LITERATURE SURVEY

Topic: Sign with Smart Connectivity for better road safety.

Abstract :

A smart roads using IOT devices is a special idea which makes the drivers to drive safer than before .The first motive of smart road is to provide safety, use less amount of electricity and reduce traffic. This can be implemented by using advanced technologies like Light Sensors, Ultrasonic Sensors, Camera, Motion Sensors, IOT Devices, Interactive Lighting System, The solar roadways, Glow in the Night, The wind powered light System & The electric priority lane. Traffic is a growing problem in India causing fuel wastage, time wastage & pollution. In Indian road-traffic, the problems like crowded roads, unpredictable time to travel from one place to another are a serious problems which is also polluted and noisy. Now, researchers have started to introduce connected vehicle technology which is difficult to implement on roads. In this project, we present a low cost innovative technology for smart roads. The wastage of electricity from street lights can be minimized by using the motion sensors and light sensors due to which the loss of electricity can be prevented. Different technologies have been introduced to reduce traffic jams.

Topic: Problem definition for road safety.

Abstract:

In India we see traffic junction, we can see traffic signals with red, yellow and green lights along with the timer display. To move the traffic has to wait for a fixed interval of time. [4] For example, people have to wait for a small interval of time which is fixed for every signal even though the traffic is more in that particular lane. [5] This leads to a huge “TRAFFIC JAM” which is a major problem now a days – the society is facing. Another problem that people face in India is “LACK OF ELECTRICITY”. Street lights are always glowing at night. For example, even if no vehicles are moving on roads at night, street lights are always glowing which is actually not necessary. Inappropriate use of street lights, electricity is used unnecessarily which is a “WASTE OF ELECTRICITY”.

Topic: Existing System for road safety.

Abstract:

The individual traffic signals are connected with traffic control system to perform network wide traffic operation. These control systems contain a central computer, a communication network, and intersection traffic signals. Coordination of control system can be implemented through different techniques like time-base, hardwired interconnection method. Coordination between traffic signals and agencies requires the development of data sharing and traffic signal control agreements. A traffic-signal system has only one purpose i.e. to deliver signal timings to the driver. The system provides features that improve the traffic engineer’s ability to achieve this goal. These are primarily access features. They provide access to the intersection signal controller for maintenance and operations. The

more complete and convenient the access. The more efficient the operator will be and the more effective the system. In addition to control the traffic signals, modern technology also provide surveillance capabilities, including different kinds of video surveillance and traffic detection.

Topic: Proposed System for road safety.

Abstract:

Despite of the innovation made to the mobiles, vehicles etc. we see less developments to the roads. There are several work that can be done on the roads which will help in inventing new technologies and reconstructing the driving experience when it comes to road safety. The masterminds in this sector are trying hard to improve driving experience by innovating various ideas like to use roads to store solar energy from the sun directly and transfer that energy into electricity for homes. When there is a huge traffic on the one lane of the traffic signal, it should be cleared as soon as possible. But in our existing traffic system, the driver should wait until their turn comes even if there is a huge traffic in that particular lane. To avoid this we can provide sensor which are capable of analyzing the traffic intensity. These sensors can be used to clear the traffic as soon as possible before causing a traffic Jam. In this new system, sensors are used to prevent loss of electricity by the unnecessary usage of street lights at night. At nights street lights are switched 'ON' even if there are zero vehicles on road. So, in order to overcome this, sensors are used for street lights and when a vehicle passes through the sensors, the street light will be switched 'ON' and when the vehicle passes through that street light, the upcoming street light will be switched 'ON' automatically and all the foregoing lights are switched 'OFF' as the vehicle has passed through that light. This is continued throughout the street thereby saving the energy. Ultrasonic sensors are used to detect the traffic which gives a signal to RASPBERRY PI 3 about the traffic and this will be able to clear the traffic. Camera module installed on road is used to detect the vehicles that are not following the traffic rule .When there is a huge traffic on the one lane of the traffic signal, it should be cleared as soon as possible. But in our existing traffic system, the driver should wait until their turn comes even if there is a huge traffic in that particular lane. To avoid this we can provide sensor which are capable of analyzing the traffic intensity. These sensors can be used to clear the traffic as soon as possible before causing a traffic Jam. In this new system, sensors are used to prevent loss of electricity by the unnecessary usage of street lights at night. At nights street lights are switched 'ON' even if there are zero vehicles on road. So, in order to overcome this, sensors are used for street lights and when a vehicle passes through the sensors, the street light will be switched 'ON' and when the vehicle passes through that street light, the upcoming street light will be switched 'ON' automatically and all the foregoing lights are switched 'OFF' as the vehicle has passed through that light. This is continued throughout the street thereby saving the energy. Ultrasonic sensors are used to detect the traffic which gives a signal to RASPBERRY PI 3 about the traffic and this will be able to clear the traffic. Camera module installed on road is used to detect the vehicles that are not following the traffic rules.

Topic: The Solar Roadways for road safety.

Abstract:

As mentioned in the introduction about the roads that can reserve solar energy. It is an indie go projects which wants to install the solar panels on the roads which are made of glass with microprocessors and LEDs. The need for glass roads as? As glass can restore its environmental friendly and its strength can be improved. The roads are no more a midway just loco mote from one place to

another Smart Roads allows us to charge vehicle and utilize the energy in an effective way. With the technological enhancement in every field, roads are not behind. There will be more future enhancement that adds good experience and make our roads smart and safe to travel.