

## INTELLIGENT TRAFFIC SURVEILLANCE SYSTEM:

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### ABSTRACT

A programmed traffic observing framework to alarm the traffic experts in the event that any vehicle client defy the traffic experts in the event that any vehicle client resist the traffic manages by intersection the traffic signal during red and send the data of the individual to the particular officials. This lessens the multifaceted nature of keeping up traffic records. This is finished by utilizing some electronic segments like RF transmitter and beneficiary, GSM, microcontroller, Wi-Fi module and different various segments.

**Keywords:** Automated system, alert, traffic authorities, reduced complexity, electronic components

### INTRODUCTION:-

INDIA is the second most crowded Country in The World and is a quickly developing economy. It is seeing awful street clog issues in its urban areas. Framework development is delayed when contrasted with the development in number of vehicles, because of space and cost imperatives. Additionally, Indian traffic is non-path based and tumultuous. It needs a traffic control arrangements, which are unique in relation to the created Countries. Savvy the board of traffic streams can decrease the negative effect of clog. As of late, remote systems are generally utilized in the street transport as they give more financially savvy choices. Advancements like RFID, DATABASE MANAGEMENT SYSTEMS (DBMS) and GSM can be utilized in rush hour gridlock control, to give financially savvy arrangements. RFID is a remote innovation that utilizes radio recurrence electromagnetic vitality to convey data between the RFID tag and RFID peruser. Some RFID frameworks will just work inside the range inches or centimeters, while others may work for 100 meters (300 feet) or more. A GSM modem is a particular sort of modem, which acknowledges a SIM card and works over a membership to a portable administrator, much the same as a cell phone. AT directions are utilized to control modems.

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These directions originate from Hayes directions that were utilized by the Hayes brilliant modems. The entire paper is assembled into 5 sections. Segment II discusses the Literature study. Area III talks about the present issues that exist in clearing a path to a rescue vehicle and different vehicles. It additionally discusses how the proposed model will conquer the issues looked in creating Countries just as created nations. Segment IV gives the execution subtleties of the proposed model. Segment V displays the upgrade of this work. Being in the nation of high populace thickness, where the vast majority of the individuals use vehicles for velocity. Despite the fact that it is profoundly profitable, there are numerous who defy the principles and upset the general population through those off-base exercises. Despite the fact that fine rates are expanded the individuals are uninformed of the harms delivered by them. The Government experienced numerous different approaches to stop these sort of exercises. In spite of these, the outcome is terrible. As a specialist it is our obligation to serve the country through digging this sort of issues and settling these issues. Here we propose and thought with which we use would plan a computerized framework which will diminish the multifaceted nature in recognizing the individuals who don't stand the traffic rules. Thusly we recommend that the worry upon the traffic police on enlisting the data of every individual in the records for the separate wrongdoing would be decreased.

### **LITERATURE SURVEY**

We proposed about the exploration, perception and finding that have been made with respect to this venture field. The discourse begins from the development of the framework, building up the controlling framework and remote correspondence just as its capacity to securing information and sending yield to mobiles and to the next sign traffic police officers. All the related research papers and diaries that give thought and idea concerning this undertaking ground additionally is clarified into a basic implies.

Traffic is a basic issue of transportation framework in above all else the urban areas of Countries. This is particularly valid for Countries like India and China, where the populace is expanding at higher rate as show in figure

For instance, Bangalore city, has seen an exceptional development in vehicle populace lately. Thus, a large number of the blood vessel streets and convergences are working over the limit (i.e., v/c is multiple) and normal adventure speeds on a portion of the key streets in the focal territories are lower than 10 Km/h at the pinnacle hour. A portion of the primary challenges are the executives of in excess of 36,00,000 vehicles, yearly development of 7–10% in rush hour gridlock, streets working at higher limit going from 1 to 4, travel speed under 10 Km/h at some focal regions in top hours, inadequate or no parking spot for vehicles, set number of police officers. In, right now a video traffic reconnaissance and observing framework dispatched in Bangalore city. It includes a manual examination of information by the traffic supervisory crew to decide the traffic light length in every one of the intersection. It will impart the equivalent to the nearby cops for the vital activities.

