

National Level Activities during April – June 2022

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The activities at national level witnessed consolidation of proposals of flagship urban missions and other specific schemes/projects towards annual follow-up, and inter-country and multi-lateral cooperation with a particular reference to (i) PMSVANidhi, (ii) Smart City Mission, (iii) AMRUT (iv) Swachh Bharat Mission 2.0, (v) Housing/PM Avas Yojana, (vi) Urban Mobility and (vii) Bi-lateral/Multi-lateral Cooperation.

PM SVANidhi

The Cabinet Committee on Economic Affairs under the leadership of Hon'ble PM has announced the extension of the flagship programme of GOI – PM SVANidhi till December 2024. The continuation will strengthen the vision of providing a dignified & prosperous life to urban street vendors & hawkers.

MoHUA launched Phase-2 as '*SVANidhi se Samriddhi*' on April 13, 2022 after the conspicuous success of Phase-1 of flagship scheme. The new version expands its feathers in addition to 126 cities across the 14 states, targeting around 2 million scheme sanctions for FY 2022-23.

On the occasion of 15th Civil Service Day on April 21, 2022 a session on Digital Payment & Good Governance was held which included 31.9 lakh loans were sanctioned to street vendors under visionary scheme, of PM SVANidhi.

Smart City Mission

TRAI (Telephone Regulatory Authority) on May 18, 2022 on the occasion of their 25th Anniversary organized a meet in Smart city Bhopal for setting standards for digital usage in SCs (Smart Cities) & collaboration for roll out of 5G technologies & pilot in this regard.

'Smart City Smart Urbanization' conclave was held on April 18, 2022 in Surat to deliberate on Phase-2 of the SCM, furthering the relevance of ensuring ease of living for citizens by focusing on the issues of area development, digital governance, innovation, & finance. It had the Thematic Pavilions, like Reimagining Public Spaces, Digital Governance, Innovation, Climate Smart Cities, and Smart Finance, providing

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numerous learning opportunities for over 1000 plus participants on increasing ease of living, climate resilience, urban town planning, etc.

An interactive on the vision of the SCM was held on April 19, 2022 to deliberate on the plan of expanding the mission to the next level by focusing on innovations & overcoming the challenges of procurement by embracing new ideas circumventing the issues in the making of new Smart Cities.

AMRUT (Atal Mission for Rejuvenation and Urban Transformation)

2nd apex committee meeting of AMRUT 2.0 to review & approve the SWAPS (State Water Action Plans) for 9 States/UTs worth ₹15,425.27 crores was held on May 11, 2022. It was suggested to formulate comprehensive projects to achieve universal coverage of water supply, sewerage in 500 AMRUT cities, & POA for reuse-cycle of water. Proposed SWAPS by the States/UTs cover Chhattisgarh ₹1,580.5 crores, Tripura ₹112.928 crores, Gujarat ₹5,128.414 crores, Uttarakhand ₹263.04 crores, Meghalaya ₹493.17 crores, West Bengal ₹7625.688 crores, Assam ₹336.53 crores, Ladakh ₹192.05 crores, and Puducherry ₹65.12 crores.

Swachh Bharat Mission

MoHUA on April 12, 2022 also approved a project worth ₹776 crores on legacy waste remediation across 3 MCDs. The approval will facilitate recovery of around 186 acres of land by rejuvenating approximately 253 lakh MT of legacy waste under the goals of Garbage Free Cities

The 'National Behaviour Change Communication Framework for Garbage Free Cities' IEC initiative was launched on April 28, 2022 under the Swachh Bharat Mission - Urban 2.0.

On May 01, 2022 Hon'ble PM, Shri Narendra Modi, addressed Swachhata warriors as the '*Mahanayaks*' of the country's cleanliness drive. On this occasion of Labour Day (May 01, 2022) SBM - U 2.0 highlights the selfless & dedicated efforts of our country's task force.

Swachh Survekshan Toolkit 2023 was launched on May 24, 2022 for the 8th edition of the annual sanitation survey to focus on emphasizing waste to wealth. Imperative role of citizen feedback & the need for cities to walk in a new direction, enhancing the level of cleanliness was emphasised.

