ANALYSIS OF TRAFFIC FLOW PROBLEM USING WAVE EQUATION

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ABSTRACT

The congestion problem is a problem that occurs in almost all cities in Indonesia. The congestion problem can be analyzed from the completion of the traffic flow related mathematical models. Various mathematical models of traffic flow have been developed in part by Emanuel Sunday in 2014 who built a mathematical model using the wave equation. This study will analyze the solution of traffic flow problem on the highway modeled using the wave equation. The influence of the density of cars on the interaction of the entire vehicle at a specified distance from the road would investigate. The behavior of the traffic density will fulfill the law of conservation. A one-dimensional wave equation can be used to model the traffic congestion problem. From the analysis, while the density of states is not changed / uniform within a specified time then the density will decrease within a certain time interval

Kata Kunci: *wave equation, traffic flow problem*