

## ABSTRACT

*Fire is a disaster that often occurs in everyday life. This is caused by an electric short circuit or the explosion of the LPG gas cylinder even due to human negligence. Fires cause huge losses if not handled immediately. Fire handling can be done by contacting the fire department. But in reality, fire fighter often arrive late at the fire location due to traffic conditions. That's why we need an intelligent traffic light system that can reduce the travel time of a fire fighter truck.*

*This traffic light system works on an IoT-based basis by utilizing GPS technology. This GPS will be a benchmark for the positioning of fire fighter. When the fire fighter is at a certain distance from traffic lights, the system will change the traffic light so that the fire engine can pass it without disturbing the ongoing traffic flow.*

*From the experiments that have been carried out all the experiments were successful. All experiments are successful in changing the traffic light when the user is 150 m from the intersection. In the first test line using an average vehicle speed of 20 Km / Hour, the farthest distance value is 146.68228 m. The second test with an average vehicle speed of 25 Km / Hour, the farthest distance is 149.45901 m. The third test with an average vehicle speed of 30 Km / Hour obtained a distance of 148.53648 m. The fourth test with the average speed of the vehicle 35 Km / Hour, the farthest distance value is 148.45363 m. and the last tester with an average vehicle speed of 40 km / hour, the farthest distance is 148.00397 m. This application can be a solution to the problems of traveling for fire fighter truck.*

**Keywords:** *Fire, smart traffic light, GPS, IoT.*