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Industry Research Report on the Infrastructure Consultancy Sector

September 2026

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Executive summary

India continues to record higher economic growth than most major economies despite a challenging global environment. India's GDP is projected to grow by 6.4% in CY26P, compared with around 1.7% growth projected for advanced economies. The infrastructure sector remains an important contributor to economic activity, with its contribution to GDP increasing from 22.8% in FY23 to 24.2% in FY25 (FRE), supported by higher public capital expenditure and continued development across roads, railways, ports, power, urban infrastructure and logistics. The Government's allocation of Rs 12.21 trillion for infrastructure development in FY27 further supports the sector's growth outlook.

India's infrastructure market increased from Rs 20,105 billion in CY21 to Rs 35,091 billion in CY25, registering a CAGR of 14.9%, and is projected to reach Rs 65,601 billion by CY31P at a CAGR of 11.0%. Growth is expected to be supported by continued public infrastructure spending, PPPs, asset monetisation and large-scale programmes such as Bharatmala, Smart Cities Mission, AMRUT and PMAY. Globally, infrastructure investment is also expected to increase from around USD 4.0 trillion in 2025 to USD 5.2 trillion by 2030, driven by renewable energy additions, transmission and distribution expansion, grid strengthening, battery storage and rising electricity demand.

The expansion of infrastructure activity is expected to support demand for infrastructure consultancy services. The global infrastructure consultancy market is projected to grow from USD 40,171 million in CY25 to USD 58,735 million by CY31P, at a CAGR of 6.5%. In India, the market is expected to grow from USD 2,543 million in CY25 to USD 5,479 million by CY31P, registering a CAGR of 13.6%. The growth is expected to be supported by a strong infrastructure development pipeline across roads, railways, metros, ports, airports, power, renewable energy, water, urban infrastructure, logistics and digital infrastructure. Large-scale programmes such as Bharatmala Pariyojana, Dedicated Freight Corridors, Metro Rail expansions, PM Gati Shakti and the National Infrastructure Pipeline are also increasing the scale and complexity of infrastructure projects, creating demand for multidisciplinary consultancy services.

Within the transportation infrastructure segment, India's road network stood at approximately 63.5 lakh km as of FY26, making it the world's second-largest road network. The road bridge infrastructure market increased from Rs 240 billion in CY24 to Rs 262 billion in CY25 and is projected to reach Rs 415 billion by CY31P, supported by government investment, urbanisation, connectivity requirements and the need to replace ageing infrastructure. The port infrastructure market increased from Rs 983 billion in CY21 to Rs 1,593 billion in CY25 and is projected to reach Rs 2,632 billion by CY31P. Capacity expansion, higher cargo handling and increasing use of water-based freight movement are expected to support the sector, with India's port capacity reaching 2,771.2 MMTPA in CY25 and Maritime India Vision 2030 targeting more than 3,500 MMTPA by 2030.

Urban infrastructure is also expected to remain a key area of investment as India undergoes rapid urbanisation. India's urban population is projected to reach approximately 600 million by 2036, increasing the need for housing, transportation, water supply, sanitation, drainage and other civic infrastructure. The expansion of metro rail, city bus systems, suburban rail, BRTS and other urban infrastructure is expected to create further opportunities for infrastructure development and consultancy services.

Overall, the outlook for India's infrastructure sector remains supported by economic growth, government capital expenditure, private participation, PPPs and large-scale infrastructure programmes. Continued investment across transportation, energy, urban development, water, logistics and other infrastructure segments is expected to support the expansion of the infrastructure consultancy market and create opportunities for consultancy firms across project planning, engineering, project management and other related services.

1 Economic Outlook

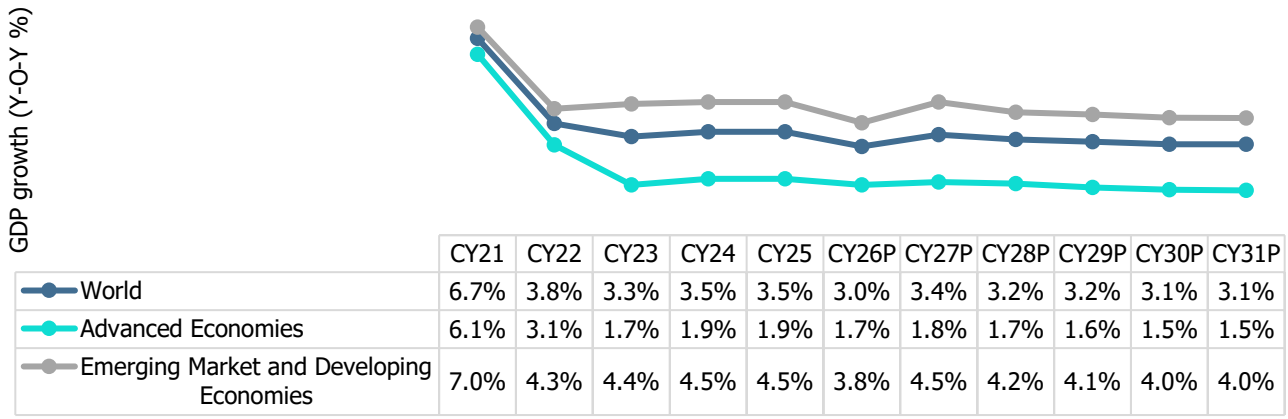
1.1 Global Economy

Global Economic Growth Expected to Sustain at ~3% in Near Term

Global economic growth is projected to moderate to around 3.0% in CY26, reflecting geopolitical scenarios on energy and trade flows.

However, supportive factors such as continued investment momentum and policy support are helping offset some of these pressures.

Chart 1: Global Growth Outlook Projections (Real GDP, Y-o-Y Change in %)



	CY21	CY22	CY23	CY24	CY25	CY26P	CY27P	CY28P	CY29P	CY30P	CY31P
World	6.7%	3.8%	3.3%	3.5%	3.5%	3.0%	3.4%	3.2%	3.2%	3.1%	3.1%
Advanced Economies	6.1%	3.1%	1.7%	1.9%	1.9%	1.7%	1.8%	1.7%	1.6%	1.5%	1.5%
Emerging Market and Developing Economies	7.0%	4.3%	4.4%	4.5%	4.5%	3.8%	4.5%	4.2%	4.1%	4.0%	4.0%

Source: IMF – World Economic Outlook, April 2026; Note: E- Estimate, P-Projections

Table 1: GDP Growth Trend Comparison - India v/s Other Economies (Real GDP, Y-o-Y Change in %)

	Real GDP (Y-o-Y change in %)										
	CY21	CY22	CY23	CY24	CY25	CY26 P	CY27 P	CY28 P	CY29 P	CY30 P	CY31 P
India	9.7	7.6	7.2	7.1	7.7	6.4	6.7	6.5	6.5	6.5	6.5
China	8.6	3.1	5.4	5.0	5.0	4.6	4.1	4.0	3.7	3.3	3.3
Indonesia	3.7	5.3	5.0	5.0	5.1	5.0	5.1	5.2	5.2	5.2	5.2
Saudi Arabia	6.5	12.0	0.5	2.6	4.6	1.7	5.5	3.6	3.5	3.5	3.6
Middle East and Central Asia	4.7	6.4	2.6	3.1	3.7	0.7	6.5	4.0	4.0	3.8	3.8
Latin America	7.5	4.3	2.3	2.4	2.4	2.4	2.7	2.9	2.9	2.7	2.6
Brazil	4.8	3.0	3.2	3.4	2.3	2.4	2.2	2.4	2.5	2.5	2.5
Euro Area	6.4	3.6	0.4	1.0	1.4	0.9	1.2	1.4	1.2	1.1	1.1
United States	6.2	2.5	2.9	2.8	2.1	2.3	2.2	2.1	1.9	1.8	1.8

Source: IMF- World Economic Outlook Database (April 2026); Note: E- Estimate P- Projections, India's fiscal year (FY) aligns with the IMF's calendar year (CY). For instance, FY24 corresponds to CY23.

India continues to outperform most major economies in terms of economic growth despite a challenging global environment. While advanced economies are projected to grow at around 1.7% in CY26P and 1.8% in CY27P, India's GDP is expected to expand by 6.4% in CY26P, making it one of the fastest-growing major economies. Among emerging markets, India's growth is projected to exceed China (4.6% in CY26P and 4.1% in CY27P),

Indonesia (5.0% in CY26P and 5.1% in CY27P), Saudi Arabia (1.7% in CY26P), and Brazil (2.4% in CY26P and 2.7% in CY27P).

India's nominal GDP is projected to increase from USD 4.2 trillion in CY26P to USD 4.5 trillion in CY27P and further to USD 6.8 trillion by CY30P, supporting its trajectory towards becoming a USD 5 trillion economy by CY28P. The country is expected to maintain an average GDP growth rate of around 6.5% during CY25–CY30P, outpacing China and remaining nearly twice the pace of the global economy. By CY30P, India is projected to become the world's third-largest economy, surpassing Japan and Germany. It is currently the third-largest economy globally in terms of Purchasing Power Parity (PPP), accounting for approximately 8.5% of the global economy.

1.2 Indian Economic Outlook

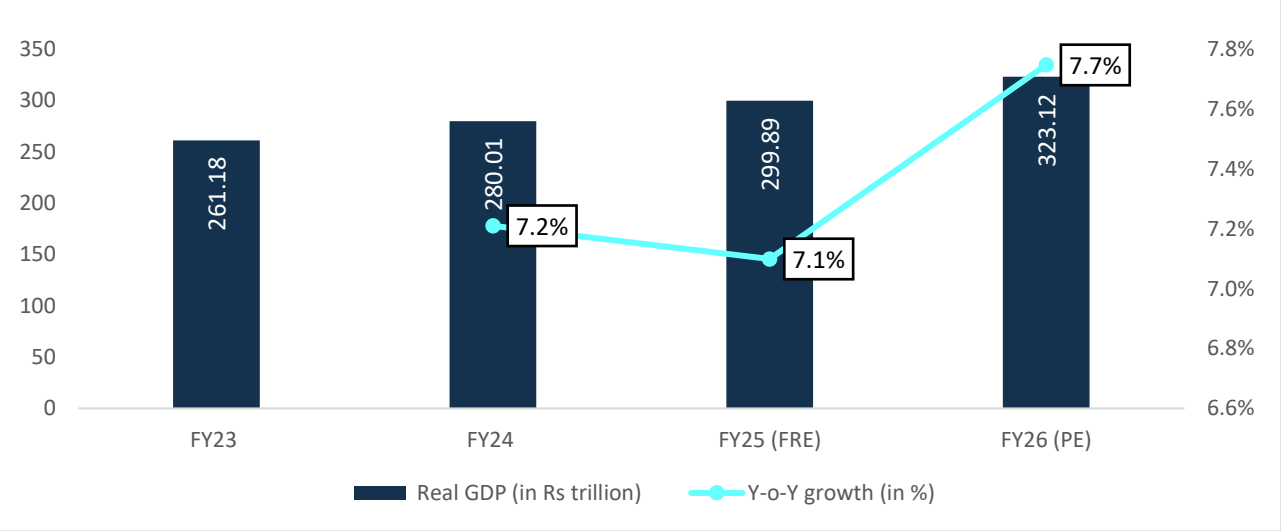
1.2.1 GDP Growth and Outlook

Resilience to External Shocks Remains Critical for Near-term Outlook

India's economy continues to show rapid growth. As per Provisional Estimates, GDP in FY26 is expected to have grown by 7.7%, supported by rising rural demand, better job opportunities and favourable business conditions.

For FY25, First Revised Estimates show a growth of 7.1% (Rs 299.89 trillion), led by robust performance in manufacturing, construction and financial services. Consumer spending rose by 7.7%, and government spending increased by 5.5%, both contributing to the overall growth. In FY23, the real GDP stood at Rs 261.18 trillion and registered YoY growth of 7.2% in FY24 (Rs 280.01 trillion).

Chart 2: Trend in Indian's Real GDP Growth Rate



Source: MOSPI;
Note: FRE- First Revised Estimates, PE- Provisional Estimates;
The trend for FY23-FY26 is based on new series base year 2022-23.

GDP Growth Outlook

FY27 GDP Outlook: The Reserve Bank of India (RBI) projects real GDP growth at 6.6% for FY27, supported by sustained momentum in the services sector, strong reservoir levels aiding the agricultural sector, and private consumption expected to remain uplifted by discretionary spending.

However, elevated energy and other commodity prices, cost pressures, as well as the travel disruptions in the Strait of Hormuz are likely to affect the growth this year. However, the government is working towards minimising the impact of the supply chain disruptions towards critical sectors to ensure limited interruptions

Table 2: GDP Growth Outlook (Y-o-Y %)

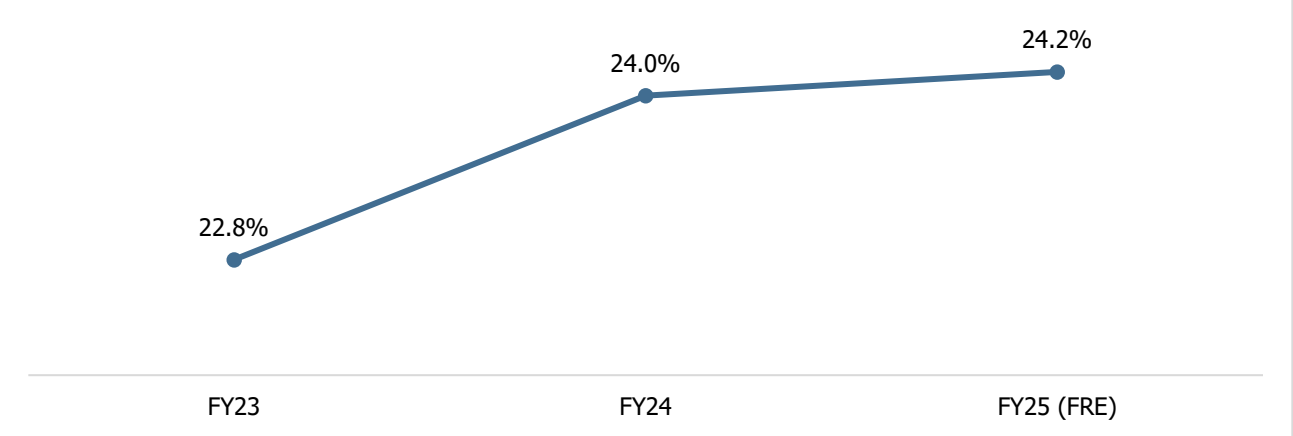
FY27P (Complete Year)	Q1FY27P	Q2FY27P	Q3FY27P	Q4FY27P
6.6%	6.6%	6.3%	6.5%	6.8%

Source: Reserve Bank of India; Note: P-Projected
The trend is based on the old series base year 2022-23.

1.2.2 Infrastructure sector contribution to GDP

Infrastructure remains a core enabler of economic activity, urbanisation and industrial development across economies. India's infrastructure sector contribution to GDP increased from 22.8% in FY23 to 24.2% in FY25(FRE). The increase was supported by higher public capex, continued execution in roads, railways, ports, power, urban infrastructure and logistics, and expansion in construction-related activity. During the same period, construction-related activity is estimated to have grown by 7.5%, compared with real GDP growth of 7.1%, indicating the sector's continued role in supporting overall economic growth.

Chart 3: Infrastructure Sector Contribution to GDP



Source: MOSPI; Note: FRE-First Revised Estimate
The trend is based on the old series base year 2022-23.

1.2.3 Gross Value Added (GVA)

GVA is the measure of the value of goods and services produced in an economy. GVA gives a picture of the supply side whereas GDP represents consumption. GVA in FY25 was powered by a broad-based rebound across sectors. In FY26 (PE), real GVA growth of 7.9% is primarily led by Manufacturing, Trade, Hotels, Transport, Communication & Services related to Broadcasting. Industry is estimated at 8.5%, supported by a pickup in Manufacturing and Construction sector (10.7% and 7.4% respectively). The gap between GDP and GVA growth stood at 0.2 percentage point in FY26, with GDP growing at 7.7% and GVA at 7.9%.

Table 3: GVA growth (Y-o-Y growth rate % at Constant Prices)

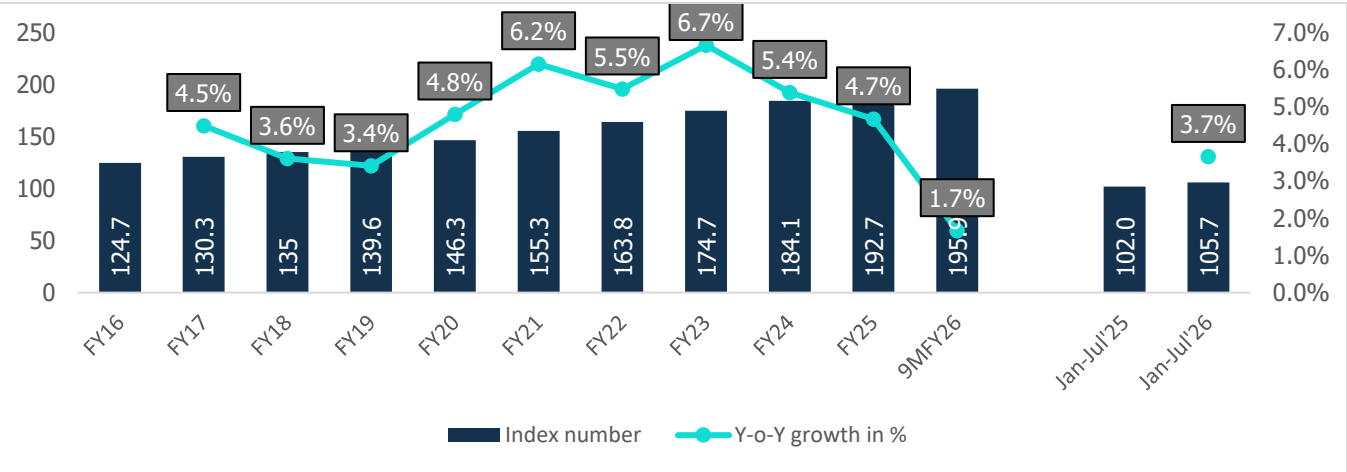
At constant Prices	FY24	FY25 (FRE)	FY26 (PE)
Agriculture, Forestry & Fishing	**2.6**	**4.2**	**3.0**
Industry	**10.9**	**8.3**	**8.5**
Mining & Quarrying	2.4	11.7	5.2
Manufacturing	12.7	9.3	10.7
Electricity, Gas, Water Supply & Other Utility Services	10.7	2.9	1.7
Construction	9.9	7.3	7.4
Services	**7.0**	**7.9**	**9.3**
Trade, Hotels, Transport, Communication & Broadcasting	10.1	6.6	11.0
Financial, Real Estate & Professional Services	5.5	10.0	10.4
Public Administration, Defence and Other Services	6.8	5.0	5.0
GVA at Basic Price	**7.2**	**7.3**	**7.9**

Source: MOSPI; Note: FRE- First Revised Estimates, PE – Provisional Estimates;
The trend for FY24-FY26 is based on new series base year 2022-23.

1.2.4 Consumer Price Index

Inflation increased notably during FY20 to FY22, due to supply-chain disruptions caused by COVID-19 pandemic and higher global commodity prices. In FY24, the CPI remained relatively elevated, due to food-price movements, while inflation moderated during 2025. CPI inflation for March 2026 stood at 3.4%, reflecting a 3.2% increase compared to March 2025. Corresponding inflation rates for the rural and urban areas are 3.63% and 3.11% respectively. Between January and July 2026, inflation averaged around 3.66% across the Consumer Price Index. By July 2026, inflation increased to 4.45% on a Year-on-Year basis, compared with 4.38% in June 2026 over June 2025. Within this, the rural inflation rate stood at 4.84%, while the urban inflation rate was comparatively lower at 3.96%. This indicates an overall modest inflationary trend, with rural areas experiencing relatively higher price pressures than urban regions

Chart 4: Retail Price Inflation in Terms of Index and Y-o-Y Growth in % (Base: 2011-12=100, 2023-24=100)



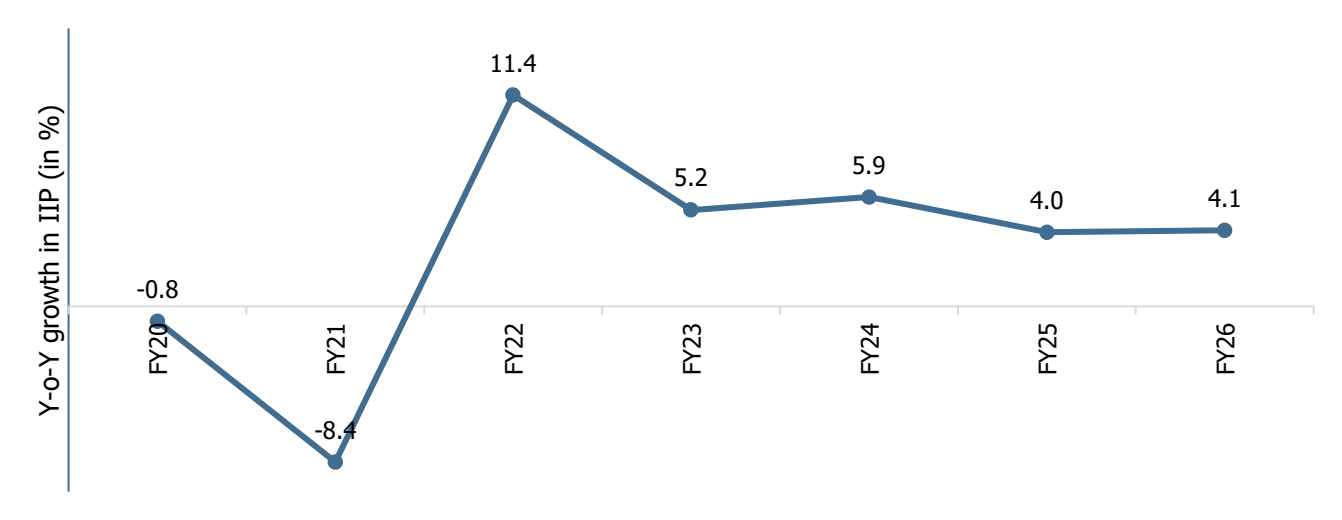
Source: MOSPI

The CPI is primarily factored in by the RBI while preparing its bi-monthly monetary policy. At the bi-monthly meeting held in August 2026, the RBI projected inflation at 5.00% for FY27, with inflation during Q2FY27 at 4.70%, Q3FY27 at 5.90%, Q4FY27 at 5.50%, and Q1FY28 at 5.30%.

1.2.5 Industrial Growth

The Index of Industrial Production (IIP) in India grew by 4.1% year-on-year in March 2026, showing steady but moderate industrial momentum, with mining (5.5%) and manufacturing (4.3%) driving growth, while electricity lagged at just 0.8%.

Chart 5: Y-o-Y Growth in IIP (in %)



Source: MOSPI

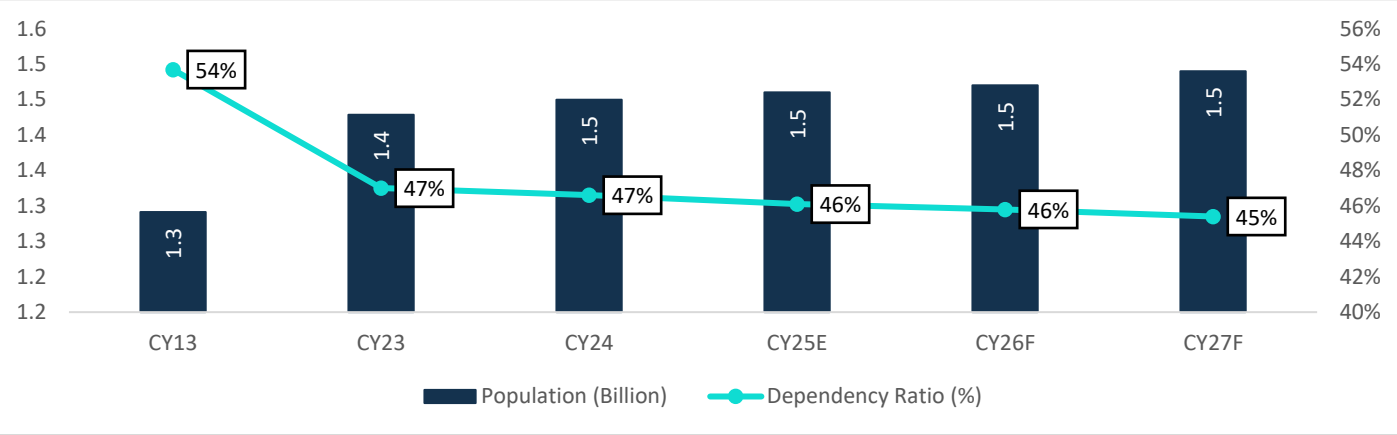
1.2.6 Overview on Key Demographic Parameters

- **Population Growth and Urbanisation**

The trajectory of economic growth of India and private consumption is driven by socio-economic factors such as demographics and urbanisation. According to the World Bank, India's population in CY22 surpassed 1.42 billion, slightly higher than China's population (1.41 billion) and became the most populous country in the world.

Age Dependency Ratio, ratio of dependents to the working age population, i.e., 15 to 64 years, wherein dependents are population younger than 15 and older than 64 is on decline. Declining dependency means the country has an improving share of working-age population generating income, which is a good sign for the economy. It was as high as 76% in 1983, which has reduced to 47% in CY23. However, this ratio is expected to rise again to 54% by CY36, driven by an increase in the elderly population as life expectancy improves.

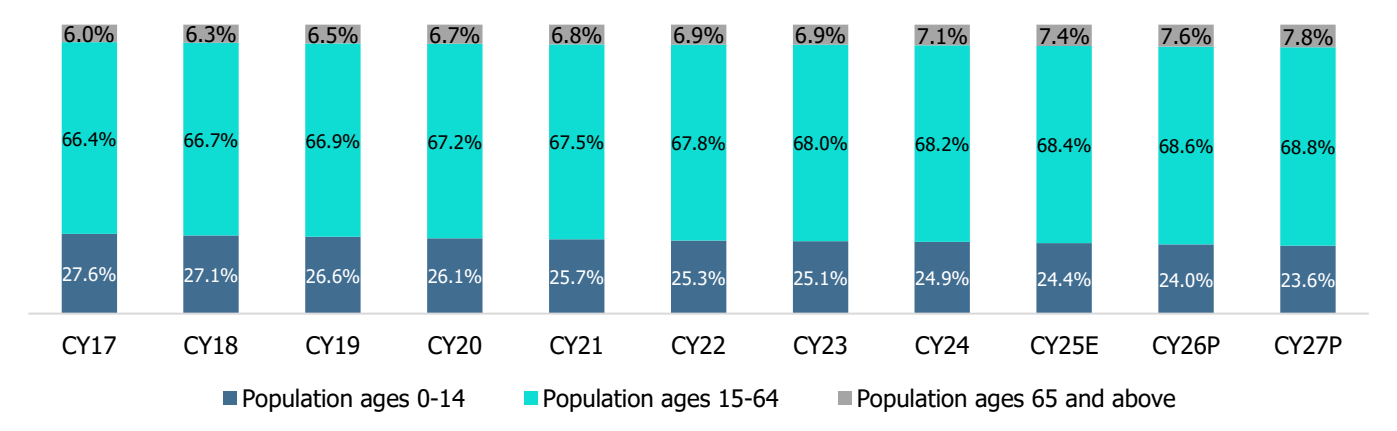
Chart 6: Trend in Population Growth vis-à-vis Dependency Ratio in India (in Billion)



Source: World Bank Database, MOSPI; Note; E- Estimated, F- Forecasted

Despite a projected rise in the dependency ratio to 54% by CY36, India's young and growing workforce, especially in newly urbanised towns, will continue to drive income growth and consumer demand. This presents strong opportunities for sectors like consumer electronics, transportation and railways. Rising employment, urbanisation and government investment in rural development and digital infrastructure will further boost demand, while increased tech adoption supports long-term consumption growth across both urban and rural markets.

