

# Issue

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# Brief

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# The Contributions of Smart Cities Mission: A Stocktaking

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### Abstract

The Smart Cities Mission in India, launched in 2015, is a unique experiment undertaken with the aim of improving people's quality of life in cities. It bypasses traditional institutional approaches and employs innovative methods to achieve its targets. This brief provides an overview of the work initiated under the mission since its inception and explores the gains so far. It documents sectoral reforms and conducts a critical appraisal of the mission. The brief finds that the initiative has shown favourable results, and the lessons drawn from the mission can help create a framework for the better management of urbanisation in India.

Urbanising cities require sustainable planning and governance strategies aimed at managing urban growth and enabling citizens to live a life of dignity and quality. City governments in different parts of the world have undertaken extensive work in this regard, successfully overcoming the various challenges related to the phenomenon of urbanisation. Many Indian cities have failed to maintain similar conditions, resulting in an inferior quality of life for their inhabitants.

The Smart Cities Mission is among various initiatives of the Indian government designed to improve living conditions in urban regions. The mission was launched on 25 June 2015, initially for a period of five years, and thereafter extended to accommodate pending work. The mission is expected to conclude on 30 June 2024.

Under the mission, 100 cities of varying population sizes were chosen from various states and union territories of India. The mission falls under the purview of the Ministry of Housing and Urban Affairs, and a special purpose vehicle (SPV), comprising select municipal functionaries and other stakeholders, serves as executing authority at the city level. The SPV is responsible for all aspects related to the formulation and implementation of various activities and development projects, identified through demand assessment surveys using interviews with stakeholders. The distinguishing features of this initiative are the adoption of a participatory approach, the incorporation of new technologies, and the development of smart solutions for urban problems.<sup>1</sup>

The initiative required substantial funds (about INR 2,050.18 billion).<sup>2</sup> The Union government committed an INR 480 billion contribution to the initiative for the initial five-year period, with state and local governments required to contribute matching funds, amounting to INR 960 billion (47 percent of the requirement).<sup>3</sup> To meet the remaining costs, other potential sources were identified, such as municipal bonds, financial institutions, and the private sector.

According to the Ministry of Housing and Urban Affairs, until 30 October 2023, 7,939 projects, with cost amounting to INR 1,709.83 billion, were finalised for implementation under the mission. Of these, 6,187 projects (78 percent) are completed, on which INR 1,138.37 billion has been spent. The remaining 1,752 projects (22 percent) are in the process of being completed.<sup>4</sup>

# Introduction

This brief describes the nature of work undertaken in some of the smart cities and the impact of the work with the aim of understanding reforms in urban governance. The information is collected at the city level to understand the range of work within a city as well as from individual urban sectors to learn about the interventions. The brief relies on secondary sources of information and builds upon the author's previously published empirical case study,<sup>5</sup> along with an evaluation of the state- and city-level physical and financial status of projects implemented under the mission.<sup>6</sup>



This brief reviews four randomly chosen cities to examine the projects implemented as well as the arrangements made to address numerous civic needs and improve the condition of various urban sectors. The cities include Agra and Srinagar (both popular tourist destinations), New Town (a greenfield area), and Kochi (a coastal city).

In Agra, steps have been taken to improve basic services such as water supply, sanitation, health and education, energy supply, public transport, traffic junctions, signage, cycle paths, streets, and street lights. There has also been improved attention on the preservation of ecosystems and open spaces, roadside plantation, and the development of parks. Facilities for tourists have also been developed, including a cafe, tourist kiosks, green walkways connecting heritage monuments, and museums. The needs of vulnerable communities are also addressed through the provision of quick response centres for incident management, women distress centres, street vending zones, micro skill development centres, and the upgrade of slums. To strengthen governance, a high-tech integrated command and control centre (ICCC) has been established that includes closed-circuit televisions (CCTVs) in public areas and transport corridors, environment sensors on streets, radio-frequency identification (RFID) tags in households for solid waste management, and global positioning system (GPS) devices installed in garbage collection vehicles. The ICCC is responsible for collecting data in real time and supplying the information to concerned departments for necessary action. Smart measures have also been undertaken in the provision of unmanned, self-cleaning electronic public toilets that work on sensor-based technologies, electric buses and electric rickshaws for intra-city travel, digital classrooms in schools, LED street lights, and the 207 km-long Agra-Etawah Cycle Highway.

