

A Major Project Report on

**SOLAR POWERED PORTABLE TRAFFIC LIGHT SYSTEM
WITH WIRELESS CAMERA**

Submitted to

Jawaharlal Nehru Technological University, Hyderabad

in partial fulfillment of the requirement for the award of degree of

BACHELOR OF TECHNOLOGY

in

ELECTRONICS AND COMMUNICATION ENGINEERING

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2022-2023



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CERTIFICATE

This is to certify that the major project report entitled “**SOLAR POWERED PORTABLE TRAFFIC LIGHT SYSTEM WITH WIRELESS CAMERA**” submitted to JNTUH is carried out by the following students of **IV B.Tech** in the partial fulfillment of requirement for the award of degree of Bachelor Technology in **Electronics and Communication Engineering** during academic year **2022-23**.

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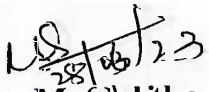
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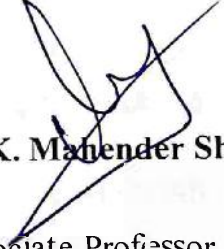
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ABSTRACT

Solar-powered portable traffic lights with wireless cameras are a sustainable and innovative solution for managing traffic flow in various settings. These systems use solar energy to power traffic lights and a wireless camera that monitors traffic flow in real-time. The portability of the system allows for easy deployment to different locations, while the wireless camera provides an added layer of safety by identifying potential issues that could lead to accidents. The use of renewable energy in these systems reduces the carbon footprint and operating costs associated with traditional traffic light systems. The wireless communication capabilities allow for efficient monitoring and control of traffic flow, which enhances safety on the roads. Overall, solar-powered portable traffic lights with wireless cameras are a practical and efficient solution for managing traffic flow in a changing world.

Traffic light system with ARDUINO. A two way display traffic light with LED strips arranged in the form of traffic & light colours. Relays must be connected between ARDUINO and LED arrangements. System with solar panel and battery storage with a switch. When there is availability of sunlight solar energy is direct power supply to traffic & light system and battery gets charged and with when no sunlight is available switch is turned on and power supply to traffic light system goes from battery. System must contain GPRS module to know the exact location of system, WIFI camera module to capture the images of accident/vehicles/pedestrians jumping signals when red light is shown on traffic & light. The data of GPRS module (location information) and WIFI camera module must be sent through Cloud Application. The whole system must be able to be placed on a tripod stand. The most effective solution to regulate traffic during road construction or maintenance is a portable wireless traffic light system. This traffic signal is intended to address the numerous types of hazards that could occur to construction workers, flagmen, and other road users. These two traffic signals use wireless technology for communication. Because there is no usage of cable, it can be deployed anywhere. This system is set up for safety, and it has motion and infrared sensors that can count the number of vehicles and identify their presence in order to prevent accidents. Regardless of the weather, this automatic system is operable around-the-clock. Additionally, a portable device is intended to address the issue of emergency vehicles becoming stranded on congested roadways.



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