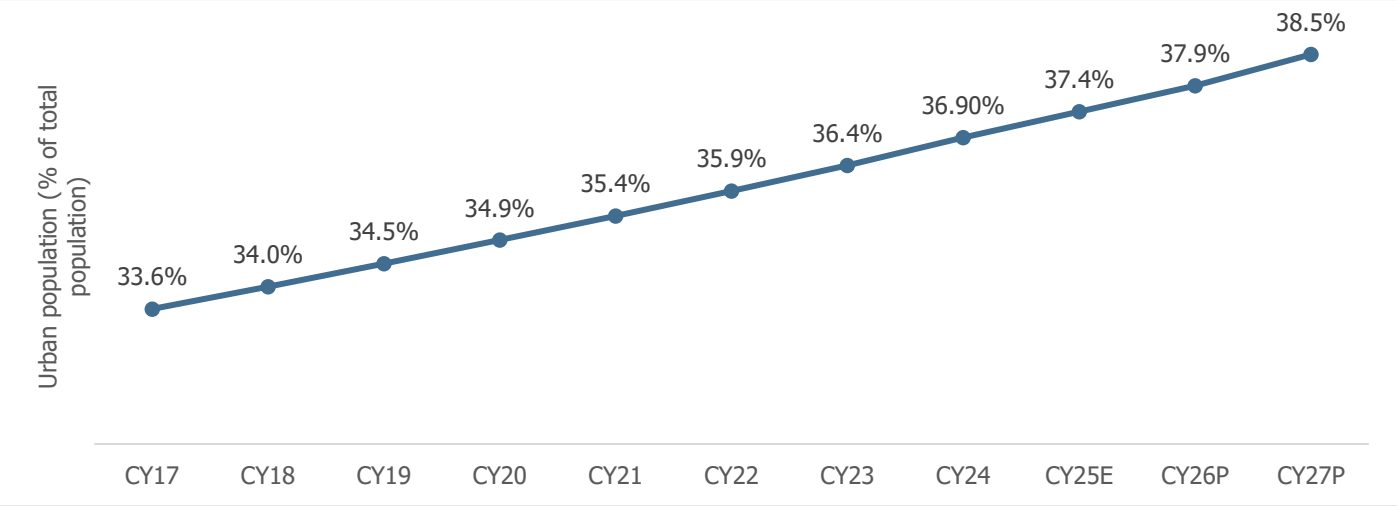
Chart 7: Age-wise Break-up of Indian Population (% of Working-age Population)



Source: World Bank Database; Note; E- Estimated, F- Forecasted, P- Projected

The urban population is significantly growing in India. The urban population in India is estimated to have increased from 413 million (32% of total population) in CY13 to 519.5 million (36.4% of total population) in the year CY23. India is undergoing a significant urban transformation, with the urban population projected to rise to 40% by CY36. This shift is driven by factors such as improved living standards, increased employment opportunities in urban areas, and government initiatives aimed at urban development. This rapid urbanisation might necessitate substantial investments in infrastructure, housing, and transportation.

Chart 8: Urbanisation Trend in India



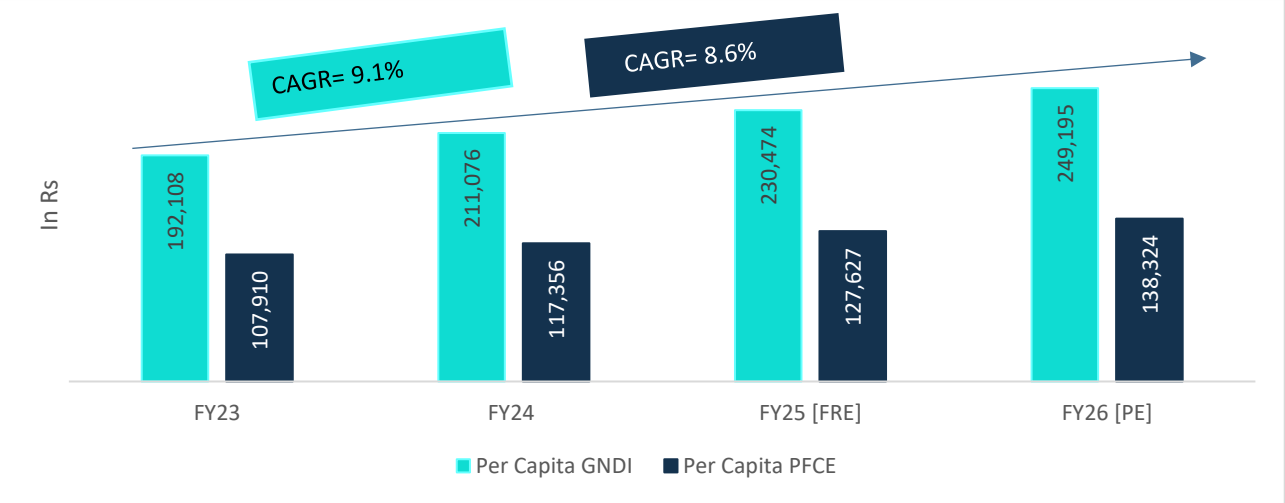
Source: World Bank Database; Note; E- Estimated, F- Forecasted, P- Projected

- **Increasing Disposable Income and Consumer Spending**

Gross National Disposable Income (GNDI) is a measure of the income available to the nation for final consumption and gross savings. Between FY23 and FY26, per capita GNDI at current prices registered a CAGR of 9.1%. Higher disposable income drives greater consumption, thereby supporting economic growth.

With an increase in disposable income, there has also been a gradual change in consumer spending behaviour. Per capita Private Final Consumption Expenditure (PFCE), which is a measure of consumer spending, also recorded significant growth between FY23 and FY26, registering a CAGR of 8.6%.

Chart 9: Trend of Per Capita GNDI and Per Capita PFCE (at Current Prices)



Source: MOSPI; Note: FRE – First Revised Estimates, PE- Provisional Estimates
The trend for FY23-FY26 is based on new series base year 2022-23.

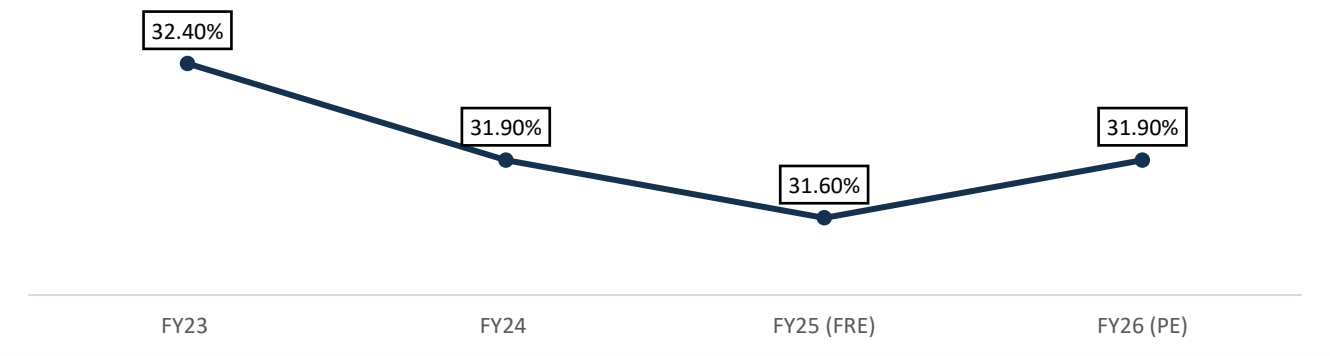
- **Infrastructure as a key driver of economic development**

Infrastructure plays a critical role in supporting economic growth by enabling efficient movement of goods, services and people. Investments in roads, railways, ports, airports, power, urban infrastructure and logistics improve connectivity, reduce transaction costs and support industrial and commercial activity. A well-developed infrastructure base also enhances productivity, strengthens regional integration and supports long-term economic competitiveness. In India, infrastructure development has remained a key focus, supported by higher public capital expenditure, focus on multimodal connectivity and continued investments across transport, power, urban services and logistics. Expansion and modernisation of infrastructure are expected to support manufacturing growth, improve access to markets and enhance the overall competitiveness of the economy.

- **Government Capital expenditure trends (GFCF)**

Gross Fixed Capital Formation (GFCF) is a measure of net increase in physical assets. GFCF as a share of GDP eased during FY23–FY25 and was estimated to be broadly stable in FY26.This pattern is aligned with a period in which nominal GDP expanded, while investment growth remained positive, it did not outpace the overall nominal expansion. GFCF rose by 8.9% in FY25 and 9.9% in FY26 in real terms, alongside continued growth in consumption, indicating that the movement in the ratio reflects relative GDP shares rather than a decline in investment activity.

Chart 10: Gross Fixed Capital Formation (GFCF) as % of GDP (At Current Prices)



Source: MOSPI; Note: FRE- First Revised Estimates, PE- Provisional Estimates

Overall, the support of public investment in infrastructure is likely to gain traction due to initiatives such as 'Atmanirbhar Bharat', 'Make-in India', and Production-linked Incentive (PLI) scheme announced across various sectors.

1.2.7 Role of Multilateral and Bilateral Funding Agencies in Global Economic Development

Multilateral and bilateral development finance institutions play a vital role in supporting economic growth and infrastructure development across emerging and developing economies by bridging financing gaps through long-term capital, technical expertise, and policy support. Multilateral development banks such as the World Bank, Asian Development Bank (ADB), African Development Bank (AfDB), and Inter-American Development Bank (IDB) finance projects across transport, energy, urban infrastructure, healthcare, education, and climate resilience. Similarly, bilateral agencies such as Japan International Cooperation Agency (JICA), United States Agency for International Development (USAID) provide financial assistance, grants, and technical cooperation to support infrastructure development, institutional reforms, and capacity building. In recent years, these institutions have increasingly focused on climate action, energy transition, sustainable urbanization, and digital transformation, reinforcing their role in promoting inclusive and sustainable economic development worldwide

1.2.8 Conclusion

From a macroeconomic standpoint, India remains one of the most resilient large economies in a challenging global environment. The IMF forecasts GDP growth for India at 6.4% in CY26, far outpacing the estimated CY26 global average of 3.0%. This performance reflects a combination of strong domestic fundamentals, policy stability and a sustained focus on capital formation. While the global economy continues to face uncertainty from geopolitical conflicts, commodity price volatility and rising public debt, India's diversified growth drivers, stable policy framework and expanding export ecosystem position it well to navigate these headwinds.

India continues to strengthen its position through diversification of trade partnerships and expansion of FTAs with the European Union, the United Kingdom, European Free Trade Association (EFTA) and other key economies. During FY26, India also signed the Comprehensive Economic Partnership Agreement (CEPA) with Oman and formally commenced negotiations for an FTA with the Gulf Cooperation Council (GCC), further strengthening its trade engagement with Middle Eastern economies. These initiatives, together with India's growing manufacturing capacity and deeper integration into global supply chains, are expected to enhance the country's competitiveness across sectors such as electronics, infrastructure, textiles, pharmaceuticals and auto components.

Policy momentum remains strong. The 56th meeting of the GST Council marked a major structural reform by proposing a simplified two-rate system of 5% and 18%, replacing the earlier four-slab framework, along with a 40% demerit rate for luxury and sin goods. This rationalisation aims to reduce compliance burdens, enhance efficiency, and stimulate private consumption. Together with recent revisions in personal income tax rates, these measures are projected to release savings exceeding Rs 2.5 trillion into the economy, supporting demand and easing inflationary pressures.

The Union Budget's allocation of Rs 12.20 trillion for capital expenditure in FY27 further reinforces the government's commitment to infrastructure-led growth. Public investment is expected to catalyse private sector activity, evidenced by rising project announcements and growing imports of capital goods. Improving rural demand, supported by healthy monsoon progress, favourable sowing conditions, and adequate reservoir levels, provides additional tailwinds for consumption and investment.

2 Overview of the Global Infrastructure Industry

2.1 Overview

Infrastructure refers to the physical assets, network and systems that support economic activity and functioning of society. It forms the base for economic activity, trade, industrial development and urban services across economies. The sector includes transport infrastructure such as roads, railways, ports and airports, energy infrastructure such as power generation, transmission and distribution, water supply and sanitation, urban infrastructure, logistics infrastructure and digital connectivity.

Global infrastructure demand is being supported by the need to modernise ageing assets and address infrastructure gaps across transport, power, water, logistics and digital networks. Across several economies, existing infrastructure systems require capacity expansion, replacement, maintenance and technology upgrades to support rising economic activity and service requirements. In the energy sector, the shift towards renewable power, electrification and distributed energy systems is increasing the need for transmission expansion, distribution strengthening, grid automation and storage-linked infrastructure. Similarly, transport and logistics networks are being upgraded to improve connectivity, reduce congestion and support trade movement.

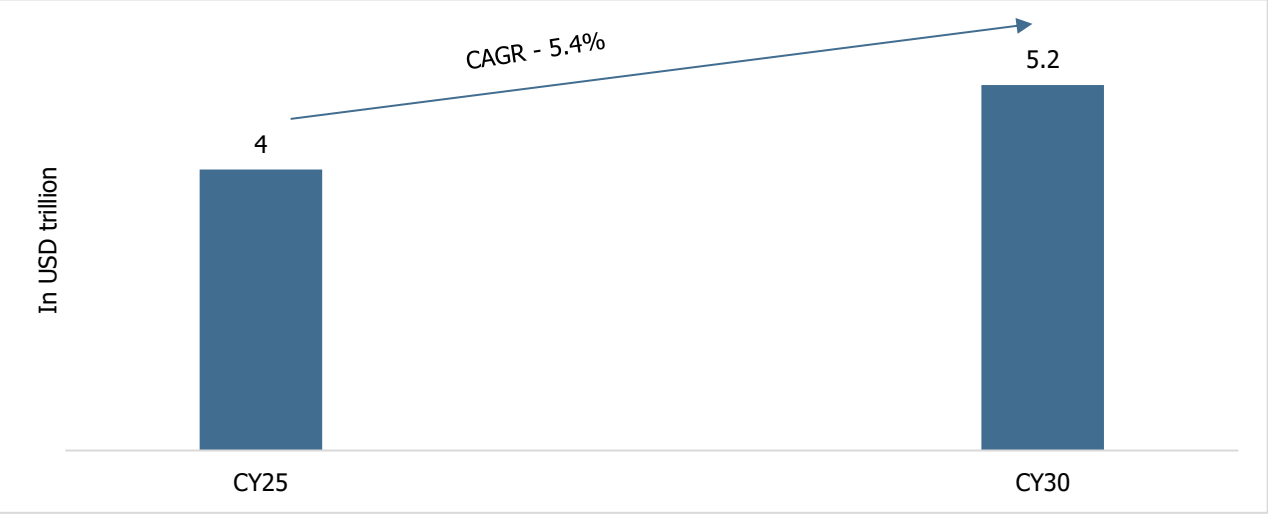
The nature of infrastructure development is also changing. Countries are increasingly focusing on climate-resilient infrastructure, cleaner energy systems, grid strengthening, logistics efficiency and digital infrastructure. Transport networks are being upgraded to improve trade connectivity and reduce logistics costs, while energy infrastructure is expanding to support electrification, renewable energy integration and reliability of power supply.

Infrastructure development is therefore expected to remain linked to urban growth, economic diversification, energy security and connectivity requirements.

2.2 Global Infrastructure Investment Trends

According to CareEdge, the global infrastructure investment was estimated at around USD 4.0 trillion in 2025 and is expected to increase to USD 5.2 trillion by 2030, reflecting a CAGR of 5.4%. This growth is expected to be driven by rising demand for transport networks, power infrastructure, urban services, digital connectivity and climate-resilient assets.

Chart 11: Global Infrastructure Investments



Source: CareEdge Research

Infrastructure investment is increasingly moving beyond traditional asset creation and maintenance. While roads, railways, ports, airports, power plants and water systems continue to account for a large part of global spending, future infrastructure demand is also being shaped by electrification, data usage, automation, grid modernisation and climate resilience. This is changing the nature of infrastructure development from standalone assets to integrated systems, where transport, power, digital and urban infrastructure are linked to each other.

Transport infrastructure is expected to remain one of the key areas of investment, supported by rising mobility, trade flows, logistics requirements and urbanisation. Spending is likely to remain focused on roads, bridges, railways, metro systems, airports, ports and marine infrastructure. In developed economies, investment is expected to be driven by renewal and upgradation of ageing transport networks, while in emerging economies, new road, rail, port and urban transport capacity will remain important to improve connectivity and support industrial activity.

Power infrastructure is also expected to account for a higher share of infrastructure spending over the medium to long term. Growth in this segment will be driven by renewable energy addition, transmission and distribution expansion, grid strengthening, battery storage and rising electricity demand from industries, households, electric mobility and data centres. As power systems integrate more renewable energy, investments in storage and grid flexibility are expected to become important for system reliability.

Overall, global infrastructure investment is expected to remain supported by urban growth, energy transition, logistics connectivity, digitalisation and climate adaptation.

2.3 Global infrastructure spending as a Percentage of GDP

Global infrastructure spending is projected to increase from 3.5% of GDP in 2025 to 3.9% by 2030, reflecting sustained policy focus and capital allocation towards infrastructure development. The increase is primarily driven by investments in transport connectivity, power infrastructure, urban services, water and sanitation systems, and digital infrastructure. Emerging economies are expected to lead spending growth through capacity expansion, while developed economies will focus on the modernization, replacement, and resilience of existing infrastructure assets. Overall, infrastructure is expected to remain a key driver of economic activity and productivity over the coming years.

Transport Connectivity: Ongoing investment in roads, railways, ports, airports and logistics networks to improve mobility, reduce congestion and strengthen regional and global trade links.

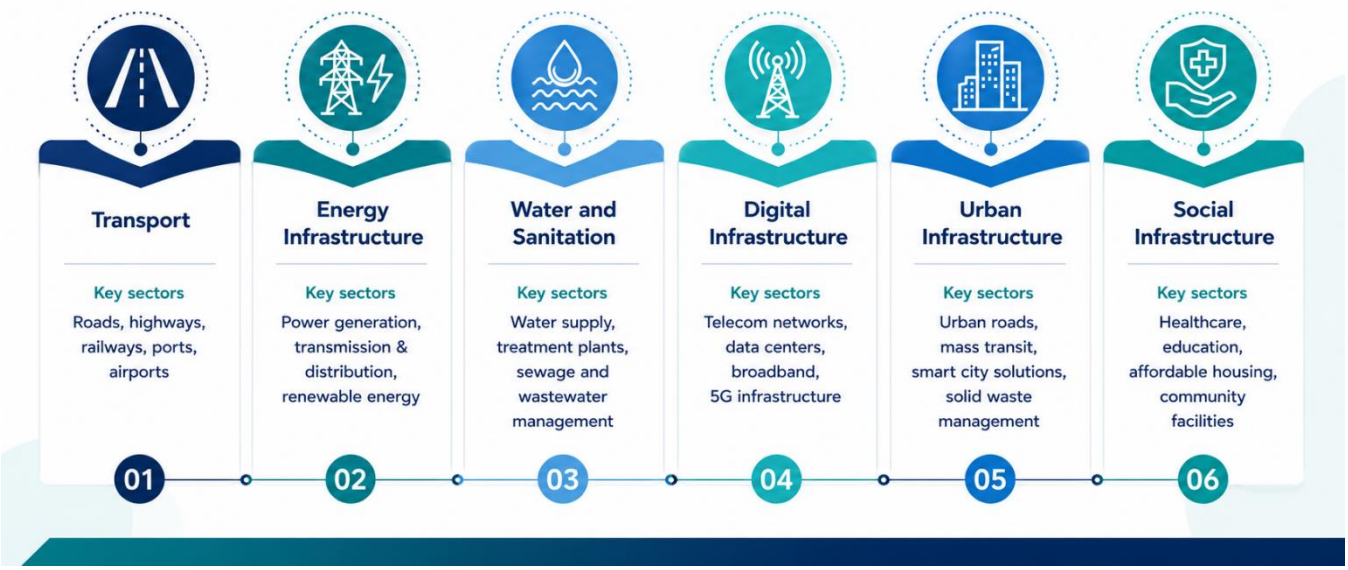
Power Infrastructure: Rising energy demand and the transition to cleaner sources are driving investments in generation, transmission and distribution networks to ensure reliable and affordable power.

Urban Services: Expanding urban populations require greater investment in housing, waste management, public transport, and other essential city services to improve livability and sustainability.

Water and Sanitation Systems: Investment in water supply, wastewater treatment and sanitation infrastructure is critical to public health, resource management and climate resilience.

Digital Infrastructure: Growing demand for connectivity, data and digital services is driving investments in broadband, data centres, 5G and digital platforms to support innovation and productivity.

2.4 Key Infrastructure Sectors Globally



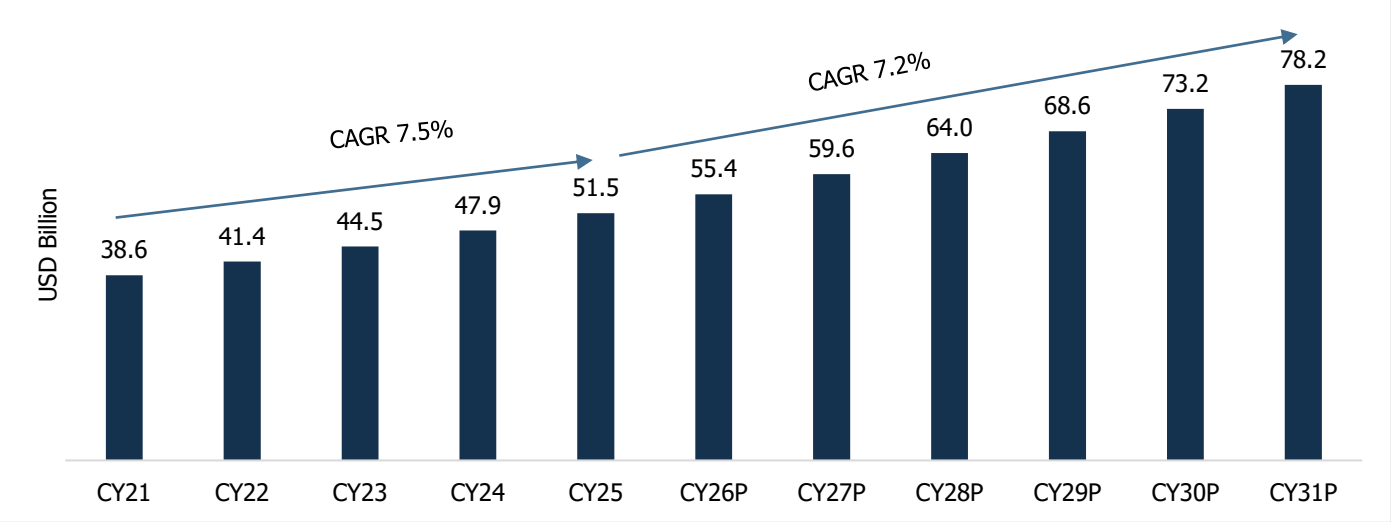
2.5 Market Size of Infrastructure Sector in UAE

The infrastructure sector in the UAE is driven by urban expansion, transport connectivity, logistics infrastructure, utilities and real estate-linked infrastructure across key emirates, particularly Dubai and Abu Dhabi. The infrastructure sector of UAE has grown from USD 38.6 billion in CY21 to 51.5 billion in CY25, registering a CAGR of 7.5%. The same momentum can be projected in the coming years where the UAE infrastructure market size is projected to grow from USD 51.5 billion in CY25 to USD 78.2 billion in CY31P at a CAGR 7.2%. The growth will be supported by continued implementation of emirate-level urban and economic plans. Dubai Economic Agenda D33 aims to double Dubai's economy by 2033, which is expected to support demand for logistics, mobility, utilities and urban infrastructure.

In Dubai, urban infrastructure demand is supported by the Dubai Metro Blue Line, a 30 km project with 14 stations, which will increase Dubai's rail network from 101 km to 131 km upon completion. Roads and Transport Authority is also expected to deliver more than 30 strategic road and transport projects over the next three years. In aviation infrastructure, the planned expansion of Al Maktoum International Airport, with ultimate capacity of 260 million passengers, 400 aircraft gates and five parallel runways, is expected to support logistics and urban development around Dubai South.

In Abu Dhabi, approval of nearly 75 million square metres of development in 2025 across residential, commercial, industrial, healthcare, education and mixed-use projects indicate continued demand for enabling infrastructure. These factors are expected to support growth in the UAE infrastructure sector over the forecast period.

Chart 12: Market Size of Infrastructure Sector in UAE



Source: Inkwood Research, CareEdge Research; Note P- Projected

2.6 Key Growth Drivers

Urbanisation: Urbanisation remains a structural driver for infrastructure demand. According to UN, cities accounted for around 45% of the global population in 2025, compared with 20% in 1950, while towns accounted for another 36% and rural areas accounted for 19%. Nearly two-thirds of global population growth between 2025 and 2050 is expected to take place in cities. This is expected to support demand for urban transport, roads, metro systems, water supply, sanitation, waste management, power distribution, housing-linked infrastructure and digital connectivity.

Climate Resilience Networks: Infrastructure planning is increasingly being influenced by climate events, ageing assets and service continuity requirements. As per the Global Infrastructure Resilience Report 2025 global disaster losses are estimated to exceed USD 732 billion annually, while indirect economic impacts from infrastructure service disruptions are estimated to be 7.4 times direct infrastructure damages. This is expected to increase focus on flood-resilient urban systems, climate-resilient transport networks, coastal protection, water security, grid reliability and resilient public utilities.

Digital Infrastructure and Data Demand: Digitalisation is creating demand for data centres, fibre networks, telecom towers, cloud infrastructure and edge computing facilities. According to International Energy Agency (IEA) data centres consumed around 415 TWh of electricity in 2024, equivalent to about 1.5% of global electricity consumption, and demand has grown at around 12% per annum over the last five years. Updated projections indicate data centre electricity consumption may increase from 485 TWh in 2025 to 950 TWh in 2030, raising demand for power, cooling, land, water and connectivity infrastructure.

Transport Connectivity and Logistics Efficiency: Roads, railways, ports, airports and logistics corridors continue to form a major part of infrastructure development. Demand is being supported by freight movement, urban mobility, supply-chain reconfiguration, port connectivity and cross-border trade. Emerging economies are expected to require new transport capacity, while developed economies are expected to focus on renewal, safety, congestion reduction and efficiency improvement of existing networks.

Water, Sanitation and Urban Utilities: Growth in urban population and industrial activity is increasing the need for water supply, wastewater treatment, drainage, flood management and solid waste management infrastructure. These segments are becoming more relevant as cities deal with water stress, higher density, industrial clusters and climate-linked weather events. Growth in this segment is expected to remain linked to municipal finances, tariff structures, regulation and public-private participation.

2.7 Role of Infrastructure Consultants

Infrastructure consultants play a critical role throughout the project lifecycle, from project conceptualisation and planning to execution, commissioning, and operations. Their involvement has become increasingly important as infrastructure projects grow in scale and complexity, requiring coordination among governments, developers, lenders, contractors, regulators, and investors.

At the planning stage, consultants support demand assessment, feasibility studies, traffic and cargo studies, site assessment, project structuring, cost estimation, risk assessment and financial viability analysis. These services help project owners evaluate technical, commercial and regulatory feasibility before committing capital. In sectors such as roads, ports, airports, railways, urban infrastructure, power and water, consultants also assist in preparing detailed project reports, master plans and implementation roadmaps.

During project development and procurement, consultants support bid documentation, PPP structuring, concession frameworks, tender evaluation, contract management and lender due diligence. Their role is important in improving project bankability, defining risk allocation between public and private stakeholders, and ensuring that contracts are aligned with project requirements and regulatory conditions.

During execution, infrastructure consultants provide project management, design review, quality control, construction supervision, cost monitoring, schedule tracking, safety oversight, contract administration and compliance support. These services help reduce execution delays, cost overruns and quality-related issues, which are common risks in large infrastructure projects.

Post commissioning, consultants support asset management, performance monitoring, operations improvement, maintenance planning, refinancing, asset monetisation and dispute resolution. With increasing focus on sustainability, consultants are also involved in climate risk assessment, ESG reporting, energy efficiency, resilience planning and digital tools such as GIS mapping, digital twins and project monitoring systems.

Overall, infrastructure consultants act as technical, financial and project management partners for public authorities, developers, lenders and investors. Their role is expected to remain linked to the scale of infrastructure development, increasing use of PPP models, complexity of project execution and the need for independent assessment across the project lifecycle.

2.8 Technology Trends in the Sector

The infrastructure sector is rapidly adopting digital tools like

- Building Information Modelling (BIM), digital twins and GIS-based planning
- Artificial intelligence and advanced analytics
- IoT sensors, drones and remote monitoring systems
- Modular construction, prefabrication and automation

Detailed explanation and application of the technologies is covered in Technologies Being Used in the Infrastructure Consultancy Section.