Fifth National Advisory & Review Committee (NARC) meeting of SBM was held on 25 May 2022 with 14 States/ UTs to deliberate on city action plans and overall State plans for Solid Waste Management and central share of Rs 1143 Crores was approved for various projects.

The meeting also had detailed discussions on efforts to improve source segregation, effective project implementation of legacy dumpsites, processing of solid waste & used water, the C&D waste processing and mechanized sweeping in order to contribute toward Clean Air. SBM also has made appreciable digital footprint to highlight sanitation related grievances through Swacchata App with over two crore users across 3500 plus cities. In addition around 500 cities have their own apps.

Highlighting the SBM model of 3R, the environment ministry on May 27, 2022 has made it mandatory for consumer goods companies to recycle at least 60% of their electronic waste by 2023, with targets to increase them to 70% and 80% by 2024 & 2025, respectively.

Urban Housing/PM Avas Yojana

The Central Advisory Council meeting of PMAY was held on April 12, 2022. It was presided over by Hon'ble Minister, MoHUA to address the issues in the housing sector. The council discussed issues related to the RERA Act, rules, buyer-seller agreements, and issues related to stalled projects.

The 52nd Foundation Day of HUDCO was organised on April 25, 2022 wherein Union Minister, MoHUA Shri Hardeep S Puri, expressed the future need for HUDCO to develop competence to meet large urban infrastructure requirements & gain the technical capacity to support the state govt.

The first project among the six LHPs(Light House Projects) under the ambit of PMAY Urban was completed in Chennai with inaugural function addressed by Hon'ble PM Shri Narendra Modi on May 26, 2022. The project has 1152 houses constructed with a project cost of ₹116 crore. With the best of new-age global technologies, materials & processes, the Light House Project furthers the goal of *Ghar Hua Apna, Pura Hua Sapna*. The Project contains 12 towers with six floors, offering 1,152 model houses with new age infrastructure.

Urban Mobility

The construction of 82 km Delhi-Meerut RRTS as on April 04, 2022 is going in full swing. 90% viaduct on 17 km priority section completed, Five stations taking shape, train trials to begin this year. System contracts track laying progress at pace.

It will provide India's first Regional Rapid Rail with the capacity of covering Delhi to Meerut in less than an hour. The NCRTC's Delhi-Ghaziabad-Meerut rail corridor aims to commence its service for the betterment of commuters by 2023.

The 1st Train set of the country's First RRTS (Rapid Rail Transport System) is ready and handed over on May 09, 2022 to Indian Railways emphasizing the Make in India initiative, state-of-the-art RRTS train sets have been manufactured at the Alstom factory in Savli, Gujarat.

Multi-lateral / Inter-country Cooperation

Secretary MoUA chaired the first Russia -India Working Group Meeting on April 06 2022 on Urban Developments. Several developmental & sustainable solutions were showcased from both sides to enhance public transport & housing infrastructure, ensuring smart-sustainable cities for their citizens.

Government of India team headed by Secretary MoHUA had discussions on April 28, 2022 with World Bank Regional Director for Infrastructure, Mr. Guangzhe Chen on the possibilities of collaboration in Urban Mobility to seek deliberated technical & financial assistance to safe mobility solutions in Indian cities. Secretary expressed views on the opportunities for both nations to learn from each other's experiences and challenges, furthering the Indo-Russian partnership to enhance urban landscapes.

As per PIB, GoI, the National Institute of Urban Affairs (NIUA) and World Resources Institute (WRI) India, in conjunction with the World Environment Day that was observed on June 05, 2022 jointly announced 'Leaders in Climate Change Management' (LCCM), a practice-based learning program. It aims at building capacity among urban professionals to lead climate action across sectors and geographies in India. To facilitate this face-to-face learning program, the Administrative Training Institute (ATI), Mysuru, also signed a tripartite Memorandum of Understanding (MoU) with NIUA and WRI India, becoming the first delivery partner of the LCCM program. LCCM envisions capacitating 5,000 professionals, including mid to junior-level government officials and frontline workers, and preparing them to champion climate change adaptation and mitigation solutions towards a coordinated effort to achieve India's climate commitments. The launch also marked the achievements of the Ministry of Housing and Urban Affairs towards India's urban climate goals. The Union Minister for Housing and Urban Affairs Shri Hardeep Singh Puri, launched the learning program and a half-day workshop June 06, 2022 to build capacities among climate leaders in Indian cities.

