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REVIEW OF TRAFFIC MODELLING TECHNIQUES

Traffic modeling is a vital component of transportation research, offering a range of mathematical frameworks to analyze, forecast, and manage vehicle flow across highways and urban networks. These models enable a deeper understanding of traffic dynamics and help anticipate future conditions under varying scenarios. This study presents a comprehensive review of traffic modeling methodologies, including data-driven techniques that incorporate machine learning and simulation tools. It critically assesses the strengths and limitations of these approaches in relation to congestion mitigation, network efficiency, and the development of intelligent transportation systems. The insights gained provide a valuable foundation for traffic management research and inform evidence-based strategies in urban mobility planning.
Key Words: Traffic modeling, traffic dynamics, congestion mitigation, network efficiency

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