In Srinagar, a number of projects aimed at boosting the local economy and reducing pollution have been launched, including strengthening the Craft Development Institute, upgrading historical markets, creating hawker and vending zones, launching battery cars and electric buses, and the provision of charging stations.<sup>7</sup> The natural assets of the city have been augmented through water transport in the Jhelum river as well as the provision of green corridors, pedestrian walkways, and cycle tracks. The Khushalsar and Gilsar lake rejuvenation work aimed to remove muck and silt from lakes. Further, several projects on solid waste management have been initiated, including the provision of segregated waste bins and bio-toilets at major nodes.

In West Bengal's New Town, projects to digitalise civic services and mitigating the adverse impacts of climate change have been initiated. Citizens can use online services to pay their property tax, sanction building plans, and obtain trade licences and house completion certificates. The use of renewable energy sources is prioritised through the installation of solar-powered street lights and rooftop solar panels; the construction of cycle tracks and barrier-free footpaths; and the use of solar-powered pumping sets for the provision of water supply. These initiatives have led to New Town achieving a high rank on the Ministry of Housing and Urban Affairs' Data Maturity and Climate Smart Cities Assessment frameworks.<sup>8</sup>

Kochi also undertook a number of innovative projects, including the provision of separate bins to households for the collection of organic and inorganic waste; the use of rooftop solar photovoltaic power plants in buildings; the development of an integrated traffic management system; the provision of walking and cycling facilities; and the installation of health ATMs at hospitals<sup>9</sup> where patients can check certain basic health parameters.

Specific interventions within each sector are described below.

### **Nature areas**

Eco-friendly parks have been developed across cities, including Bengaluru, Chandigarh, Dehradun, Indore, Kohima, New Town, Pimpri Chinchwad, Visakhapatnam, and Warangal; and the rejuvenation of water bodies is being undertaken in cities such as Coimbatore, Mangaluru, Patna, Raipur, and Srinagar. In Indore, city forests have been created, with the support of communities, on unutilised land. Parks in Warangal are lit by solar power and now include play areas, open gyms, and community reading rooms. In Dehradun, an unutilised parade ground has been converted into a park with a central pedestrian plaza that offers various facilities. Srinagar has tree plantation programmes with the aim of reducing noise pollution, increasing biodiversity, and regulating the hydrological cycle. Further, lake, river, and beachfront development projects have been undertaken in some cities, such as Belagavi, Panaji, Srinagar, Patna, and Tirupati, and include facilities such as pedestrian promenades, amphitheatres, food zones, play areas, parking and cycling spaces, and parks. The problem of wastewater discharge into the water bodies is controlled by treatment plants as well as additional infrastructure for water purification, which maintains the aquatic ecosystem. For example, the



Raipur lake rejuvenation project has improved the environmental conditions of the lake as well as surrounding areas.

### **Work places**

Working conditions have improved and new work places have been created in cities. For instance, the boat-building yard in Kakinada has been repaired for use by fishermen. In Indore, a traditional weekly market has been redeveloped, with the provision of facilities such as stalls with seating for vendors, drinking water, sewage and waste management, and parking facilities. Another example is Belagavi, which has built a pedestrian-friendly street market that attracts a large number of people.

### **Skill development**

Efforts are underway for the skill building of various population groups to help them generate income. In Tirupati, a digital handicraft incubation centre has been set up for artists and craftspersons to facilitate the preparation and sharing of new designs. The incubation centre in Jabalpur organises activities such as entrepreneurship camps, sessions on intellectual property rights, and networking, which help people find jobs and start an income-generating activity. Similarly, in Lucknow, the *rozgar* training centre trains people for various jobs.

### **Housing**

The central and state governments have established dedicated housing programmes such as the Pradhan Mantri Awas Yojana (Urban). Further, the Smart Cities Mission addresses the social equity concerns in the housing sector, as noted by the construction of over 44,000 affordable housing units and 6,300 rooms under community housing projects in Bhubaneswar.<sup>10</sup> In Rourkela, special purpose vehicles are working with self-help groups to provide shelter for the homeless.

### **Public health**

People's access to affordable and reliable health services is being improved. Lucknow provides free health services to students of municipal schools through monitoring their mental and physical health, providing health insurance and digital health cards, and conducting workshops on health-related topics.