The developments in the quarter indicate commitment at highest level in Government of India to continue constant efforts towards sustainable and inclusive urban development.

Transit Oriented Development in India

KUSUM LATA*

India's fast urbanization process is inextricably linked to its economic growth and these economic and structural improvements aimed at reducing poverty are both products and drivers of modern urbanization. In this view, Rapid city expansion is necessary because of the faster urbanization that results from population growth and rising wages. Transit Oriented Development (TOD) promotes compact urban expansion to capture the economic benefits of urbanization while also enhancing socio economic productivity by improving resource efficiency and quality of life. As a result, it is essential to focus on developing dense, diversified neighborhoods in metropolitan regions. These areas promote human-scale urban environments that are enhanced by healthy public green spaces, lively markets, and a range of affordable housing and public transit options. Indian cities currently have the optimal circumstances for extending this land-use-transportation integration model across the nation due to their present densities and recent investments in public transportation. TOD, a growth and development management strategy, its adaptation is gradual and is possible at various scales, including node, corridor, city, and region. Various approaches have been explored towards TOD in different parts of the world like Curitiba, Tokyo and Paris. A brief of these approaches in these cities is as follows:

Curitiba: Curitiba integrated land use and transportation to control the city's rapid population growth and keep it from growing into an unmanageable, sprawling metropolis (Parsons Brinckerhoff Quade & Douglas, Inc., 1996). The BRT system considerably facilitated Curitiba's transition from a radial to a linear paradigm of urban growth. The primary radial arteries of the city serve as the backbone for the transportation system. For each primary radial artery, a "trinary system" comprising three highways was designed. The center road of the three features a two-way bus route that feeds into terminals, or transfer sites, as well as a limited number of traffic lanes. Curitiba achieved its aim of compact expansion without private automobiles by implementing policies and practices in four crucial areas: land-use planning, public transportation, parking regulations, and institutional procedures.

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Tokyo: Tokyo's public transportation system uses a train network to connect suburbs to the city center. The urban areas around train stations are mostly pedestrian-friendly and high-density mixed-use zones with retail, commercial, and office operations. To increase passenger volume, private transportation operators in Tokyo have created high-density neighborhoods around metro lines. In Tokyo, the government is encouraging the private sector to cooperate with state-owned transport operators, with no operational subsidies but a free market for the transit and real estate sectors.

Paris: In Paris, the project Grand Paris aspires to transform the Paris region into a major world-class metropolis and improve people's quality of life, resolving spatial disparities, and making the city more sustainable. New economic centers, residential and mixed-use neighborhoods, and scientific and academic clusters are envisioned on transportation nodes formed by the new transportation system, which will connect these poles as well as airports, railway stations, and the city center.

In India, with the aid of several national level initiatives and missions, cities are growing at faster pace. India's Smart City Mission aims to promote growth and investment in Indian cities, is a prime example of this. TOD is also one of the ways to encourage sustainable urban transport. Examples of TOD approaches adopted by Ahmedabad, Delhi and Mumbai are explained as follows:

Ahmedabad: Ahmedabad is an example of a forward-thinking approach to TOD implementation. After seeing a drop in public transportation utilization, the 'Janmarg' Bus Rapid Transit System was introduced. The Janmarg's operational performance has hastened the implementation of policy directives that employ BRT to achieve TOD. The goal is to decrease sprawl by encouraging compact city forms with greater densities in locations with good public transit. The city's development plan emphasizes mixed land use, high density, public transit, a grid-based pedestrian circulation network, and a market-driven approach to land utilization in order to establish the city's Central Business District (CBD).

