

Smart Cities in India: Evolution, Implementation and Challenges

Laxmiputra*

Assistant Professor, Department of Economics, Sharanabasveshwar College of Arts Kalaburagi

ABSTRACT

The concept of Smart Cities in India represents a transformative approach to urban development, integrating technology, sustainability, and citizen participation to improve quality of life. Launched in 2015 under the Smart Cities Mission, the initiative aims to develop 100 cities with modern infrastructure and digital governance systems. This paper examines the historical background, objectives, implementation strategies, achievements, and challenges of the Smart Cities initiative in India. The study also evaluates its impact on sustainable urban growth and future prospects.

Keywords: Smart Cities Mission, Evolution, Implementation and Challenges

INTRODUCTION

India is experiencing rapid urbanization. According to government estimates, over 35% of India's population lives in urban areas, and this number is expected to grow significantly. Urban growth has created challenges such as traffic congestion, pollution, water scarcity, and inadequate housing. To address these issues, the Government of India launched the Smart Cities Mission on 25 June 2015 under the leadership of **Narendra Modi**. The program aims to promote sustainable and inclusive cities that provide core infrastructure and a decent quality of life.

Historical Background of Urban Planning in India

India has a long tradition of planned cities.

- Ancient cities of the Indus Valley Civilization (e.g., grid planning, drainage systems).
- Medieval planned cities like Jaipur.
- Post-independence planned cities such as Chandigarh.

However, the Smart City concept differs by emphasizing digital technology, data-driven governance, and environmental sustainability.

REVIEW LITERATURE

Eiko wataya and rajib shaw 2024.

This section highlights the distinctive strategies used in India's smart city mission program, which was created and put into action for urban revival and redevelopment. The ministry of housing and urban affairs (mohua) is in charge of overseeing the India smart city mission program, a national initiative started by the Indian government in 2015 with the goal of fostering urban sustainability. Bhubaneswar and Nagpur were chosen as case studies from this initiative. While Nagpur is an inland city in the country's centre, Bhubaneswar is a coastal city on the country's east coast. Different kinds of risks are present in both cities.

Asrifan, a., et.al 2024.

This research talks about eco-smart cities and how they contribute to smart technology and sustainable urban tourism. In order to foster innovation, resource efficiency, and sustainable growth, it places a strong emphasis on ecological principles and smart technological infrastructure. The chapter addresses the impact of ecosmart cities on managing urban tourism and offers research and solutions. In order to clarify how eco-smart communities may leverage smart technology to support tourism, this chapter offers a thorough assessment of the scientific literature.

Samancioglu, e., et.al 2024.

Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.



By examining the connection between smart tourism and sustainability through a thematic literature analysis, this study seeks to illuminate the role of sustainability in tourism in terms of smart technologies.

He, hongman & ye, wenyu & feng, shuang. (2023).

The idea of smart tourist cities has surfaced as a result of the recent, explosive growth of smart tourism technology including cloud computing, big data, internet of things apps, and social networking services. Additionally, there is a growing body of research on the subject of smart tourism city building. Based on citespace v and vosviewer 2020 platforms, this study summarizes the literature research in the topic of smart tourism cities using bibliometric techniques. The research literature on the clever building of a city's six tourist components is also compared in this study.

Sarji, et., al 2023.

This research seeks to investigate recent literature on smart city and smart tourism, analyzing their contributions to attaining sustainable and competitive tourism via innovative design. The research outlines the connection between smart cities and tourism, detailing the present state and possible expansion of tourism in Asia via smart cities. Recent research indicates that smart cities are vital for enhancing tourist destinations. Intelligent tourist cities emerge from the intersection of smart and tourist cities, utilizing technology to enhance life quality, urban services, and address social, cultural, and economic demands.

Mishra, s.et., al 2023.

The research explores the potential of smart infrastructure in the context of smart cities and its impact on the development of sustainable tourism. This section offers a detailed overview of the literature and investigates the possible cross-linkages of smart cities and tourism development, taking into account the significant contribution of smart infrastructure in enhancing tourism experience while minimizing the ecological footprints and the degradation of tourism products. It also seeks the challenges, prospects, and successes achieved in the

application of smart infrastructure in smart cities as a strategy for sustainable tourism development. The results have important messages for academic, policy, and business actors interested in using smart technology for sustainable tourism.