2.9 Emerging Trends in Global Infrastructure Development

Smart Cities & Connected Urban Infrastructure

- Integrated planning of mobility, water, waste, safety, power and digital services
- Focus on metro systems, BRT, smart lighting, surveillance, smart meters and command centres

Technology-Led Project Delivery

- Use of digital twins, BIM, GIS, drones, sensors, AI monitoring and project platforms is increasing
- These technologies improve design coordination, cost control, schedule monitoring, asset maintenance and safety
- Adoption is expected to rise as projects become larger, multi-agency and execution-intensive

Integrated Transport & Logistics Networks

- Transport planning is moving towards multimodal and corridor-based infrastructure development
- Roads, railways, ports, airports, waterways and logistics parks are being integrated to reduce logistics costs
- Transport and power are expected to account for around half of global infrastructure spending up to 2050

Climate-Resilient Infrastructure

- Infrastructure planning is increasingly factoring climate risks such as floods, heatwaves, cyclones and coastal erosion
- Focus on resilient roads, ports, airports, drainage, water networks, coastal protection and grid reliability
- Increasing demand for climate risk assessment, resilient design, early warning systems and retrofitting

Renewable Energy & Grid Infrastructure

- Expansion of solar, wind and clean energy is increasing need for transmission, substations and storage
- Higher power demand from industries, EVs, buildings and data centres are driving grid modernization
- Linked opportunities in battery storage, green hydrogen, offshore wind, EV charging and power evacuation

Digital Infrastructure & Data Centre Expansion

- Growth in cloud, AI, e-commerce, digital payments, telecom and connected devices is driving digital infrastructure
- Rising demand for data centres, fibre networks, telecom towers, 5G, edge computing and satellite connectivity

3 Overview of the Indian Infrastructure Sector

3.1 Overview

India's infrastructure sector has experienced sustained expansion, driven by significant government investments and strategic initiatives aimed at strengthening the nation's economic framework. For the FY27, the government allocated a record Rs. 12.21 trillion, underscoring its dedication to infrastructure development as a cornerstone of economic progress and employment generation.

Transport and logistics remain key focus areas, particularly roads, with plans to expand national highway network to 2,00,000 kilometres by FY37 which is 1,46,572 kilometres as of FY26. The next phase of growth is expected to be driven by access-controlled highways, ring roads and bypasses for cities with population above five lakh, port connectivity and industrial-node connectivity. The government has targeted operationalisation of 18,000 km of access-controlled National High-Speed Corridors and expressways by FY29 and award of 26,000 km by FY33. Furthermore, MoRTH's identified PPP pipeline of 13,400 km, with an estimated project cost of Rs 8.3 trillion, to be developed over the next three years is expected to support medium-term ordering opportunities.

Urban mobility is another priority, as of July 2026, India has around 1,170 kilometres of operational metro rail across 29 cities. Additionally, approximately 816 kilometres of metro projects are under construction in various cities such as Delhi, Bangalore, Kolkata, Chennai, Kochi, Mumbai, Nagpur, Ahmedabad, Gandhinagar, Pune, Kanpur, Agra, Bhopal, Indore, Patna, Surat, and Meerut. Alongside metro expansion, the railway sector continues to witness sustained modernisation through network electrification, station redevelopment, semi-high-speed trains and dedicated freight corridors. With near-complete electrification, expansion of Vande Bharat services and redevelopment of stations under the Amrit Bharat Station Scheme, Indian Railways is expected to remain a key investment area within India's transport infrastructure landscape.

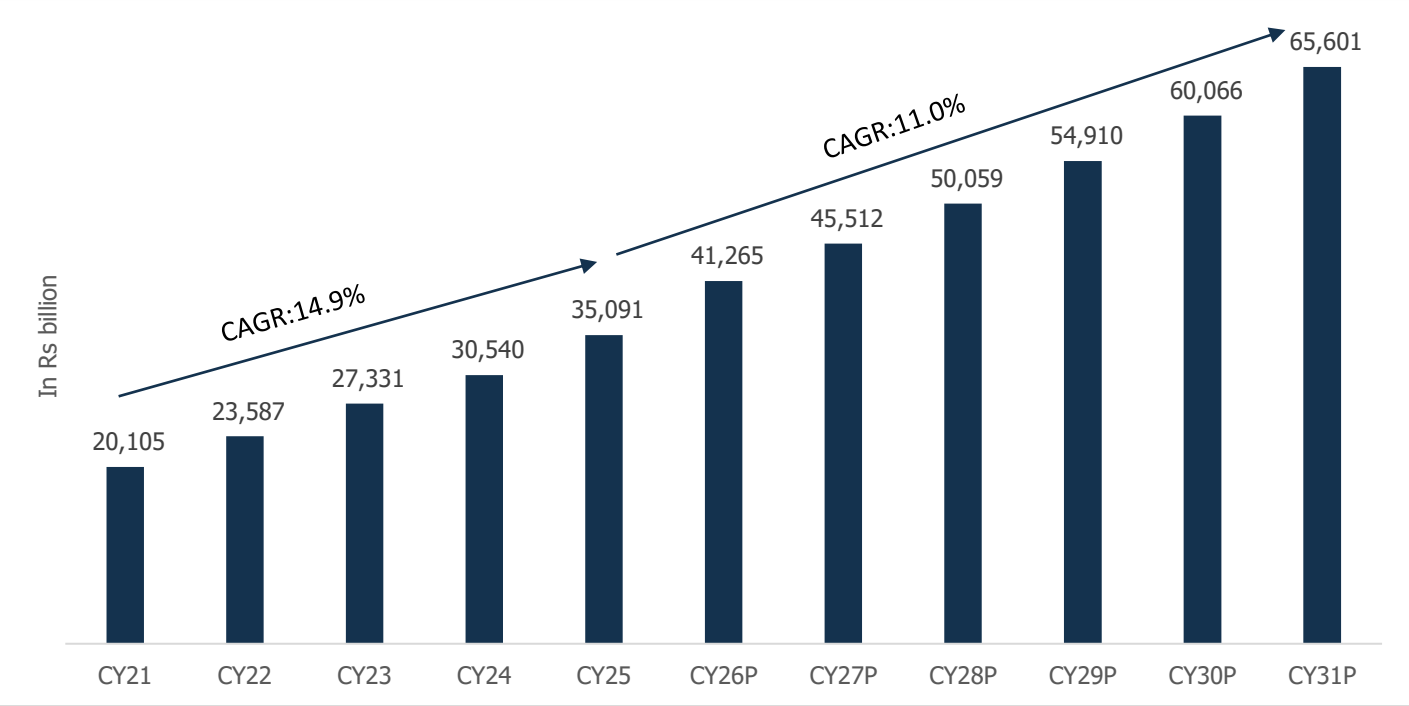
In the airport sector, 165 operational airports currently manage approximately 327 million passengers annually. Opportunities for EPC players are expected to expand with plans to increase operational airports to 220 and add an additional 200 over the next two decades.

The government is also prioritising multi-modal logistics parks under its PM Gati Shakti National Master Plan. This initiative integrates key projects such as Bharatmala, Sagarmala, and UDAN, ensuring streamlined infrastructure planning and monitoring. Public-Private Partnerships (PPPs) are being emphasised as critical to achieving India's goal of becoming a USD 5 trillion economy, particularly in the development of airports, ports, highways, and logistics parks. Overall, the infrastructure sector is expected to grow at a CAGR of approximately 11.0% from CY25 to CY31P, driven by investments across roads and highways, railways, metros, and the water supply and sanitation sectors. These ambitious initiatives collectively position India's infrastructure sector as a pivotal driver in its aspiration to achieve developed nation status by 2047.

3.2 Market Size of the Indian Infrastructure Industry

The infrastructure sector in India has witnessed steady growth over the past years driven by continuous government spending, private participation, and policy reforms such as the National Infrastructure Pipeline (NIP), PM Gati Shakti and the National Monetisation Pipeline (NMP). The market size increased from Rs 20,105 billion in CY21 to Rs 35,091 billion in CY25, registering a CAGR of 14.9% and is projected to grow further to Rs 65,601 billion by CY31P reflecting a CAGR of 11.0%, supported by continued emphasis on public–private partnerships, asset monetisation, and large-scale programmes such as Bharatmala, Smart Cities Mission, and renewable energy expansion.

Chart 13: Market Size of Infrastructure Sector in India



Source: Inkwood Research, CareEdge Research

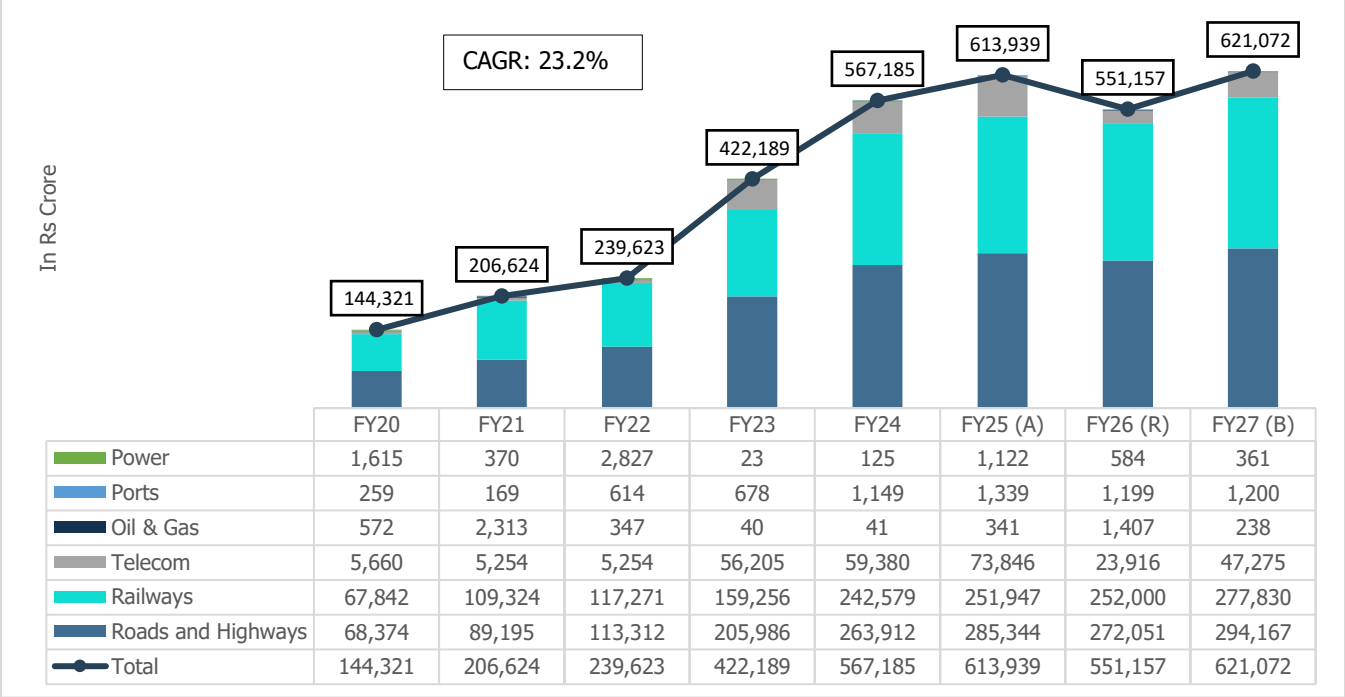
Note: P stands for Projections, USD values have been converted using the average exchange rate for the respective year. For projections, the average rate up to 17 June 2026 has been used

3.3 Budget Outlay Towards Key Infrastructure Sectors

With the growing population, the long-term need for robust infrastructure is necessary for economic development. This generates the need for massive investments in the development and modernisation of infrastructure facilities, which will not only cater to the growing demand but will also ensure competitiveness in the global market.

India's budgetary allocation towards infrastructure has witnessed a significant increase over the past few years, rising from Rs 1.44 trillion in FY20 to an estimated Rs 6.2 trillion in FY27, reflecting a CAGR of approximately 23.2%. The increase underscores the government's continued focus on infrastructure-led economic growth, connectivity enhancement, and long-term capacity creation. Roads and highways, along with railways, have consistently accounted for the largest share of infrastructure spending, supported by investments in transportation networks, logistics efficiency, and regional connectivity. While allocations moderated in FY26, largely due to lower telecom-related expenditure, overall infrastructure spending is expected to rebound in FY27, driven by sustained investments across transport and other critical infrastructure segments.

Chart 14: Budgetary Outlay Towards Key Infrastructure Sectors



	FY20	FY21	FY22	FY23	FY24	FY25 (A)	FY26 (R)	FY27 (B)
Power	1,615	370	2,827	23	125	1,122	584	361
Ports	259	169	614	678	1,149	1,339	1,199	1,200
Oil & Gas	572	2,313	347	40	41	341	1,407	238
Telecom	5,660	5,254	5,254	56,205	59,380	73,846	23,916	47,275
Railways	67,842	109,324	117,271	159,256	242,579	251,947	252,000	277,830
Roads and Highways	68,374	89,195	113,312	205,986	263,912	285,344	272,051	294,167
Total	144,321	206,624	239,623	422,189	567,185	613,939	551,157	621,072

Source: Union Budget FY26 document

Some of the key government infrastructure schemes include:

- **Infrastructure financing and asset monetisation (Budget 2026-27)**
  - **Infrastructure Risk Guarantee Fund** announced to strengthen private developer confidence by addressing construction-phase risk.
  - **Dedicated REITs for CPSE assets** announced to accelerate recycling and monetisation of significant CPSE real estate assets, supporting capital redeployment into infrastructure.
  - **Public capex push** continues, with higher Central Government capital expenditure for FY 2026-27 to sustain infrastructure-led growth.
- **Urban infrastructure and city development (Budget 2026-27)**
  - **City Economic Regions (CER)** introduced to support competitive, region-based urban infrastructure and economic agglomerations (Tier II and Tier III focus), with multi-year funding support.
  - **Urban Rejuvenation Mission (including AMRUT and Smart Cities)** continues as the principal umbrella for water supply, sewerage and urban infrastructure investments, with FY 2026-27 allocations provided in the Budget documents.
  - **PMAY-Urban 2.0** remains the primary affordable housing programme for urban areas, with FY27 allocations provided in the Budget documents.

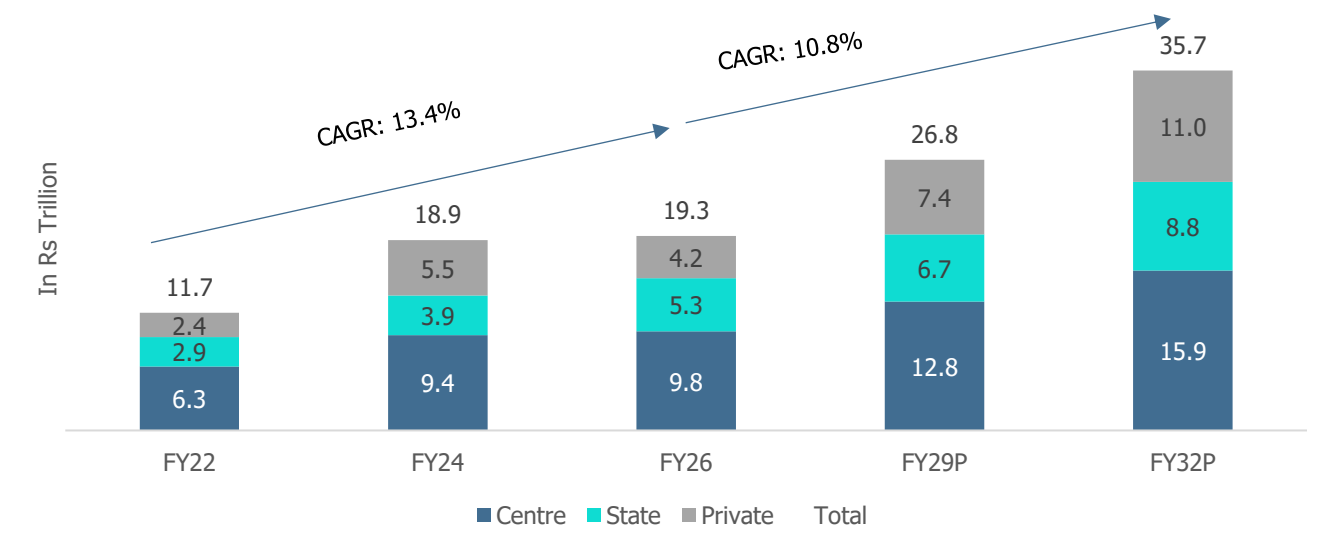
3.4 Review of Investments in Infrastructure Sector

Infrastructure projects are capital-intensive and have long gestation periods, that required constant and sustained fund flow support and a stable policy environment. To encourage investments and accelerate project execution, the Government of India has implemented various policy and financing initiatives to promote greater participation from public and private stakeholders. Agencies such as the National Highways Authority of India (NHAI), state-level

authorities, and domestic and international private sector players continue to drive infrastructure development across the country.

The infrastructure investments grew from Rs 11.7 trillion in FY22 to Rs 19.3 growing at a CAGR of 13.4% the investments are expected to reach around Rs 35.7 trillion by FY32P, supported by sustained public investment, expansion of transport and urban infrastructure, energy transition requirements and rising private participation. While roads, railways and urban infrastructure are likely to remain largely public-sector driven, sectors such as power, airports, ports and telecom are expected to attract a higher share of private capital through PPPs, asset monetisation and commercially viable projects, strengthening the overall infrastructure investment base.

Chart 15: Infrastructure Investments by Central Government, State Governments and Private Sector



Source: RBI, Union Budget, CareEdge Research

Note: The projections are based on our estimations which have been derived from government sources, industry reports, RBI bulletin and others publicly available data; Sector considered include roads, railways, power & energy, oil & gas, telecom, urban development, water supply and sanitation, ports & shipping, airports, data centres and other infrastructure

3.5 Major Infrastructure Development Schemes

Some of the key government infrastructure schemes include:

- The Union Budget for FY 2026-27 continues to use public investment as the main lever for infrastructure-led growth, with total capital expenditure budgeted at Rs 12.2 trillion and effective capital expenditure (including grants-in-aid for creation of capital assets) at Rs 17.1 trillion. To improve freight logistics and support a modal shift towards lower-carbon transport, the Budget proposes new Dedicated Freight Corridors connecting Dankuni (east) to Surat (west) and operationalisation of 20 new National Waterways over the next five years, starting with National Waterway-5 in Odisha linking mineral and industrial clusters to the ports of Paradeep and Dhamra. It also proposes a Coastal Cargo Promotion Scheme to increase the share of inland waterways and coastal shipping from 6% to 12% by 2047, alongside a ship repair ecosystem for inland waterways at Varanasi and Patna. In addition, the Budget introduces a Scheme for Enhancement of Construction and Infrastructure Equipment (covering equipment used in roads, metros and other infrastructure) and a container manufacturing scheme with a budgetary allocation of Rs 100 billion over five years to strengthen domestic logistics ecosystem capabilities. For urban infrastructure, it proposes

mapping City Economic Regions with a focus on Tier II and Tier III cities, supported by an allocation of Rs 50 billion per region over five years for implementation of their plans.

- In FY26 budget, government focused on investment for modern infrastructure, guided by PM Gati Shakti and benefit from the synergy of a multi-modal approach. A total of 100 critical transport infrastructure projects were identified, with an investment of Rs 750 billion, including Rs 150 billion from private players. Additionally, the government announced an Urban Challenge Fund with Rs 1 trillion allocated for city growth, redevelopment, and infrastructure, out of which Rs 100 billion was earmarked specifically for FY25-26. The Urban Infrastructure Development Fund (UIDF) was also set at Rs 100 billion to to enhance urban facilities in smaller cities.
- The government had also announced plans for the National Monetization Pipeline (NMP) and Development Finance Institution (DFI) to improve the financing of infrastructure projects.
- The government has helped the growth of urbanisation through a number of schemes and projects, including the Smart Cities Mission, the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), and the Pradhan Mantri Awas Yojana (Urban).

Project	Description	Key Figures
Smart Cities Mission	Launched on 25 June 2015, this mission aims to provide core infrastructure, a clean environment, and better quality of life through smart solutions. 100 cities have undertaken projects in mobility, energy, water, sanitation, and more.	- 7,555 projects completed (94% of total) worth Rs 1.51 trillion. - 512 projects in advanced stages worth Rs 130.43 billion. - Rs 476.52 billion released (99% of allocated budget). - Full financial support given to 100 cities.
AMRUT (Atal Mission for Rejuvenation and Urban Transformation)	Launched on 25 June 2015, the mission focuses on improving basic infrastructure in 500 cities, including water supply, sewerage, stormwater drainage, green spaces, and urban transport.	- AMRUT 2.0 launched in October 2021 for FY22-FY26.- Aims for universal water supply and expanded sewerage coverage by FY26.
PMAY (Pradhan Mantri Awas Yojana)	Focuses on providing housing for all, with significant emphasis on affordable housing in urban and rural areas through both PMAY-Urban and PMAY-Gramin schemes.	Target of 41.23 million houses (PMAY-G)- Over 38.51 million sanctioned. - Over 28.31 million completed by August 2025.
Bharatmala and Sagarmala Projects	Bharatmala aims to improve national highway connectivity for better freight and passenger movement. Sagarmala focuses on port infrastructure and logistics.	- Bharatmala Phase I: 34,800 km National Highways. - Sagarmala: 839 projects worth Rs 5.8 trillion. - 262 projects worth Rs 1.40 trillion completed by August 2025.
National High-Speed Rail Corporation Limited (NHSRCL)	Responsible for high-speed rail projects, notably the Mumbai-Ahmedabad Bullet Train project, in collaboration with Japan, using Shinkansen technology.	- Project launched in February 2016.- Expected to improve connectivity and boost economic growth along the route.

Jal Jeevan Mission (JJM)	Launched on 15 August 2019, this mission ensures piped water access to every rural household and public institution.	As on March 2025, more than 15.53 Crore (80.2%) out of 19.36 Crore rural households in the country, are reported to have tap water supply.
National Infrastructure Pipeline	Launched with a projected investment of approximately Rs 111 trillion for the period FY 2020–2025. This initiative aims to provide world-class infrastructure nationwide and enhance the quality of life for all citizens. It also envisages improving project preparation and attracting domestic and foreign investment in infrastructure.	As of March 2026, investment target has expanded to Rs 242.2 trillion from Rs 111 trillion and projects worth Rs 33.4 trillion have been completed, accounting for 32% of the revised target.

India's infrastructure sector is poised for robust growth, driven by major government investments, strategic initiatives, and increasing private sector participation. With a strong focus on transportation, urban mobility, logistics, and digital infrastructure, these developments will play a crucial role in economic expansion and employment generation. The government's emphasis on PPPs and policy reforms is attracting foreign investments, ensuring a sustainable growth trajectory. As India aims for developed nation status by 2047, continued infrastructure modernisation and investment will be key to maintaining global competitiveness and long-term economic prosperity.

4 Overview of Infrastructure Consultancy

4.1 Overview of the Global Infrastructure Consultancy Market

Infrastructure consultancy encompasses advisory, engineering, design and project management services that support the development, operation and maintenance of infrastructure assets. The global infrastructure consultancy market has witnessed steady growth driven by rising investments in transportation, energy, urban infrastructure, and water management projects across developed and emerging economies. Governments worldwide are increasingly focusing on modernisation of aging infrastructure, expansion of smart cities, renewable energy integration, and sustainable urban development, thereby creating significant demand for consultancy services related to planning, engineering design, feasibility studies, project management, and regulatory compliance. Rapid urbanisation and industrialisation, particularly in Asia-Pacific, are further supporting market growth. In addition, adoption of technologies such as Building Information Modelling (BIM), digital twins, GIS mapping, and AI-enabled project monitoring is improving project efficiency and enhancing infrastructure planning capabilities.

The market is also being driven by increasing focus on sustainability and climate-resilient infrastructure development. The demand for environmental impact assessment, ESG advisory, and green infrastructure consulting services is rising as governments and investors prioritize low-carbon and environmentally compliant projects. Asia-Pacific is expected to remain the largest growth market, while North America, Europe and the Middle East continue to generate opportunities through infrastructure renewal, energy transition and large-scale development projects.

Globally, BIM technology has moved beyond design coordination towards digital asset management and lifecycle planning, with infrastructure owners increasingly seeking integrated project information across design, construction and operations. Financing institutions are placing greater emphasis on environmental and social performance, climate resilience and sustainability-linked financing, creating opportunities for consultants in ESG strategy, sustainability reporting, climate-risk assessment, carbon management and environmental and social due diligence.

4.2 Overview of Infrastructure Consultancy in India

The infrastructure consultancy market in India has evolved alongside the country's expanding infrastructure development needs. Initially, consultancy services were largely limited to technical engineering support, project design, and construction supervision for government-led infrastructure projects. As infrastructure investments increased in scale and complexity, the role of consultants broadened to include project planning, feasibility assessments, detailed engineering, procurement support, and project management services.

The sector witnessed further transformation with greater private sector participation and the adoption of public-private partnership (PPP) models, which created demand for specialised advisory services covering financial structuring, risk assessment, regulatory compliance, and contract management. Over time, infrastructure consultants expanded their capabilities beyond traditional engineering functions to provide integrated solutions across the entire project lifecycle.

Today, infrastructure consultancy has become a critical component of project execution, supporting sectors such as transportation, urban development, energy, water, and social infrastructure. The sector operates on low capital expenditure. The industry leverages digital technologies, data analytics, Building Information Modelling (BIM), and sustainability frameworks to improve project outcomes, optimize costs, and enhance operational efficiency. As infrastructure development continues to accelerate across the country, consultants are playing an increasingly strategic role in planning, designing, managing, and delivering large-scale infrastructure assets.

Recent trend in Indian infrastructure consultancy includes real-time project monitoring and predictive monitoring using digital twins, sensors, satellite data, drones and AI-based analytics. The Government's Sangam 'Digital Twin'

initiative and AI-driven digital twin indicate increasing institutional interest in this technology. Government's infrastructure monitoring is also becoming increasingly data-driven; 'PAIMANA', launched in 2025, uses API-based data integration for monitoring Central Sector infrastructure projects, with more than 60% of projects being updated automatically through APIs as of August 2026.

Another programme under India's National Geospatial Policy 2022 seeks to expand access to geospatial data and promote its use across infrastructure, urban development and other sectors, with a vision extending to 2035

4.3 Types of Services by Infrastructure Consultants

Strategy and Planning Consultancy: Consultants support project conceptualisation through urban mobility and logistics planning, transport demand forecasting, policy advisory, and investment prioritisation. Their role focuses on assessing infrastructure requirements, investment planning, economic impact assessment, and developing long-term development roadmaps aligned with sectoral and regional growth objectives.

Design and Engineering Consultancy: These services cover project feasibility assessment, preparation of detailed project reports (DPRs), engineering design, technical specifications, structural analysis, geotechnical investigations and regulatory compliance both environmental and social. Consultants help translate project concepts into technically viable and execution-ready infrastructure solutions.

Project Management Consultancy (PMC): PMC firms oversee project planning and are responsible for executing projects by managing schedules, resources, procurement, contracts, quality assurance, and stakeholder coordination. Safety management, stakeholder coordination, progress monitoring and report also come under the PMCs. Increasingly, they leverage digital tools and real-time monitoring systems to improve project delivery, cost control, and risk management.

Financial and Transaction Advisory: Consultants assist project developers and investors with financial modelling, project valuation, cost-benefit analysis, funding strategies, PPP structuring, due diligence, and transaction advisory. They also perform due diligence across financial, commercial and technical aspects of the project. These services help enhance project bankability and facilitate efficient capital mobilisation.

Risk Management and Compliance Consultancy: Consultants help in identification, assessment, and mitigation of project risks while ensuring adherence to environmental, social, legal, and safety requirements through EIA and SIA. Their involvement helps reduce execution uncertainties and strengthen regulatory compliance throughout the project lifecycle.

