



BACKGROUNDERS
Press Information Bureau
Government of India

India's Metro Revolution: From Miles to Milestones

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"The metro is becoming a new lifeline for the cities in modern India"

- Prime Minister Narendra Modi

Key Takeaways

- India's metro network grew from 248 km (2014) to 1,013 km (2025).
- India has invested ₹2.5 lakh crore (US\$ 28.86 billion) and built over 2,000 metro coaches domestically.
- Initiatives like Make in India, solar-powered stations, and driverless metros are driving clean, future-ready mobility.

The Rise of India's Metro Rail



The Delhi Metro

From the first tracks laid in Delhi's expanding suburbs in the early 2000s to the bustling, tech-powered networks now weaving over 20 Indian cities, India's metro story is a symbol of its urban awakening. What began as a cautious step into mass rapid transit has evolved into a nationwide movement, streamlining daily commutes, reducing city congestion, and reshaping skylines. The metro is no longer just a mode of transport; it's a lifeline pulsing through the heart of India's growth story, driven by ambition, innovation, and a vision of sustainable urban living. India now proudly stands as the world's **third-largest metro network**, reflecting its rapid strides in urban transit expansion.



Prime Minister Narendra Modi Inaugurating Kolkata Metro's Howrah Maidan - Esplanade Metro Section

Operational Footprint

- India's operational metro network has soared from **248 km across 5 cities (in 2014)** to **1,013 km across 23 cities** by May 2025, adding **763 km** in just 11 years.
- Average daily ridership has climbed from **28 lakh (2013–14)** to over **1.12 crore**, marking a transformative shift in urban commuting.

Metro Growth metrics

- The pace of commissioning new lines has accelerated ninefold: from **0.68 km/month (pre-2014)** to approximately **6 km/month** today.
- **The annual metro budget** for 2025–26 is **₹34,807 crore**, up more than six times from ₹5,798 crore in 2013–14.

India's Metro Momentum



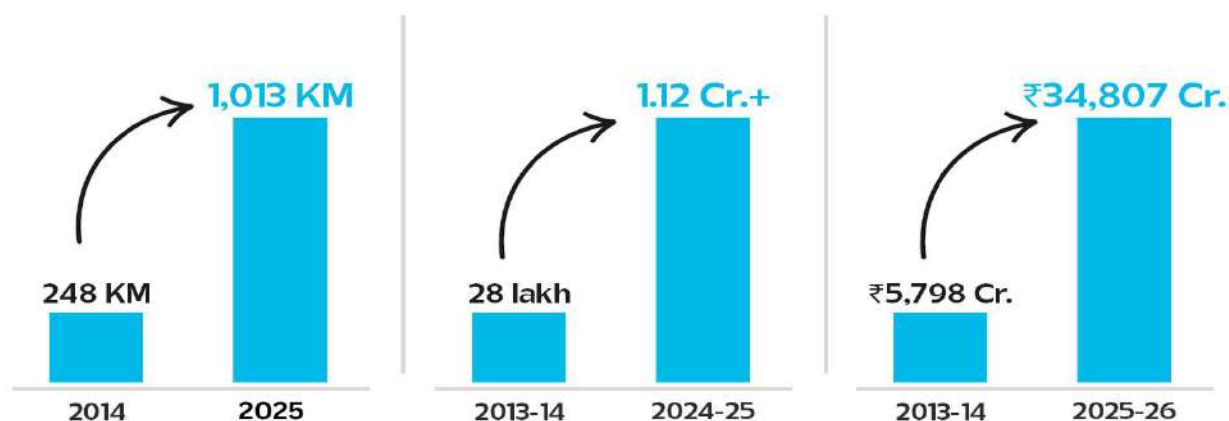
Metro Rail Network



Daily Ridership



**Annual Budget of
Metro**



Source: PIB

Steering the Future: Key Steps by the Government

To accelerate urban mobility and ensure sustainable transit solutions, the Government of India has launched several transformative initiatives. These steps aim to ensure that metro projects are sustainable, economically viable, and technologically advanced. Through visionary policies, bold investments, and smart partnerships, the government is laying the foundation for a cleaner, faster, and more connected urban future.

