

# Application of RFID Technology for Solving Vehicle Emission in Smart Cities using IoT

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**Abstract:** *With the rapid rise in urban vehicle populations, air pollution has become a critical environmental and public health issue. This project proposes an Internet of Things (IoT)-based system that leverages RFID (Radio Frequency Identification) technology to monitor and control vehicle emissions in real-time within city environments. Vehicles are equipped with RFID tags containing identification and emission data, while strategically placed RFID readers at key checkpoints gather this information wirelessly as vehicles pass by. Integrated with air quality and gas sensors, the system can detect high-emission vehicles and send alerts to authorities for enforcement or preventive action. Data is transmitted to a central server for storage, analysis, and decision-making, enabling better traffic regulation and emission control policies. This smart approach not only improves monitoring efficiency but also supports sustainable urban mobility, making it a scalable and cost-effective solution for combating vehicle-induced air pollution in smart cities*

**Keywords:** RFID, Vehicle Emission, IoT, Air Pollution Control, Smart City.