Other Specialised Consultancy Services include Digital engineering and BIM modelling, smart infrastructure solutions (IoT, automation), GIS mapping and spatial analytics, asset management and operations advisory, sustainability consulting and lifecycle analysis

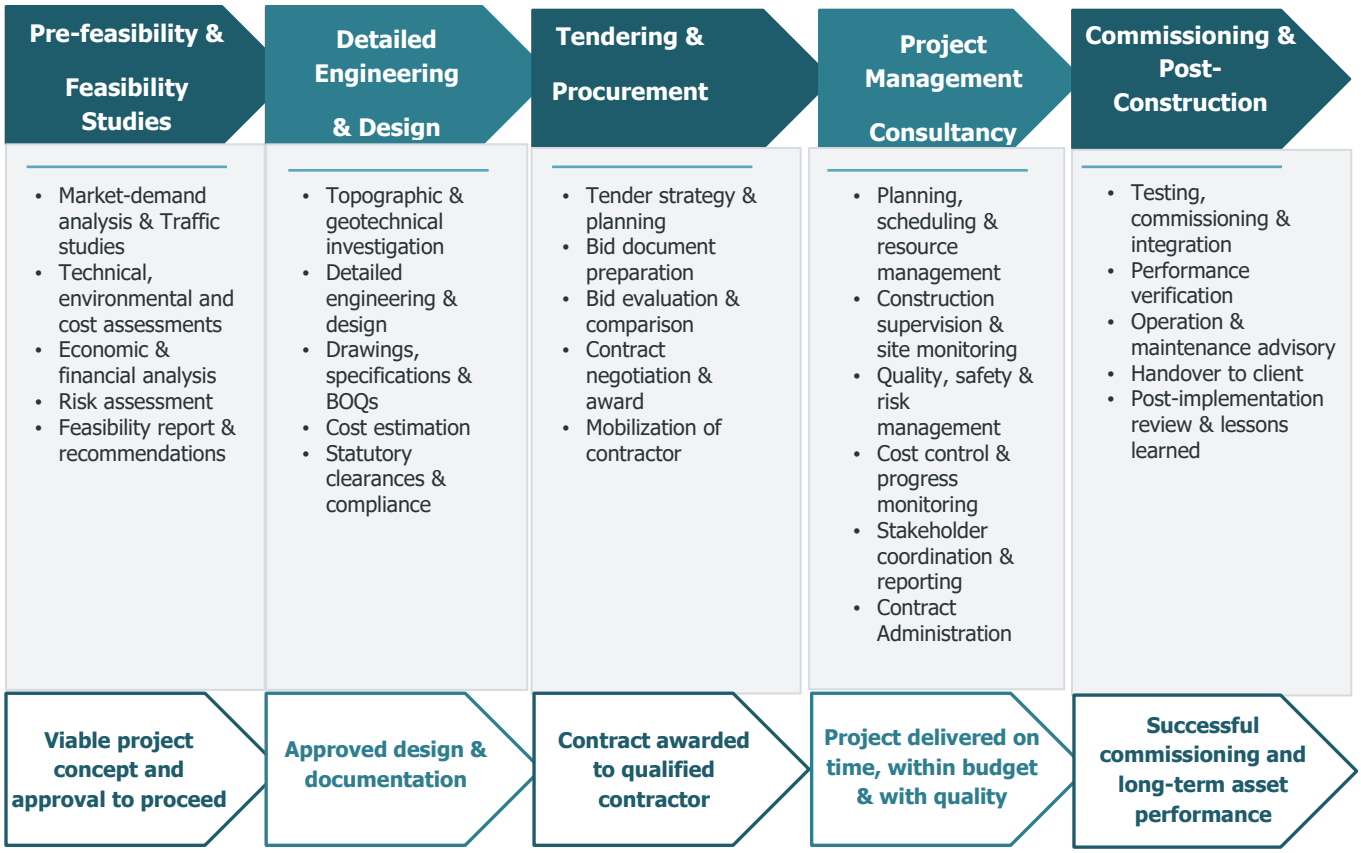
These services help infrastructure owners improve operational efficiency, resilience, and long-term asset performance.

4.4 Scope of Infrastructure consultancy

Infrastructure consultants act as strategic and technical advisors across project lifecycles, supporting procurement, execution, and stakeholder coordination. Their role is critical in managing complexity, ensuring compliance, and addressing financial and environmental challenges. By improving planning and oversight, they reduce risks, control costs and timelines, while enhancing quality; however, constraints like approvals and land acquisition remain key challenges.

Role	Act as technical and strategic advisors throughout the project from procurement, construction, supervision, stakeholder coordination to efficient project execution
Importance	As infrastructure projects become larger and more complex, consultancy services provide specialised expertise, independent oversight and regulatory guidance, helping project owners navigate technical, financial and environmental and social challenges.
Benefits	Infrastructure consultancy helps improve project outcomes by reducing execution risks, cost and time overruns, enhancing quality and safety standards, and ensuring regulatory compliance.
Constraints	Key constraints include budget limitations, regulatory approvals, land acquisition challenges, environmental requirements, stakeholder coordination and project timelines.

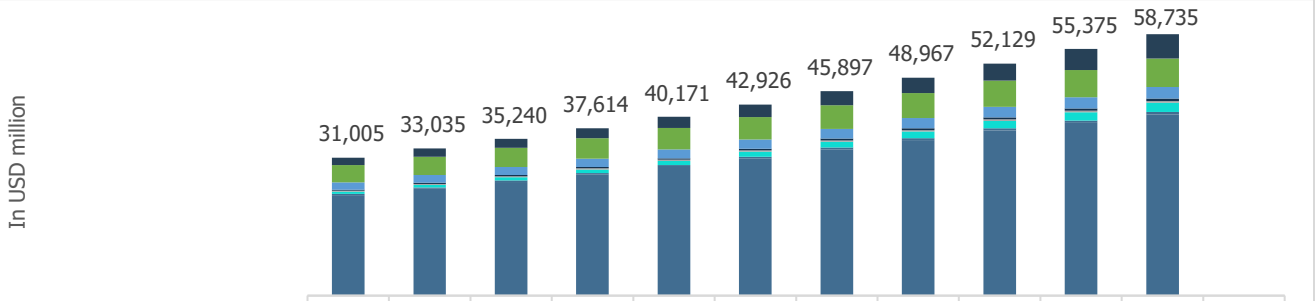
4.5 Process of Consultancy in Large Scale Infrastructure Projects



4.6 Market Size of Infrastructure Consultancy Industry

The global infrastructure consultancy market grew from USD 31,005 million in CY21 to USD 40,171 million in CY25, registering a CAGR of 6.7% during the period. The market is further expected to expand to USD 58,735 million by CY31P, growing at a CAGR of 6.5% during CY25–CY31P. The growth in the global market is expected to be supported by infrastructure development across transport, urban infrastructure, power, renewable energy, water, logistics and digital infrastructure.

Chart 16: Global Infrastructure Consultancy Market Size



	CY21	CY22	CY23	CY24	CY25	CY26P	CY27P	CY28P	CY29P	CY30P	CY31P	CAGR CY25-CY31P
Total	31,005	33,035	35,240	37,614	40,171	42,926	45,897	48,967	52,129	55,375	58,735	6.54%
India	1,660	1,847	2,055	2,287	2,543	2,828	3,145	3,486	3,853	4,691	5,479	13.64%
United Kingdom	3,892	4,092	4,307	4,535	4,776	5,033	5,305	5,579	5,854	6,127	6,401	5.00%
Spain	1,639	1,719	1,804	1,895	1,990	2,091	2,198	2,305	2,410	2,515	2,619	4.68%
Gulf Region	252	270	291	313	337	363	391	420	451	482	515	7.36%
Iraq	194	208	222	238	255	273	293	313	335	357	380	6.87%
Saudi Arabia	518	615	724	844	979	1,128	1,294	1,474	1,669	1,879	2,106	13.62%
United Arab Emirates (UAE)	279	299	320	343	367	393	421	450	480	510	543	6.73%
Other countries	22,572	23,986	25,517	27,160	28,924	30,817	32,850	34,939	37,077	38,813	40,692	5.85%

Source: Inkwood Research, CareEdge Research

Note: P stands for Projected; Note: Gulf region is excluding Saudi Arabia and UAE

- **United Arab Emirates (UAE)**

Within the global market, UAE continues to be an important infrastructure consultancy market, supported by national and emirate-level infrastructure programmes. The infrastructure consultancy market in the UAE grew from USD 279 million in CY21 to USD 367 million in CY25, registering a CAGR of 7.1% during CY21–CY25. The market is expected to reach USD 543 million by CY31P, growing at a CAGR of 6.7% during CY25–CY31P. The growth is primarily driven by strategic national initiatives such as the UAE Vision 2031, Net Zero 2050 Strategy, development of the UAE National Rail Network, airport modernisation programs, and urban mobility initiatives across Dubai and Abu Dhabi have increased the need for multidisciplinary consultancy services.

Demand Drivers

Transport and urban infrastructure development: Transport and urban infrastructure are expected to remain key demand areas for consultancy services. Dubai and Abu Dhabi's focus on planned urban development, mobility improvement and real estate-linked infrastructure is expected to support demand for engineering and project management consultancy services.

Renewable energy and energy transition: The UAE emirates are also investing heavily in renewable energy generation, transmission infrastructure, hydrogen projects, and grid modernisation. Landmark developments such as the Mohammed bin Rashid Al Maktoum Solar Park and emerging green hydrogen initiatives are expected to create demand for technical, environmental and sustainability consulting services.

Opportunities

The UAE provides opportunities for infrastructure consultants across transport, urban development, renewable energy, utilities, water and digital infrastructure. The continued development of national and emirate-level transport programmes, together with investments in renewable energy and energy transition, is expected to create demand for engineering design, project management, technical due diligence and environmental and sustainability advisory services. The country's ability to attract foreign investment and its focus on private-sector participation in infrastructure can further expand the addressable market for consultancy services.

Challenges

Challenges related to project complexity, cost management, regulatory requirements and dependence on large development programmes, multi-level approvals involving multiple stakeholders across federal and emirate-level authorities, which can increase coordination requirements and project timelines. In addition, infrastructure consultants operating in the UAE need to meet local regulatory and licensing requirements, while projects increasingly require specialised capabilities in sustainability, digital infrastructure and advanced engineering.

- **India**

India is expected to be one of the higher growth infrastructure consultancy markets, supported by the scale of infrastructure development and wider sector coverage. India’s infrastructure consultancy market grew from USD 1,660 million in CY21 to USD 2,543 million in CY25, registering a CAGR of 11.3% during CY21–CY25. The market is expected to grow further to USD 5,479 million by CY31P, reflecting a CAGR of 13.6% during CY25–CY31P. The growth is expected to be driven by a strong infrastructure development pipeline across roads, railways, metros, ports, airports, power, renewable energy, water, urban infrastructure, logistics and digital infrastructure. Government initiatives such as the National Infrastructure Pipeline, PM Gati Shakti, the National Logistics Policy and National Monetisation Plan 2.0 are expected to support demand for consultancy services across feasibility studies, detailed project reports, design engineering, project management, construction supervision and environmental assessments, while also increasing the need for integrated planning and multimodal infrastructure development.

Demand driver

Government schemes and initiatives: The demand is also expected to be supported by urban infrastructure programmes, including Smart Cities Mission projects, metro rail expansion, AMRUT, water and wastewater infrastructure, and urban mobility initiatives, as well as road development, PPP projects and economic corridors.

Expansion of digital infrastructure: In addition, the expansion of data centres, semiconductor facilities, telecom networks, AI infrastructure and renewable energy-linked projects is creating opportunities for specialised consulting services. The increasing adoption of digital tools such as BIM, GIS, digital twins and real-time project monitoring platforms is further strengthening the role of infrastructure consultants in project planning, execution and asset management.

Opportunities

India provides a broad opportunity base for infrastructure consultants due to the large project pipeline and increasing coverage of infrastructure sectors. Opportunities are present across roads and highways, railways,

metros, airports, ports, renewable energy, power transmission, water and wastewater, urban infrastructure and logistics. The Government's emphasis on multimodal infrastructure planning through PM GatiShakti and the National Logistics Policy further increases the requirement for integrated infrastructure planning and project coordination.

Challenges

The market faces challenges related to regulatory approvals, financing, availability of skilled professionals, project execution and land acquisition delays. Infrastructure projects involving multiple government agencies and states can require several approvals and coordination across stakeholders, which may affect project timelines. Projects dependent on private investment or long-term funding may face financing constrains. The increasing complexity of infrastructure projects is also raising the requirement for specialised engineering, environmental, digital and project-management capabilities.

- **Saudi Arabia**

The infrastructure consultancy market in Saudi Arabia increased from USD 518 million in CY21 to USD 979 million in CY25, registering a CAGR of 17.3% during CY21–CY25. The market is further estimated to reach USD 2,106 million by CY31P, registering a CAGR of 13.6% during CY25–CY31P. The growth is expected to be supported by continued investment in infrastructure, transport, utilities, urban development and large-scale development projects under Saudi Arabia's Vision 2030 programme. Saudi Arabia has emerged as a leading market for capital projects and infrastructure investment in the Middle East, as per a study conducted in 2025 identifying the region as a key investment destination.

Demand Drivers

Vision 2030-led infrastructure development: Saudi Arabia's Vision 2030 places infrastructure development at the centre of economic diversification, with continued investment in transport networks, airports, ports, urban infrastructure and other public assets. The Government's FY26 budget emphasises on spending efficiency and improving the quality of essential services and implementing giga-projects in line with the objective of the Saudi Vision 2030. Identifying infrastructure development as a key area of public spending, supporting demand for planning, design, engineering and project management services.

Large-scale development projects: Saudi Arabia is undertaking large-scale projects across tourism, urban development, transport, logistics and entertainment as part of its economic diversification programme. As per industry reports as of CY25, around USD 1.3 trillion of real estate and infrastructure projects since the launch of Vision 2030, with contracts awarded worth approximately USD 164 billion. The numbers are expected to increase requiring external consultants for feasibility studies, design, engineering, project management and technical supervision.

Transport and logistics infrastructure: Saudi Arabia is investing in roads, airports, ports, rail and urban transport to strengthen its position as a logistics hub connecting three continents. The Government has highlighted continued investment in transport networks and the improvement of road infrastructure, while major urban transport projects such as the Riyadh Metro have increased the requirement for specialised engineering and project-management services.

Opportunities

Saudi Arabia presents opportunities for infrastructure consultants due to the scale of planned investment and the increasing number of projects moving from planning to execution. Demand is expected across transportation, energy and utilities, water, urban development and social infrastructure, as well as project management and

technical advisory services. The Government's continued infrastructure spending under Vision 2030, together with the involvement of Public Investment Fund (PIF) backed development companies and private investors, is expected to create opportunities for consultants with capabilities in project planning, engineering, design, cost management and project supervision. The increasing use of private financing and PPP structures is also expected to create additional demand for feasibility assessment, transaction support and technical advisory services.

Challenges

The infrastructure consultancy market faces challenges associated with the scale, complexity and execution timelines of major projects. Cost overruns, project delays, execution-related challenges, consultants also need to operate within evolving regulatory requirements and increasing localisation requirements, while the availability of specialised technical talent can affect project delivery. In addition, infrastructure spending remains influenced by government priorities and fiscal conditions, making project phasing and funding an important consideration for market participants. Saudi Arabia has made progress in improving its business and regulatory environment, however regulatory bottlenecks and labour-market segmentation continue to require further reforms.

- **Iraq**

The infrastructure consultancy market in Iraq increased from USD 194 million in CY21 to USD 255 million in CY25, registering a CAGR of 7.1% during CY21–CY25. The market is further estimated to reach USD 380 million by CY31P, registering a CAGR of 6.9% during CY25–CY31P. The growth is expected to be supported by investment in transport infrastructure, public services and connectivity as Iraq moves towards development and economic diversification. Iraq's National Development Plan 2024–2028 identifies infrastructure improvement and strengthening of public services as key development priorities.

Demand Drivers

Transport infrastructure development: Iraq is investing in the rehabilitation and expansion of its road and railway networks. In June 2026, the World Bank approved USD 900 million for the Iraq Transport Economic Corridors project to improve key road corridors, while a separate USD 930 million project is supporting the extension and modernisation of the railway network. These projects are expected to require engineering, planning, design and project-management services.

Economic diversification and regional connectivity: The Iraq Development Road is intended to connect the Gulf region with Türkiye and Europe through Iraq, supporting trade and logistics activity. Development of this corridor, together with improvements to existing transport infrastructure, is expected to increase demand for infrastructure planning and technical advisory services.

Improvement of public infrastructure: Iraq's National Development Plan 2024–2028 focuses on improving infrastructure and public services and promoting sustainable development.

Opportunities

Iraq presents opportunities for infrastructure consultants as investment shifts from reconstruction towards development. The planned development of road and railway corridors, including projects connecting major population centres, ports and neighbouring countries, is expected to create demand for feasibility studies, engineering design, project management and construction supervision. The expansion of infrastructure is also linked to Iraq's objective of reducing its dependence on oil and improving regional trade and connectivity.

Challenges

The market faces challenges from Iraq's dependence on oil revenues and constraints on public finances. The decline in oil prices in 2025 increased fiscal pressures and limited non-essential expenditure. Financing constraints and accumulated arrears have also affected public investment, which could result in delays of infrastructure projects.

- **Gulf Region (excluding UAE and Saudi Arabia)**

The infrastructure consultancy market in the Gulf region (excluding UAE and Saudi Arabia) increased from USD 252 million in CY21 to USD 337 million in CY25, registering a CAGR of 7.5% during CY21-CY25. The market is further estimated to reach USD 515 million by CY31P, registering a CAGR of 7.36% during CY25-CY31P. The region covers Qatar, Kuwait, Oman and Bahrain, where infrastructure investment is being supported by economic diversification programmes, energy projects, logistics development and tourism-related investment. The World Bank expects continued expansion of non-hydrocarbon sectors across the GCC, supported by investment and structural reforms.

Demand Drivers

Economic diversification: Gulf regions are investing in sectors outside hydrocarbons, including tourism, logistics, manufacturing, financial services and infrastructure. The World Bank's Gulf Economic Update reviews 2025, notes that diversification is supporting growth across the GCC, with Oman increasing the contribution of non-hydrocarbon sectors and Bahrain seeing investment in infrastructure, gas, logistics and tourism.

Energy and industrial infrastructure: Continued investment in LNG, gas, energy and related infrastructure is supporting project activity in the region. Qatar's North Field expansion is expected to increase LNG production, while Oman and Bahrain are also pursuing investments in energy and industrial sectors. These projects create requirements for engineering, planning and project-management services.

Opportunities

The region provides opportunities for infrastructure consultants across energy, logistics, tourism, transport, utilities and urban development. Oman is expanding infrastructure linked to economic diversification and logistics, Qatar continues to invest in LNG and supporting infrastructure, while Bahrain is developing tourism, logistics and other non-oil sectors. Increasing participation of sovereign wealth funds and private investors can also create demand for feasibility studies, technical due diligence, engineering, project management and advisory services.

Challenges

Infrastructure investment in the smaller Gulf economies remains exposed to changes in oil and gas prices and government fiscal conditions. The oil-price volatility, geopolitical tensions and the need for disciplined fiscal management poses risks to the GCC goals. Bahrain also faces high fiscal deficits and public debt, while Kuwait has faced subdued growth and financing constraints. These factors can affect project prioritisation, funding and implementation timelines

- **Spain**

The infrastructure consultancy market in Spain increased from USD 1,639 million in CY21 to USD 1,990 million in CY25, registering a CAGR of 5.0% during CY21-CY25. The market is further estimated to reach USD 2,619 million by CY31P, registering a CAGR of 4.7% during CY25-CY31P. This growth is likely to be driven less by construction-volume expansion and more by the increasing technical complexity, sustainability requirements, digitalisation and asset-modernisation needs across transport, energy, water and urban infrastructure. Spain is entering a relatively investment-intensive phase in infrastructure, supported by the EU Recovery and Resilience Facility (EU recovery

programmes refer mainly to EU-funded financial support, particularly the Recovery and Resilience Facility (RRF), provided to Spain to finance post-pandemic economic recovery, green transition, digitalisation and infrastructure modernisation projects), energy-transition programmes, transport modernisation, water infrastructure upgrades and increasing private investment in digital and industrial infrastructure.

Demand Drivers

Transport infrastructure investment: Spain continues to invest in railways and sustainable mobility. Spain's Recovery and Resilience Plan includes EUR 13.2 billion for sustainable mobility, including railway infrastructure, low-emission urban areas, public transport and electric charging infrastructure.

Green transition: Spain is investing in renewable energy, electricity grids, energy storage and renewable hydrogen as part of its energy transition. The Recovery and Resilience Plan includes funding for clean technologies and infrastructure, while Spain has also increased the share of renewable electricity generation in recent years. The plan supports the green transition through investments of over Euro 12 billion in the energy efficiency of public and private buildings including new social housing.

Digital and social infrastructure: Investment is also being directed towards digital connectivity, public administration, housing, water and sanitation. Spain's Recovery and Resilience Plan includes EUR 15.4 billion for fixed and 5G connectivity and data infrastructure, while the Government's Spain Grows fund is intended to mobilise investment in infrastructure, water and sanitation, housing and digitalisation.

Opportunities

Spain provides opportunities for infrastructure consultants in railways, renewable energy, electricity networks, water management, urban and social infrastructure and digital connectivity. The country's Recovery and Resilience Plan has allocated substantial funding towards every segment and continued implementation of these programmes is expected to generate demand for consultancy services across planning, engineering, environmental assessment, project management, technical and financial advisory services.

Challenges

Spain’s infrastructure consultancy market faces constraints from lengthy permitting, environmental approvals and public procurement processes. The gradual completion of EU recovery programmes could create funding gaps, while high financing and construction costs may delay projects. Talent shortages and intense competition could limit execution capacity and margins. A mature infrastructure base further moderates greenfield opportunities, increasing reliance on energy transition, modernisation, digitalisation and climate-resilience projects

- **United Kingdom**

The infrastructure consultancy market in the UK increased from USD 3,892 million in CY21 to USD 4,776 million in CY25, registering a CAGR of 5.3% during CY21-CY25. The market is further estimated to reach USD 6,401 million by CY31P, registering a CAGR of 5.0% during CY25-CY31P. Growth is expected to be supported by planned investment in transport, energy, housing, utilities and social infrastructure.

Demand Drivers

Long-term infrastructure investment: The UK Government's 10 Year Infrastructure Strategy provides a long-term framework for economic, housing and social infrastructure investment. The strategy is backed by GBP 725 billion of government funding over the coming decade for maintenance and major projects. This also provides a

decade long of projects pipeline across transport, energy, utilities, healthcare, education and defence. The March 2026 update covered 734 planned projects representing GBP 718 billion of investment over the next decade.

Energy transition and housing infrastructure: The Government's infrastructure strategy links infrastructure investment with housing development, clean energy and the transition to net zero. This is expected to support demand for consultancy services related to energy networks, renewable projects, housing infrastructure and public assets.

Opportunities

The Government's long-term infrastructure strategy and project pipeline provides opportunities for infrastructure consultants across transport, energy, utilities, housing and social infrastructure for projects across both public and private sectors, while investment in clean energy, housing and infrastructure renewal is expected to support continued project activity creating demand for infrastructure consultants.

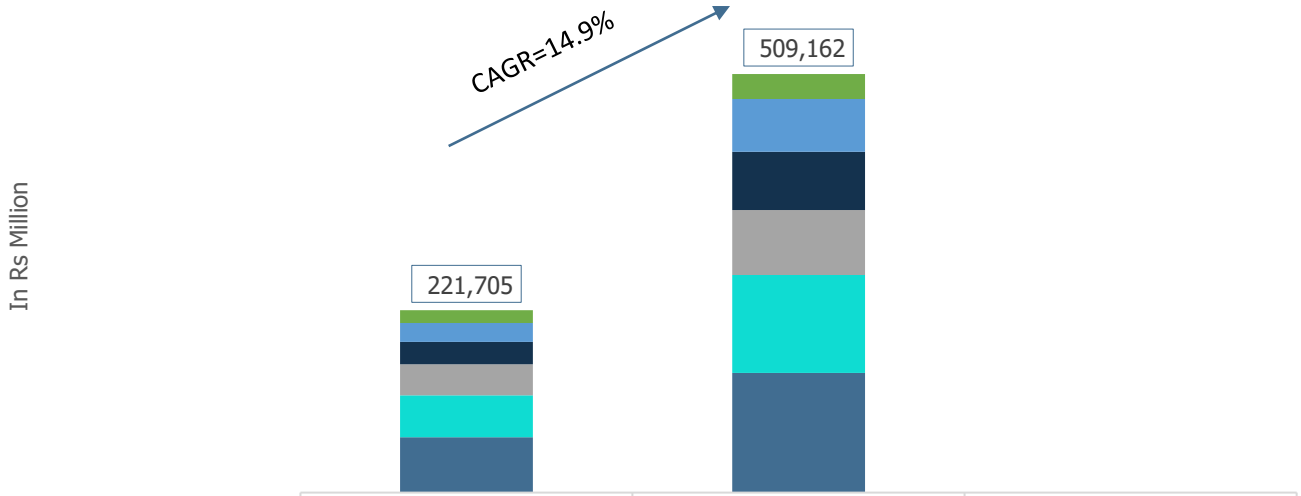
Challenges

Addressing backlog infrastructure projects and availability of skilled workforce remains a key challenge in the region. Major infrastructure projects are subject to planning, environmental and regulatory requirements, which increases the time and cost required before construction begins. The Government has identified planning delays, consultation requirements and the risk of legal challenges as factors contributing to longer project timelines.

4.7 Market Segmentation of Infrastructure Consultancy Sector in India

4.7.1 By Type

Chart 17: Market Size of Infrastructure Consultancy by Type



	CY25	CY31P	CAGR(CY25-CY31P)
Total	221,705	509,162	14.9%
Other Types	15,231	30,428	12.2%
Risk and Compliance	23,024	64,149	18.6%
Financial Advisory	27,482	70,900	17.1%
Strategy and Planning	37,489	79,104	13.3%
Project Management	51,037	119,042	15.2%
Design and Engineering	67,443	145,539	13.7%

Source: Inkwood Research, CareEdge Research

Note: P stands for Projected, USD values have been converted using the average exchange rate for the respective year. For projections, the average rate up to 17 June 2026 has been used.

- **Design and Engineering**

The design and engineering services market is expected to grow from Rs 67,443 million in CY25 to Rs 1,45,539 million in CY31P growing at a CAGR of 13.7%. This growth is driven by the increasing scale and technical complexity of infrastructure projects across transportation, urban infrastructure, renewable energy, logistics and industrial sectors. Programmes such as PM Gati Shakti have increased emphasis on integrated infrastructure planning, requiring detailed engineering, digital design, GIS-based planning and multidisciplinary coordination. The adoption of Building Information Modelling (BIM), digital twins and sustainability requirements is also expanding the scope of engineering consultants beyond traditional design activities.

- **Project Management Consultancy (PMC)**

The Project management consultancy market is expected to reach grow at a CAGR of 15.2%, from Rs 51,037 million in CY25 to Rs 1,19,042 million in CY31P. This segment as shown significant growth as project owners increasingly seek specialised expertise to manage large-scale infrastructure developments involving multiple contractors, regulatory approvals and funding agencies. Growth in roads, railways, metro systems, airports, renewable energy and urban infrastructure projects has increased demand for project monitoring, construction

supervision, contract administration and cost control services. The focus on timely execution of public infrastructure programmes is also driving higher outsourcing of project management functions.

- **Strategy and Planning**

The Strategy and Planning market is expected to grow from Rs 37,489 million in CY25 to Rs 79,104 million in CY31P, growing at a CAGR of 13.3%. The growth in this segment is supported by the growing pipeline of infrastructure investments requiring feasibility assessments, master planning, traffic studies, logistics planning and sector-specific development strategies. National initiatives such as industrial corridors, multimodal logistics infrastructure and urban development programmes require consultants to undertake long-term planning and investment prioritisation. Increased use of data-driven planning platforms is further expanding opportunities in this segment.

- **Financial Advisory**

The Financial advisory service is among the faster-growing segments at a CAGR of 17.1%, growing from Rs 27,482 million in CY25 to Rs 70,900 million by CY31P. The increasing use of PPP models, InvITs, REITs, infrastructure debt, asset monetisation and blended finance structures have created demand for transaction advisory, financial modelling, project financing and capital-raising services. The emergence of institutions such as NaBFID and the expansion of infrastructure-focused investment vehicles are further increasing the need for specialised financial advisors.

Infrastructure consultants also undertake financial lending and advisory assignments involving independent assessment of project feasibility, design adequacy, construction progress and contractor capability prior to fund disbursement, along with development and review of financial models to assess project viability and financing requirements. They also support project developers and lenders through financial modelling, debt structuring, cash-flow assessment, project viability analysis and evaluation of financing requirements. The growing use of PPP structures across roads, airports, ports, urban infrastructure and water projects is creating demand for transaction advisory, concession structuring, bid support and financial due diligence.