**Traffic Surveillance with Wireless Magnetic Sensors:-** The framework is structured to such an extent that information is gathered from hubs are stuck to the asphalt where vehicles are to be recognized and afterward the data is sent to traffic the executives Center through GPRS. This paper focusses on the extraction of data from the tentatively gotten attractive estimations.

**Actualizing Intelligent Traffic Control framework for blockage Control, Ambulance Clearance and Stolen Vehicle: -** The subject of the framework proposed is to pass crisis vehicles easily by distinguishing that it is the crisis vehicle and to speak with the traffic controller on the individual area to turn the green light on the way in which the emergency vehicle is voyaging. Any taken vehicle can be distinguished when the RFID having a place with the vehicle is perused by the RF peruser and is accounted for to the control room utilizing GSM module. With

Programmed traffic signal control dependent on the traffic thickness in the course, the manual exertion with respect to the traffic police officer is spared. As the whole framework is robotized, it requires extremely less human intercession. With taken vehicle location, the sign naturally goes to red, so the cop can make fitting move, on the off chance that he/she is available at the intersection. Additionally SMS will be sent with the goal that they can get ready to get the taken vehicle at the following potential intersections. Crisis vehicles like emergency vehicle, fire engines, need to arrive at their goals at the soonest. On the off chance that they invest a ton of energy in congested driving conditions, valuable existences of numerous individuals might be in peril. With crisis vehicle freedom, the traffic signal goes to green as long as the crisis vehicle is

holding up in the rush hour gridlock intersection. The sign goes to red, simply after the crisis vehicle goes through. Further upgrades should be possible to the model by testing it with longer go RFID perusers. Additionally GPS can be put into the taken vehicle identification module, with the goal that the precise area of taken vehicle is known. Right now, we have executed framework by thinking of one as street of the traffic intersection. It very well may be improved by stretching out to every one of the streets in a multi-street intersection.

Creating propelled petty criminal offense location framework with RFID innovation for brilliant city:- The idea of this proposition is to build up a framework to quickly recognize traffic condition by utilizing PC vision with RFID innovation for getting the vehicle information. Foundation models are set from which the thickness of vehicles out and about could be found. The exploratory outcomes showed the plausibility of the foundation subtraction strategy for dynamic items identification.

A constant PC vision framework for vehicle following and traffic observation: The current picture preparing framework experienced issues in the lighting changes which anticipated the vehicles shading distinctively at various daylight levels. Along these lines, a framework is created to recognize the vehicles under these conditions by following the vehicle parameters.

EXISTING SYSTEM:- In the current frameworks, there were issues related with daylight force, multifaceted nature of control and the data of the vehicle proprietor can't be recovered in initial step. A few frameworks utilized the technique for joining of numerous sensors' information to distinguish the traffic force. This might be a brief period devouring and exceptionally mind boggling. From the present issue segment, it very well may be seen that, current advancements are deficient to deal with the issues of clog control, crisis vehicle leeway, taken vehicle discovery, and so on. To take care of these issues, we propose to actualize our Intelligent Traffic Control System. The framework proposed in our paper would have a control of the vehicle identification and traffic force recognition and crisis vehicles' remittance by diminishing the challenges which were looked on the above strategies. In this framework, if the vehicle don't tolerate to the traffic manages by going across the streets when the red sign is on, at that point the framework would peruse the ID of vehicle by perusing the for all time fixed RFID chip inside the vehicle and recover the subtleties of the vehicle proprietor from the distinguishing proof number and afterward send it to the control room and it would likewise be educated to the traffic

