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Traffic Simulation

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Abstract In order to improve mobility, the project investigates merging VANETs and WSNs. Communication between vehicles and infrastructure is made possible by VANETs. WSNs gather environmental information. Integration makes it possible to collect precise data for enhancing traffic flow and safety. Sensor nodes containing sensors, processors, communication modules, and power sources are essential parts of a wireless sensor network. Applications for WSN include traffic management, healthcare, and environmental monitoring. A traffic simulation model that analyzes traffic flow factors is created using NetLogo. For autonomous cars and V2V/V2I communication, data transmission in vehicular networks—using cellular standards and IEEE 802.11p protocols—is essential. Car movement, speed control, and data transfer systems are displayed in the simulation results. Implementing traffic rules and managing congestion are the next steps. In conclusion, the research improves intelligent transportation systems through traffic scenario simulation for analysis and optimization and VANET integration with WSNs.