- **Risk and Compliance**

The risk and compliance service market is expected to grow from Rs 23,024 million in CY25 to Rs 64,149 million in CY31P, registering a CAGR of 18.6%. The market share of the segment is expected to rise due to increasing regulatory requirements across environmental, social, governance (ESG), sustainability, procurement, safety and contractual compliance areas. Infrastructure projects are becoming larger and more capital intensive, increasing the need for independent reviews, due diligence, lender engineering, ESG assessments and regulatory monitoring. Greater participation by institutional investors and multilateral agencies is also driving higher compliance standards across project lifecycles. Infrastructure consultants are increasingly involved in Environmental Impact Assessment (EIA), Social Impact Assessment (SIA), sustainability assessment and advisory support to get sustainability-related certifications and disclosures.

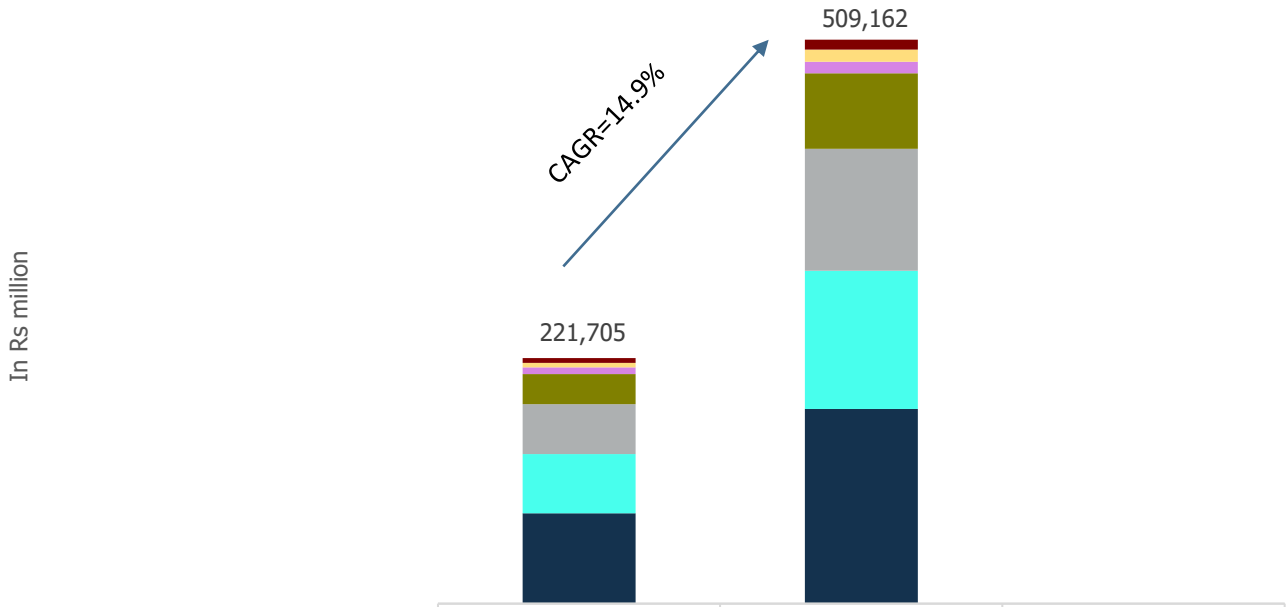
- **Other Types**

Consultancy services not explicitly covered above form a part of other types like operations and maintenance advisory, geospatial and surveying services, capacity building and training advisory, environmental and sustainability consulting etc. The market size if expected to grow from Rs 15,231 million to Rs 30,428 million by CY31P growing at a CAGR of 12.2%. Expansion of infrastructure asset base and focus on lifecycle management is expected to support demand for inspection, testing, O&M and asset-management advisory services as governments and private operators focus on maintaining existing infrastructure alongside new project development. Growing

adoption of digital technologies in infrastructure projects is also likely to increase demand for other technology-enabled consulting services to improve project planning, monitoring and asset management.

4.7.2 By Segment

Chart 18: Market Size of Infrastructure Consultancy by Segments



	CY25	CY31P	CAGR CY25-CY31P
Total	221,705	509,162	14.9%
Other Applications	4,269	8,812	12.8%
Data Centre Infrastructure	3,988	11,203	18.8%
Social and Community Infrastructure	6,139	10,405	9.2%
Industrial and Logistics	27,114	68,069	16.6%
Urban Infrastructure	45,265	109,962	15.9%
Energy and Power	53,261	124,864	15.3%
Transportation	81,669	175,848	13.6%

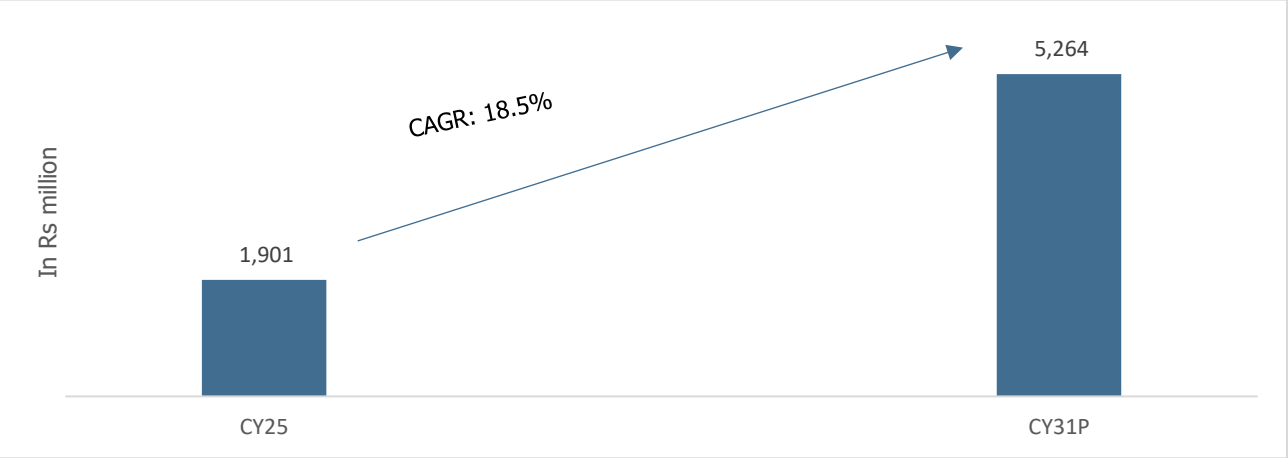
Source: Inkwood Research, CareEdge Research

Note: P stands for Projected, USD values have been converted using the average exchange rate for the respective year. For projections, the average rate up to 17 June 2026 has been used

- **Energy and Power**
  The energy and power consultancy market is projected to grow from Rs 53,261 million in CY25 to Rs 1,24,864 million in CY31P, reflecting a CAGR of 15.3%. The demand is being supported by investments in renewable energy, transmission infrastructure, grid modernisation, battery storage and green hydrogen projects. India's energy transition agenda requires specialised services across project planning, grid integration studies, environmental assessments, owner's engineering and project management. Expansion of transmission networks to support renewable energy capacity additions is also expected to increase consultancy requirements.

- **Urban Infrastructure**
  The urban infrastructure segment is projected to increase from Rs 45,265 million in CY25 to Rs 1,09,962 million in CY31P, registering a CAGR of 15.9%. Growth is being driven by investments in water supply, sewerage networks, affordable housing, urban mobility systems, smart city projects and municipal infrastructure upgrades. Rising urbanisation and the need to improve service delivery across cities are increasing demand for master planning, urban design, engineering consultancy and project implementation support. Consultants are also playing a larger role in structuring and managing city-level infrastructure programmes.

Chart 19: Market size of Bus Terminal Infrastructure Consultancy



Source: Inkwood Research, CareEdge Research
Note: P stands for Projected, USD values have been converted using the average exchange rate for the respective year. For projections, the average rate up to 17 June 2026 has been used

- **Bus Terminal**

The bus terminal consultancy market is estimated to increase from Rs 1,901 million in CY25 to Rs 5,264 million by CY31P, registering a CAGR of 18.5%, supported by the modernisation of urban public transport infrastructure and increasing investment in electric bus deployment, including associated depots and charging infrastructure. The PM-eBus Sewa programme is expected to support the development of supporting infrastructure alongside the deployment of electric buses, creating demand for planning, design and project implementation services.

- **Industrial and Logistics**
  The industrial and logistics segment is expected to be the fastest-growing application area, increasing from Rs 27,114 million in CY25 to Rs 68,069 million in CY31P at a CAGR of 16.6%. Growth is supported by the expansion of manufacturing capacity, industrial corridors, warehousing facilities, logistics parks and supply-chain infrastructure. Programmes such as PM Gati Shakti and the National Logistics Policy are driving investments in multimodal logistics networks and industrial ecosystems, creating demand for planning, design, project management and transaction advisory services. Increasing private sector participation in logistics and warehousing development is also contributing to market expansion

- **Data Centre Infrastructure**
  The data centre infrastructure consultancy market is expected to increase from Rs 3,988 billion in CY25 to Rs 11,203 billion by CY31P, registering a CAGR of 18.8%, driven by increasing cloud adoption, digitalisation and

rising demand for AI and data-intensive applications. According to the Ministry of Electronics and Information Technology (MeitY), installed data centre capacity has increased from about 375 MW in 2020 to around 1,500-1,575 MW by 2025-26, reflecting more than four-fold growth over the period. The sector is expected to witness further expansion as AI adoption, cloud services and hyperscale facilities continue to drive demand. The expansion of data centres requires significant investment in buildings, power supply, cooling systems and related infrastructure, supporting demand for specialised planning, engineering and project management services.

- **Social and Community Infrastructure**

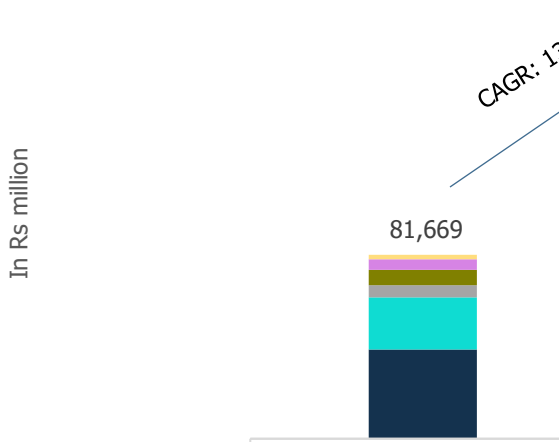
  The social and community infrastructure consists of physical assets, spaces, facilities, and institutions that support human development, community life. This includes educational buildings, hospitals, community sports facilities etc. The social and community infrastructure consultancy market is expected to increase from Rs 6,139 billion in CY25 to Rs 10,405 billion by CY31P, registering a CAGR of 9.2% supported by continued investment in healthcare, education, housing and other public-use infrastructure, increasing urbanisation, population requirements and government spending on social infrastructure. Government programmes focused on expanding healthcare and education facilities, including Ayushman Bharat and PM SHRI, are supporting development and upgradation of related physical infrastructure are creating demand for infrastructure planning, design and project management services.

- **Transportation**

  The transportation segment is projected to increase from Rs 81,669 million in CY25 to Rs 1,75,848 million in CY31P, registering a CAGR of 13.6%. The growth is expected to be driven by continued investments in highways, railways, metro rail systems, airports, ports and multimodal logistics infrastructure. Government initiatives such as PM Gati Shakti, Bharatmala and Dedicated Freight Corridors have expanded the project pipeline, increasing demand for feasibility studies, engineering design, project management and construction supervision services. The growing focus on multimodal connectivity and logistics efficiency is also creating opportunities for transport planning and traffic engineering consultants

  The transportation infrastructure consultancy market comprises consultancy services across roads, railways, road bridges, ports, airports, bus terminals and other applications. The market is segmented by application as follows:

Chart 20: Segment-wise market size of Transport Infrastructure consultancy



	CY25	CY31P	CAGR (CY25 - CY31P)
Total	81,669	175,848	13.6%
Other Applications	2,029	3,693	10.5%
Airports	4,641	10,551	14.7%
Road Bridges	6,879	14,068	12.7%
Ports	5,286	13,890	17.5%
Railways	23,158	53,634	15.0%
Roads	39,676	80,013	12.4%

Source: Inkwood Research, CareEdge Research

Note: P stands for Projected, USD values have been converted using the average exchange rate for the respective year. For projections, the average rate up to 17 June 2026 has been used

Roads:

The roads consultancy market is estimated to increase from Rs 39,676 million in CY25 to Rs 80,013 million by CY31P, registering a CAGR of 12.4%. The segment is expected to remain the largest contributor, supported by continued highway expansion, widening and upgradation of existing networks, development of economic corridors and increased focus on improving logistics connectivity, programmes such as Bharatmala are providing a boost towards corridor-based road development projects.

Railways:

The railway consultancy market is estimated to increase from Rs 23,158 million in CY25 to Rs 53,634 million by CY31P, registering a CAGR of 15.0%, supported by investments in new lines, doubling and multi-tracking, dedicated freight corridors, station redevelopment, high-speed rail and signalling and safety upgrades. The Economic Survey 2025-26 highlights continued expansion of the railway network and record capital expenditure, with 1,337 stations being redeveloped under the Amrit Bharat Station Scheme.

Road Bridges:

The road bridge consultancy market is estimated to increase from Rs 6,879 million in CY25 to Rs 14,068 million by CY31P, registering a CAGR of 12.7%. Expansion of high-capacity road corridors, construction of bridges and elevated structures, and rehabilitation and strengthening of existing assets as highway networks expand are some of the key growth drivers for this segment. The continued development of national highways and economic corridors

is expected to create requirements for feasibility studies, detailed engineering, design and project management services.

Ports:
The ports consultancy market is estimated to increase from Rs 5,286 million in CY25 to Rs 13,890 million by CY31P, registering the highest CAGR of 17.5% among the segments, driven by capacity expansion, port modernisation, development of new ports and improvement in port-led connectivity. Under the Sagarmala programme, port capacity has expanded significantly, while the Government has also approved multiple PPP projects in the sector, creating requirements for technical, engineering and project advisory services.

Airports:
The airport consultancy market is estimated to increase from Rs 4,641 million in CY25 to Rs 10,551 million by CY31P, registering a CAGR of 14.7%. The segment is expected to benefit from rising passenger traffic, airport capacity expansion, development of greenfield airports, modernisation and expansion of existing facilities. India's operational airport count increased from 74 in 2014 to 165 in 2025, while airport passenger traffic reached 412 million in FY25 and is projected to reach 665 million by FY31, supporting continued investment in airport infrastructure.

Other Applications under the Transport Infrastructure Consulting includes inland waterways, tunnels, multimodal transport facilities, and other specialized transportation infrastructure the market size of the same is expected to grow from Rs 2,029 million in CY25 to Rs 3,693 million by CY31P, reflecting a CAGR of 10.5%

Upcoming advanced mobility transit infrastructure: Drone Infrastructure
Drone infrastructure refers to the physical and digital infrastructure required to support the safe operation, movement and management of drones in urban areas. This includes drone ports and vertiports, designated drone corridors and skyways, landing and charging facilities, traffic-management systems, communication networks and security and surveillance infrastructure. Such infrastructure is expected to support applications including urban logistics and deliveries, emergency and medical services, infrastructure inspection, public safety, surveillance and other commercial and government use. As drone-based applications expand, the integration of drone infrastructure with existing urban transportation, logistics and municipal systems is expected to create additional demand for consultancy services. Consultants can support the planning, design and implementation of drone ports and corridors, logistics integration, airspace and traffic-management infrastructure, and security and surveillance systems, thereby making drone infrastructure an emerging component of urban infrastructure development.

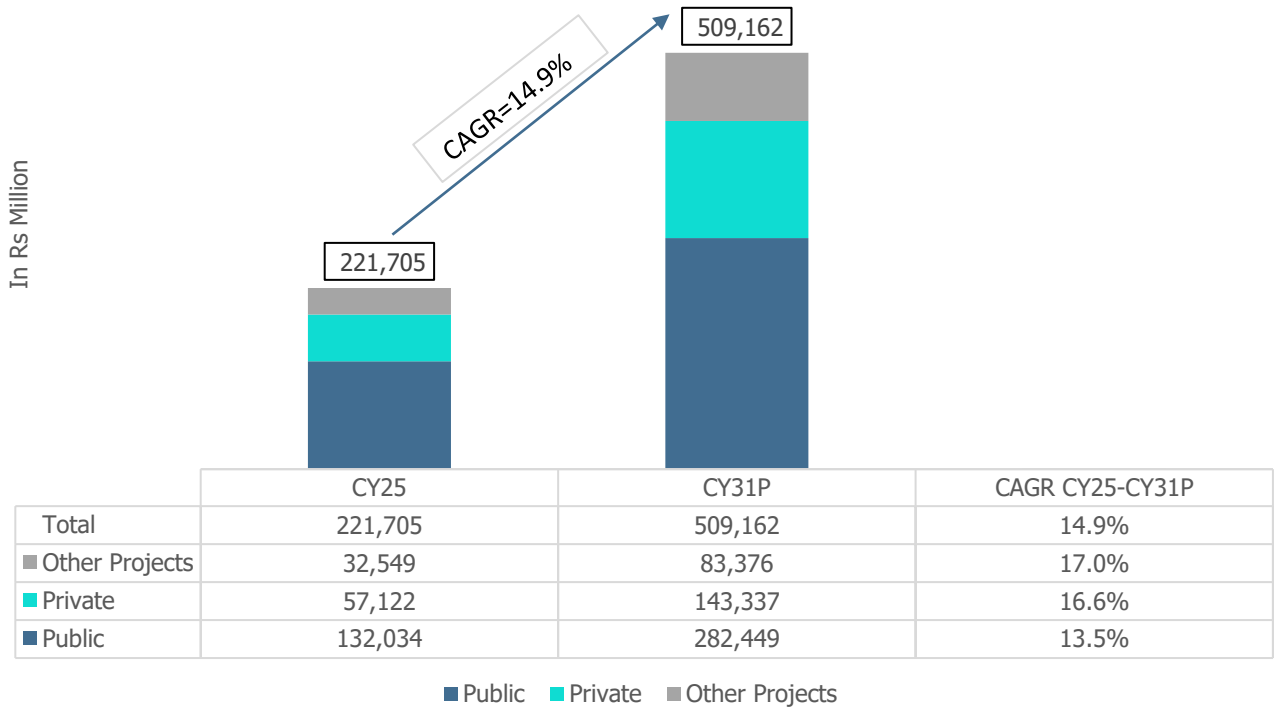
- **Other applications**

Other applications, which include sectors such as digital infrastructure, irrigation and specialised asset development, are projected to grow from Rs 4,269 million in CY25 to Rs 8,812 million in CY31P, representing a CAGR of 12.8%, the growth is supported by investments in digital connectivity, public infrastructure modernisation and sector-specific development programmes. As infrastructure assets become more technology-enabled and operationally complex, demand for specialised consulting and advisory services is likely to increase.

4.7.3 By Projects

The infrastructure consultancy market in India is expected to witness strong growth across all project categories between CY25 and CY31P, expanding from Rs 2,21,705 million in CY25 to Rs 5,09,162 million by CY31P, reflecting a CAGR of approximately 15%. Public sector projects continue to represent the largest share of the market, accounting for nearly 60% of total consultancy revenues throughout the forecast period. Private sector projects are also expected to witness robust expansion, growing from Rs 57,122 million in CY25 to Rs 1,43,337 million by CY31P, registering a CAGR of around 16.6%.

Chart 21: Market Size Segmentation of Public and Private projects



	CY25	CY31P	CAGR CY25-CY31P
Total	221,705	509,162	14.9%
Other Projects	32,549	83,376	17.0%
Private	57,122	143,337	16.6%
Public	132,034	282,449	13.5%

Source: Inkwood Research, CareEdge Research

Note: P stands for Projected, USD values have been converted using the average exchange rate for the respective year. For projections, the average rate up to 17 June 2026 has been used

Infrastructure development in India has historically been driven by the public sector, with the central and state governments accounting for majority of investments. Government-led capital expenditure that continues to remain the primary catalyst for infrastructure creation, supported by flagship programmes. However, the government is increasingly encouraging private capital participation to bridge funding gaps and accelerate project execution. This shift is reflected in the growing adoption of Public-Private Partnership (PPP) models. The Ministry of Finance has created a three-year PPP project pipeline comprising 852 projects with an estimated investment value exceeding Rs 17 trillion, providing long-term visibility for private investors and developers. Foreign investment is also playing an increasingly important role in infrastructure financing. India permits up to 100% Foreign Direct Investment (FDI) under the automatic route in several infrastructure-related sectors including construction development, industrial parks, logistics parks, roads, ports, airports, and renewable energy. The liberalised investment framework, coupled with rising infrastructure demand, has attracted global pension funds, sovereign wealth funds, infrastructure funds, and strategic investors into Indian infrastructure assets. Overall, while government-led projects will continue to

dominate the infrastructure consultancy market due to their scale and funding support, the increasing participation of private developers and alternative infrastructure investors is expected to gradually diversify the revenue mix. This trend is likely to create broader opportunities for consultancy firms across planning, design, project management, financial advisory, and technical supervision services.

4.8 Trend and Opportunities for Infrastructure Consultancy in India and UAE

Key Trends Shaping Infrastructure Consultancy in India

India's infrastructure consultancy market is experiencing strong growth, driven by government-led capital expenditure, private investment, energy transition initiatives, and large-scale urbanisation programs. The market is moving beyond traditional engineering design services toward integrated advisory, project management, digital engineering, and sustainability consulting.

Integrated Program Management

Shift from design consultancy to end-to-end program management, covering feasibility, PMC, procurement, and operations support.

Digital Transformation

Adoption of BIM, digital twins, AI project controls, GIS planning, and remote construction monitoring reshaping consultancy.

Sustainability and Energy Transition

Growth in ESG advisory, renewable energy, green hydrogen, and climate-focused consulting addressing energy transition.

Private Capital and Niche Growth

Increasing private investments via PPPs and InvITs driving financial advisory; growth in logistics, data centers, and climate resilience.

India’s infrastructure consultancy market offers strong opportunities across key segments in next five years. Transportation projects will drive demand for DPR, PMC, design, and digital engineering, while renewable energy projects will require technical and ESG advisory. Water and wastewater infrastructure will need DPR and EPC monitoring services. Logistics parks will create opportunities in master planning and feasibility. Data centers will demand design and MEP expertise, and smart cities will continue to require integrated digital and urban planning solutions.

Key Trends Shaping Infrastructure Consultancy in UAE

The UAE infrastructure consultancy market is one of the most sophisticated in the Middle East, characterised by mega-projects, smart city initiatives, sustainability mandates, and high reliance on international engineering consultants. The country's infrastructure activity is mainly in transport, renewable energy, urban development, and digital infrastructure.

Integrated Program & Mega Project Delivery

Demand is driven by large-scale urban developments, transport systems, tourism, and logistics infrastructure, with consultants supporting end-to-end program execution across planning, design, and delivery stages.

Digital Transformation & Smart Infrastructure

Strong focus on smart cities, AI-enabled infrastructure, intelligent mobility, data centers, and digital governance, with consultants integrating advanced technologies into infrastructure systems.

Sustainability and Energy Transition

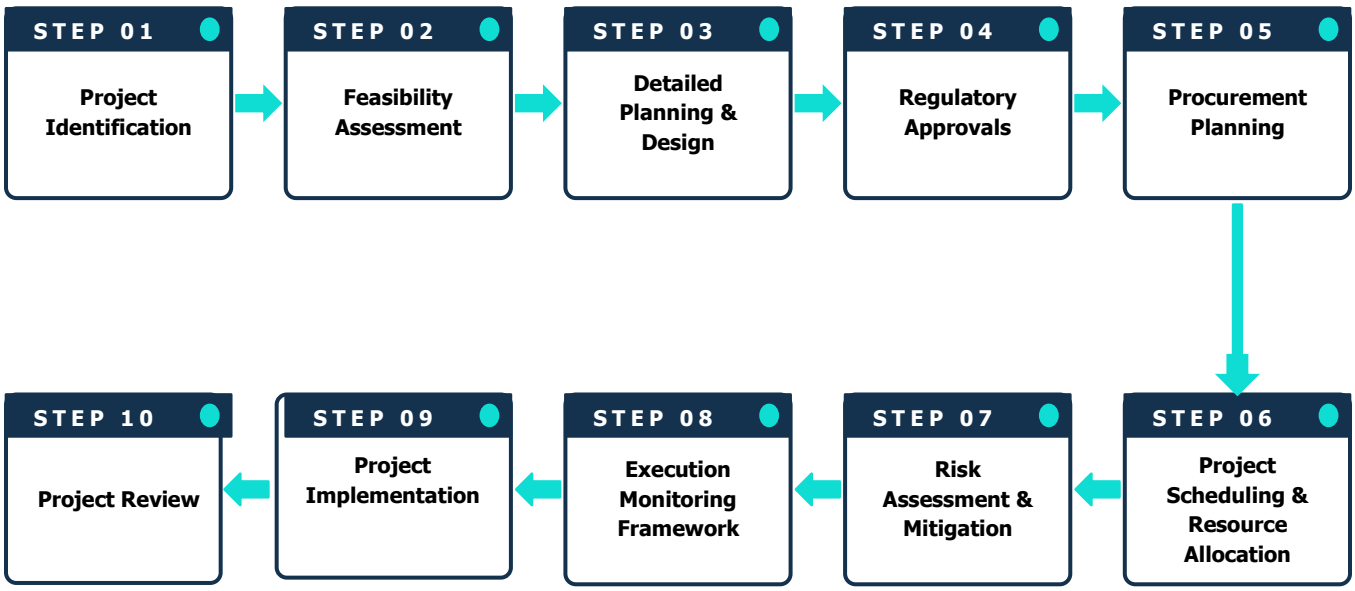
Sustainability is mandatory, with growing demand for LEED certification, net-zero strategies, energy modeling, and advisory in renewable energy, hydrogen, and efficient resource management.

Private Capital, Asset Optimization & Niche Growth

Rising PPP adoption and private investment drive transaction advisory demand, while increasing focus on asset lifecycle management, data centers, and advanced infrastructure enhances niche consulting opportunities.

In next five years, UAE infrastructure consultancy opportunities will be concentrated across high-growth segments. Smart city initiatives will drive demand for digital planning and ICT integration, while transport infrastructure projects will require design and PMC services. Renewable energy investments will boost technical and ESG advisory needs. Tourism infrastructure will generate demand for master planning, while the growing data center sector will require design and sustainability expertise. Additionally, asset management will see rising demand for digital twin solutions and advanced analytics.

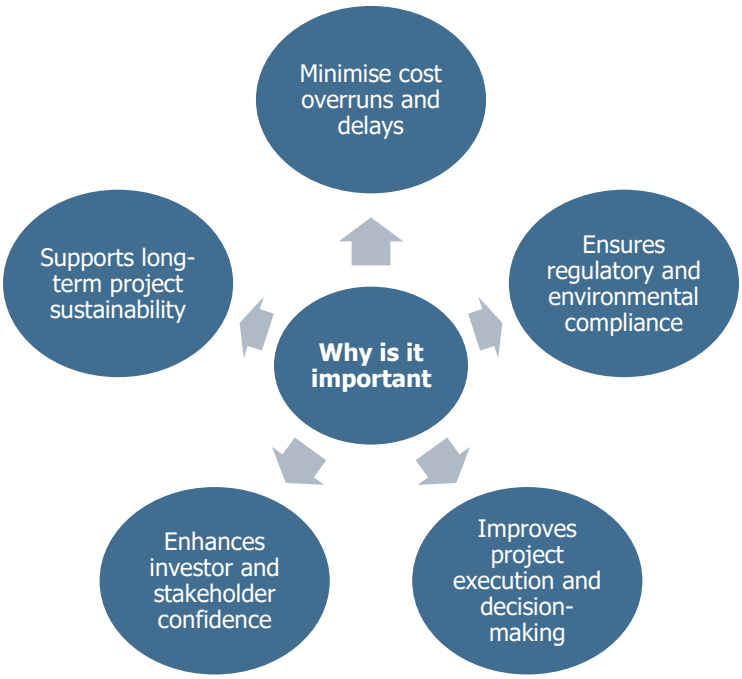
4.9 Effective project planning in infrastructure consultancy projects



Effective project planning forms the foundation of successful infrastructure development by ensuring that technical, financial, environmental, and regulatory aspects are evaluated before project execution. The planning process begins with project identification and feasibility assessment, followed by demand analysis, site selection, cost estimation, risk evaluation, and stakeholder consultations. Once the project scope and objectives are defined, detailed engineering designs, implementation schedules, resource allocation plans, and procurement strategies are developed. A structured planning approach helps optimize project costs, minimise execution risks, ensure regulatory compliance, and improve overall project delivery timelines, making it a critical component of infrastructure consultancy services.

