

A STOCHASTIC MODEL FOR THE TRAFFIC STREAM IN AN INTERSECTION

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In this paper we discuss the probability distribution of the maximal number of persons that can safely cross the one-way traffic stream in an intersection. The traffic stream is modelled as a renewal process and the number of persons that can cross the stream depends on the time interval between consecutive cars in the traffic stream. The results are presented in the form of Laplace transforms which can be inverted numerically.

Keywords: renewal reward process, Laplace transform, empirical distribution.