

## ABSTRACT

The congestion was common problems that occurs on the main highway that caused the mounting a queue at the traffic light. This condition happened in the way of heterogeneous and use technology traffic lights fixed time control who works with apportion time wait every simpang levelled. This certainly is not efficient if traffic congestion in any direction that is different for each the way. A solution to solve the problem is by applying a intelligent transportation system .

On final project the system made using several tools as arduino mega 2560, arduino ethernet shield, and ultrasonic sensor laid under in a crossroads and send a signal to indicate the presence of vehicles when the vehicle through the loop or stop. Data from ultrasonic sensors sent through wire and wireless then transmitted to regional computer so that data can be processed .Data and then submitted to traffic processor system in traffic control centre .

In final project results more accurate obtained from ultrasonic a sensor which used on a system transportation smart than previous studies .With time delay the average of testing and analysis is 0.26253 seconds to every the submission of the data. This outcome supported also by testing package loss small to every delivery .