In Agra, smart health centres have been established with support of private companies to provide affordable and reliable services, including doctor consultation, diagnostic facilities, and pharmacy services. Vadodara has developed an integrated hospital management information system that connects primary health centres (PHCs) in the city and aids the timely provision of health services to registered citizens through health check-ups, infant vaccinations, and antenatal care. Moreover, the health records of registered patients have been digitised, and the data maintained in the system will be useful for tracking, monitoring, and controlling disease outbreaks.

### **Education**

The learning needs of students and citizens are being met in various ways. School buildings and classrooms in Jhansi and Thiruvananthapuram have been upgraded to offer a better learning environment. For example, government school classrooms in Jhansi have been provided with electronic equipment such as digital boards and video projectors to enable better teaching. Schools have also been fitted with infrastructure for rainwater harvesting and solar power generation. Digital libraries in public areas and the transformation of existing libraries in cities such as Belagavi, Bilaspur, Jabalpur, Raipur, Saharanpur, and Satna are also working towards meeting the learning needs of citizens. The libraries have a rich collection of e-books in various languages as well as books for various demographics, including the people with disabilities, aspirants of competitive exams, and children.

### **Water and drainage**

Access to safe drinking water has been improved through the retrofitting of pipelines, construction of overhead tanks and treatment plants, and the use of technology to remotely monitor the water flow process and losses in real time. The treatment plant in the walled city of Udaipur provides water 24 hours a day. In Kanpur and Kavaratti, rainwater harvesting systems are helping supplement the water requirement. Davanagere has laid a drainage network to prevent flooding.

### **Sanitation**

Numerous reform projects have been launched under the mission to combat the deteriorating sanitary conditions in cities. Indore has demonstrated



# City-Level Reforms

notable progress, with municipal efforts and behavioural changes contributing to improvements that have earned the city the distinction of being one of the cleanest in the country. The city has 100-percent door-to-door garbage collection and segregation system, and segregated waste is treated in a bio-CNG plant to produce biogas—which is used to fuel the city bus services—and compost. A specialised plant for separating garbage to reclaim recyclable materials is also operational.

In Kavaratti, waste bins have been placed at various public places for the collection and processing as well as safe disposal of biodegradable and non-biodegradable waste. Prayagraj has set up a plastic-to-diesel conversion plant. New Town also has superior waste management services, with the waste generated from households and commercial establishments collected in segregated bins and transported to primary transfer stations. New Town has also created a waste management museum, Zero Shop, for the sale of various products upcycled from waste material. Similar practices are observed in Chandigarh. There has also been the widespread use of machines that are used to convert wet waste into compost. Similarly, the integrated solid waste management park developed in Tirupati provides for the processing of dry, wet, and construction and demolition waste. In Erode, decentralised micro compost centres have been set up for the treatment of wet waste and production of manure.

In Coimbatore, robots are being used for the management of liquid waste (i.e., sewage), primarily to clean and unclog drainage holes and septic tanks. Patna has delegated the task to an all-women co-operative society trained in mechanised cleaning of sewers and septic tanks. The faecal/septage sludge treatment plant in Port Blair is self-sustainable, with investment from various sources, including desludging operators for sludge processing, the sale of treated water for non-drinking purposes, and the sale of compost. In Udaipur, the hybrid annuity model adopted in the construction of three fully automatic sewage treatment plants (STPs) has helped reduce the upfront costs borne by the government. Agra has demonstrated the case of a vacuum-based sewerage system across 500 households, which has been instrumental in reducing pollution in the river Yamuna. In Kanpur, the large volumes of wastewater generated from open-air laundry-washing sites are recycled and reused.

The provision of a drainage system has also reduced the flow of untreated wastewater to the river Ganga. Similarly, the Kahn and Saraswati rivers, which flow through Indore, have been protected from sewage effluents through a 360-km sewer network prepared using geographic information system (GIS)-based terrain modelling and the construction of decentralised sewage treatment plants. This has also helped maintain clean groundwater. Towards achieving this, the city's municipal corporation partnered with a public self-help group, CSR groups, NGOs, and contractors. Efforts have also been made to provide safe and hygienic toilet facilities at public places. The modern toilets constructed in Delhi and Gwalior save the water used for flushing and are further equipped with additional facilities to accommodate the needs of women and people with disabilities. In Ahmedabad, a public-private partnership (PPP) approach has been adopted for the construction of smart toilets, wherein the private agency invests in the construction and maintenance of toilets, and generates revenue from user charges and advertisements.

