

A New Mathematical Model for Traffic Systems: The Basic Traffic Unit

Khairani Abd. Majid, Zaharin Yusoff and Abdul Aziz Jemain

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ABSTRACT

In studying traffic congestions at toll plazas, a basic model for traffic systems was introduced with the hope to contribute towards a longer-term solution with the means for explaining and predicting congestions. The basic model is named the Basic Traffic Unit (BTU). Besides solving traffic congestion problems, the basic model may also be extended to other network problems. It is anticipated that future researchers may further this study using more specific operations research approach, based on simulation and queuing theory models which would then provide a better insight towards a more sustainable solution.

Keywords: Traffic Systems . Arrival Rate . Toll Plaza . Queueing Theory . Traffic Simulation