The Academic
International Journal of Multidisciplinary Research

An Online Peer Reviewed / Refereed Journal
Volume 4 | Issue 3 | March 2026
ISSN: 2583-973X (Online), SJIF IF: 5.6
Website: www.theacademic.in

Smart City Bhagalpur: Design, Funding, Resource and Project Advancement Analysis

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DOI : https://doi.org/10.5281/zenodo.19543451

ARTICLE DETAILS

Research Paper

Accepted: 27-03-2026

Published: 10-04-2026

Keywords:

Smart City Mission, Bhagalpur, Area-Based Development, Urban Governance, Sustainable Development

ABSTRACT

Bhagalpur also commonly known as the Silk City of India has become a significant example of urban change through planning within the framework of the Smart Cities Mission introduced by the Government of India in 2015. The city was chosen in the second round in 2016 and has implemented a two-fold approach of the Area-Based Development (ABD) and Pan-City initiatives to encourage sustainable, inclusive, and technology-driven urban development. ABD approach is aimed at the enhancement of the core infrastructure including riverfront development, smart roads, heritage conservation, water supply, sewerage, and the open spaces whereas Pan-City initiatives are centered on the aspects of Information and Communication Technology (ICT) solutions, namely, the Integrated Command and Control Centre (ICCC), intelligent traffic management, and solid waste management systems. These projects are carried out by the Bhagalpur Smart City Limited (BSCL) which is a Special Purpose Vehicle mandated with planning, financing, execution, and monitoring. The city has improved a lot, especially in the flagship projects such as smart road networks and digital governance systems with a total proposed investment of rs 1,309.3 crore funded with the help

of central and state government as well as local and private involvement. By the beginning of 2026, Bhagalpur is showing significant progress in its urban mobility, provision of services to the people, and tourism development, particularly by beautifying the riverfronts. The city is slowly becoming a sustainable economic and cultural center despite the risks of tardiness of the projects and environmental issues. This change helps emphasize how the inclusion of planning and resource optimization can lead to inclusive urban development.

Introduction

In India, rapid urbanization has posed serious challenges in regard to infrastructure and provision of services, environmental sustainability and governance. In order to solve these problems, Smart Cities Mission was introduced by the Government of India in 2015 and its goal was to facilitate sustainable, inclusive, and technologically-enabled urban development. The focus of the mission is the provision of efficient infrastructure, better livelihood and citizen-oriented governance by incorporating the modern technologies and innovative planning schemes.

A historical venue with a long-established history of a silk industry and an agricultural foundation, Bhagalpur, was chosen in the second round of the Smart Cities Mission in 2016. Its incorporation is a strategic move to make the city an economic growth hub in the region through the cultural heritage, economic potential, and geographic advantages of the city as a hub. Its development agenda involves improving the urban living conditions, improving economic activities, boosting tourism and the adoption of digital forms of governance.

The Smart City's implementation must be successful, which is why a Special Purpose Vehicle (SPV) was created in 2016 under the name of Bhagalpur Smart City Limited (BSCL). BSCL is the key factor in the planning of the project, the management of funds, project implementation, and monitoring, thereby supporting the coordinated and responsible approach to the urban transformation.

Review of Literature

- **Government of India (2015).** Smart Cities Guidelines and Mission Statement. Ministry of Housing and Urban Affairs. This report will present the basic outline of the Smart Cities Mission, which will have goals, funding patterns, and approach to implementation. It focuses on Area-Based

Development and Pan-City solutions as the main solutions. According to the guidelines, citizen engagement, sustainability, and integration of technology are the key elements in realizing the inclusive and effective urban transformation in Indian cities.

- **Ministry of Housing and Urban Affairs (2021).** Mission of Smart Cities: Urban India Transformation. Government of India. This report will discuss the progress and performance of smart city projects in India. It talks of the best practices, implementation issues and results regarding infrastructure, governance and service delivery. The paper demonstrates how digital technologies, built-in command systems, and urban innovation contributed to more efficient and better life in the chosen cities.
- **Smart City Limited (BSCL) (2025).** Project Progress and Status Report. Smart City Ltd. Bhagalpur. This report provides specific information about the Smart City initiatives at Bhagalpur, project planning, funding, and the current status of the project. It singles out some of the major projects, e.g., smart roads, ICCC, and riverfront development. The document indicates the progress made, use of resources and current activities providing a full picture of the local-level implementation and governance mechanisms.
- **Kundu, A. (2019).** The smart cities and urban development in India: critical assessment. The Economic and Political Weekly. Kundu looks critically at the Smart Cities Mission and concentrates on the problem of inclusiveness, governance, and regional inequalities. The analysis doubts the use of area-based strategies and emphasizes balanced development as necessary. It offers a conceptual approach to the issue of urban policy with the focus on socio-economic justice and the obstacles to developing smart city models in different settings.
- **Datta, A. (2018).** Smart Urbanism: Digital Turn in Postcolonial Urbanism in India. Institute of British Geographers, Transactions. This paper examines how digital technologies have become a major aspect of the urban governance and citizen engagement in smart cities. It is a critical analysis of the role of technology in participation, surveillance and access to services. The paper provides a socio-political view of smart urbanism with the presence of opportunities and concerns that the digital transformation of cities in India suggests.