### **Energy**

Clean energy projects, such as the use of solar rooftop panels, floating solar panels, and solar power plants, are helping meet the energy demand and emission reduction goals in Chandigarh, Coimbatore, Mangaluru, Salem, and Tirupati, while also saving funds. In Chandigarh, the solar power plants installed at the waterworks have helped lower electricity charges of the water agency. Similarly, the city corporation spends less on electricity due to energy generated from rooftop solar panels.

### **Mobility**

Some cities (e.g., Aurangabad, Bhagalpur, Chandigarh, Chennai, Greater Warangal, Imphal, New Town, Pimpri Chinchwad, Srinagar, and Surat) have developed infrastructure to encourage cycling, such as cycle tracks, parking stands, and public bike-sharing facilities. These are further facilitated by mobile apps, which help users conveniently avail cycle services. Further, there are cycle rallies and walkathons being held in Agartala, Indore, and Surat, which help create awareness regarding the benefits of non-motorised transport. There are also increased electric mobility initiatives, such as e-auto rickshaw service in Thiruvananthapuram and Visakhapatnam, and buses in Srinagar. New Town has barrier-free walkways, which ensure the safety of pedestrians.



Some commercial streets in Bengaluru have been redesigned and made pedestrian-friendly. In Srinagar, the Polo View Street has been redesigned to offer improved walkability and accessibility. Similarly, Bhopal has completed a boulevard street project, which features a motor carriage way, a green belt, dedicated cycle lanes, and well-lit footpaths spread 1.6 kilometres. An underground drainage system is also provided for rainwater management. In Imphal and Panaji, pedestrian bridges have been constructed over water bodies, whereas Chandigarh has a subway under a major road that is well lit, and has an amphitheatre as well as hosting space for exhibitions. In the residential and commercial areas of the old parts of Shivamogga, lanes are being equipped with parking areas, auto stands, food courts, and vending zones. With respect to public transport services, alternative financial models—such as cross-subsidising operations through advertisements, cluster schemes, and viability gap funding—are being adopted to make services such as city buses sustainable. In Jabalpur, intelligent traffic management system (ITMS) is operational for motor traffic management, reduced travel time, and safety of commuters.

The ITMS has also been established in Gwalior and generates real-time traffic data that helps authorities reduce congestion and the travel time of motorists. Another project is the installation of booths and cabins for the convenience of traffic police in Jammu. These booths are equipped with basic facilities, such as chairs and a desk, fans, and power switch boards. In Bhopal, multi-level technology-based car parks have been established at strategic locations for the convenience of motorists.

### **Social infrastructure**

In Jabalpur, Kochi, Kohima, and Warangal, neighbourhood parks with play areas have been developed for children. Jabalpur has also seen the establishment of an open-air theatre. The youth in Solapur have benefited from the redevelopment of the sports stadium. In Tumakuru, a new national-level stadium with modern facilities such as a synthetic track and a solar plant have been built in order to promote sports. A therapy hall has been built in Belagavi to aid people with disabilities. In some cities, memorials have been built and renovated for people who lost their lives during the COVID-19 pandemic (e.g., New Town) and for defence personnel and freedom fighters (e.g., Agartala and Raipur). In Sagar, an electric and gas crematorium has been constructed for the safe cremation of cadavers, which aids in controlling the problems of air pollution and deforestation.

## **Built and cultural heritage**

Several old buildings have been restored, and access to heritage structures has been improved in Madurai and Ujjain through developing pathways that connect important monuments and temples. In Delhi, a *charkha* museum has been established with the aim of promoting cultural identity.

## **Safety and security**

Smart police booths have been established in Nagpur, benefitting both the police and the citizens. The temperature inside the booths is maintained using solar power, and a public address (PA) system is used for traffic management. Tumakuru has developed an app for the exchange of information between city police and citizens. In Bhubaneswar, emergency telephone boxes have been installed in public areas for the safety of citizens.

## **Area redevelopment**

In some cities, existing built-up areas are being replaced with new planning and enhanced infrastructure development. For instance, in Bhopal, an area of 342 acres is being redeveloped.