4.10 Effective risk management in infrastructure consultancy project

Risk management ensures the project is within budget, schedule, and quality requirements. Infrastructure consultants play a key role in identifying potential risks during the planning stage, including operational challenges. By conducting risk assessments, scenario analysis, and mitigation planning, consultants help protect stakeholders' interest. For larger and more complex projects it becomes increasingly important for successful execution.

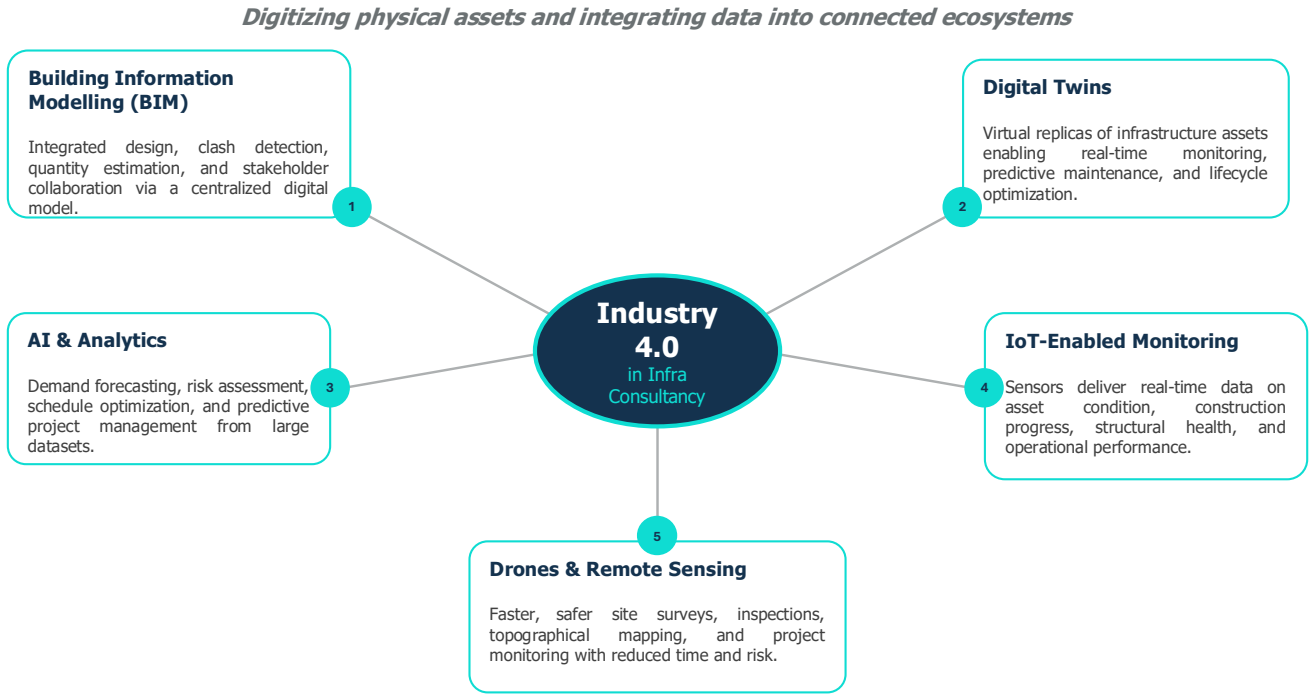


Effective risk management in infrastructure projects plays a critical role in ensuring successful outcomes across the project lifecycle. It minimises cost overruns and delays by identifying potential risks early, enabling timely mitigation. It also ensures regulatory and environmental compliance, reducing the likelihood of legal disputes or project interruptions. By improving visibility of technical, financial, and operational risks, it supports better decision-making. Furthermore, strong risk frameworks enhance investor and stakeholder confidence, while also ensuring long-term sustainability through resilience, safety, and efficient resource utilisation.

4.11 Industry 4.0 in infra consultancy workflows

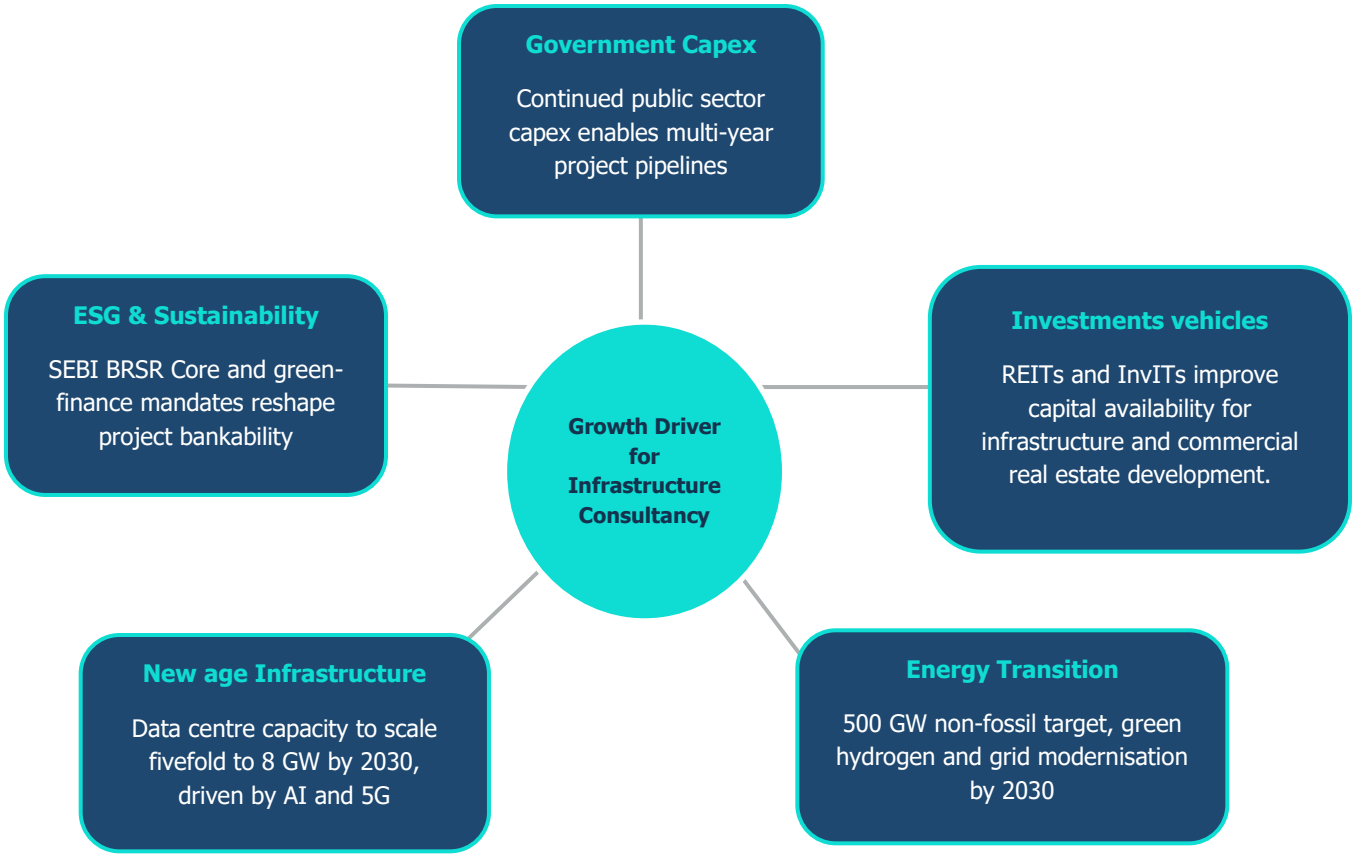
In infrastructure consultancy, Industry 4.0 digitises physical assets and integrates data into connected ecosystems.

Key Industry 4.0 Applications in Infrastructure Consultancy



Industry 4.0 is transforming infrastructure consultancy through integrated digital technologies that enhance planning, execution, and asset management. Applications such as BIM, digital twins, AI analytics, IoT monitoring, and drone-based surveys enable real-time insights, improved efficiency, predictive decision-making, and reduced risks, ultimately driving smarter, data-driven infrastructure development and lifecycle optimisation.

4.12 Key growth drivers in the infrastructure consultancy sector



Note: Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs)

Government Capex - Continued government spending on roads, railways, airports, ports, urban infrastructure, water and power is supporting a sustained pipeline of infrastructure projects. Large public infrastructure projects require feasibility studies, project planning, engineering design, project management, financial advisory and monitoring services. Increased participation of private developers through PPP structures is further creating demand for transaction advisory and technical consultancy services.

Investment Vehicles - The growth of REITs and InvITs is facilitating the mobilisation of institutional capital into infrastructure and real estate assets. Asset monetisation through InvITs, REITs and other structured mechanisms create demand for asset valuation, due diligence, financial modelling, transaction advisory and technical assessment. The increasing participation of institutional investors also raises the requirement for independent technical and financial assessments of infrastructure assets.

Energy Transition - India's target of achieving 500 GW of non-fossil fuel-based installed electricity capacity by 2030 is driving investments across renewable energy, transmission and energy storage. The development of green hydrogen, battery energy storage systems and grid modernisation is creating opportunities for feasibility studies, technical due diligence, project management and financial advisory. Renewable and emerging energy projects also require environmental and social assessments, regulatory support and sustainability-related advisory services.

New-age Infrastructure - Growth in data centres, digital infrastructure, 5G networks and related power and connectivity infrastructure is creating new areas of demand for infrastructure consultants. The expansion of data centre capacity requires supporting infrastructure including power supply, transmission connectivity, cooling systems, land and utility infrastructure. Consultants can support such projects through feasibility assessment, engineering, project management, technical due diligence and financial advisory.

ESG & Sustainability - Increasing focus on environmental and social considerations is making ESG assessment an integral part of infrastructure project development and financing. SEBI's BRSR Core framework and growing requirements from lenders and investors for sustainability-related information are increasing the need for ESG data, assessment and disclosure support. The growing focus on climate resilience, resource efficiency and sustainable project development is also creating demand for sustainability advisory across infrastructure projects.

4.13 Key challenges in the infrastructure consultancy sector

- **Shortage of Specialised Talent** - The increasing complexity of infrastructure projects requires expertise in areas such as digital engineering, sustainability, transportation planning, renewable energy, and project management. However, the availability of skilled professionals often lags industry demand, creating talent acquisition and retention challenges.
- **Intense Market Competition and Pricing** - The infrastructure consultancy market remains highly competitive, with domestic and international firms competing for large-scale projects. Competitive bidding often places pressure on consultancy fees and profit margins, particularly in government-funded projects.
- **Increasing Project Complexity and Multi-Stakeholder Coordination** - Modern infrastructure projects involve multiple stakeholders from government agencies to private developers, lenders, contractors, regulators, and local communities. Large-scale projects require extensive coordination across various entities throughout the project lifecycle. Delays in approvals, scope changes, and stakeholder misalignment impact the project timelines and increase execution risks.
- **Margin Pressure** - Government projects are typically awarded through competitive bidding processes, often resulting in pricing pressure and lower profit margins. Smaller consultancy firms may face difficulties competing for large-scale projects due to stringent qualification requirements, resource constraints, and increasing demand for multidisciplinary expertise.

4.14 Key Government Regulations in the infrastructure consultancy sector

Regulation	Provisions
General Financial Rules (GFR), 2017	Governs procurement of consultancy services by Central Government ministries and agencies. It prescribes selection methods like Quality and Cost Based Selection (QCBS), Least Cost System (LCS), and Single Source Selection. It governs the selection of consultants, tendering procedures, contract award mechanisms, and project expenditure, making it one of the primary regulations influencing public-sector consultancy assignments. Under QCBS, technical and financial proposals are evaluated using predetermined weightages, with technical weightage capped at 80%. The framework is widely used for engineering, project management, feasibility studies, and advisory assignments.
Central Vigilance Commission (CVC) Guidelines	CVC guidelines promote transparency, fairness, and accountability in public procurement. Infrastructure consultancy contracts awarded by government departments and public sector undertakings are required to comply with these guidelines during tendering, evaluation, and contract execution processes. They are applicable to government departments, public sector undertakings (PSUs), and statutory authorities undertaking infrastructure projects.

Department of Economic Affairs (DEA) – PPP Guidelines	DEA provides the framework for formulation, appraisal, approval, and implementation of Public-Private Partnership (PPP) projects. The guideline mandates appraisal of PPP projects through the Public Private Partnership Appraisal Committee (PPP-AC), standardized concession agreements, risk-sharing mechanisms, financial viability assessment, and approval procedures for large infrastructure projects.
Environmental Impact Assessment (EIA) Notification, 2006	Requires prior environmental clearance for infrastructure projects across sectors such as roads, railways, airports, ports, industrial parks, and urban infrastructure. Projects must undertake environmental studies, impact assessments, public consultations, and regulatory approvals before implementation.
Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (LARR) Act, 2013	Governs land acquisition for public infrastructure projects. The Act mandates Social Impact Assessments (SIA), compensation provisions, rehabilitation measures, and stakeholder consultations, making it a key regulation influencing project timelines and execution.

4.15 Technologies Being Used in the Infrastructure Consultancy Sector

- **Building Information Modelling (BIM)**

BIM is a digital modelling technology that creates a centralized 3D representation of physical and functional characteristics of infrastructure assets. It enables collaboration among stakeholders throughout the project lifecycle. Used for design coordination, clash detection, cost estimation, construction sequencing, and asset lifecycle management. BIM helps reduce design errors, improve project visualization, and enhance decision-making.
Application: Mumbai–Ahmedabad High-Speed Rail Project utilizes BIM for design integration, project planning, and coordination across multiple contractors and engineering teams involved in the 508-km corridor

- **Geographic Information System (GIS)**

GIS is a geospatial technology used to collect, analyse, manage, and visualize location-based data. It combines maps with data layers to support infrastructure planning and decision-making.
Used for route alignment studies, site selection, land-use analysis, utility mapping, environmental assessments, and corridor planning. GIS improves planning accuracy and facilitates data-driven infrastructure development.
Application: PM GatiShakti National Master Plan uses a GIS-based digital platform integrating multiple infrastructure layers across roads, railways, ports, airports, and logistics networks to support integrated infrastructure planning.

- **Drone Mapping**

Drone mapping uses unmanned aerial vehicles (UAVs) equipped with cameras and sensors to capture high-resolution aerial data and generate accurate terrain models.
Used for topographical surveys, construction monitoring, progress tracking, volumetric analysis, and asset inspections. Drones reduce survey time, improve safety, and provide real-time project information
Application: Delhi–Mumbai Expressway and several Bharatmala highway projects have utilized drone surveys for route mapping, construction monitoring, land assessment, and progress verification across large project corridors.

- **Digital Twin**

A Digital Twin is a virtual replica of a physical infrastructure asset that integrates real-time operational data with engineering and design information. It enables continuous monitoring of asset performance throughout the project lifecycle.

Used for performance monitoring, predictive maintenance, scenario modelling, operational optimisation, and lifecycle asset management. Digital Twins support data-driven decision-making by providing real-time insights into asset conditions and operational performance.
Application: Delhi Airport uses a Digital Twin to monitor airport assets, optimise passenger flow in real time, and support operational planning and maintenance activities.

- **Augmented Reality (AR) / Virtual Reality (VR)**

Augmented Reality (AR) and Virtual Reality (VR) are immersive technologies that enable interactive visualisation of infrastructure projects by overlaying digital information onto the physical environment or creating fully virtual project environments.
Used for design visualisation, stakeholder engagement, safety training, construction planning, and immersive project walkthroughs. AR/VR helps improve design reviews, facilitate collaboration among project stakeholders, and identify potential issues before construction.
Application: Mumbai Metro projects use AR/VR for design visualisation and virtual walkthroughs of underground and elevated sections to support engineering reviews and project planning.

- **Artificial Intelligence (AI) and Advanced Analytics**

Artificial Intelligence (AI) and advanced analytics are technologies that enable infrastructure stakeholders to analyse large volumes of project and asset data to support decision-making, forecasting, and automation across the project lifecycle.
Used for project scheduling, cost monitoring, risk identification, procurement planning, traffic forecasting, demand assessment, and predictive maintenance. These tools help identify potential delays, cost deviations, safety risks, and asset performance issues at an earlier stage, enabling timely intervention and improving project efficiency.
Application: Delhi Metro Rail Corporation has deployed AI/ML-based predictive maintenance systems to analyse data from rolling stock, bearings, brakes, signalling equipment and other metro assets. The systems are being used to identify anomalies and predict potential failures before they affect operations.

- **Modular Construction, Prefabrication and Automation**

Modular construction and prefabrication involve manufacturing building components or modules in controlled off-site environments before transporting and assembling them at the project site, while automation uses machinery and digital technologies to support construction activities.
Used to improve construction speed, quality control, standardisation, and site productivity across housing, industrial facilities, data centres, metro stations, bridges, utilities, and social infrastructure. Off-site manufacturing can reduce dependence on on-site labour and support faster project execution, particularly where designs involve repetitive or standardised components.
Application: Digital Connexion's MAA10 data centre in Chennai uses modular infrastructure design and prefabricated equipment, including prefabricated skids, to support faster deployment and scalability of data centre capacity.

- **IoT Sensors**

Internet of Things (IoT) sensors are connected sensing devices installed on infrastructure assets, buildings, equipment and construction sites to continuously collect and transmit data on their physical condition, surrounding environment and operational performance.
Used for structural health monitoring, equipment condition monitoring, environmental monitoring, safety management and predictive maintenance. Sensors can measure parameters such as strain, vibration, temperature,

pressure, displacement and equipment operating conditions, helping infrastructure owners identify structural deterioration, abnormal conditions and potential maintenance requirements at an early stage.
Application: IIT Kanpur uses fibre-optic sensing technology for infrastructure applications including bridges, dams, embankments, pipelines and power lines. The system can simultaneously collect temperature and strain measurements from thousands of sensing locations, supporting structural health monitoring and detection of issues such as cracks and corrosion.

- **Remote monitoring systems**

Remote monitoring systems are digital platforms that enable infrastructure owners, contractors and operators to monitor the location, condition, utilisation and performance of assets and equipment from a centralised location without requiring continuous physical inspection at the site.
Used for construction equipment monitoring, fleet management, asset tracking, maintenance planning, utilisation analysis and operational performance monitoring. These systems transmit equipment and asset data through cellular, satellite or other communication networks, allowing users to track operating hours, location, fuel consumption, idle time, equipment health and fault conditions and respond to maintenance or operational issues remotely.
Application: Caterpillar's Product Link and VisionLink systems are used to remotely monitor construction and heavy equipment. Equipment data is transmitted through cellular or satellite networks to a centralised platform, allowing contractors to monitor machine location, operating hours, fuel levels, utilisation and fault codes, helping improve equipment utilisation and reduce unplanned downtime.

4.16 India’s Positioning as a Regional Infrastructure Consultancy Hub

India’s infrastructure consultancy industry has grown in parallel with the country’s rapid infrastructure development over the past two decades. Earlier, complex projects depended heavily on international engineering and consulting firms for advanced technical expertise, planning, and design capabilities. However, sustained investments in sectors such as roads, railways, metros, airports, ports, industrial corridors, and urban infrastructure have enabled domestic firms to build strong technical competencies and execution capabilities across diverse segments.

Large-scale initiatives, including Bharatmala Pariyojana, Dedicated Freight Corridors, Metro Rail expansions, the Smart Cities Mission, PM Gati Shakti, and the National Infrastructure Pipeline have exposed Indian firms to complex, multidisciplinary projects involving advanced engineering, digital technologies, and sustainability frameworks.

As a result, Indian consultancy firms are increasingly transitioning beyond domestic assignments to pursue opportunities in international markets. Supported by a competitive cost structure, a large engineering talent pool, and growing adoption of technologies such as BIM, GIS, digital twins, and drone-based surveys, India is strengthening its position as a regional consulting hub. This evolution is enabling Indian firms to compete globally and expand their presence across emerging infrastructure markets.

5 Road Infrastructure in India

Road infrastructure comprises the network of roads and associated facilitates that help the movement of people and goods. It includes highways, expressways, national and state highways, urban roads, rural roads, bridges, flyovers, tunnels, pavements, drainage systems, traffic management systems, and other supporting infrastructure required for safe and efficient transportation. It comprises of planning, design, construction, operation, maintenance and rehabilitation of road.

- National Highways - National Highways are roads declared by the Central Government under the National Highways Act, 1956. They connect major cities, state capitals, ports, industrial centres, and strategic locations, and form the primary arterial road network of the country. The Ministry of Road Transport and Highways (MoRTH) is responsible for their development and maintenance, largely through the National Highways Authority of India (NHAI) and other implementing agencies.
- State Highways - State Highways are roads developed and maintained by State Governments. They connect district headquarters, important towns, industrial centres and tourist destinations within a state, and provide connectivity to National Highways and neighbouring states. They serve as the primary road network within individual states.
- Other Roads - Other roads comprise Major District Roads (MDRs), Other District Roads (ODRs), Village Roads (VRs), and Urban roads. These roads provide last-mile connectivity by linking rural areas, villages, agricultural regions, industrial clusters and urban localities to State Highways and National Highways. They are generally developed and maintained by state governments, local bodies and rural development agencies.

India has the second-largest road network in the world, with about 63,45,818 km as of FY26 (till November 2025). This comprises national highways, expressways, state highways, major district roads, other district roads, and village roads. To accelerate the country's growth, the development of national highways has been the key focus area. On the other hand, state highways, district and rural roads continue to be a large part of the overall road network.

Table 4: Road network of India

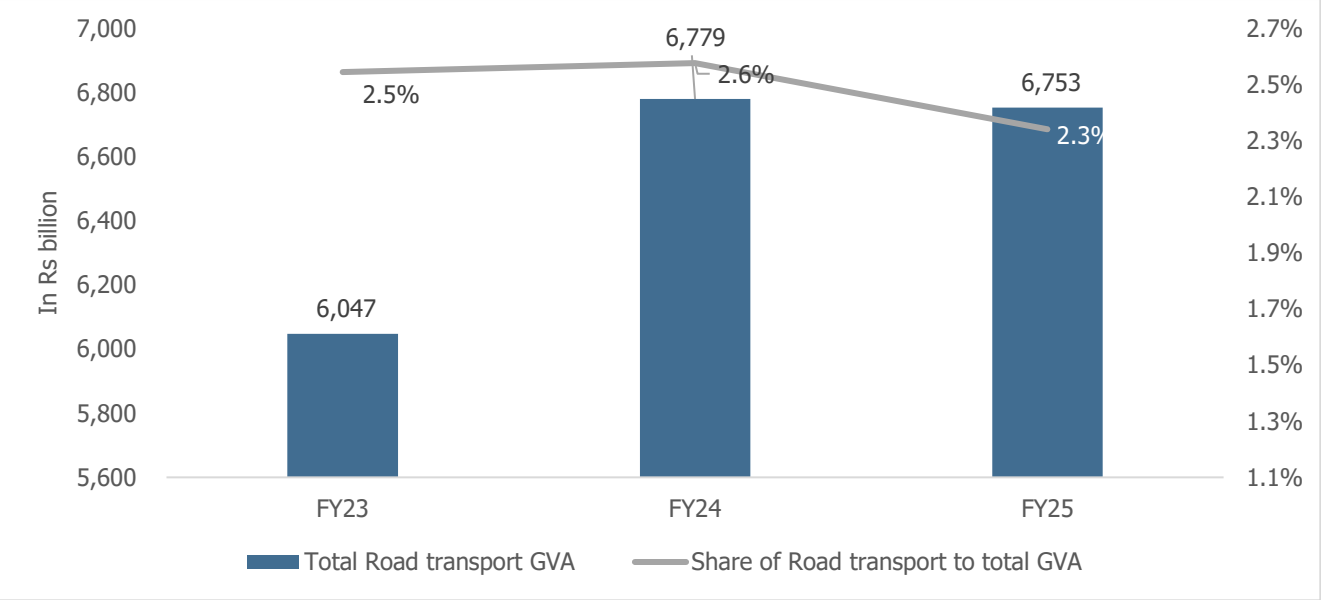
Particulars	FY21	FY22	FY23	FY24	FY25	FY26*
National Highways	1,36,440	1,40,995	1,44,955	1,46,145	1,46,204	1,46,560
State Highways	1,76,818	1,71,039	1,67,079	1,79,535	1,79,535	1,79,535
Other Roads	59,02,539	60,59,813	60,19,757	60,19,757	60,19,723	60,19,723
Total	**62,15,797**	**63,71,847**	**63,31,791**	**63,45,437**	**63,45,462**	**63,45,818**

Source: Ministry of Road Transport and Highways of India Annual Reports, CareEdge Research Note: * denotes data till Nov'25

5.1 Road sector's contribution Indian GVA

Road transport has been a preferred mode of domestic transport for the movement of passengers and goods as compared to other modes of transport. It's first and last mile connectivity and significant development of the road network across the country over the past two decades becomes an added advantage boosting this preference. Road transport contributed 2.3% of India's total gross value added (GVA) at current prices in FY25, compared with 2.6% in FY24 and 2.5% in FY23. The decline in FY25 was primarily due to a decline in project execution and reduced awarding activity. Overall road transports contribution to total GVA as grown at a CAGR of 5.7% from FY23 to FY25.

Chart 22: Contribution of Road Transport to Total Gross Value Added (at Current Prices)

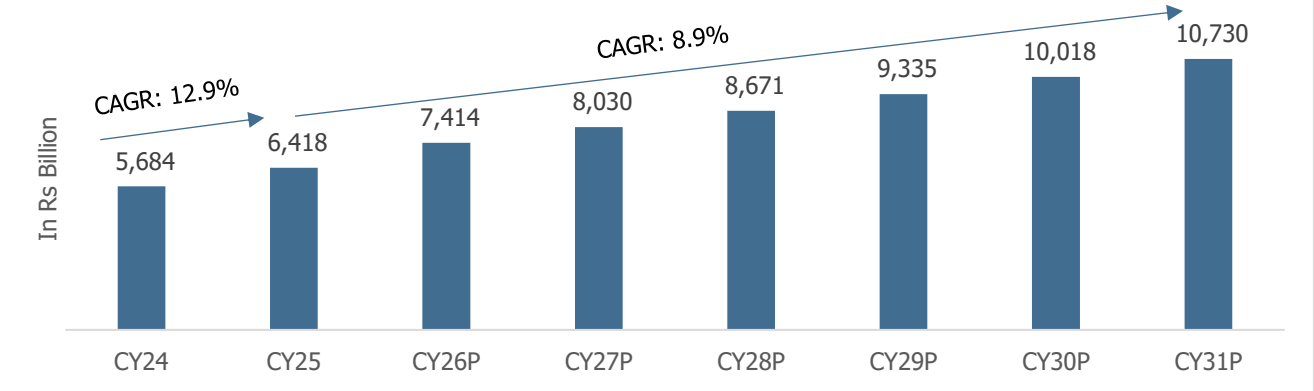


Source: MOSPI, Note: The trend for FY23-FY26 is based on new series base year 2022-23.

5.2 Market Size of Indian Road Sector

The road and highways sector in India has grown steadily driven by continued expansion of national highways, state road development, expressway projects, rural road connectivity and increasing focus on logistics efficiency. The market size of road sector grew at a y-o-y of 12.9% from Rs 5,684 billion in CY24 to Rs 6,418 billion in CY25 and is projected to grow further to Rs 10,730 billion by CY31P at a CAGR of 8.9%. This growth is supported by MoRTH's identified PPP project pipeline of 13,400 km to be developed over the next three years, along with proposed expansion of access-controlled High-Speed Corridors/Expressways to 18,000 kms by CY29, which stood at 3,052 km in 2025. In addition, NHAI's asset monetisation through TOT, InvIT and toll securitisation is expected to support funding availability for future highway development. However, the pace of growth will remain linked to timely project awards, land acquisition, project approvals, availability of long-term funding and execution capacity of developers.