Planning Framework of Smart City Bhagalpur

Total Investment Structure

The Smart City Proposal for Bhagalpur outlines a comprehensive investment plan:

Component	Allocation (₹ Crore)	Focus Area
Area-Based Development (ABD)	1,106.7	Core infrastructure (roads, riverfront, heritage, utilities)
Pan-City Initiatives	202.6	ICT-based smart solutions
Total	**1,309.3**	Integrated urban transformation

Source: Smart City Proposal, BSCL

Total Investment Structure:

The Smart city Proposal of Bhagalpur shows a strategic distribution of rs 1,309.3 crore to balance the urban development. Most of the amount, rs 1,106.7 crore (approximately 84 %) is allocated toward Area-Based Development (ABD), which aims at upgrading core infrastructure like smart roads, river front development, water supply, sewerage systems and heritage conservation. The focus of this method is to make the chosen areas model zones equipped with high-quality urban facilities.

The rest rs 202.6 crore (approximately 16 %) is spent on Pan-City initiatives, and this focuses more on technology to offer solutions such as the Integrated Command and Control Centre (ICCC), traffic management system, and e-governance. This integration guarantees development of physical infrastructure as well as efficient service delivery in the city in terms of digital integration.

Vision Statement:

Smart City Bhagalpur is to be a vision that will bring the city to a new sustainable and economically active metropolis. It aims at enhancing its status as a silk and agricultural center and raising the quality of life in general by enhancing infrastructure, sanitation, and greenery.

Concurrently, the vision facilitates tourism through the development of riverfronts and heritage sites to develop new economic prospects. The focus on digital governance with the help of ICT is supposed to strengthen transparency, efficiency, and the involvement of citizens. The vision, in general, is characterized by interplay between the need to maintain the cultural legacy and the use of contemporary urban technologies to ensure inclusive development.

Strategic Planning Direction

The development plan of Smart City in Bhagalpur is founded on a two-sided approach which incorporates Area-Based Development (ABD) and Pan-City projects to make the place both more localized and the city more global. The method will enable the city to improve physical infrastructure and bolster governance at the same time with technology.

The emphasis of Area-Based Development (ABD) is on retrofitting and redeveloping chosen sections of the city into model urban areas. These involve development of riverfronts at the Ganga ghats, smart roads, enhanced water supply and sewerage systems, preservation of heritage buildings and development of slums. The goal is to develop a quality urban environment with proper planning that enhances living standards and that can be applied elsewhere.

Conversely, Pan-City projects focus on the application of Information and Communication Technology (ICT) in enhancing governance and service delivery of the whole city. Some of the important elements are the Integrated Command and Control Centre (ICCC), which allows real-time monitoring of urban services, the Intelligent Traffic Management System (ITMS) that is used to manage traffic efficiently and the Solid Waste Management (SWM) systems that can manage the environment better. The combination of these efforts makes the urban system more efficient, responsive and technology-driven.

Funding and Resource Allocation

Sources of Funding

Funding Source	**Contribution**
Government of India	~₹500 crore (standard mission support; initial tied grant ~₹194 crore)
Government of Bihar	₹465 crore (approved in 2016)
Urban Local Body (Bhagalpur Nagar Nigam)	Partial funding
PPP & Convergence	Additional resources
User Charges & Borrowings	Operational sustainability

Allocation of funds and resources

The Smart City Bhagalpur is a funded project that is funded by a combination of central, state, and local funds. The Government of India contributes approximately rs 500 crore as the Smart Cities Mission and the Government of Bihar is also contributing approximately rs 465 crore as matching support. The Bhagalpur Nagar Nigam, the public-private partnership (PPP), and convergence with other schemes are other sources of additional funding. Borrows and user fees guarantee financial sustainability in the long run.

The financial governance is under Bhagalpur Smart City Limited (BSCL) where funds are ring fenced. This system facilitates transparency, efficient use of resources, and helps operate and maintain urban structures in the long term (O&M).

Major Projects and Current Status (2025–2026)

Flagship Project Status Table

Project/Category	**Cost (₹ Crore)**	**Status**	**Key Features**
Integrated Command & Control Centre (ICCC)	234.71	Completed	1844 CCTV cameras, 151 km OFC, real-time monitoring
Smart Road Network	299.30	Completed	Improved mobility, pedestrian safety, smart traffic systems
Barari Ghat Beautification	169.25	In Progress	Riverfront development, tourism enhancement
Other ABD & Pan-City Projects	Included in total	Mostly Completed	Schools, parking, shelters, ITMS, SWM

Source: BSCL Project Updates (2025)

The Smart City Bhagalpur project has a number of flagship projects which point to the initiative of transforming the city to a modern urban infrastructure. The rs 234.71 crore Integrated Command and Control Centre (ICCC) is the digital backbone of the city and allows monitoring of the city in real time with 1,844 CCTV cameras and a 151km optical fiber network.