## **Technology**

The Smart Cities Mission encourages the use of latest available technologies to address various challenges of urbanisation. The setting up of integrated command and control centres (ICCCs) to ensure better governance is a major initiative under the mission. These are operational in the chosen 100 cities and are expected to play an important role in monitoring city conditions in real time, such as weather patterns, air quality, sanitary and drainage conditions, clogged manholes, traffic movements, accidents, crime, and stray cattle. The centres rely on surveillance cameras and sensors installed at various places in the city. The collected data and information are provided to concerned civic agencies for early resolution of problems and better urban management. During the COVID-19 pandemic, the ICCCs played an important role in monitoring the availability of hospital beds and oxygen, and managed the shifting of patients and ambulance services. Similarly, during the occurrence of Biparjoy cyclone along India's west coast, the ICCC in Surat played a key

role in sharing cyclone-related information, which facilitated effective decision-making. In Bhopal, solid waste management activities (such as collection at source, movement of collection vehicles, and road cleaning) are integrated with the ICCC for constant monitoring and live video feeds.

For improved grievance redressal, the Dial 112 service in Lucknow is integrated with the ICCC. Agartala's ICCC generates revenue from advertisements to keep the centre running. Other technologies are also used to offer civic services. Bus commuters in Vadodara benefit from an intelligent transit management system (ITMS), which tracks the live location of buses. Through an app and details displayed on the passenger information system at bus stops, commuters can know the estimated arrival time of buses, helping them save time and better plan their travel.

### **Mobile phone applications**

The use of mobile phone apps in obtaining information and public services is gaining popularity. The Jammu Park Smart app assists motorists with conveniently parking their vehicles on streets in an organised manner. In this arrangement, parking spaces are reserved for emergency vehicles. The IT-based service has also addressed traffic jams in commercial areas. The residents of Chandigarh use an app to file complaints regarding inefficiencies in garbage collection services.

### **Other supporting measures**

For the successful accomplishment of the mission's aims, stakeholder workshops, webinars, and conferences are regularly organised to enable learning and exchange knowledge on emerging topics such as climate change, data and technology, cybersecurity, start-ups, revenue models, and cost optimisation strategies. In addition, internships are offered to graduates, who gain the opportunity to propose innovative ideas and plan projects to make cities smart.

Table 1 shows the positive outcomes derived from activities implemented under the Smart Cities Mission.

**Table 1: Impact of Select Projects Under the Smart Cities Mission**

Initiative/Project	Progress/Impact
The Urban Learning Internship Programme (TULIP)	Over 8,500 internships provided <sup>a</sup>
Incubation centre, Jabalpur	More than 500 jobs created <sup>b</sup>
Solar power plant (3.6 MW), Coimbatore	4.57 kWh of conventional thermal energy per year replaced; over INR 32 million saved <sup>c</sup>
Overhead water tanks and treatment plant, Ujjain	Improved access to safe drinking water for about 150,000 residents <sup>d</sup>
Water treatment plant and pipelines, Udaipur	Provision of safe water 24 hours a day to 100 percent of the walled city area <sup>e</sup>
Sewage treatment plants, Udaipur	59 percent of the city covered by the service <sup>f</sup>
Vacuum-based sewerage system, Agra	500 households covered <sup>g</sup>
Bio-CNG plant, Indore	Treatment of 543 tpd of segregated wet waste of 95 percent purity; biogas used to run city buses <sup>h</sup>

Source: Ministry of Housing and Urban Affairs, Smart Cities Mission weekly newsletters, issue nos. <sup>a</sup> 278 (29 May 2023), <sup>b</sup> 284 (10 July 2023), <sup>c</sup> 277 (22 May 2023), <sup>d</sup> 283 (3 July 2023), <sup>e</sup> 263 (13 February 2023), <sup>f</sup> 260 (23 January 2023), <sup>g</sup> 257 (2 January 2023), and <sup>h</sup> 252 (28 November 2022).



# Lessons Learned and Situation Analysis

The Smart Cities Mission was launched by the Indian government to address urbanisation challenges and lead to better living conditions. Over the eight years since its launch, more than 6,000 projects of various kinds have been implemented across the country. The mission has national coverage, with at least one city or urban centre from each Indian state and union territory chosen for the mission. The ultimate objective of the mission is to ensure balanced urbanisation and development in the country. The continuation, extension, and successful implementation of such initiatives would address the longstanding issue of migration to populous and more developed cities and urban agglomerations.

Such projects and initiatives address the problems experienced in nearly all urban sectors, including environment, economy, energy, housing, physical and social infrastructure, heritage, and public safety. In addition to the application of innovative ideas, these initiatives also witness the use of several technological solutions.

