

ABSTRACT

Traffic is the heart of the transportation for road users, bad traffic condition can be the most problem in Indonesia. Traffic congestion caused by unbalanced between the number of the vehicle and the available road capacity, causing queue time and vehicle that being increased. The widening of the road and the addition of the road solutions take more time and high costs. In this case the author minimizing the solution to implement the genetic algorithm applied on the combined traffic system. The author choosed the solution for redesign combined traffic light system are adaptive to implement the genetic algorithm put into traffic light system. This traffic light is adaptive because it produces the green light according to the number of vehicle in the road, so it can be fix the traffic jam and increase the green light. Based on the results of the study, Genetic Algorithm who was designed at the intersection of R.A.A Marta Negara Bandung could adding the total vehicles in the intersection as much as 65 vehicles/hour in one period and Buah Batu is -25 vehicles/hour.

Key words: Artificial Intelligence, Genetic Algorithm, Traffic Light System.