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INDIA'S INFRASTRUCTURAL DEVELOPMENT AND ITS MULTIPLIER EFFECT

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Introduction to India's infrastructural development:

Infrastructure forms the backbone of India's economic growth, enabling connectivity, industrialization, urbanization, and social inclusion. Over the past decade, India has pursued large-scale infrastructure expansion to achieve its vision of becoming a \$5 trillion economy and a developed nation by 2047.

Flagship programmes like Bharatmala (highways), Sagarmala (ports), Smart Cities Mission (urban renewal), UDAN (regional air connectivity), and electrification of railways highlight India's focus on building world-class infrastructure. As per the Economic Survey 2023–24, capital expenditure on infrastructure has more than doubled in the last decade, rising from 1.7% of GDP in 2014 to over 3.3% in 2023.

Current status of infrastructural growth:

Overall Infrastructure Output Growth

India's infrastructure output grew modestly by 2% year-on-year in July 2025, marking moderate expansion across critical sectors.

The infrastructure output index, tracking eight core sectors (coal, crude oil, natural gas, refinery products, fertilizers, steel, cement, electricity), showed 3.8% growth in March 2025 and 0.5% in April, indicating volatility.

Asset Monetisation & Investment Levers

Through the National Monetisation Pipeline, the Indian government raised ₹1.42 lakh crore via monetising highway assets in FY2025, and expects an additional ₹30,000 crore in the current year.

The InvIT market is set to grow substantially—from USD 73.3 billion in FY25 to USD 258 billion by 2030—reflecting increasing investor interest.

Expressways & Mega Connectivity Projects

Ganga Expressway: Currently at ~84% overall progress, with nearly fully completed earthworks and most structures in place.

Bengaluru–Chennai Expressway: Karnataka section opened in December 2024; full completion expected by August 2025.

Delhi–Mumbai Expressway: Over 80% complete, with full operations expected by end of 2025 and partial sections potentially open by March.

Strategic Infrastructure Highlights (Economic Survey 2024–25)

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1.Railways:

2,741 km (96.4%) of Dedicated Freight Corridor commissioned.

Mumbai–Ahmedabad high-speed rail is 47% complete (as of Oct 2024).

17 Vande Bharat train pairs launched; 91 Gati Shakti multimodal cargo terminals commissioned.

2.Aviation:

91% of ₹91,000 crore allotted airline airport capex spent by Nov 2024.

UDAN scheme connects 88 airports over 619 routes.

3.Ports & Shipping:

Container turnaround time improved from 48.1 hours to 30.4 hours (Apr–Nov 2024).

56 PPP projects adding 550 mtpa port capacity.

SIGNIFICANCE OF INFRASTRUCTURAL DEVELOPMENT:

1.Catalyst for Economic Growth: Infrastructure creates the backbone for industries, trade, and services.

Example: The Delhi–Mumbai Expressway (80% complete, 2025) is expected to reduce travel time from 24 hrs to 12 hrs, boosting logistics and industrial output.

2. Employment Generation: Large projects generate direct and indirect jobs in construction, operations, and allied industries.

Example: The National Infrastructure Pipeline (₹111 lakh crore, 2019–25) is estimated to create millions of jobs across transport, energy, and housing sectors.

3. Improved Connectivity & Reduced Logistics Costs: Roads, railways, ports, and airports enhance market access and reduce cost of goods movement.

Example: PM Gati Shakti Master Plan (2021) integrates road, rail, and port logistics, aiming to reduce logistics costs from 13–14% of GDP to 8% by 2030.

4. Urban Development & Smart Cities: Modern infrastructure transforms urban areas into hubs of innovation and sustainability.

Example: The Smart Cities Mission has implemented projects like integrated traffic management in Pune and solar rooftop systems in Indore.

5. Boost to Rural Development & Inclusion: Infrastructure bridges the rural–urban divide, improving livelihoods and social equity.

Example: Jal Jeevan Mission expanded rural tap water coverage from 17% (2019) to nearly 80% by 2024, enhancing health and quality of life.

6. Energy Security & Sustainability: Renewable infrastructure reduces dependence on fossil fuels and supports climate goals.

Example: India’s installed renewable capacity crossed 220 GW (2025), contributing 47% of total power.

7. Attracting Domestic & Foreign Investment: Strong infrastructure builds investor confidence and global competitiveness.

Example: The InvIT market in India is projected to grow from USD 73.3 bn (2025) to USD 258 bn by 2030, channeling funds into infra projects.

8. Enhancing Global Competitiveness & Trade: Port-led development reduces turnaround time and boosts exports.

Example: Under Sagarmala Programme, average container turnaround time at ports reduced from 48 hours (2014) to 30 hours (2024).

Challenges in India's Infrastructure Development:

1. Financing Constraints: High capital requirements and limited fiscal space hinder infrastructure expansion.

Example: Despite the National Infrastructure Pipeline (₹111 lakh crore, 2019–25), India faces a financing gap of nearly \$200 billion.

2. Land Acquisition & Rehabilitation Issues: Land disputes, legal hurdles, and inadequate compensation delay projects.

Example: The Mumbai–Ahmedabad Bullet Train Project faced repeated delays due to land acquisition in Maharashtra and Gujarat.

3. Regulatory & Policy Bottlenecks: Overlapping regulations and approval delays reduce investor confidence.

Example: Renewable energy developers reported delays in grid connectivity approvals, slowing India's renewable expansion targets.

4. Execution Delays & Cost Overruns: Poor project planning and coordination cause time/cost overruns.

Example: As per the Ministry of Statistics (2024), out of 1,800 major projects, over 400 are delayed, with cost overruns of ₹4.5 lakh crore.

5. Logistics Inefficiencies: High logistics costs (13–14% of GDP) reduce global competitiveness.

Example: Despite PM Gati Shakti, India's logistics costs are still higher than China (8%) and developed nations (6–7%).

6. Urban Infrastructure Deficit: Rapid urbanization outpaces infrastructure creation, leading to congestion, pollution, and housing shortages.

Example: Cities like Delhi and Bengaluru face chronic traffic congestion, with average speeds dropping below 20 km/h.

7. Rural–Urban Divide: Rural areas still lag in infrastructure access (roads, healthcare, digital).

Example: Despite PMGSY, nearly 1.5 lakh habitations lack all-weather road connectivity.

Conclusion

India's railway infrastructure is undergoing a historic transformation, shifting from a traditional network to a modern, high-speed, and passenger-centric system. Projects such as the Mumbai–Ahmedabad Bullet Train, Delhi–Meerut RRTS, and the Amrit Bharat Station Scheme showcase a strong focus on speed, safety, comfort, and green mobility. Regional connectivity efforts like the Udhampur–Srinagar–Baramulla Line and Char Dham Railway highlight the integration of strategic and socio-cultural priorities.

While challenges remain in terms of financing, land acquisition, and timely execution, the recent thrust on digitalization, electrification, and modernization reflects India's vision of transforming railways into the backbone of its \$5 trillion economy aspiration. Ultimately, railway projects are not just about infrastructure—they are catalysts for economic growth, social inclusion, and sustainable development, symbolizing the drive towards “Viksit Bharat 2047.”