Delhi: In order to reduce traffic congestion and improve air quality, Delhi has made considerable expenditures in Mass Rapid Transit systems, including the Metro Rail and an earlier Bus Rapid Transit System. Following metro investments, Delhi's growth pattern demonstrates development-oriented transit (transit following development in Gurgaon, Noida, and so on) or transit nearby development (existing neighborhoods within the city benefitting from Metro options). The planning body made an attempt to

design a comprehensive Transit Oriented Development Policy to revamp station areas and neighborhoods along Metro corridors. The adoption of the TOD Policy guidelines in the Metro corridor pilot zones is expected to halt the highway-driven spatial development paradigm, allowing areas inside city borders to be densified.

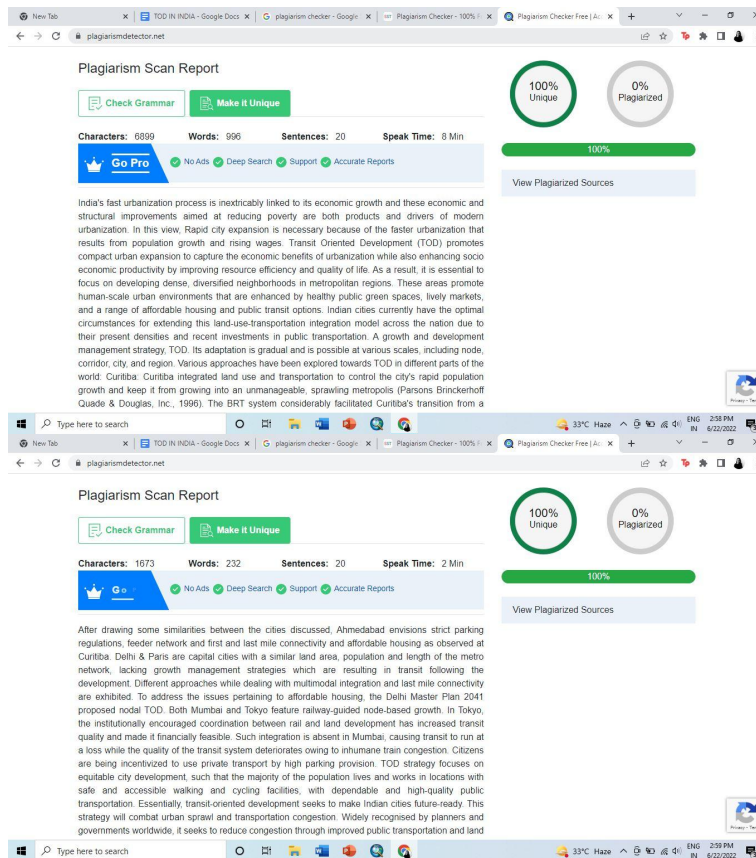
Mumbai: Greater Mumbai Area is a megapolis constructed through land reclamation and rail network expansion. Greater Mumbai and its satellite towns are part of the Mumbai Metropolitan Region, each satellite town has both jobs and residents, and it develops in a node-based structure around suburban railway stations. Several job centers may be found throughout Greater Mumbai. They are linked to the satellite towns by a complex network of suburban rail, metro, monorail, public buses, auto-rickshaws, and significant pedestrian modes. Mumbai demonstrates corridor-based TOD, with unusually high public transportation mode. Mumbai and Navi Mumbai, along with the rest of the Mumbai Metropolitan Region, have displayed regional transit-oriented expansion since the first railway line. The total number of passengers using this suburban rail network has multiplied six-fold since it first opened while capacity growth was disproportionate. The Comprehensive traffic and transportation study is being updated so that interventions such as pedestrian infrastructure, complete street networks, designated areas for Intermediate personal transport (IPT) and street vendors etc can be introduced in an effective way. This will help retain the higher public transit modal share in the city and the region.

Strategic Planning was a prevalent practice in Curitiba, Tokyo and London before the introduction of TOD in these cities which has been missing in the Indian cities. Ahmedabad, which has the country's first BRT system, Delhi, which has a Metro system that matches Paris in scale and length, and Mumbai, which has node-based expansion around suburban railway stations, have all been more ad hoc in their nature. This restricts their ability to profit from advances to public transit infrastructure.

After drawing some similarities between the cities discussed, Ahmedabad envisions strict parking regulations, feeder network and first and last mile connectivity and affordable housing as observed at Curitiba. Delhi & Paris are capital cities with a similar land area, population and length of the metro network, lacking growth management strategies which are resulting in transit following the development. Different approaches while dealing with multimodal integration and last mile connectivity are exhibited. To address the issues pertaining to affordable housing, the Delhi Master Plan 2041 proposed nodal TOD.