Objectives of the Smart Cities Mission.

The mission focuses on three major development strategies.

1. Area-Based Development (ABD)

- Redevelopment of existing areas.
- Retrofitting infrastructure.
- Greenfield development.

2. Pan-City Solutions

- Smart traffic management systems.
- Intelligent street lighting.
- Integrated command and control centres.

3. Citizen-Centric Governance

- E-governance platforms.
- Public participation in planning.
- Transparent service delivery.

Key Features of Smart Cities

- 1. Smart Infrastructure** – Reliable water supply, sanitation, and electricity.
- 2. Smart Mobility** – Public transport systems, cycle tracks, and traffic monitoring.
- 3. Smart Governance** – Online public services and grievance redressal systems.
- 4. Environmental Sustainability** – Solar energy, waste management, green spaces.
- 5. Safety and Security** – CCTV surveillance and emergency response systems.

Examples of leading Smart Cities include.

- Pune
- Surat
- Indore
- Bhopal

Achievements

- Establishment of Integrated Command and Control Centres (ICCCs).
- Improved waste management and cleanliness rankings.
- Increased digital service delivery.
- Adoption of renewable energy projects.

The mission has accelerated infrastructure development and improved urban service efficiency in selected cities.

Challenges

Despite progress, several challenges remain:

- Funding limitations and delays.
- Coordination issues between central, state, and local governments.
- Digital divide among citizens.
- Environmental and land acquisition concerns.

Moreover, critics argue that the focus on selected urban areas may widen inequality between cities and rural regions.

FUTURE PROSPECTS

The Smart Cities initiative can serve as a model for sustainable urban transformation in developing countries. Future focus areas should include.

- Greater citizen inclusion
- Climate-resilient infrastructure
- Expansion of digital literacy
- Integration with national programs like urban housing and clean energy missions.

CONCLUSION

The Smart Cities Mission marks a significant step in India's urban development strategy. By combining technology, sustainability, and governance reforms, India aims to create cities that are efficient, liveable, and inclusive. While challenges persist, continued

policy support and community participation can ensure long-term success.

REFERENCE

1. Agrawal, Prasun & Kumar, Bipin. (2022). Financing smart cities—an Indian case study. 10.1016/B978-0-12-819130-9.00049-8.
2. Asrifan, Andi & Murni, Murni & Hermansyah, Sam & Dewi, Anita. (2024). Eco-Smart Cities: Sustainable Tourism Practices Enabled by Smart Technologies. 10.4018/979-8-3693-6720-9.ch010.
3. He, Hongman & Ye, Wenyu & Feng, Shuang. (2023). A Bibliometric Analysis of Smart Tourism City Research. 10.1007/978-981-99-3626-7_86. <https://Agrasmartcity.in/>
4. Mishra, Shreeansh & Bhatt, Vaibhav & Singh, Pramendra. (2023). Smart Infrastructure in Smart Cities Scope and Implications for Sustainable Tourism Development. 10.4018/979-8-3693-0650-5.ch010.
5. Samancioglu, Emre & Kumlu, Sarp & Ozkul, Emrah. (2024). Smart tourism destinations and sustainability: evidence from the tourism industry. *Worldwide Hospitality and Tourism Themes*. 10.1108/WHATT-07-2024-0167.
6. Sarji, & Chakim, Mochamad & Hatta, Muhammad & Himki, Arzo & Zahra, Achani. (2023). Relationship Between Smart Cities and Smart Tourism: Using a Systematic Review. *ADI Journal on Recent Innovation (AJRI)*. 5. 33-44. 10.34306/ajri.v5i1sp.914.
7. Vaziri, Mona & Behzadfar, Mostafa & Jalali, Ali Akbar. (2022). The role of environmental sustainability in the smart city.
8. Wataya, Eiko & Shaw, Rajib. (2024). The India Smart City Mission Program. 10.1007/978-981-97-3373-6_4.

HOW TO CITE: Laxmiputra*, Smart Cities in India: Evolution, Implementation and Challenges, *Int. J. Sci. R. Tech.*, 2026, 3 (3), 65-67. <https://doi.org/10.5281/zenodo.18893338>