The chosen cities reflect the positive impacts of the mission activities through clean and healthy surroundings, higher incomes, affordable housing, slum redevelopments, access to medical services, and augmented learning needs of students and citizens. Further, people's access to water and sanitation facilities has improved, energy costs have lowered, and neighbourhood emissions have reduced. Additionally, people's mobility has been enhanced and their diverse needs met. The cultural identity of cities has also been revived, alongside an early resolution of problems and decline in crime rates. One of the most important aspects of the mission is the establishment of ICCCs in the chosen cities and their integration with various government departments. Once the ICCCs develop to their full capacity, they would play a key role in ensuring better city governance.

All the above mentioned measures are vital to create better conditions in Indian cities. Notable innovative and smart practices include the creation of economic opportunities in the sanitation sector for women living in slums; support for start-ups to develop and contribute smart solutions; the nurturing of local talent and skills of communities; the establishment of women distress centres; data digitalisation; the promotion of non-motorised transport; community participation in affordable housing sector; remote monitoring of water; sanitation and other public services; and the documentation of projects

# Lessons Learned and Situation Analysis

and practices. Further, the scope of work of the mission includes not only dedicated projects but also initiatives for area redevelopment (e.g., Bhopal) and greenfield development (e.g., New Town). To some extent, the Smart Cities Mission addresses popular concerns around participation, equity, inclusion, gender, safety, sustainability, and accountability.

However, there have been several challenges to this initiative, and efforts are being undertaken to overcome these. The COVID-19 pandemic as well as other factors delayed progress of the mission, primarily in the timely constitution of special purpose vehicles (SPVs) and project management units; the arrangement of funds by states and cities; the capacities of concerned functionaries in project execution; the receipt of tenders from contractors; and the availability of vacant land for implementing projects. In the circumstances, it can be said that the Smart Cities Mission has made a unique and modest contribution by responding to the various needs and concerns of citizens. It is important for the administration as well as citizens to maintain the numerous assets created under the mission.

Every reform activity has some limitations and weaknesses, and the Smart Cities Mission is no exception. For a populous and diverse country like India, which has over 4,000 statutory urban settlements and a significant backlog of urban problems, the initiative is at best a drop in the ocean and can be viewed as a pilot project. The erstwhile Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and other ongoing, centrally sponsored urban development initiatives, such as the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), the National Urban Livelihood Mission (NULM), the Pradhan Mantri Awas (Housing) Yojana (Urban), and the Swachh Bharat (Sanitation) Mission (Urban) have a larger national coverage. The Smart Cities Mission has a noticeable edge through innovation and efficient delivery of work by an alternate institutional mechanism, i.e., SPVs.

The constitution and empowerment of SPVs is perceived by critics as an anti-democratic and anti-constitutional practice. In this regard, urban centres in India are governed by municipal laws, and only elected municipal functionaries are authorised to take decisions on civic matters. Further, the Constitution (Seventy Fourth Amendment) Act, 1992 requires democratically constituted municipalities to function as effective institutions of self-government, as these are familiar with civic needs and realities at the grassroots level. From their perspective, none of the abovementioned legislative requirements have been

# Lessons Learned and Situation Analysis

observed. According to critics, granting the rights of decision-making, planning, and implementation to SPVs and assigning the work of preparing smart city plans to consultants has led to biased decision-making and increased social inequalities.

Another area of concern with regard to the Smart Cities Mission is the coverage of development activities in a city. Smart city proposals have been applied to only a fraction of the city's area, with few pan-city projects. For example, Delhi has a total geographical area of 1,483 sq km, but only 2.2 sq km of the New Delhi Municipal Council (NDMC) has been selected for area-based development. A similar approach has been adopted in all other cities under the mission, including Agra, Bhopal, Chennai, and Udaipur. Therefore, under the Smart Cities Mission, entire cities have not been transformed. This also implies that only some people within a city have benefitted from the mission activities.

One could also question the role of the mission in addressing contemporary urban challenges. Under the mission, some pressing problems have been overlooked or received inadequate attention.

- Although sensors and other devices for measuring air and water quality have been installed, sufficient action on pollution-emitting sources has not been taken.
- Initiatives on disaster management are lacking, and city resilience in this respect is weak. There is administrative unpreparedness on matters related to the management of rain and floodwater, fires, and building collapses. Response measures are slow, inadequate, and not sufficiently based on varying climatic conditions.
- A number of waste management projects have been implemented. However, the dismal environmental conditions at waste-dumping sites, which generally lie outside areas chosen for improvement under the mission, remain unchanged.
- Another deficiency is the availability of public toilets, especially in planned residential areas. Most hired domestic workers in the area are women from neighbouring informal areas, who face considerable discomfort due to the non-availability of toilets in public areas. However, this issue remains unaddressed.


