Abstract

In this final project the traffic flow is modeled with the transport equation and then simulated using the textit Flux Limiter Scheme method. Furthermore, it will be compared with other numerical additions such as Upwind and Lax - Wendroff. There are 2 traffic flow conditions here, namely there are obstacles (traffic jams) and there are no obstacles (not jammed) where the obstacles here are vehicles that stop suddenly which causes the vehicle running behind it to stop. The parameters used in this study are the density and average speed of the vehicle. Data obtained from direct observation on Jalan Merdeka Bandung, West Java, Indonesia. From the data obtained the speed function value obtained using an approximate polynomial $v(\rho)$ = -11.81 (ρ) + 18.12 for traffic flow conditions that have obstacles, and $v(\rho)$ = -51.37 (ρ) + 45.23 for traffic conditions that have no obstacles. The result is the Flux scheme limiter method is the method that most closely approaches the exact solution.

Keywords: Traffic flow, Density, Transport Equation, Flux Limiter Scheme