**ABSTRACT**

Traffic is the major problem which every country faces because of the increase in number of vehicles throughout the world, particularly in large urban areas. As the problem of urban traffic congestion spreads and occurrence of road accidents increase, there is a pressing need for the introduction of advanced technology and equipment to improve the traffic control algorithms to better accommodate this increasing demand. The simplest way for controlling a traffic light is using timer for each phase. Another way is to use electronic sensors in order to detect vehicles, and produce signal that cycles. In this system we propose the design for controlling the traffic lights based on time interval. This system control the time interval of the traffic light based on traffic density system for controlling the traffic light by image processing. This system will detect vehicles through images instead of using electronic sensors embedded in the pavement. A camera will be installed alongside the traffic light. It will capture image sequences. The image sequence will then be analyzed using digital image processing for vehicle detection, and according to traffic conditions on the road, traffic light can be controlled.