

ABSTRACT

In developing countries such as Indonesia increased vehicle in large numbers every day of her as the biggest problem in the region and in the capital, causing traffic density, then developed a model Traffic Dynamics to cope with the dynamics of traffic density with Carmen approach following models (Car-Following Models).

In accompaniment of vehicles on the traffic the rider should adjust speed and distance in order to achieve a safe position so there is no traffic accidents. With the approach of the model can be simulated conditions that form the accompaniment vehicle accidents cause of the problem. In this research the authors simulate the flow of vehicles accompaniment with Velocity Difference Model Full method, wherein the method of fixing the previous model yaitu Optimal Velocity Model by considering the difference in speed and distance between vehicles and add the parameter constants step function. Full Velocity Difference Method Model has the disadvantage of a value natural slowdown in the vehicle is very extreme. While previous methods Optimal Velocity Model has accelerated extreme weakness, so I did some research to find the problem scenario to be more realistic.

The results of this study in the form of graphs of speed, acceleration and position of the simulated time of FVDM method. It also obtained the results of vehicle speed accuracy accompaniment on simulations that occurred approximately 10 seconds into the speed of the vehicle accompaniment on real data at 73.32%. I also conduct research on the simulation results of random data as a comparison.

Key words : *Car-following model , Traffic Dynamics, Optimal Velocity Models, Full Velocity Difference Model (FVDM)*