

ABSTRACT

The more days the number of motor vehicles with various types is increasing due to the production of cheap cars that can not be limited by the government so that the vehicle population is increasing. In addition, Indonesia is a country with the third largest motorcycle rider in the world after China and India. One of the biggest cities in Indonesia is Bandung is a city that often experience traffic congestion, especially during peak hours and weekends because of population growth, urbanization and transmigration has increased and not comparable with the growth and development of adequate infrastructure so that frequent traffic jams.

In this study, the authors developed a traffic monitoring system to calculate the number of vehicles using the Frame Difference method. To implement the method contained in this paper in calculating the number of vehicles passing on a highway by using two different points of view. The assumption in this research is using static background assumption.

This method calculates the difference of intensity values on a pixel of two frame images taken sequentially using Matlab software by previously converting video / image RGB (Red, Green, Blue) to a grayscale scale. Then the thresholding process so that the binary image to determine the existence of object changes or no difference between the background and foreground will show the difference in intensity for the pixel location that has changed in two frames as well as filter and morphological operations on the object more accurate in detecting the vehicle object.

Based on the result of the research, it is found that the performance of video from Tol Pasteur with the viewing angle has 8.21% error and Purbaleunyi Toll with vertical angle has 4.43% error by using some filter and morphological operation. Conversely, if without using filters and morphological operations have an error of 175.22% in Pasteur Toll and 115.44% at Purbaleunyi Toll.

Keywords : *intelligent transportation system, grayscale, frame difference, threshold*