

ABSTRACT

At the present time, a lot of growing technology and research being conducted one of the intelligent transport system, for the example is the application traffic monitoring system in the metropolis. Traffic density that occurs as in Jakarta and surrounding areas is very worrying. Hence today many developed methods to reduce traffic congestion , one of the method which is the intelligent transport system (ITS) .

In this final project, the author make the prototype of monitoring vehicle density in real time by using SMS gateway. This system is divided into several subsystems , namely the image processing in the MCU used ARM Cortex M3, which included a division of the image obtained through the method of volume analysis whose results can determine the level of vehicle density. Other subsystems are sending the final result to the user via SMS gateway where the device uses the GSM module .

From the results of the test performed, results of the implementation have an accuracy rate of 80% with an average time of 19.3 seconds. Moreover, my research can be beneficial to road users, especially motorists, to determine the traffic density that occurs, so they can choose the right path to be traversed in order to avoid traffic congestion.

Keyword: *Volume Analysis*, MCU, ARM, modul GPRS Shield v2.0, SMS *gateway*.