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Transforming Urban Mobility Through Intelligent Transportation Systems: Innovations, Applications, and Challenges

Aditi Sikdar
B.Tech , CIVIL Engineering Student
Arya College of Engineering and Research Center, Kookas, Jaipur, Rajasthan
aditisikdar7817@gmail.com

Abstract: *The rapid urbanization and increasing demand for sustainable mobility have emphasized the need for smarter, more efficient transportation solutions. Intelligent Transportation Systems (ITS) leverage advanced technologies such as artificial intelligence, machine learning, IoT, and big data analytics to optimize traffic management, enhance safety, and reduce environmental impacts. This paper explores the evolution of ITS, delves into its applications, addresses prevailing challenges, and presents insights into its future trajectory. Key themes include the transformative role of ITS in traffic management, autonomous vehicles, and smart city integration, along with strategies to address challenges such as data security, infrastructure development, and policy frameworks.*

Keywords: Intelligent Transportation Systems, Traffic Management, Autonomous Vehicles, Smart Cities, Public Transportation, Sustainability, Artificial Intelligence, Internet Of Things

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