# Lessons Learned and Situation Analysis

- Deficiencies have been noted even after work has been completed within a chosen area under the mission. In the case of Delhi, these relate to the quality of roads and road infrastructure, cycling infrastructure, traffic management, air quality, street lighting and footpaths, drainage, sanitation, and public safety. The mission appears to have addressed few problems, such that, while some facilities have been provided and reformed, several matters remain overlooked. At the moment, overall conditions in the 'transformed', 'smart' areas are not very pleasing.



# Conclusion

The Smart Cities Mission was launched in India with the aim of improving people's quality of life. An appraisal of the mission activities reveals that, to some extent, the mission has been successful in achieving this goal. Various basic facilities and services have been provided, though some problems remain overlooked. After completion of the mission period in 2024, it would be useful to extend its duration and simultaneously reform traditional governance strategies and practices of municipalities by incorporating certain innovative ideas utilised under the mission.

City governance and management are the responsibilities of municipalities, and these entities require strengthening on multiple fronts—managerial, financial, and technical—for effectively responding to the challenges of urbanisation.<sup>11</sup> However, in several municipalities, these functionaries lack adequate exposure to sustainable and inclusive urban planning and development practices. Their working conditions are abysmal, with negligible use of technology in civic administration and the insufficient availability of infrastructure for the proper management of various urban sectors (such as solid waste). Moreover, municipalities are unable to independently generate sufficient funds to maintain desirable living conditions and often fall short in terms of financial management. Working without these capabilities often results in chaos and social inequalities. 

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- 1 Ministry of Urban Development, *Smart City: Mission Statement & Guidelines*, New Delhi: Government of India, June 2015, <https://smartcities.gov.in/themes/habikon/files/SmartCityGuidelines.pdf>.
- 2 Ministry of Housing and Urban Affairs, “Fund Release,” <https://smartcities.gov.in/financing>.
- 3 Ministry of Urban Development, *Smart City: Mission Statement & Guidelines*.
- 4 Ministry of Housing and Urban Affairs, “Vision of Smart Cities Mission,” <https://smartcities.gov.in/>.
- 5 Rumi Aijaz, “The Smart Cities Mission in Delhi, 2015-2019: An Evaluation,” *ORF Special Report No. 98*, January 2020, Observer Research Foundation, <https://www.orfonline.org/research/the-smart-cities-mission-in-delhi-2015-2019-an-evaluation-60071/>.
- 6 Rumi Aijaz, “India’s Smart Cities Mission, 2015-2021: A Stocktaking,” *ORF Special Report No. 155*, August 2021, Observer Research Foundation, <https://www.orfonline.org/research/indias-smart-cities-mission-2015-2021-a-stocktaking/>.
- 7 Srinagar Smart City, “Completed Projects,” <https://srinagarsmartcity.in/completed-projects/>.
- 8 Suman Chakraborti, “Data maturity: New Town is India’s 8<sup>th</sup> smartest city,” *The Times of India*, June 29, 2021, <https://timesofindia.indiatimes.com/city/kolkata/data-maturity-new-town-is-indias-8th-smartest-kolkata/articleshow/83943513.cms>.
- 9 K.P. Pravitha, “Kerala’s first health ‘ATM’ installed at Ernakulam general hospital,” *Mathrubhumi.com*, January 19, 2022, <https://english.mathrubhumi.com/news/kerala/kerala-s-first-health-atm-installed-at-ernakulam-general-hospital-1.6373364>.
- 10 Ministry of Housing and Urban Affairs, Smart Cities Mission Weekly Newsletter, Issue 289, August 14, 2023, <https://smartcities.gov.in/sites/default/files/2023-08/NL%2014%20Aug%20289%20issue.pdf>.
- 11 Ministry of Housing and Urban Affairs and Institute for Competitiveness, *Municipal Performance Index 2020*, New Delhi: Government of India, 2021, [https://competitiveness.in/wp-content/uploads/2021/03/MPI\\_Report\\_2021\\_Final.pdf](https://competitiveness.in/wp-content/uploads/2021/03/MPI_Report_2021_Final.pdf).





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