

IOT PROJECT

[Document subtitle]





**VEHICLE SPEED DETECTOR USING NODEMCU**

**Problem Statement:**

The system should be able to detect the speed of vehicles in real-time and provide data insights for traffic management purposes. The solution should be cost-effective, scalable, and easy to deploy, aiming to enhance road safety and enforce speed regulations effectively

**Component Requirements:**

* Node Mcu: ₹400-500
* 16x2 LCD display: ₹130-170
* IR sensor\*2:₹100
* 12c module:₹150-200
* Jumper wires: ₹70-200

Total estimated cost in INR: Approximately ₹1000-1400

**Block Diagram:**



* The ---> arrows show the flow of vehicle speed data from the IR sensor to the Node Mcu and the flow of control signals from the Node Mcu to the 16x2 LCD display .
* The ---- lines indicate the physical connections between the components, such as wires or jumper cables used to connect the IR sensor , Node Mcu, 16x2 LCD display,12c module and Buzzer.

**Project Overview:**

This project entails developing a vehicle speed detection system using NodeMCU, integrating a speed sensor to capture vehicle speed data. The NodeMCU, programmed via Arduino IDE, connects to Wi-Fi for data transmission to a centralized server. Speed data is analyzed and visualized on the server interface, facilitating real-time monitoring and alerting for overspeeding incidents. The system aims to enhance road safety by providing an affordable and scalable solution for monitoring traffic speed.

**References:**

* References for Arduino uno - <https://www.arduino.cc/reference/en/>
* The microcontroller & embedded systems- Mohammad Ali MazidI.
* Electronic components- D.V. Prasad.