

# MODELING THE FLOW OF TRAFFIC

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## Abstract

The most popular manner in which the flow of traffic is described is within the framework of continuum approach, as that of a compressible fluid. It is also described using a statistical approach within the framework of the kinetic theory of gases, and also using cellular automata models. These approaches are however not suitable for modeling dynamical systems such as traffic for a variety of reasons. While such systems are large collections, they are not large enough to be treated as a continuum. A kinetic theory approach to modeling the flow of traffic is fatally flawed from the view point of physics, and the cellular automata approach has no physical basis whatsoever. After providing a rationale for why they cannot be appropriately described within the context of continua, the kinetic theory of gases, or by appealing to cellular automata models, I will provide an alternative approach, namely the development of a large discrete interconnected dynamical systems.