Both Mumbai and Tokyo feature railway-guided node-based growth. In Tokyo, the institutionally encouraged coordination between rail and land development has increased transit quality and made it financially feasible. Such integration is absent in Mumbai, causing transit to run at a loss while the quality of the transit system deteriorates owing to inhumane train congestion. Citizens are being incentivized to use private transport by high parking provision.

Transit Oriented Development (TOD) strategy focuses on equitable city development, such that the majority of the population lives and works in locations with safe and accessible walking and cycling facilities, with dependable and high-quality public transportation. Essentially, transit-oriented development seeks to make Indian cities future-ready. This strategy will combat urban sprawl and transportation congestion. Widely recognised by planners and governments worldwide, it seeks to reduce congestion through improved public transportation and land use integration, while also increasing inhabitants' quality of life.



Sewerage Management in Urban Areas: Waste to Wealth

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Urbanization on the one hand offers vast opportunities for economic development, but on the other hand poses several challenges. Increasing population in the urban areas needs to be offered basic services. Developing countries face such challenges more severely because of several factors, including unplanned development and mismatch between demand and supply due to resource constraints. India too faces similar challenges.

One of the basic services, and which has severe climatic repercussions as well, is sewerage management. The creation of infrastructure for sewage treatment facilities and sewerage network has not kept pace with the demand leading to huge gaps in sewage generation and treatment capacity across the states. As a result, partially treated or untreated sewage is discharged into environment, mainly rivers. It is the responsibility of the states and concerned urban local bodies (ULBs) to ensure required treatment of sewage to the prescribed norms before discharging into the river.

Central Pollution Control Board (CPCB) keeps track of the gaps through inventorisation of Sewage Treatment Plants (STPs). In its report on 'National Inventory of Sewage Treatment Plants in India-2021', it has made attempt to analyse the quantum of sewage generated, treatment capacity, sewage actually treated and treatment capacity complying to discharge norms in various state/Union Territories. It collects its data from State Pollution Control Boards/ Pollution Control Committees and ULBs. Some of the observations in the report are mentioned below:

- There were 1631 STPs (including proposed STPs) with a total capacity of 36,668 MLD covering 35 States/ UTs. Out of 1631 STPs, 1093 STPs (67%) were operational, 102 were non-operational, 274 under construction and 162 STPs were proposed for construction.
- Sewage generation from urban centres was estimated to be 72368 MLD, while total installed treatment capacity was 31841 MLD, which is merely 44%.

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- However, actual quantity treated was only 20236 MLD which is 28% of total sewage generated and 64% of installed capacity.
- Delhi has performed better than others, with 83% treatment of installed capacity. It is closely followed by Chandigarh and Gujarat at 80% and Telangana at 78%.
- Chhattisgarh treats sewage only 8% of installed capacity, with Odisha following closely at 13% and Tripura at 19%. Of bigger states, West Bengal treats 24% of installed capacity and Madhya Pradesh 29%.

There is need to realise that sewage can be a good source of revenue rather than being a problem. It can be treated for non-potable purposes and industrial utilities. The CPCB Report 2021 mentions that utilization of sewage has following positive impacts:

- (i) Re-use of treated sewage allows less demand from aquatic resources like rivers, ponds, lakes etc, and
- (ii) less consumption of raw water helps in conserving natural services.

Several ULBs have taken steps in this regard. All the states/UTs have prepared action plans on utilization of treated sewage in compliance with the direction of National Green Tribunal. Salient features of the action plans are mentioned below:

- In 7 States/UTs namely Delhi- 405 MLD (12.5%), Gujarat- 60 MLD (1.55%), Haryana- 192 MLD (16%), Madhya Pradesh- 84 MLD (4%), Tamil Nadu- 211 MLD (6.6%), Chandigarh- 27-40 MLD (10 to 16%) and Puducherry- 15.3 MLD (26%), domestic waste water is being treated and re-used for different purposes like horticulture, irrigation, non-contact impoundments, washing (Roads, Vehicles, Trains), construction and industrial activities
- Percentage of reuse and treated sewage is maximum in Haryana (80%) followed by Puducherry (55%), Delhi (50%), Chandigarh (35%), Tamil Nadu (25%), Madhya Pradesh (20%), Andhra Pradesh (5%)
- NCT of Delhi has set target to increase their re-usage from 12.5% to 60%. In future, utilization of 341 MGD treated sewage are proposed for drinking purpose (197 MGD), Irrigation (112 MLD) and 10 MGD in rejuvenation of water bodies.

