ABSTRACT

The development of transportation facilities and infrastructure increasingly rapidly from time to time greatly facilitate the use of transportation equipment in accordance with daily needs. However, with the growing and increasing use of the means of transportation impact on congestion on the highway is difficult to avoid. Even in big cities, congestion has become a common sight everyday which of course will reduce productivity.

In this final project is designed and implemented a congestion monitoring tool with case study in Bandung. This tool will provide the output of the vehicle speed so it can be processed by the system to determine the state of the road. Installation of this tool is done in some highway section will and provide information in realtime to the users of the highway, so it will provide information that can be a reference to make decisions in choosing the path that will pass.

This congestion monitoring tool is composed of several components. The ESP8266 module is used to send data from arduino to geeknesia server. Arduino uno as a microcontroller that performs data processing. Ultrasonic sensors can be used to determine the speed of a vehicle, thus the use of ultrasonic sensors as an alternative in determining vehicle speed can be developed so that the system can determine the presence or absence of road congestion.

For the need of presentation of congestion information built a site that has live streaming features regarding road conditions and additional information..

Key words : Ultrasonic Sensor, Arduino, congestion , Traffic Monitoring, live streaming.