

117

Smart Cities for Palestine: Leveraging Smart Mobility, Railways, Blockchain, and Digital Twins to Solve the Transportation Crisis and Enable Peaceful Regional Integration

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Abstract

Palestine is facing growing transportation challenges that affect daily life, economic growth, and regional connectivity. This paper explores how the concept of Smart Cities can offer practical and future-ready solutions to these problems. By focusing on smarter urban planning and infrastructure, we aim to move beyond traditional approaches and introduce technologies that create real change on the ground.

One key area is Smart Mobility—developing systems that reduce congestion, improve safety, and offer alternatives to private cars. This includes public transportation, autonomous vehicles, and Mobility-as-a-Service (MaaS). Alongside this, we highlight how railway development can reconnect cities, boost the economy, and link Palestine with neighboring countries through high-speed and light rail networks.

We also explore the use of Blockchain to secure transport data, automate systems like ticketing and insurance, and build trust in mobility platforms. In addition, Digital Twin technology is introduced as a powerful tool for planning and monitoring cities in real time—helping municipalities make better decisions based on live data.

This paper presents a clear roadmap for how Smart Cities and innovative technologies can help solve local transportation issues while laying the foundation for peaceful regional integration. With the right vision and collaboration, Palestine can lead the way in sustainable, connected urban development.