The following cases indicate that how reuse of treated sewage can be revenue earner for the ULBs or agencies entrusted with the responsibility of sewerage management.

Chennai Metropolitan Water Supply and Sewerage Board

The Board has installed 2 tertiary treatment plants of 45 MLD capacity each to meet the raw water requirement of industrial areas. One plant at Koyambedu, which is working on PPP basis, has led to saving of freshwater due to the commencement of supply of treated water to industries. Around 20 MLD freshwater which was being supplied to them for industrial use has now been diverted for drinking water purpose of the Chennai city people. At the same time, the Board is earning revenue from the industries through the sale of treated water to them at Rs. 65 /kl. Rs. 19.67 crores worth of revenue was generated for the Board. Similarly, the other plant at Kodugaiyur, which is also working on PPP basis, has earned the Board the revenue worth Rs. 48.17 crores. This plant is selling the treated water to the industries at the rate of Rs. 80/kl.

Surat Municipal Corporation (SMC)

The Corporation has been supplying an average of 55 MLD of treated water to Pandesara GIDC Industrial Area since 1998. Water demand of Pandesara industries is approximately 90-100 MLD, comprising 80-85 MLD of process water requirement and 10-15 MLD of potable quality water demand. SMC has constructed a 40 MLD treatment plant to treat secondary treated water from Bamroli STPs and recycle, generate and supply industrial grade water for Pandesara Industrial Estate. The Corporation has been able to save 40 MLD of potable water, which was earlier supplied to Pandesara industries. In addition, it is earning revenue to the tune of Rs. 48.17 crores at the rate of Rs. 23 /kl. There is recognition of the fact now that there is a need for a paradigm shift in the way wastewater is handled / managed in the country. As water is a scarce commodity, it is imperative to manage the already used water in an environmentally friendly and economically sustainable manner. The two objectives can be achieved by recycling or reusing the used water.

Smart City Mission: Success Stories of ICT Infrastructure

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India is the second largest urban system in the world and its urban population is expected to grow from 377 million in 2011 to 600 million in 2030. In the coming decade urban population will contribute to more than 70% of the total population increase in the country. The high urban population in India has a detrimental impact on the citizen's life as well as on natural surroundings. In order to manage the ever-increasing population in the cities, it is important that infrastructure in the cities are upgraded and managed by using advanced Information and Communication Technologies (ICT) to make them sustainable in the long run. In India, The MoHUA, is responsible for implementing the urban development schemes across India. In this direction, Smart Cities Mission is one of the major initiatives of the Ministry to improve people's living quality in cities and towns by information and digital technology, using best practices, and more public-private partnerships. At present the Smart City Mission (SCM) in collaboration with the state governments of the respective cities, is working with 100 cities for area-based development. Application of Smart Solutions will enable cities to use technology, information and data to improve infrastructure and services.

It is good to note that MoHUA is successfully implementing Smart City Mission projects in different cities in collaboration with ULBs and State Governments by deploying AI solutions. Some of them are as follows;

GIFT city: India's first Greenfield Smart City: Under the Smart City Mission, the Government of Gujarat has developed Gujarat International Finance Tec City (GIFT City) as India's first Greenfield Smart City. Around seven km from Gujarat's capital Gandhinagar, the GIFT City, planned on 886 acres of land with 62 mn sq. ft. of built up area, includes banks, stock exchanges and financial services firms, office spaces, residential apartments, schools, hospitals, hotels, clubs, retail and various recreational facilities. Further, the entire city project has been divided into a multi-service Special Economic Zone (SEZ) spread over 261 acres and exclusive domestic tariff area (DTA) spread over 625 acres.

