

## ABSTRACT

The traffic light is a light located at the crossroad, pedestrian crossing, dan place which have a high density. The traffic light have a three different color and flashing alternately by automatically. The color of the lamp is red mean stop, yellow means get ready for go, or be carefull, and green means permitted to go. However, the present traffic light can't handle an emergency condition like a passing ambulance on duty. Previously, the traffic light has been development. But, in that developmentnot explained about effectivity from that traffic light development.

Therefore, made a simulation system that will model a junction and there is a ambulance going to across that junction. In this simulation created three kinds of traffic light with different system and the result of this system is how long the ambulance can across the junction which will apply the normal traffic light model, controlling traffic light model, and smart traffic light model.

From the 10 trial using simulation java programming base. The traffic light model which advantage for anticipating the arrival of emergency vehicle is smart traffic light. Because, the smart traffic light model has a fastest traveling time that have time 7 minute and 19 second between normal traffic light model, and controlling traffic light *model*.

**Keyword-** *traffic light, simulation, ambulance*