Metro Rail Policy, 2017

The **Metro Rail Policy 2017** mandates cities to prepare **Comprehensive Mobility Plans (CMPs)** and establish **Urban Metropolitan Transport Authorities (UMTAs)** to guide the development of metro systems with a strong emphasis on sustainability, economic viability, and integrated urban mobility. To qualify for central financial assistance, metro projects must ensure a minimum **Economic Internal Rate of Return (EIRR) of 14%** and involve **mandatory private sector participation** through Public-Private Partnerships (PPP).

Make in India for Metro Rail Systems

As part of the ambitious **Make-in-India** drive, the government has made provisions for domestic procurements of at least **75% of metro cars** and **25% of key equipment and sub-systems**—a bold step to boost local production and foster self-reliance in the mobility sector. In the last ten years, India has invested nearly **₹2.5 lakh crore (US\$ 28.86 billion)** into expanding its metro network. This momentum has powered the local manufacturing of metro coaches. Bharat Earth Movers Limited (**BEML**), a Public Sector Undertaking (PSU) under the Ministry of Defence, has supplied over 2,000 metro coaches across cities like Delhi, Jaipur, Kolkata, Bengaluru, and Mumbai as of May 2024, strengthening domestic capabilities and reducing dependence on imports.

Global Partnerships

Global Partnerships are also steering the growth of the Metro Network in the country. One such project, the Mumbai Metro Line 3 (MML-3) is expected to transform urban transit with a massive investment of **₹23,136 crore (US\$ 2.67 billion)**. A significant share of **₹13,235 crore (US\$ 1.53 billion)**, or 57.2% of the total funding, is being provided as loan assistance by the Japan International Cooperation Agency (JICA). The rest of the funding is being jointly contributed by the **Government of India, the Maharashtra State Government/ Mumbai Metropolitan Region Development Authority (MMRDA)**, making it a strong example of international and domestic collaboration in infrastructure development.

Green Urban Mobility

India's metro rail systems are embracing green innovations. The Delhi Metro installed a **vertical bi-facial solar plant** on an elevated viaduct at **Okhla Vihar** and a **1 MW rooftop solar plant** at **Khyber Pass depot**, pioneering land-free renewable energy use. Other green initiatives like regenerative braking systems, widely adopted across metros, help **save power and reduce carbon emissions** by converting braking energy into electricity. Additionally, many metro stations in cities like Delhi, Kochi, Nagpur, and Pune have received Indian Green Building Council (**IGBC**) **Certifications**, promoting eco-friendly infrastructure. These efforts align with India's sustainability goals and demonstrate the metro's growing role in clean urban mobility.

Metro's Big Wins for India



Reduces Travel Time

Delhi Metro cuts travel time by 50-75%; Mumbai Metro Line 1 reduced 90 mins to 21 mins between Versova and Ghatkopar.



Boosts Infrastructure

New metro lines improve urban access and drive economic growth in Tier II/III cities.



Elevator Industry Growth

Metros drive demand for advanced elevators and smart control systems, enhancing efficiency and passenger experience.



Job Creation

Delhi Metro's Phase IV is expected to create 55,000 construction jobs.



Inclusive Mobility

Elevators, escalators, and reserved seating support seniors and persons with disabilities.

Source: IBEF

Cutting-Edge Innovations in India's Metro Rail

India's metro systems aren't just expanding in size, they're evolving in intelligence. With a strong push toward automation, digitalization, and sustainability, metros across the country are embracing new technologies.

Namo Bharat Train

- India's first state-of-the-art high-speed regional train.
- Runs at **160 km/h operational speed** (design speed: 180 km/h).
- Deployed on Delhi-Meerut **Regional Rapid Transit System (RRTS)**

Underwater Metro

- In 2024, India achieved a major milestone by launching its **first underwater metro tunnel** in **Kolkata**, connecting the **Esplanade to Howrah Maidan** beneath the **Hooghly River**.
- This engineering marvel stands as a symbol of India's growing technological and infrastructural prowess.