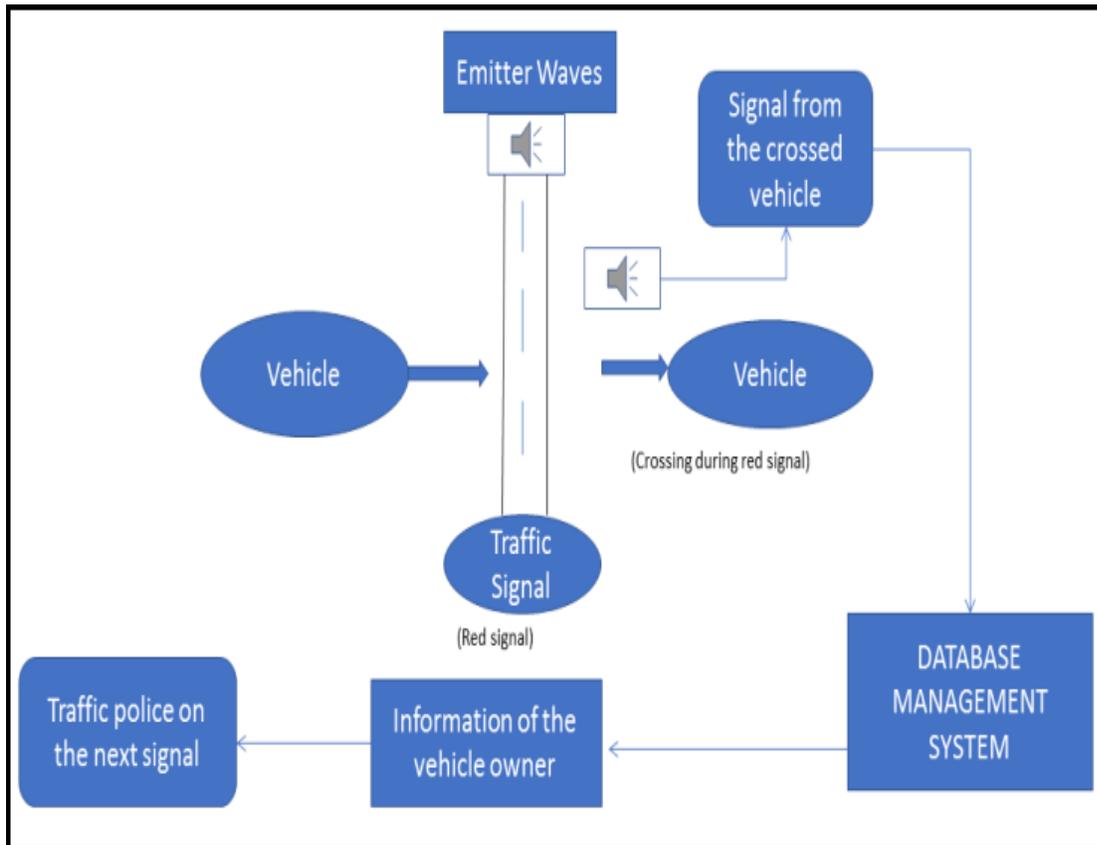
police at the following sign so he could get the vehicle rider at his zone and record a body of evidence against him for disregarding the traffic rules. The records would be there under the influence of control room with the goal that remuneration wouldn't occur

**RF Module:** A RF peruser (radio recurrence peruser) is a generally little electronic gadget used to transmit as well as get radio flag between two gadgets. In an inserted framework it is frequently alluring to speak with another gadget remotely. Radio recurrence (RF) is an estimation speaking to the swaying pace of electromagnetic radiation range, or electromagnetic radio waves, from frequencies going from 300GHz to as low as 9kHz.

