

Dignity by Design: Innovation Reshapes India's Public Toilets

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Over the years, India's cities have made significant strides in expanding access to public sanitation facilities. From improving availability and cleanliness to enhancing safety and accessibility, cities are adopting innovative approaches to make public toilets more inclusive and user-friendly.

Building on these efforts, the **Swachh Bharat Mission (SBM)**, launched on **2 October 2014**, has advanced sanitation innovation across India. Cities built toilets, raised awareness and worked towards becoming **Open Defecation Free (ODF)**. Many went further, achieving ODF+ and ODF++ status. In 2022, the Toilets 2.0 initiative under Swachh Bharat Mission-Urban (SBM-U) raised the bar again. Its aim was to make Community and Public Toilets (CT/PTs) safe, clean and inviting for everyone. Citizens can now find the nearest facility through the '**SBM Toilet Locator**' on the Swachhata app.

Today, the change is visible in unexpected places. An old bus has become a women's toilet. Plastic waste has turned into building material. A busy market now hosts a smart lounge. A small city has found a safe way to handle sanitary waste. Pilgrim towns offer facilities open to all. Together, these stories trace the journey from basic access to dignity, safety and innovation.

New Age Toilets: A Scrap Bus Becomes a Safe Space for Women

Women travelling through crowded bus terminals often struggle to find a clean and private toilet. In **Bengaluru, Karnataka**, an old bus found a new purpose to meet this need. The **Sthree Toilet** was set up at the Majestic bus terminal of the **Karnataka State Road Transport Corporation (KSRTC)**. Built from a scrap vehicle, it serves women exclusively.



The toilet has **three Indian-style and two Western-style commodes**. A **sanitary napkin vending machine** and an **incinerator** support menstrual hygiene. A dedicated space lets mothers feed their babies and change diapers. Sensor lights run on **solar power generated by the facility itself**. Waste drains into the nearest sewage chamber at the bus station. The toilet has proved especially helpful for mothers travelling with young children.

Navi Mumbai's Sustainable Toilets: A Model of Eco-Conscious Urban Design

Can a public toilet be built from what a city throws away? Navi Mumbai has shown that it can. The **Navi Mumbai Municipal Corporation (NMMC)** has developed **Aspirational Toilets** at Sector 14, Koparkhairane. The site lies near the Nisargudyen urban garden, a busy public space. Around **8,000 to 9,000 visitors** use the facility every day.



The structure uses **426 square metres of recycled plastic sheeting**. This includes **5.3 metric tonnes of single-use plastic**, 11,700 plastic bottles and 35,200 bottle caps. Builders also reused **85 repurposed computer keyboards** and **284 kg of scrap metal**. The project puts the principle of **Reduce, Reuse and Recycle** into everyday practice.

Safety and comfort are built into the design. Separate sections for men and women ensure privacy. Units for children and persons with disabilities, baby care stations and sanitary pad vending machines serve all users. A **fountain running on treated sewage water** completes its green design. The complex now stands as a symbol of environmental innovation and civic pride.

Swachh Smart Toilets: Freshrooms Bring Comfort to Bhopal

Shoppers, vendors and commuters crowd Bhopal's **10 Number Market** every day. The Bhopal Municipal Corporation has set up '**Freshrooms**', **smart and luxury public convenience centres**. They follow a **Design-Build-Operate-Transfer (DBOT)** model under a **Public-Private Partnership (PPP)**. The Smart Lounge at the market covers 800 to 1,000 square feet. It serves **500 to 1,000 visitors daily**.



Technology lies at the heart of the facility. It offers **sensor-based toilets** and **touch-free urinals**. Visitors can also use hot and cold showers, lockers and Wi-Fi. A café, vending machines and baby-changing rooms add to the comfort. A **digital information wall** keeps users informed. Separate, accessible facilities serve

men, women and persons with disabilities. By integrating technology, comfort and sustainability, Freshrooms demonstrate how innovative models can deliver world-class sanitation while ensuring financial self-sufficiency.

Smart Sanitary Solutions in Karad: Safe Disposal, Safer City

Clean toilets are one part of the sanitation story. Safe disposal of sanitary waste is another. Used napkins and diapers, if dumped openly, harm health and the environment. Stigma often keeps the issue hidden. **Karad**, a small city in Satara district of **Maharashtra**, has tackled this challenge head-on. It ensures **100% segregation, collection and processing** of sanitary and biomedical waste. Nearly **300 to 350 kg of sanitary waste** is collected daily from hospitals, clinics, households and other facilities.