The Smart Road Network is a developed network that has based on a rs 299.30 crore investment greatly enhanced the urban mobility, decreased congestion, and also increased pedestrian safety through fulfilling smarter traffic systems. In the meantime, a current project, the Barari Ghat Beautification Project of rs 169.25 crore is underway and aims at developing the riverfront to increase tourism and environmental sustainability.

Moreover, many other ABD and Pan-City initiatives like modernizing schools, parking lots, night shelters, ITMS and solid waste management are largely accomplished, and they are all over-all urbanized.

Key Achievements

- **ICCC as a digital nerve center:-** ICCC brings together various services of the city and enables real-time monitoring, data-driven decisions, better coordination, and efficient systems of responding to emergencies.
- **Less congestion and travel time smarter roads:** Smart roads with intelligent traffic systems have reduced congestion, traffic flow, and increased safety and shortened overall time, generally by a big margin.
- **Riverfront development leading to the tourism potentials:-** Riverfront development in Barari Ghat increases the aesthetic value, tourists interested in the river, local businesses and facilitation of cultural and recreational activities.
- **Growth of digital governance and surveillance systems-** Digital governance systems and surveillance infrastructure has enhanced transparency, enhanced security, improved service delivery, and made the city administration more efficient.

Strategy of Resource Utilization and Executive

The Smart City Bhagalpur project has a well-defined prioritization of resources, which would be used to achieve balanced and effective urban development. Of the entire sum is spent in physical infrastructure development under Area-Based Development (ABD), which is devoted to roads, riverfronts, utilities, and public space. The rest 16 % is allocated to Pan-City projects, which focuses on digital infrastructure including ICT hubs, surveillance, and smart governance products. This distribution is indicative of a high profile on apparent infrastructure and incorporates technology in the efficiency process.

The implementation plan will be executed using a staged implementation plan, which will enable the projects to be done in phases so that they can easily be managed and completed within time. Also, the project takes advantage of the convergence with other government initiatives such as AMRUT and urban development to ensure the optimization of resources and elimination of duplication. The transparency, real-time progress monitoring, and effective decision-making during the implementation process are ensured by continuous monitoring using BSCL dashboards.

Economic and Social Impact

Smart City Bhagalpur has made major contributions to the economic growth by enhancing the infrastructure and the system of governance. This has also allowed easier transportation of goods and services due to improved roads and transport network. The digital systems like ICT platforms have enhanced efficiency in administration whereas the River front development has facilitated tourism and increased local business. Smart roads have also enhanced trade activities since connectivity and mobility within the city has been enhanced.

The benefits can be seen clearly sectorally. The traditional economy of the silk industry has become more accessible and branded, which has been beneficial to the industry. The Ganga riverfront and heritage sites have resulted in the growth of tourism. The property industry has seen an increase in demand because of the amenities available in the city and the number of jobs created by construction projects and jobs in the ICT sector.

As far as social impact is concerned, the initiative facilitates inclusive development by means of redeveloping slums, providing night shelters and skill development programs. Increased participation in citizens and delivery of services has been motivated by better access to e-governance services. In general, these interventions can be seen to guarantee the advantages of development seep into the marginalized parts of the city making the urbanization to be fairer and more sustainable.

Problems and Some Limitations

- **Stalling of certain infrastructure projects:-** Stalling of projects because of administrative stalling, contractor problems, and agency issues.
- **Financial absorption capacity:** Small ability to use the money allocated efficiently because of gaps in planning, delays as well as institutional restrictions.

- **Environmental concerns (Ganga floodplain):-** The development around Ganga floodplain will be of concern on the use concerning the ecological balance, flood risks, and ecological sustainability issues in the long term.
- **Maintenance sustainability:** Finished infrastructure needs to be maintained, properly funded and institutional ability to be able to maintain its functionality and durability.

Future Prospects

- **Improvement of tourism facilities:** Development of tourism facilities will bring tourists, revenues and cultural tourism and local industries.
- **Enhancement of silk economy:-** Modernization, branding and access to markets will strengthen the economy which depends on silk.
- **Integration with regional connectivity:-** Enhanced interconnection by highways and energy project will be very useful in addition to trade and mobility and regional economic integration.
- **Economic hub development:-** Bhagalpur is likely to become a big economic hub that will help in the growth of the whole eastern part of India.

Conclusion

Smart City Bhagalpur can be seen as a balanced approach to heritage-based urban development with the use of technology. With a solid planning, solid investments, and a powerful execution through BSCL, the city has made great milestones- particularly in the areas of smart roads and the digital governance systems.

Though it is still hard, the city is gradually becoming sustainable, inclusive, and economically dynamic, which proves that with specific urban policies designed, traditional cities can be transformed into the engine of modern growth.

The change, as demonstrated in the current accounts of development, is not only infrastructural but the socio economic transformation which makes Bhagalpur a significant player in the development of Bihar in terms of urbanization.

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