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This City is developed as a planned business destination for National International Entrepreneurs and provides competitive edge to financial services and Technology related activities. At present more than 200 entities have established their offices where more than 12,000 people are working. GIFT City has been equipped with some of the latest technology of present time which is useful to common man. From the latest public transport, to automated waste collection to an efficient district cooling system, GIFT City has the best amenities available for its residents. The infrastructure developed in GIFT City, such as District Cooling System (DCS), Automated Waste Collection System (AWCS), and Underground Utility Tunnel, contributes to making the city ready for a sustainable way of living. GIFT city has embraced water management through a 35% reduction in potable water and treatment & reuse of 100% wastewater. GIFT City has also installed an automated waste collection and segregation plant. Due to its Eco-friendly and technology driven Public utilities and hassle free business operations, GIFT City has won several awards and accolades at various forums.

Smart poles for Internet access and EV charging in Bhopal:

In conventional urban planning, ULBs use different infrastructure for streetlights, mobile network, street surveillance, environment monitoring etc. This makes it quite complex and costly to setup and maintain them. Recently, under the Smart City Mission Smart Pole has become the focal point not only for streetlights but also for Telecom Service Providers. Different cities under Smart City Mission are deploying a unified Smart Pole to reduce the connectivity costs and connectivity access to various public and commercial applications such as Emergency Call Box, Public Announcement System, Public Wi-Fi, Environmental Sensor, Flood Sensor, Smart Lighting), Variable Message Display boards, Surveillance Cameras, etc. CCTV cameras can be installed with the Smart Pole to improve upon safety and security in the city. Environmental sensors can be installed to monitor air quality, temperature, and humidity. Simultaneously, the implementation of LED-based streetlights helps to improve the quality of life of city residents by improving the city lighting.

Realizing the importance of Smart Pole, Bhopal Smart City Development Corporation Limited (BSCDCL) has launched first of its kind public private partnership (PPP) based smart poles and intelligent streetlights' project in India under the Smart Cities Mission. BSCDCL partnered with Bharti-Infratel, Ericsson, and HPL for its efforts to create Smart, Connected, and eco-friendly Communities. One of the highlights of this project is the deployment of smart poles and street lighting as

a multi-application platform. In 2017, it was planned to install two thousand smart poles and 18 thousand smart street lights in the city with an investment of about Rs 700 crore. Initially, as many as 500 such poles were to be installed. However, around 100 such poles have been installed till date. Along with that 20 thousand LED street lights has been installed on these Smart Pole. These LED lamps are equipped with a Central Control Monitoring System (CCMS), which allows remote monitoring and operation of the lights. The system sends alerts for each light that needs attention, reducing the chances of failure and sudden repair. Therefore, the avoided capacity of electricity can be ascertained from the reduced consumption of electricity. Now streets of Bhopal have got more illumination than before.

GPS-based Vehicle Tracking and Monitoring System (VTMS) for SWM - Indore

Indore is the most populous city of Madhya Pradesh and for the 5th consecutive year, Indore has been awarded with the title of India's Cleanest City for its performance in maintaining cleanliness, hygiene and sanitation. Indore Municipal Corporation (IMC) considers sanitation and Solid Waste Management as priority areas for the city. Timely clearing of secondary collection bins and transportation has been a major issue in Solid Waste Management in Indore – around 750 open garbage dumps in the city were not cleared regularly until recently. The city has adopted several initiatives aimed at preventing littering and making Indore the cleanest city.

Due to the combined efforts of the city's people, its public representatives and government officials, the city has become the cleanest in the country. However, Indore Municipal Corporation has successfully utilized the GPS based smart technology i.e. vehicle tracking solutions, construction of garbage transfer stations and developed app for data compilation on waste collection. They have also installed IP cameras at entry and exit of the landfill site, integrated Weighbridge Vehicle Monitoring System (IWVMS) at the entry and exit points, integrated VTMS with the Central Command and Control Centre and also given training to stakeholders for managing the complete VTMS eco-system. The success of Indore's urban solid waste management shows that urban India can be cleaned up if municipal bodies, NGOs, private companies and citizens come together and adopt smart solutions for waste management.