Water Metro

- **Kochi**, Kerala, became India's first city to launch a Water Metro.
- The Water Metro connects 10 islands using electric-hybrid boats for **seamless and eco-friendly transport**.

European Train Control System ETCS Level II Signaling

- World's first **ETCS Level II with Hybrid Level III** system using LTE radio backbone.
- Enhances train safety, speed, and real-time monitoring on the Namoo Bharat route.

Platform Screen Doors (PSD)

- Co-developed by Bharat Electronics Limited (BEL) and National Capital Region Transport Corporation (NCRTC).
- Boosts passenger safety and minimizes platform-level accidents.

National Common Mobility Card (NCMC)

- Unified **One Nation, One Card** solution.
- Enables seamless travel across metros, buses, suburban rail, tolls, and retail.

QR-Based Ticketing

- Mobile app-based QR tickets simplify and digitize the ticketing experience.

Unmanned Train Operations (UTO)

- Driverless tech is functional across multiple stretches of the Delhi Metro, the first of them being introduced on the Magenta Line in 2020.
- Improves efficiency and lowers human dependency.

Indigenous Automatic Train Supervision System (i-ATS)

- Developed locally for the first time in India, ATS provides **automatic local and central control and monitoring** of train operations and signaling.
- Jointly created by the Delhi Metro Rail Corporation (DMRC) and BEL, now active on the Red Line of the Delhi Metro.

Metro Projects in the Pipeline

India's metro expansion continues to gather pace with a wave of new projects in the planning and approval stages. The aim is to improve last-mile connectivity, support urban growth, and offer cleaner, faster, and more inclusive public transport across emerging and established cities. Some of these upcoming projects are:

Pune Metro Rail Project Phase-2

- Pune Metro Phase-2, covering two elevated corridors (Vanaz–Chandani Chowk and Ramwadi–Wagholi) totaling **12.75 km with 13 stations**, has been approved and scheduled for completion within four years.
- The extensions will improve access to IT hubs, educational institutions, and intercity bus terminals, enhancing the **public transport share**.

Delhi Metro

- Extension of the Aerocity–Tughlakabad Corridor to Indira Gandhi Domestic Terminal-1 (2.16 km, Underground).
- Magenta Line Extension (Line 8) – Ramakrishna Ashram Marg to Indraprastha (9.913 km, Underground).
- Golden Line Extension (Line 10) – Tughlakabad to Kalindi Kunj (9 km, Elevated).
- Noida Sector-51 to Knowledge Park V (17.435 km).

Ahmedabad Metro Rail Project Phase-2A

- Ahmedabad Metro Extension for direct connectivity to Sardar Vallabhbhai Patel Airport (6.032 km).
- The extension will lead to convenient and faster access to the airport for daily commuters, airport personnel, and residents across the city.

Bangalore Metro Phase-3

- 45 km of Phase-3 has been sanctioned by the Central Government at a cost of ₹15,600 crore.
- Currently, 75 km of metro is operational and 145 km is under construction in the city.

Expansion of Water Metro

- Replicating the model of Kochi Metro, the government has approved a technical feasibility study for Water Metro expansion services in 24 cities across India, including Guwahati, Dibrugarh and Tezpur in Assam.
- The expansion will help in improving connectivity, easing road congestion, and promoting sustainable transit in cities.

Conclusion

From the buzzing platforms of Delhi to the rising lines of Surat and Bhopal, Metros are silently stitching together the fabric of a new India: fast, efficient, and clean. These aren't just trains; they're lifelines of tomorrow's India, delivering not just passengers, but ambition, equity, and resilience. As India aspires to become the **world's third-largest economy** with a projected **GDP of \$7.3 trillion by 2030**, robust public transportation like Metro rail will be the backbone of its growth, connecting people, powering cities, and protecting the planet. With the government's continued focus and execution, India is well on track to become one of the world's leading models of Metro-led mobility transformation.

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