Chart 23: Market Size of Indian Road Sector

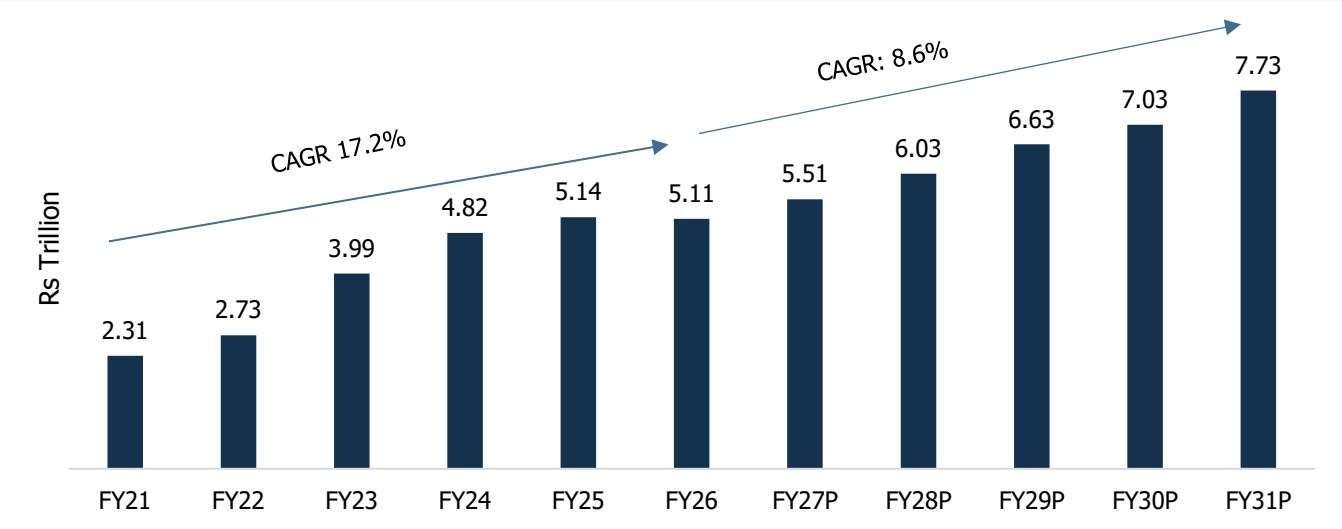


Source: Inkwood Research, CareEdge Research, USD values have been converted using the average exchange rate for the respective year. For projections, the average rate up to 17 June 2026 has been used

5.3 Investment in Indian Road Sector

CareEdge research anticipates Rs. 38.04 trillion of investments between FY26 and FY31P which will be invested in national highways with expected CAGR of around 8.6% in the same period. Investments in road sector boomed after post covid recovery growing from Rs 2.31 trillion in FY21 to Rs 5.11 trillion FY26 growing at a CAGR of 17.2%. The projected growth in investment is expected to be driven by development of access-controlled highways, ring roads and bypasses for cities with population above five lakh, port connectivity and industrial-node connectivity.

Chart 24: Investments in Roads Sector



Source: MORTH, RBI- State Finances, CareEdge Research

5.4 Infrastructure Consultancy in Road Sector in India

Infrastructure consultancy in the road sector comprises fee-based technical, design, project management and supervision services that are separate from civil construction and asset ownership. Consultants support project owners and implementing agencies such as the Ministry of Road Transport and Highways (MoRTH), National Highways Authority of India (NHAI), National Highways and Infrastructure Development Corporation Limited (NHIDCL), State Public Works Departments, state road development corporations and local authorities. MoRTH is responsible for road transport and national highway-related policy and is also involved in construction and maintenance of National Highways through NHAI and NHIDCL.

The scope of consultancy services spans the project lifecycle, including feasibility studies, traffic assessment, detailed project report preparation, detailed engineering design, transaction advisory, bid process support, proof checking, safety audit, project management, project support unit services, contract administration, construction supervision, quality monitoring, certification and post-completion asset assessment. Unlike EPC contractors, developers or concessionaires, pure-play consultancy firms generally do not assume construction, traffic or financing risk. Their revenues are largely fee-based, although order inflows remain linked to the pace of road project awards, construction activity, O&M contracts and public sector capital expenditure.

Client / Authority	Consultant	Developer / EPC Contractor
Ministry of Road Transport & Highways National Highways Authority of India National Highway and Infrastructure Development Corporation Others: • State Public Works Departments (PWDs) • State Road Development Corporations • Municipal bodies & urban local authorities	Consultants may work for the authority, concessionaire, developer or contractor, depending on the project structure. Key roles include: • DPR Consultant • Detailed Design Consultant • Independent Engineer • Authority Engineer • Project Management Consultant (PMC) • Proof Checking Consultant • Safety Consultant	Responsible for execution of highway projects under EPC / HAM / BOT / PPP models. Examples: L&T, NCC Limited, AFCONS, Dilip Buildcon Limited

Source: NHAI, CareEdge Research

A key feature of the road consultancy market is that consultancy services are built into standard highway project structures. In HAM, BOT and other concession-based projects, the project authority appoints an Independent Engineer to review designs, supervise construction and operation & maintenance (O&M) activities, conduct quality checks, certify project progress and assist with contract management. Similarly, in EPC projects, the authority appoints an Authority Engineer to oversee supervision, monitoring, certification and contract administration activities.

Because these roles are mandatory under highway project contracts, they create consistent demand for qualified consultancy firms. However, the flow of new consultancy orders depends on factors such as the pace of highway project awards, progress of ongoing execution, maintenance requirements and overall capital expenditure by government authorities.

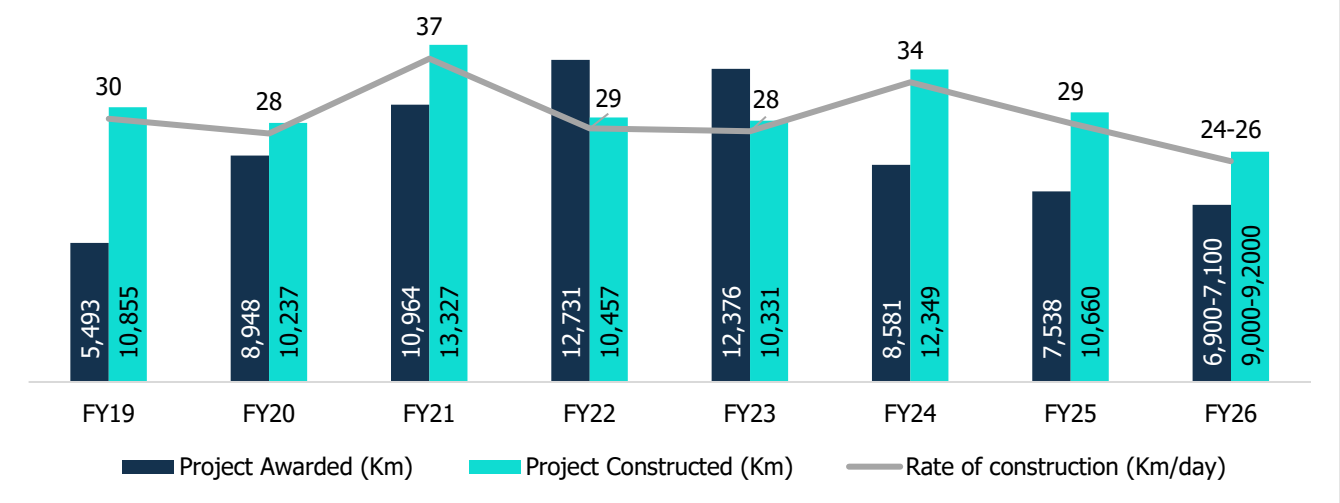
5.5 Trend in Road project awarding

The pace of National Highways (NH) construction has increased consistently due to the systematic push through corridor-based National Highway development approach. Construction during FY24 reached 12,349 km which is the 2nd highest and 20% more than previous year. Highest achievement was 13,327 km in FY21.

National Highway (NH) awarding activity has moderated significantly after witnessing strong momentum during FY22 and FY23, supported by post-pandemic economic recovery and accelerated infrastructure spending. The

decline in project awards since FY24 can primarily be attributed to the disruptions caused by general elections in 2024 and pause in awarding of projects under Bharatmala programme. In addition, construction in past awarded projects has been delayed due to land acquisition issues and gaps in DPR. Accordingly, the ministry has adopted a more cautious approach to new project awards, focusing on ensuring land availability, timely declaration of appointed dates and resolution of other contractual issues before awarding fresh projects. Though project awarding moderated the construction activity has continued at a healthy pace.

Chart 25: Length of Highway Awarded and Constructed



Source: PIB, MORTH, CareEdge Research

5.6 Key upcoming Road projects

Table 5: Key Projects under Planning (CY26-CY30)

Sr No.	Project name	Cost (Rs Billion)	State
1	Expressway (Somnath-Dwarka) Project	571.2	Gujarat
2	Namo Shakti Expressway (Deesa-Pipavav) Project	391.2	Gujarat
3	Gorakhpur-Siliguri Expressway Project [Package-III]	386.5	Uttar Pradesh
4	Access Controlled Greenfield Expressway (Gorakhpur-Siliguri) Project	374.7	Uttar Pradesh
5	Mumbai-Hyderabad Access Controlled Corridor Project [Jankalyan Expressway]	360.0	Maharashtra
6	High Speed Corridor (Shillong-Silchar) Project	250.0	Meghalaya
7	Guwahati-Silchar Expressway Project	250.0	Assam
8	Greenfield Highway (Future City-Bandar Port] Project	200.0	Telangana
9	Expressway (Nashik-Vadhavan Port) Project	180.0	Maharashtra
10	Greenfield Expressway (Bandar Port-Dry Port) Project	170.0	Telangana
11	Elevated Corridor (Bengaluru) Project	150.0	Karnataka
12	Road Upgradation (Jabalpur-Mandla-Chilpi) Project	150.0	Madhya Pradesh
13	Greenfield Corridor (Bhopal-Jabalpur) Project	150.0	Madhya Pradesh

14	Greenfield Corridor (Bhopal-Indore) Project	120.0	Madhya Pradesh
15	Greenfield Expressway (Jaipur-Pachpadra) Project	114.9	Rajasthan
16	Greenfield Expressway (Bikaner-Kotputli) Project [Package-3]	108.4	Rajasthan
17	High Speed Corridor (Palakkad-Malappuram-Kozhikode) Project	103.7	Kerala
18	Greenfield Expressway (Jalore-Jhalawar) Project [Package-5]	103.0	Rajasthan
19	High Speed Corridor (Lakhnadon-Raipur) Project	100.0	Madhya Pradesh
20	High Speed Access Controlled Corridor (Ayodhya-Varanasi) Project	92.0	Uttar Pradesh

Source: Projects Today

6 Road Bridge Infrastructure in India

6.1 Overview, Trends and Outlook of Bridges infrastructure in India

Overview

Road bridges are structures constructed to enable the movement of vehicles, pedestrians and goods across natural and man-made obstacles such as rivers, valleys, lakes, railways and other roads. They also facilitate three-dimensional intersections by allowing roads to pass over or under other roads, railway lines or other transport corridors, improving connectivity and traffic flow. These structures are essential for maintaining the flow of rail and road traffic and integrating the systems with existing roadways and other rail lines.

A bridge is a structure having a total length of above 6 metres between the inner faces of the dirt walls for carrying traffic or other moving loads over an obstruction such as channel, road or railway. These bridges are classified as minor and major bridges as per classification given below :

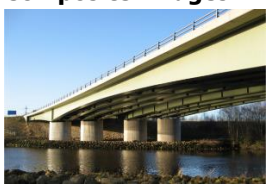
Minor Bridge: A minor bridge is a bridge having a total length of upto 60 m.

Major Bridge: A major bridge is a bridge having a total length of above 60 m.

Types of Bridges, typical cost of construction and maintenance cost

Types	Description	Materials	Use	Cost of construction	Maintenance Costs
Beam Bridges 	Beam bridges are the simplest type of railway bridge, consisting of a horizontal beam supported at each end by piers or abutments. They are often used for short spans.	Reinforced concrete, pre-stressed concreate or steel	Crossing small rivers, streams, or roads.	Rs 20 to 50 million per km	1%- 2% of the initial cost
Arch Bridges 	Arch bridges use an arch as the primary load-bearing structure. The arch transfers the load to the supports at either end, allowing for longer spans.	Stone, brick, concrete, or steel	Crossing wide rivers or deep valleys due to their strength and aesthetic appeal	Rs 100 to 200 million per km	2%- 4% of the initial cost
Suspension Bridges 	Suspension bridges have a deck suspended from cables that are supported by towers. The cables bear the load and distribute it to the	Steel cables and concrete or steel towers	Suitable for very long spans and are used in challenging environments where other types of bridges might not be feasible	Rs 700 -1,000 million per km	4% -6% of the initial cost

	towers and anchorages.				
Balanced Cantilever Bridges 	Cantilever bridges are constructed using cantilevers—structures that project horizontally into space, supported only on one end. The cantilevered sections balance each other out.	Reinforced concrete or steel	Ideal for spans that are too long for simple beam bridges but do not require the extensive support of suspension bridges	Rs 150- 300 million per Km	3%- 5% of the initial cost
Truss Bridges 	Truss bridges use a framework of triangular units (trusses) to distribute the load across the structure. The trusses are typically made from steel or reinforced concrete	Steel or concrete	Used for medium to long spans, particularly in areas where high load capacity is needed.	Rs 80-150 million per km	2%- 3% of the initial cost
Cable- Stayed Bridges 	Cable-stayed bridges have one or more towers, with cables directly supporting the bridge deck. The cables are arranged in a fan or harp pattern.	Steel cables and concrete or steel towers	Used for medium to long spans, providing a modern and efficient alternative to suspension bridges.	Rs 300- 600 million per km	3%-5% of the initial cost
Viaducts 	Viaducts are long bridges consisting of a series of arches, beams, or cantilevered sections, supported by multiple piers or columns.	Stone, concrete, or steel	Used to cross valleys, low-lying areas, or flat terrains, spanning long distances.	Rs 200- 500 million per Km	3% -4% of the initial cost

Composite Bridges 	Composite bridges use a combination of different materials, such as concrete and steel, to leverage the strengths of each material.	Combinations of steel, concrete, and other materials	Suitable for various spans and conditions, offering flexibility in design and construction.	Rs 120 to 300 million per Km	2%- 4% of the initial cost
Steel Bridges 	Steel bridges use steel as the primary construction material. They can be designed as beam, truss, or arch bridges.	Steel	Used for longer spans and where high strength and durability are required	Rs 100 to 200 million per Km	3% -5% of the initial cost

Types of Bridges based on their Utility

Utility Type	Description	Typical Application
Road Over Bridge (ROB) 	Bridge carrying a road over railway tracks	Eliminates level crossings and improves rail and road safety
Road Under Bridge (RUB) 	Road passes under railway tracks	Used where vertical clearance allows; urban and semi-urban areas
Vehicular Underpass (VUP) 	Road passes under another road or highway	Highway junctions, access-controlled corridors

Vehicular Overpass (VOP) 	Road passes over another road or junction	Urban intersections, traffic decongestion
Flyovers 	Elevated roadways over intersections	High-traffic urban areas
Grade Separators 	Structures separating traffic flows at different levels	National highways, expressways
Foot Over Bridges (FOBs) 	Pedestrian bridges	Urban roads, railway stations

Recent Trend

In recent years, bridge infrastructure in India has witnessed significant transformation driven by technological innovation, increasing traffic demands, and the need for safer, longer-lasting structures. Builders are now using stronger, more durable materials like prestressed concrete and special fibers that resist damage from weather and heavy use rather than traditional concrete and steel. Another noticeable trend is how many new bridges are being built through partnerships between the government and private companies. These public-private partnerships help get big projects off the ground more quickly. Some massive bridges, like the Mumbai Trans Harbour Link and the Chenab Railway Bridge, show how ambitious India's bridge construction has become.

There has been a rise in using recycled materials like plastic waste and fly ash for building bridges. India's first eco-friendly bridge was built on the Kaladhungi-Nainital highway. This bridge helps protect small animals by giving them a safe way to cross the road without getting hit by vehicles.

Another recent development is a 60-meter-long steel bridge that was installed in October 2024 on the Bajwa-Chhayapuri chord line of Western Railway in Vadodara. This bridge is part of the Ahmedabad-Mumbai bullet train project. It weighs 645 metric tonnes, is 12.5 meters high, and 14.7 meters wide. The steel bridge was made in a workshop in Bhachau, Gujarat, with help from Japanese experts and then moved to the site for installation.

To tackle issues of bridge collision, the Ministry of Road Transport and Highways has made use of drones mandatory for monthly video recording of national highway projects during all stages of development, construction, operation and maintenance.

Outlook

India is set to make significant strides in bridge infrastructure, with major projects and investments planned nationwide. Government initiatives like Bharatmala and PM Gati Shakti are focusing on building durable, climate-resilient bridges to meet growing transportation demands. These developments will increasingly incorporate smart technology for real-time monitoring and efficient maintenance, while emphasizing sustainability and safety.

Improved connectivity in both urban and remote areas will play a crucial role in driving economic growth and strengthening regional links. The bridge infrastructure market is expanding due to factors such as population growth, urbanization, economic development, saturation of existing infrastructure and the need to replace aging structures. Government spending and initiatives for transportation infrastructure are facilitating this growth.

The PM Gati Shakti National Master Plan (NMP) aims to streamline logistics, reduce transportation costs, increase cargo handling capacity, and shorten turnaround times, with a planned investment of Rs 100 trillion.

The Ministry of Road Transport and Highways (MoRTH) has initiated several significant bridge projects to enhance connectivity to key Gati Shakti nodes. Notable examples include a 4 km two-lane bridge over the Brahmaputra River at Jogighopa and a 29 km four-lane bridge across the Kosi River.

India's railway sector is also undertaking ambitious infrastructure projects. Among the most significant achievements is the Chenab Bridge in Jammu & Kashmir the tallest railway bridge in the world and the ongoing Mumbai-Ahmedabad High-Speed Rail Corridor. While government funding has historically been the backbone of infrastructure development, the sector has seen a growing shift toward public-private partnerships (PPP). These collaborations combine public oversight with private sector efficiency and investment to deliver large-scale transportation projects effectively.

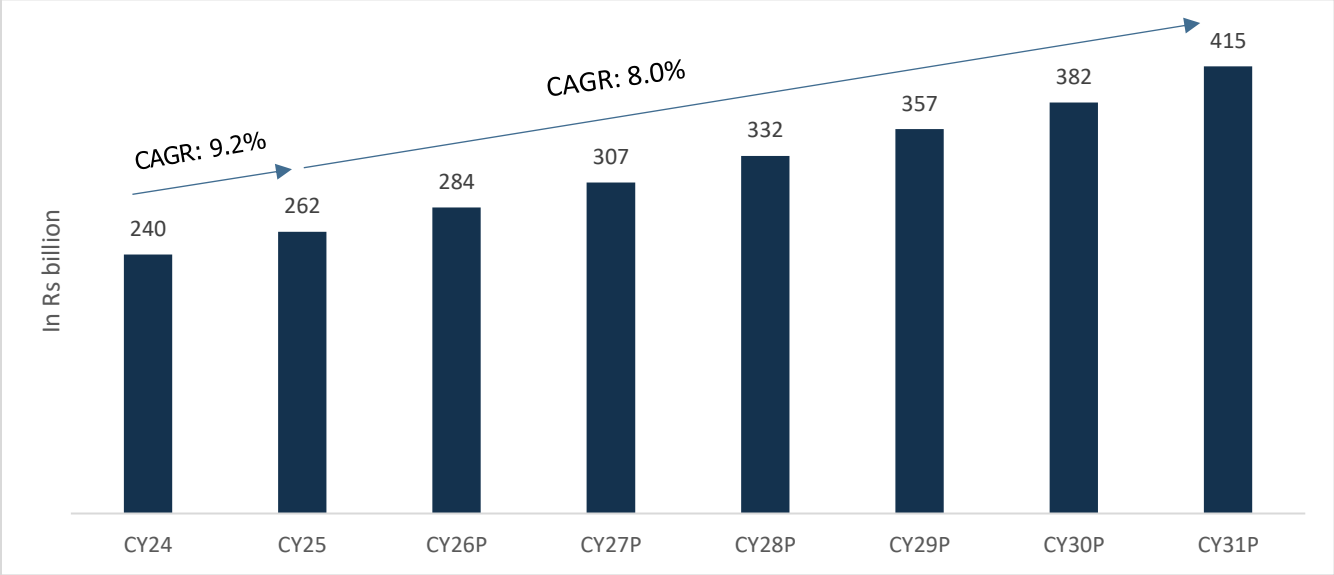
6.2 Market size of Road bridges in India

Road bridges form a crucial part of India’s extensive transportation network, linking regions across rivers, valleys, and challenging terrains. With rapid infrastructure expansion, the country has constructed thousands of bridges, including landmarks such as the Howrah Bridge in Kolkata and the Bandra-Worli Sea Link in Mumbai. Many of these structures form integral segments of national highways, enhancing trade and mobility. The government continues to modernise and expand bridge infrastructure through initiatives like the Bharatmala programme. These bridges play a vital role in supporting economic growth, improving connectivity, and enabling effective disaster response.

A notable example is the Bogibeel Bridge, India's longest rail-cum-road bridge (4,940 metres) across the Brahmaputra River, built with Rs. 5,900 crores to connect Dibrugarh and Dhemaji in Assam as part of the 'Gati Shakti' mission. Urbanisation and technological advancements are further accelerating growth. By 2036, over 40% of India's population will live in urban areas, necessitating efficient transport networks. The government has implemented real-time health monitoring sensors on bridges to prevent structural failures.

High-profile projects like the New Pamban Bridge, India's first vertical-lift railway sea bridge, and the Chenab Bridge under the Udhampur-Srinagar-Baramulla Rail Link (USBRL) project, are reshaping the landscape.

Chart 26: Market Size of Road Bridges



Source: CareEdge Research

The road bridges market has grown from Rs 240 billion in CY24 to Rs 262 billion in CY25 at a CAGR of 9.2% and is expected to grow by ~8% (CY25 to CY31P) reaching Rs 415 billion by CY31P driven by rising infrastructure investments by government. As urbanization accelerates and new economic hubs emerge, there is a growing need to decongest cities and improve intercity connectivity, necessitating more road-over-rail bridges, bypasses, and river crossings. Simultaneously, India's tourism sector is expanding, both domestically and internationally, requiring better access to remote and scenic destinations through improved road connectivity. In regions with rivers, railway crossings, or difficult terrain, road bridges are essential for ensuring reliable, all-weather transport.

6.3 Key upcoming projects in Road Bridges

Table 6: Key upcoming projects under planning and ongoing stage (CY26-CY30)

Sr No.	Project Name	Cost (Rs Billion)	State
1	Elevated Highway Corridor (Pune-Shirur) Project	59.9	Maharashtra
2	Elevated Corridor (Delhi) Project	55.0	Delhi
3	Bridge (Sherpur-Dighwara) Project	50.0	Bihar
4	Elevated Flyover (Talegaon-Chakan-Shikrapur) Project - Upgradation	31.2	Maharashtra
5	Flyover & Minor Bridges (NAINA TPS 2-TPS 7) Project	23.9	Maharashtra
6	Oversea Bridge (Madh Island-Versova) Project	20.3	Maharashtra
7	Bridges (Nagpur-Bhandara) Project	16.0	Maharashtra
8	Cable Stayed Bridge (Krishna River) Project	13.0	Andhra Pradesh, Telangana
9	Flyover (Maharashtra Nagar) Project	11.3	Maharashtra

10	Major Bridge (Bhagirathi River) Project	9.8	West Bengal
11	Bridge (Fatehabad-Chanchalia) Project	5.9	Bihar
12	Bridge (Buxar-Bharauli) Project	4.5	Bihar, Uttar Pradesh
13	R-O-B (Kazipet-Hasanaparti) Project	4.2	Andhra Pradesh
14	Major Bridge (Baghmati and Lakhandei River) Project	3.7	Bihar
15	Elevated Bridge (Parel-Haji Ali) Project	3.0	Maharashtra
16	Bridge (Gothra Kalan) [SH 120] Project	2.6	Rajasthan
17	Bridge (Gothra Kalan) [SH 120] Project	2.6	Rajasthan
18	R-O-B (Kalyan-Lonavala) Project	2.4	Maharashtra
19	Bridge (Seijosa-Pakke Tiger Reserve) Project	0.3	Arunachal Pradesh
20	Elevated Corridor (Paradise Junction-Dairy Farm Road)		Hyderabad

Source: Projects Today, CareEdge Research

6.4 Infrastructure consultancy in Road Bridges in India

Bridge consultancy is a specialised part of road infrastructure consultancy due to the technical complexity and safety requirements of bridge projects. Consultancy firms provide services such as preparation of feasibility report/ DPR, obtaining statutory clearances, site investigations, structural design, design review, construction supervision, quality checks, load testing and structural health monitoring.

Unlike general road consultancy, bridge projects require expertise in structural, geotechnical and hydraulic engineering, especially for large bridges such as cable-stayed or suspension bridges. During execution, the Independent Engineer or Authority Engineer supervises construction, conducts inspections and certifies project progress and completed work.

India's national highway network stood at approximately 146,572 km as of FY26, having expanded significantly from 91,287 km in 2014. The continued expansion of this network inherently drives demand for bridge construction, as highway alignments must cross rivers, valleys, railway crossings, and urban grade-separated junctions.

Demand for bridge consultancy is also supported by maintenance, rehabilitation and data-based asset management requirements. Repair, rehabilitation and reconstruction of old or distressed bridges on National Highways are taken up either as standalone works or as part of corridor improvement and upgradation projects. In addition, bridge inspection and monitoring are becoming more structured through inventory creation, condition assessment and digital systems. NHAI has introduced the Bridge Inventory and Condition Rating System (BICRS) to record asset and health details of structures, including location data, drawings, inspection records and condition ratings. This is expected to support demand for consultants with capabilities in structural audits, bridge inspection, structural health monitoring, BIM-based bridge modelling, digital asset management and rehabilitation planning.

7 Port Infrastructure in India

7.1 Overview

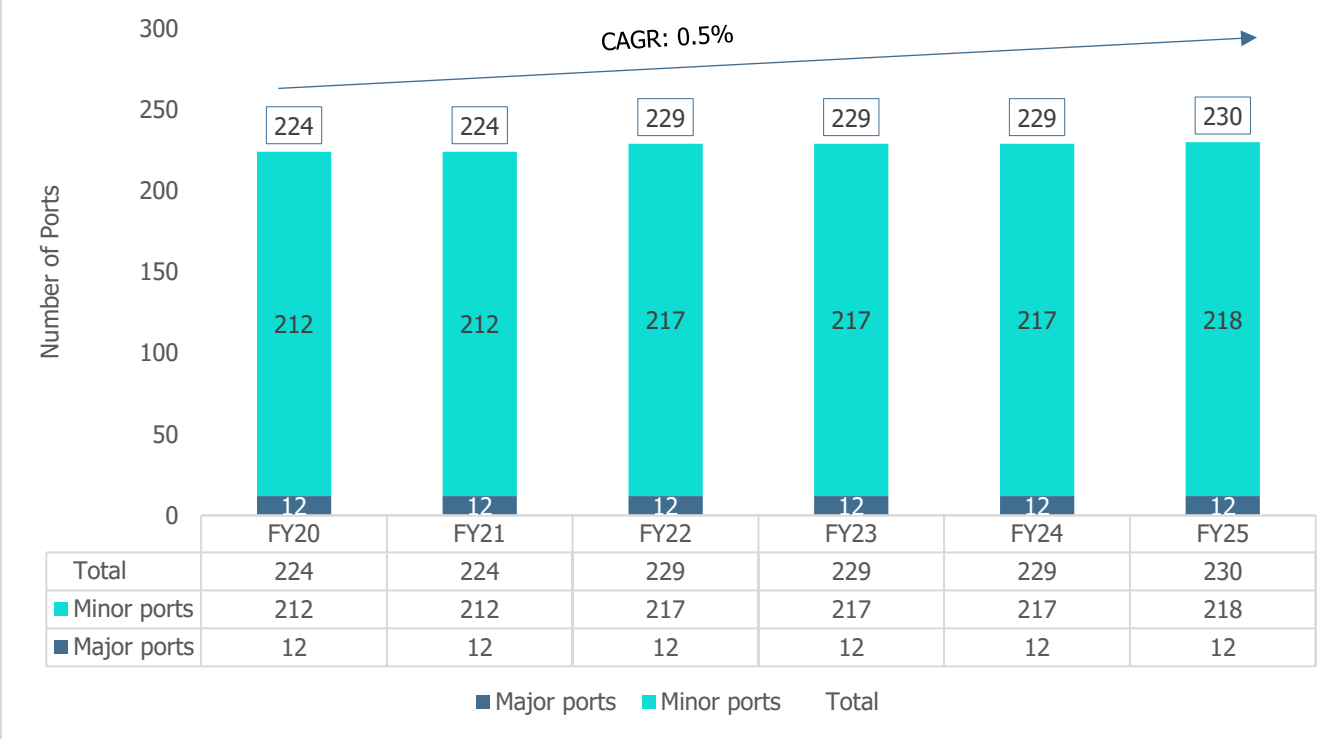
Ports are maritime infrastructure facilities located along the coastline or inland waterways that facilitate the movement of cargo and passengers between sea and land transport. They comprise berths, terminals, jetties, warehouses, storage yards, navigation channels and supporting logistics infrastructure for the handling, storage and transfer of goods. Ports serve as the transportation network by enabling domestic and international trade and supporting multimodal connectivity through road, rail and inland waterway

The marine industry refers to the sector involved in the design, construction, maintenance, and operation of infrastructure and services related to maritime and coastal areas. India's port sector is a critical component of the nation's maritime economy, playing a pivotal role in supporting trade, infrastructure development, and coastal protection. With 12 major ports and over 200 notified minor and intermediate ports, the country's port infrastructure underpins its growing economy. It has gained significant momentum in recent years due to increased government focus on maritime infrastructure, sustainability, and leveraging the strategic geographical location of the country.