The first step was to break the taboo around sanitary waste. Workshops, community outreach and public announcements explained the risks of careless disposal. The **Karad Municipal Council (KMC)** worked with women residents to form awareness groups. These groups carried the message across residential areas. Separate **red bins** were placed in public toilets to make safe disposal easier for women.



Schools were encouraged to install sanitary pad vending machines and disposal systems. The city's **Information, Education and Communication (IEC)** team urged users to wrap used pads in paper. Many schools have since installed incinerators. Their residue goes to the biomedical waste treatment plant.

Garbage collection vehicles carry a **separate bin for sanitary waste**. Staff sort this waste so that only suitable material reaches the incinerator.



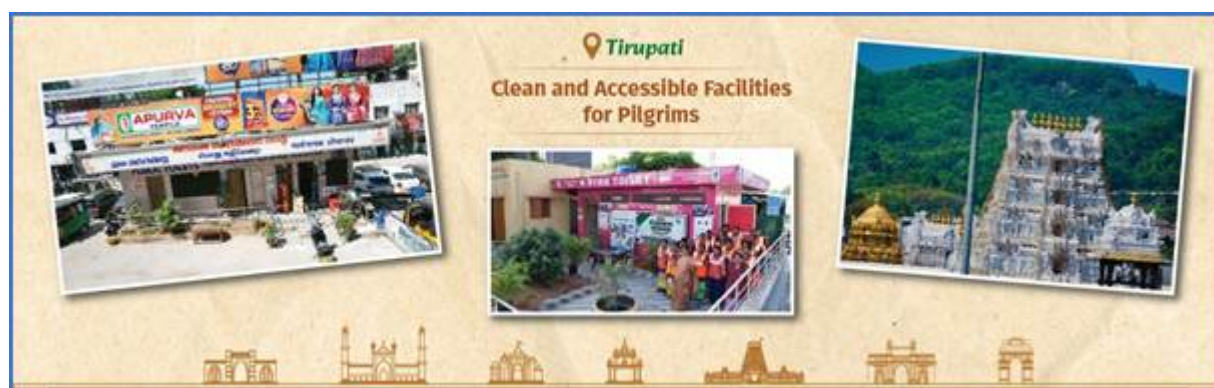
KMC has partnered with the **Karad Hospital Association** to treat this waste. KMC allocated land for construction of the biomedical waste treatment plant, while the association operates and maintains it. This is a **600 kg/day Common Biomedical Waste Treatment Facility (CBWTF)**. It processes the sanitary waste collected by the council free of charge. Its central incinerator reaches temperatures of **up to 1,200°C**. Gases are filtered to remove harmful substances. Emissions are monitored in real time and linked to the **State Pollution Control Board (SPCB)** system.



This PPP partnership has eased the council's financial burden, as it bears only collection and transport costs. High-temperature incineration of sanitary waste has reduced health risks and protects sanitation workers handling the waste. Open dumping has been eliminated, preventing environmental contamination and reducing the spread of diseases. It has improved residents' quality of life, particularly for women affected by sanitary waste disposal challenges.

Comfort, Cleanliness & Care for Tirupati's Pilgrims

Places of faith draw lakhs of visitors, making clean toilets a daily necessity. **Tirupati** is among India's busiest pilgrimage destinations. The **Tirupati Municipal Corporation** has built modern toilet complexes for devotees, tourists and residents.



A dedicated **Pink Toilet Complex** for women stands near the bus station. It links key points such as Srinivasam, Vishnuvasam, the railway station and the bus terminal. Women can use Indian and Western toilets, restrooms, and mother care and changing rooms. Incinerators and sanitary napkin vending machines support menstrual hygiene. The complex serves **12,000 to 15,000 users daily**. A structured three-shift cleaning system maintains the facility.

A Common Public Toilet Complex near the railway station caters to **20,000–25,000 devotees** visiting the Govindarajaswamy Temple area daily. Designed for universal access, it provides **dedicated facilities** for men, women, transgender persons, Divyaang, and children. Ramps, handrails, child-friendly fixtures, and bathing rooms ensure **greater comfort, hygiene, and accessibility for pilgrims**.

Road Ahead

Under SBM-U 2.0, the focus has moved beyond building toilets. The goal now is to keep them clean, safe, inclusive and sustainable. These stories show how cities are reaching that goal in their own ways. A scrap bus, recycled plastic, sensor-based fixtures and a high-temperature incinerator each play a part. Partnerships with private operators, hospitals and communities keep these facilities running well. Dedicated workers and caretakers give them life every day. As the **Swachh Bharat Mission** completes twelve years, the direction is clear. Every citizen, whatever their gender, ability or location, deserves a clean and dignified toilet. From markets to monuments, Indian cities are turning that promise into reality.

Reference:

Ministry of Housing and Urban Affairs

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