

Abstract Submitted
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Investigating One-Dimensional Stochastic Models for Traffic Flow

D. FRAWLEY, N. PILGRAM, I. POWELL, W. SNYDER, Cal Poly, San Luis Obispo — We developed a program using iPython to investigate traffic. Three different one-dimensional rulesets for the movement and interaction of cars on a road were employed. By studying current vs. density of cars we identified the conditions that lead to phase transitions between smooth traffic flow and traffic jams. The program includes a configurable animation that allows the user to adjust the conditions and observe the flow of traffic. An overview of the program and discussion of future extensions will be presented.

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