorithm that controls the switching operation of the machine[1,2]. This technique considers the site visitors to be moving smoothly and as a result does no longer require any management or monitoring of site visitors conditions. while some unpredictable situation develops, or while congestion occurs, there may be no proper manner of managing such development.
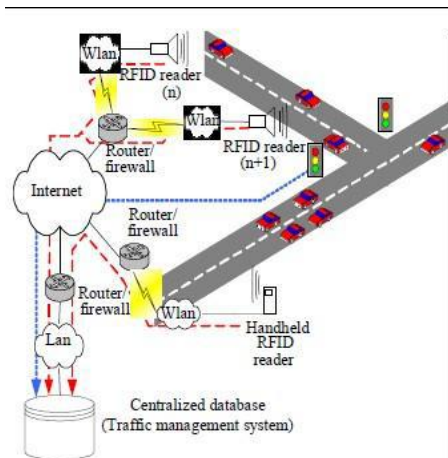


although this method can give a quantitative description of visitors glide[5], it involves several boundaries. The processing in actual time on a huge scale may also present prohibitive necessities. some common problems concerned in photo processing system include fake recognition price (a long way) and fake Rejection rate (FRR). usually, in case of jam-packed traffic, the pc vision outcomes in faulty detection[3].The sensor based visitors mild manipulate however can also require sensors that perform with a line of sight detection, which may additionally gift issue in detecting

motors that skip via blind spots detection variety.

## CONCLUSION:

The RFID technology may cause a revolution in traffic control, while it's far nicely deployed as an intelligent gadget with suitable algorithm. one in all its major features is the ability to speak operation commands from head-quarters or some other subsidiary command station to any location within the machine through current infrastructure including GSM or net. This gadget can decorate the transportation machine of the United States of America, through green control. The dynamic control scheme operates in real-time and emulates the judgment of a site visitors policeman on duty. The performance of the device may also keep many guy-hours generally lost in site visitors issues. Accidents may also be averted and lives can be stored as well as property. Precedence emergency tags may be deployed on ambulance, fire, police and other emergency vehicles. The device saves treasured info in the data of the database, that could provides enough and treasured data to planners and investigators. however, the mixing of the databases most of the nearby government is a venture that calls for decisions at countrywide level. information sharing and comfy hierarchical get right of entry to to numerous degrees of databases and protocols need to be designed to combine new statistics with existing structures. The problems of integration and collaboration can be a topic for future paintings. The prison issues and privacy laws regarding the monitoring of drivers all of the time may reason a prime public problem. Such observe could want to

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address topics relating to civil rights and personal freedom troubles as well as social recognition.

**Feature & Application:**

- Three activation modes for ensuring trigger the pre-warning system
- Adopt daytime visible light design for great warning effect at the day and the night
- 360° dynamic early warning: flash warning sign, road stud and voice alarm module effectively warn pedestrians and drivers from vision and hearing points
- In order to meet the needs of different road conditions, we also provide surban type and forked road type
- Can connect to the ELLUMIN Cloud for better solving traffic problems and managing traffic order
- Urban Non-Light control area crosswalk.

**Reference:**

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