PROJECT DESIGN

PHASE 1

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Signs With Smart Connectivity For Better Road Safety

PROPOSED SOLUTION

Using Internet Of Things ,we can change the average waiting time by monitoring the number of vehicles in a lane. The data will be sent to central system through internet, which will decide the timing for signal according to the dumped program. It also, suggests implementing congestion lights at previous intersections, so that drivers can change lanes at the situation of congestion. This is useful in emergencies and also, helps in reducing pollution and traffic congestion.

The system can lead to zero average waiting time situation. Delay of few minutes can lead to risks of human lives and financial losses. Many times it is seen that due to heavy traffic ambulance has to wait for long time to cross the traffic signal but, by using density count we can improve this problem. This system is useful in such emergencies.

We can make use of Algorithms like, Min Max Fairness Algorithm, Additive
Increase Multiplicative Decrease (Aimd) Algorithm, Principal Component Analysis. The first two Algorithms are based on TCP congestion and implementation of control rates. Third on in order to identify patterns to reduce the dimensions of the dataset with minimum loss of information.

One among the revised and defined systems of IoT are, Traffic Management System as a part of Intelligent Transportation System , the ultrasonic sensors will be placed on road sides, which will count the number of vehicles, as they intersect its range.

Once Arduino is given with the Python code over Arduino IDE software, we make the system to work on basis of the required situation like, traffic delay, density of traffic, accident prone areas ,pollution control, automatic ON/OFF street lights as intensity based on day and night times etc.,

FEASIBILITY REPORT :

The predictions done are real ones as measured with respected to time for each now and then who are waiting in traffic and in emergency times.

Hence smart signs are feasible one for better road safety as they are performing on real time cases.

NOVETLY REPORT:

In major solutions , as analysed on smart signs, IoT is used on fewer applications covering only one to two models . In this solution three models are approached and evaluated on their prediction performance to make a comparable difference.

To achieve low average waiting time or low traffic congestion arduino will play major role in implementing the given code to achieve better road safety