**Chip:-** A microcontroller can be viewed as an independent framework with a processor, memory and peripherals and can be utilized as an implanted framework. Most of microcontrollers being used today are implanted in other hardware, for example, autos, phones, machines, and peripherals for PC frameworks. We utilize an Arduino microcontroller here. Arduino comprises of both a physical programmable circuit board (regularly alluded to as a microcontroller) and a bit of programming, or IDE (Integrated Development Environment) that sudden spikes in demand for your PC, used to compose and transfer PC code to the physical board.**GSM Module:-**GSM (Global System for Mobile Communications, originally Groupe Special Mobile), is a standard developed by the European Telecommunications Standards Institute. It was created to describe the protocols for second-generation digital cellular networks used by mobile phones and is now the default global standard for mobile communications. We use this device in our project to send alert messages to the vehicle owners.

**Wi-Fi Module (ESP8266)** The ESP8266 Wi-Fi Module is an independent SoC with incorporated TCP/IP convention stack that can offer access to your Wi-Fi organize (or the gadget can go about as a passageway). We utilize this module in our venture to give the controller, access to the web to take every necessary step taught to it.

**Manual controlling :**Manual traffic control is a typical crossing point control system in which prepared work force, commonly police law requirement officials, designate convergence option to proceed to moving toward vehicles. Manual convergence control is a key some portion of overseeing traffic during crises and arranged extraordinary occasions.

**PROPOSED SYSTEM:-****Road Risk Assessment**

There will be a need to follow a suitable risk assessment that must take into account the driver, the vehicle and the journey. This can be met by utilising standard generic precautions, except for higher risk road journeys for which an individual risk assessment will be necessary.

**Risk Assessment Process**

Group built up the hazard appraisal process depicted here.

The technique is an organized way to deal with the acknowledged hazard evaluation procedure of:

- Identifying Hazards;
- Determining Impacts;

- Assessing Risk;
- Identifying Controls; and
- Producing Actions to additionally alleviate distinguished dangers.

Key steps

- Define business forms for appraisal.
- Develop a rundown of street wellbeing related dangers dependent on business forms.
- Assign values for the effect and the likelihood of the occasion.
- Assign values for the reasonability of the hazard making an Overall Risk esteem that is utilized for prioritization

Decide values for Consequence (sway) and the Probability of the occasion

The accompanying network is utilized to appoint numerical qualities for Consequence and Probability

Driver Risk Factors	Risk Level		
	HIGH	MED	LOW
Percentage of drivers that are less than 25, or more than 60 years of age	more than 50%	20% to 50%	less than 20%
Percentage of drivers that have held driver licences less than 2 years	more than 50%	20% to 50%	less than 20%
Percentage of drivers that have had 2 or more serious motor vehicle incidents in last 3 years.	more than 20%	10% to 20%	less than 10%

Percentage of drivers that have had 2 or more speeding or moving violations in last 3 years.	more than 40%	10% to 40%	less than 10%
Percentage of drivers that have been involved in at-fault near misses within the past year.	more than 70%	20% to 70%	less than 20%
Percentage of drivers whose driving assignments typically have implied or required time constraints or other factors that cause the driver stress.	more than 70%	20% to 70%	less than 20%
Percentage of drivers at risk of being impaired by fatigue; for example long work days (driving time plus non-driving time) or shifts that involve night-driving.	more than 70%	20% to 70%	less than 20%
The company has a policy prohibiting use of cell phones and other electronic devices while driving, and drivers consistently apply required procedures.	no	don't know	yes
Drivers know and follow the company's road safety policies and procedures.	no	some do, some don't	yes
Drivers submit current driver's abstracts annually; managers review those abstracts.	no	sometimes	yes

Drivers receive the orientation and training they need to safely complete driving assignments.	no	sometimes	yes
Drivers are regularly assessed to confirm they have the driving skills and behaviours necessary for the job.	no	irregular assessments	yes
Drivers have regular health and vision check-ups to ensure they can safely drive.	no	some do, some don't	yes
Drivers are required to report medical conditions or medications that may affect their ability to drive.	no	inconsistent	yes
<b>Driver Risk Factor Scores</b>	<b>0 (0%)</b>	<b>0 (0%)</b>	<b>0 (0%)</b>

