**Abstract**

Across the globe, in many prime & metro cities, traffic congestion is a serious problem and it has become a nightmare for citizens in these cities. In a traditional traffic signal system fixed timing is allocated to either side of the junction which cannot be varied as per diverse traffic density. Timings allotted to junctions and intersections are fixed. Sometimes longer green light is demanded at one side of excessive traffic density as compared to the standard assigned time. In the smart traffic signal, the object detection is processed and transformed into a proposed system and various features are extracted. The profile has been drawn based on the calculated threshold. Then contours are drawn to count the number of vehicles present in the area.Once the number of vehicles is calculated, then we can know which side has a high density of vehicles. Based on the collected data it will be concluded that on which green signal and the red signal will be assigned to a particular side.