Journey Risk Factors	Risk Level		
	HIGH	MED	LOW
Organization has a journey management process that seeks to avoid unnecessary work-related driving.	no	inconsistently applied	yes
Drivers complete and submit trip plans and apply the company's check-in procedure.	rarely	sometimes	often
Trips include challenging road types and/or routes with which the driver is not familiar.	often	sometimes	rarely

Driving occurs in adverse road and/or weather conditions.	often	sometimes	rarely
Driving occurs during peak traffic periods (e.g. rush hour, Friday afternoon before long weekend, etc.).	often	sometimes	rarely
Routes include high risk intersections, areas with high pedestrian or cyclist density or roadside work zones.	often	sometimes	rarely
Trips involve more than 2 hours of driving without regular rest breaks	often	sometimes	rarely
Employees have unpredictable or irregular working hours and must drive for work purposes.	often	sometimes	rarely
Drivers are required to drive between midnight and 6 a.m.	often	sometimes	rarely
Employees drive more than 6 hours per day / more than 50,000 km each year.	often	sometimes	rarely
<b>Journey Risk Factor Scores</b>	<b>0 (0%)</b>	<b>0 (0%)</b>	<b>0 (0%)</b>

Vehicle Risk Factors	Level of Risk		
	HIGH	MED	LOW
Percentage of vehicles that are selected and equipped to ensure they are fit for purpose, and suitable for the applications they are used.	less than 50%	50% to 80%	more than 80%

Percentage of vehicles that have current safety features (e.g. 5- star crash rating, ESC, collision avoidance system, rear-facing monitor, etc.).	less than 50%	50% to 80%	more than 80%
Vehicles are regularly inspected; inspections are documented.	no	sometimes	yes
Vehicles are serviced and maintained according to manufacturers (or more stringent) specifications.	no	inconsistent	yes
Vehicles have tires in good condition, and suitable for driving circumstances. Winter tires are used for winter driving conditions.	no	sometimes	yes
Any loads the vehicles carry are properly secured.	no	sometimes	yes
Vehicles are equipped with an emergency kit and equipment; the driver has appropriate personal protective equipment (PPE).	no	inconsistent	yes
<b>Vehicle Risk Factor Scores</b>	<b>0 (0%)</b>	<b>0 (0%)</b>	<b>0 (0%)</b>

**Driver - Journey - Vehicle Risk Profile Summary**

**Risk Type Scores Summary:**

**HIGH**

**MEDLOW**

<b>Driver Risk Factor Scores</b>	<b>0</b>	<b>0</b>	<b>0%</b>
	<b>%</b>	<b>%</b>	

<b>Journey Risk Factor Scores</b>	<b>0</b> <b>%</b>	<b>0</b> <b>%</b>	<b>0%</b>
<b>Vehicle Risk Factor Scores</b>	<b>0</b> <b>%</b>	<b>0</b> <b>%</b>	<b>0%</b>

### CONCLUSION:-

With programmed traffic signal control dependent on the traffic thickness in the course, the manual exertion with respect to the traffic cop is spared. As the whole framework is mechanized, it requires less human intercession. With taken vehicle recognition, the sign consequently goes to red, so the cop can make suitable move, in the event that he/she is available at the intersection. Additionally SMS will be sent with the goal that they can get ready to get the taken vehicle at the following potential intersections. Crisis vehicles like emergency vehicle, fire engines, need to arrive at their goals at the most punctual. On the off chance that they invest a great deal of energy in congested roads, valuable existences of numerous individuals might be in risk. With crisis vehicle freedom, the traffic signal goes to green as long as the crisis vehicle is holding up in the rush hour gridlock intersection. The sign goes to red, simply after the crisis vehicle goes through. Further upgrades should be possible to the model by testing it with longer run RFID perusers. Likewise GPS can be set into the taken vehicle discovery module, with the goal that the accurate area of taken vehicle is known. As of now, we have executed framework by thinking about one street of the traffic intersection. It tends to be improved by reaching out to every one of the streets in a multi-street intersection

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