India's Port can be divided as Major and Minor (Non-major) Ports, these are classified based on the administrative control and not on the size or cargo handling capacities. Port is a maritime facility were ships load and unload cargo or passengers. Ports act as gateway for international trade and play a crucial role in logistics and supply chains. Major ports are administered by the Government of India through the Ministry of Ports, Shipping and Waterways as of FY25 we have 12 major ports in India these have higher share of India's maritime trade, larger infrastructure, deeper drafts, and higher cargo-handling capacity and are governed under the Major Port Authorities Act, 2021. All ports other than major ports are classified as minor ports and are administered by the respective state governments or maritime boards example the Mundra Port, Hazira Port.

This industry encompasses a wide range of activities, including port modernization and expansion under initiatives like the Sagarmala Project, which plans 845 projects worth Rs. 6.06 trillion to enhance connectivity, logistics, and port efficiency. Ports handle nearly 90% of India's trade by volume, and the construction and maintenance of jetties, berths, breakwaters, and quay walls are critical to modernization efforts.

Chart 27: Number of Ports in India



	FY20	FY21	FY22	FY23	FY24	FY25
Total	224	224	229	229	229	230
Minor ports	212	212	217	217	217	218
Major ports	12	12	12	12	12	12

Source: Basic Port Statistics, CareEdge Research

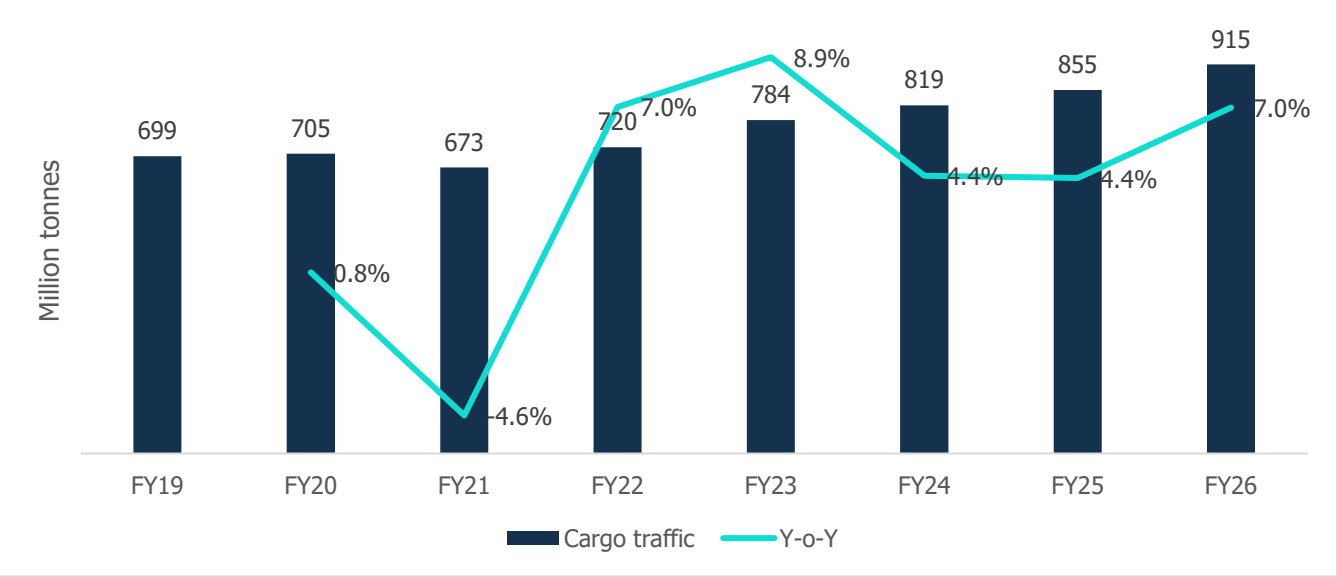
The number of minor ports has gone up from 212 in FY20 to 218 in FY25 while major ports have not increased in the past years, as central government is focusing on maximizing the capacity of existing major ports.

7.2 Cargo Traffic at Ports in India

Cargo traffic at major ports in India has demonstrated consistent growth over the years, reflecting the expansion of trade and industrial activities. It rose from 699 million tonnes in FY19 to 915 million tonnes in FY26, achieving a CAGR of 3.9%. This growth highlights the resilience of the port sector, despite facing challenges such as the global economic slowdown and disruptions caused by the COVID-19 pandemic. Cargo traffic fell to 673 million tonnes in FY21 due to reduced economic activity during the pandemic, but it made a strong recovery in the following years, reaching 784 million tonnes in FY23 and continuing to grow to 915 million tonnes in FY26.

Cargo traffic increased by 7.0% year-on-year from 855 million tonnes in FY25 to 915 million tonnes in FY26, reflecting sustained momentum in trade and improved port efficiency. The growth in cargo traffic can be attributed to several factors, including rising energy demands, increased coal imports, growing containerized trade, and government-led initiatives such as the Sagarmala program, aimed at enhancing port infrastructure and connectivity. Additionally, increasing industrial output, rising exports of iron ore and steel, and higher liquid cargo volumes have contributed to the growth.

Chart 28: Cargo Traffic at Major Ports

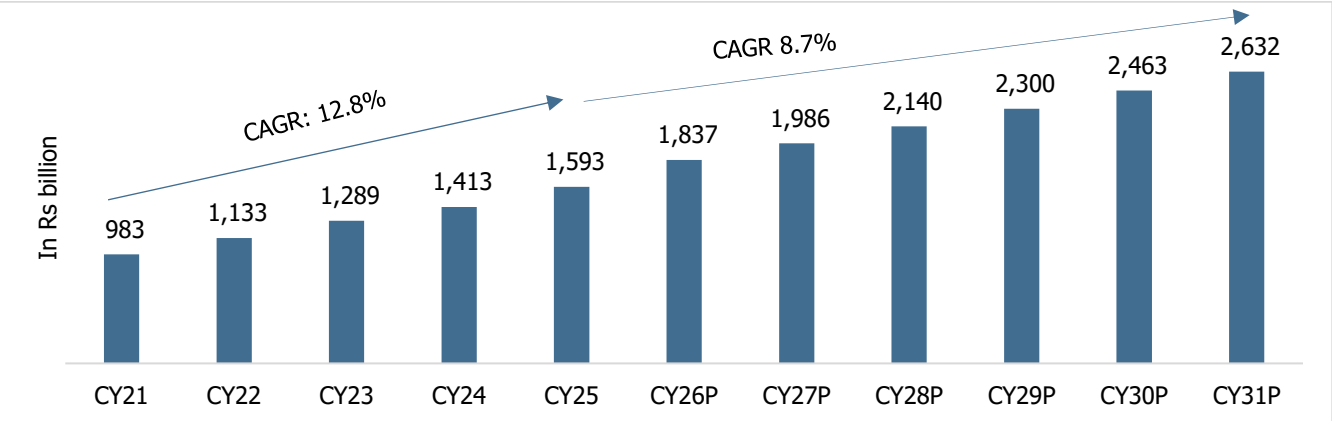


Source: PIB, Basic Port Statistics of India, CMIE, CareEdge Research

7.3 Market size of Ports in India

The market size of port sector in India grew from Rs 983 billion in CY21 to Rs 1,593 billion in CY25 registering a CAGR of 12.8%. The market is projected to grow further to Rs 2,632 billion by CY31P at a CAGR of 8.7% from CY25 to CY31P. The growth is expected to be supported by capacity expansion, higher cargo handling and increasing use of water-based freight movement. India's port capacity increased to 2,771.2 MMTPA in CY25, while Maritime India Vision 2030 envisages increasing it to more than 3,500 MMTPA by 2030. In inland waterways, cargo movement reached 145.84 MMT in FY25, whereas the Union Budget FY27 proposed operationalisation of 20 new National Waterways over the next five years and a Coastal Cargo Promotion Scheme to increase the combined share of inland waterways and coastal shipping from 6% to 12% by 2047. These factors are expected to support demand for port capacity, cargo evacuation infrastructure, coastal shipping, inland water transport and multimodal logistics.

Chart 29: Market Size of Ports in India



Source: Inkwood Research, CareEdge Research

Note: P stands for Projection, USD values have been converted using the average exchange rate for the respective year. For projections, the average rate up to 17 June 2026 has been used

7.4 Future Investment in Ports

Future Investment in Ports

- India has outlined investments of USD 82 billion in port infrastructure projects by 2035 to bolster the sector.
- The Government has approved the establishment of a major port at Vadhavan, Maharashtra, with an estimated cost of Rs. 762.2 billion. This project aims to expand EXIM trade capacity and attract public-private partnerships for infrastructure development.
- The government plans to invest Rs. 80 trillion in its maritime sector by 2047 to enhance port capacity, shipping, shipbuilding, and inland waterways, aiming for a port handling capacity of 10,000 million tonnes.
- During the Union Budget 2026-27, the budgetary allocation for the Ministry of Ports, Shipping and Waterways is estimated at Rs 51.6 billion (BE), marking a sharp increase compared to Rs 29.0 billion (RE) in FY26.
- The Inland Waterways Development Council (IWDC) has announced plans to invest over Rs. 500 billion in India's inland waterways over the next five years, including Rs. 14 billion for new initiatives across 21 states. Additionally, the government aims to launch 1,000 green vessels to promote sustainable shipping.
- Under Sagarmala Programme, there are 845 projects worth investment of Rs. 6.06 trillion for implementation by 2035. These include projects being implemented through various funding arrangements including Equity, Internal Resources, Grant in Aid, PPP mode etc. Out of which, 315 projects are completed and remaining projects are under various stages of implementation and development.
- Sagarmala 2.0 is proposed as the next phase of the Sagarmala Programme, aligned with Maritime India Vision 2030 and Maritime Amrit Kaal Vision 2047, The scheme envisages Rs 85,482 crore of budgetary support to mobilise Rs 3.6 trillion of investments, focusing on ports, inland waterways, coastal infrastructure, and maritime ecosystem development.
- During India Maritime Week 2025, over 600 MoUs worth more than Rs 12 trillion were signed across India's maritime sector, covering ports, shipping, shipbuilding, inland waterways, coastal infrastructure and related maritime ecosystem development.
- The Union Cabinet approved a Rs 697.25 billion package in September 2025 to strengthen India's shipbuilding and maritime ecosystem. The package includes extension of the Shipbuilding Financial Assistance Scheme with a corpus of Rs 247.36 billion, Maritime Development Fund of Rs 250 billion and Shipbuilding Development Scheme with an outlay of Rs 199.89 billion.
- For inland waterways, the proposed development of National Waterway-5 is expected to involve an estimated investment of around Rs 130 billion. The corridor has cargo potential of approximately 10 million tonnes by 2032, increasing to 20 million tonnes by 2047, supporting mineral and industrial cargo movement in eastern India.
- IWDC 3.0 Approves Over Rs 15 billion Projects to Drive Green Mobility, Cargo Movement and River Tourism on India's Inland Waterways

Table 7: Project status under Sagarmala Programme

Particulars	Under Implementation		Under Development	
	No. of Projects	Project Cost (Rs. Bn.)	No. of Projects	Project Cost (Rs. Bn.)
Port Modernization	62	756.5	74	1,826.5
Port Connectivity	57	680.1	131	803.7
Port Led Industrialization	3	92.5	2	0.8
Coastal Community Development	32	61.7	28	38.5
Coastal Shipping and IWT	63	46.7	125	69.8
Total	217	1,637.5	360	2,739.3

Source: Sagarmala, CareEdge Research

Under the Sagarmala Programme, a total of 217 projects worth Rs 1,637.5 billion are under implementation, while an additional 360 projects with an estimated investment of Rs 2,739.3 billion are under various stages of development. Port modernization and port connectivity continue to dominate the project pipeline, highlighting the government's continued focus on enhancing port capacity, operational efficiency, and multimodal logistics infrastructure. The strong project pipeline is expected to support sustained demand for maritime infrastructure, engineering, construction, and port-related services over the medium term.

7.5 Infrastructure Consultancy in Ports Sector in India

Port and maritime consultancy comprises planning, design, supervision, and advisory services across a broad range of port infrastructure, including jetties, quay walls, berthing structures, cargo-handling facilities, connectivity infrastructure, dredging, and coastal protection works. These projects involve a specialised combination of civil and maritime engineering, requiring expertise from different fields, including geotechnical (seabed investigations), structural (design of quay walls and jetties), hydraulic (wave climate, tidal flows, sediment transport), and operational domains.

Table 8: Services Offered by Port-Sector Consultancy Firms

Service	Technical Scope
Pre-feasibility / DPR	Traffic demand studies, cargo volume projections, site selection, preliminary cost estimates
Marine & Coastal Design	Quay wall, jetty, berth and dolphin design; Wave penetration and coastal erosion studies; coastal erosion assessment
Geotechnical & Hydrographic Survey	Seabed investigation, soil boring, sediment analysis, bathymetric surveys for dredging
Dredging Supervision	Specification, supervision and acceptance of capital dredging and maintenance dredging works
Project Management Consultancy	Contract management, schedule monitoring, cost control, quality monitoring, liaison with regulatory bodies
Environmental & Coastal Impact	Environmental Impact Assessment (EIA), Coastal regulation zone (CRZ) compliance, effluent management

Source: CareEdge Research

The role of consultancy firms in port projects is fee-based and distinct from construction execution. Consultants generally do not assume construction, traffic or financing risk, but provide critical inputs across project planning, design, statutory approvals, construction supervision, quality monitoring and asset performance assessment. Consultants are typically appointed by port authorities or private developers to support planning, design, and project execution.

Demand for port-sector consultancy is supported by capacity expansion, port modernisation, dredging, mechanisation, connectivity improvement and terminal development. Maritime India Vision 2030 covers port infrastructure development, logistics efficiency, coastal and waterway traffic and technology innovation, while India's overall port capacity is targeted to increase from around 2,771 MMTPA to more than 3,500 MMTPA by 2030 and 10,000 MTPA by 2047. Further, under the Sagarmala Programme, 839 projects worth Rs 5.79 trillion are being implemented, including port modernisation and connectivity projects. These initiatives create demand for DPR preparation, marine engineering design, dredging supervision, required environment studies such as Environment Impact Assessment (EIA) and Environment Management Plan (EMP) for statutory clearances and PPP advisory services.

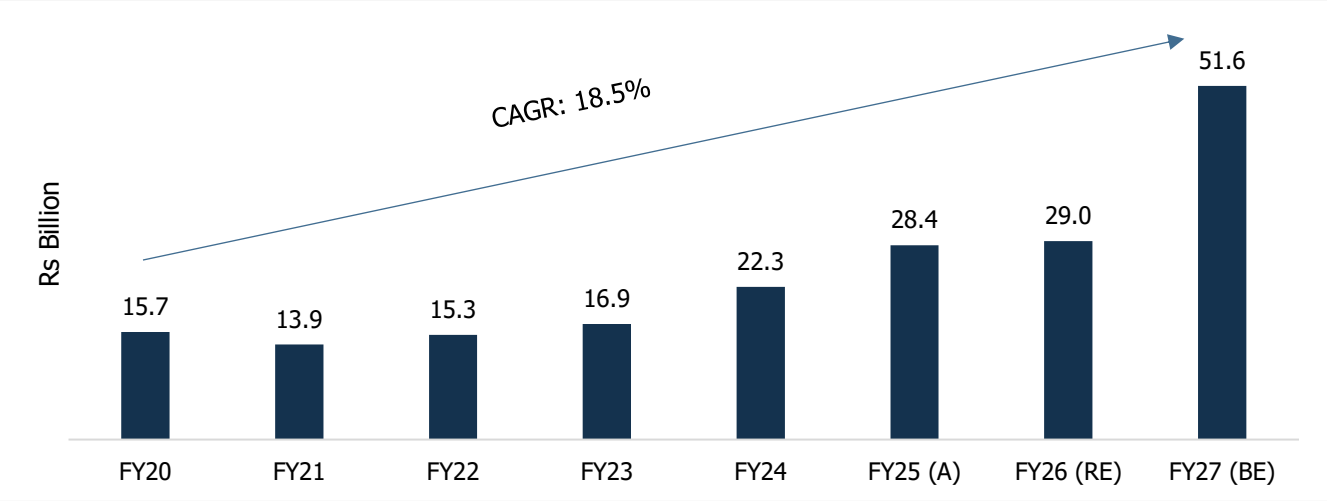
India's port consultancy market has higher entry barriers than general civil consulting because many major-port assignments invite bids only from pre-qualified/empanelled consultants and set minimum eligibility criteria based on relevant past experience and capability.

7.6 Budget Outlay towards the Port sector

Port and maritime infrastructure remains a focus area under the Government's infrastructure-led development strategy. The budget outlay for the Ministry of Ports, Shipping and Waterways increased from Rs 15.7 billion in FY20 to Rs 51.6 billion in FY27(BE), with a sharper increase in FY27, growing at a CAGR of 18.5% during the same period This increase is mainly linked to government's broader maritime sector support, including the shipbuilding package approved in September 2025, covering the Shipbuilding Financial Assistance Scheme (SBFAS), Maritime Development Fund (MDF) and Shipbuilding Development Scheme (SBDS).

In FY27(BE), the government has provided Rs 5.15 billion for SBFAS and the National Shipbuilding Mission, Rs 2.50 billion for SBDS and Rs 10.00 billion for MDF. The budget also provides Rs 11.30 billion as investment in Inland Waterways Authority of India (IWAI), along with Rs 2.65 billion as grants to IWAI for development and operationalisation of National Waterways.

Chart 30: Budget outlay towards the Port sector



Source: Union Budget Analysis, CareEdge Research; Note: A stands for Actual, RE stands for Revised estimates, BE stands for Budget Estimates

7.7 Key Upcoming Projects

Table 9: List of upcoming and ongoing projects in Ports

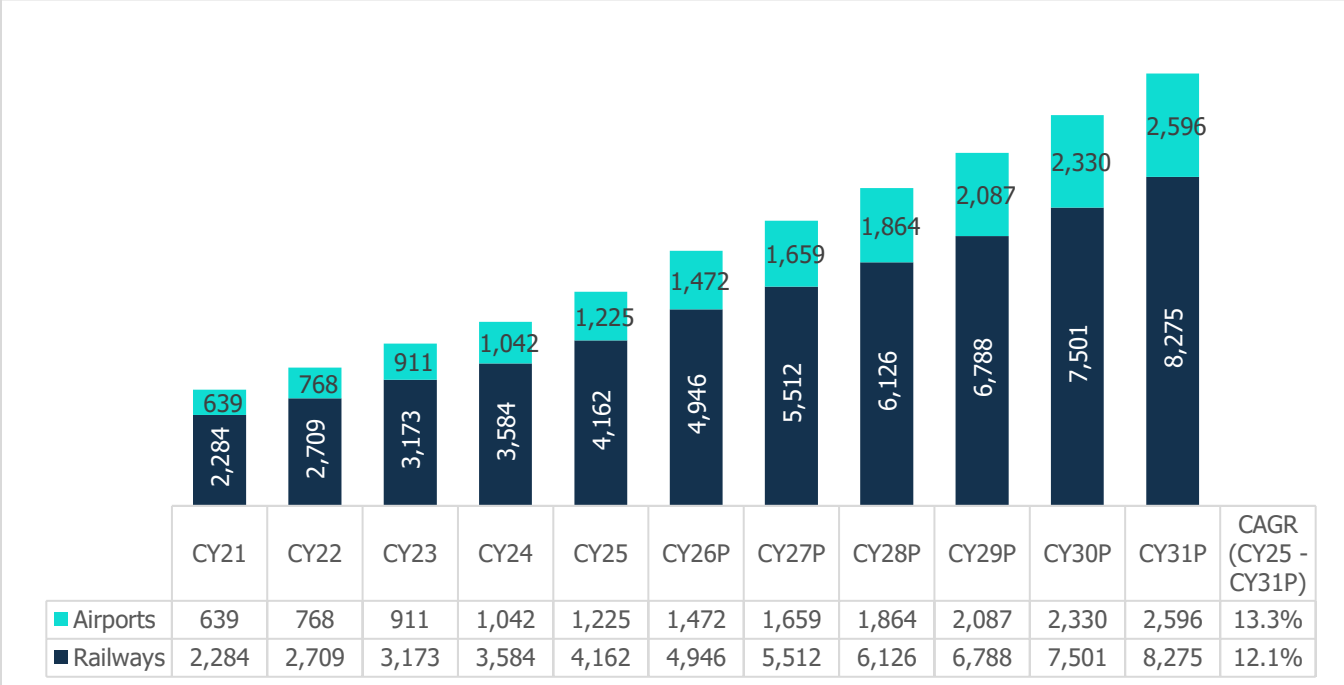
Project Name	Cost (Rs. Crore)	State
Vadhavan Port (Dahanu) Project	76,200	Maharashtra
Dighi Port Project - Expansion	42,490	Maharashtra
Tuna-Tekra & Kandla Creek Satellite Port Project	20,000	Gujarat
Karaikal Port (Vanjore) Project - Expansion	19,744	Puducherry
Port (Gopalpur) Project	15,000	Odisha
Deep Water Port (Subarnarekha) Project	5,362	Odisha

Port (Murbe) Project	4,259	Maharashtra
Jaigad Port Project - Expansion	3,709	Maharashtra
Sanghi Port (Kharo Creek) Project - Expansion	3,588	Gujarat
Deepwater Port (Pavinakurve) Project	3,048	Karnataka
CNG Port (Bhavnagar) Project	2,210	Gujarat
Cuddalore Port Project - Expansion	1,500	Tamil Nadu
Port (Vadinar) Project	1,050	Gujarat
Port (Betul) Project	-	Goa
Deepwater Port (Ganeshgule) Project	-	Maharashtra
Deepwater Port (Vijaydurg) Project	-	Maharashtra
Sea Port (Inchuri) Project	-	Odisha
Sea Port (Bahuda) Project	-	Odisha
Port (Nizampatnam) Project	-	Andhra Pradesh
Port (Vadarevu) Project	-	Andhra Pradesh

Source: Projects Today, CareEdge Research

8 Market size of Other Transport Infrastructure sector

Chart 31: Market size of Other Transport Infrastructure sector



	CY21	CY22	CY23	CY24	CY25	CY26P	CY27P	CY28P	CY29P	CY30P	CY31P	CAGR (CY25 - CY31P)
Airports	639	768	911	1,042	1,225	1,472	1,659	1,864	2,087	2,330	2,596	13.3%
Railways	2,284	2,709	3,173	3,584	4,162	4,946	5,512	6,126	6,788	7,501	8,275	12.1%

Source: Inkwood Research, CareEdge Research

Note: P stands for Projection, USD values have been converted using the average exchange rate for the respective year. For projections, the average rate up to 17 June 2026 has been used

Railway: The railway infrastructure market increased from Rs 2,284 billion in CY21 to Rs 4,162 billion in CY25, registering a CAGR of 16.2% during CY21-CY25, and is estimated to reach Rs 8,275 billion by CY31P, registering a CAGR of 12.1% during CY25-CY31P. The growth is expected to be supported by continued investment in new railway lines, doubling and multi-tracking, station redevelopment, dedicated freight corridors, high-speed rail and signalling and safety systems. Indian Railways' gross budgetary allocation increased from Rs 32,300 crore in FY15 to Rs 2,52,200 crore in FY26, with expenditure directed towards network capacity enhancement, station redevelopment, safety and passenger infrastructure. The ongoing expansion of railway infrastructure is expected to support demand for consultancy services across projects.

Airports: The airport infrastructure market increased from Rs 639 billion in CY21 to Rs 1,225 billion in CY25, registering a CAGR of 17.7% during CY21-CY25, and is estimated to reach Rs 2,596 billion by CY31P, registering a CAGR of 13.3% during CY25-CY31P. India has emerged as the third-largest domestic aviation market, supported by increasing passenger traffic, airport capacity expansion, development of new airports and modernisation of existing facilities. The number of operational airports in India increased from 74 in 2014 to 165 in 2025, while passenger traffic at Indian airports reached 412 million in FY25 and is projected to increase to 665 million by FY31. In addition, the Modified UDAN scheme approved in 2026 provides for the development of 100 airports from existing unserved airstrips, which is expected to create further requirements for planning, engineering and project management services.

9 Urban Development in India

9.1 Overview

Urban infrastructure encompasses essential services such as drinking water, sanitation, sewage systems, electricity and gas distribution, urban transport, primary health services, and environmental regulation. India's urban infrastructure industry is undergoing a significant transformation, driven by rapid urbanisation, rising aspirations for quality living, and strong government intervention. According to the World Bank, India's urban population will account for 40% of total population by 2036. Thus, there is a rising demand for improved infrastructure across industry such as housing, sanitation, transportation, water supply and solid waste management.

To meet this growing demand, the government has launched several flagship programs aimed at bridging the infrastructure gap and enhancing the quality of life in urban areas. The government have launched initiatives such as The Swachh Bharat Mission – Urban (SBM-U 2.0), Pradhan Mantri Awas Yojana – Urban (PMAY-U) and Atal Mission for Rejuvenation and Urban Transformation (AMRUT) along with the newly launched Urban Challenge Fund (UCF). Collectively, these programmes focus on enhancing urban water supply, sewage management, and ensuring affordable and permanent housing for all. In parallel, Metro Rail and Rapid Rail Transit Systems aim to decongest urban roads, reduce emissions, and improve commute efficiency across major Indian cities. Additionally, the Smart Cities Mission is focused on developing selected cities with robust digital infrastructure, smart solutions, and sustainable urban planning practices.

Despite the significant increase in investment in urban infrastructure and several government initiatives, the urban infrastructure sector in India continues to face challenges such as inadequate institutional capacity among urban local bodies (ULBs), poor planning and ineffective utilisation of municipal finances, etc. The active involvement of the private sector, promotion of PPP models, strengthening of municipal governance, and the use of digital technologies are crucial to addressing these challenges. As Indian cities evolve to become more resilient and liveable, urban infrastructure will play a central role in shaping the country's economic and social development.

9.2 Segment-wise Overview of Key Urban Infrastructure

9.2.1 Urban Transport

Indian urban transport network comprises a mix of metro rail and rapid transit systems, city bus networks, non-motorised transport (NMT) infrastructure, urban flyovers and grade separations, bus rapid transit systems (BRTS), and last-mile connectivity solutions. Large cities have seen major progress in metro rail and electric mobility, while many smaller cities still face weak bus networks, poor last-mile access, and fragmented transport planning. The Ministry of Housing and Urban Affairs (MoHUA) has highlighted that inadequate public transport and non-motorised transport infrastructure has increased the use of private vehicles, resulting in congestion, pollution, and wider socio-economic losses. It has also drawn attention to a significant shortage of city buses and the need for stronger planning, financing, and governance systems in urban mobility. To address these issues, the Government of India has undertaken several initiatives to improve urban transportation and promote sustainable mobility. Programs such as PM e-Bus Sewa, the Smart Cities Mission, the Metro Rail Policy, and the Faster Adoption and Manufacturing of Electric Vehicles (FAME) scheme aim to modernize public transport systems, encourage the adoption of electric mobility, and reduce urban congestion and pollution.

Components of Urban Transport in India

Metro Rail: The metro rail system in India has become a crucial component of urban transportation, offering a fast, efficient, and environmentally friendly alternative to road transport in many of the country's largest cities. From a modest 248 km across 5 cities in 2014, the network has expanded to approximately 1,149 km across 29

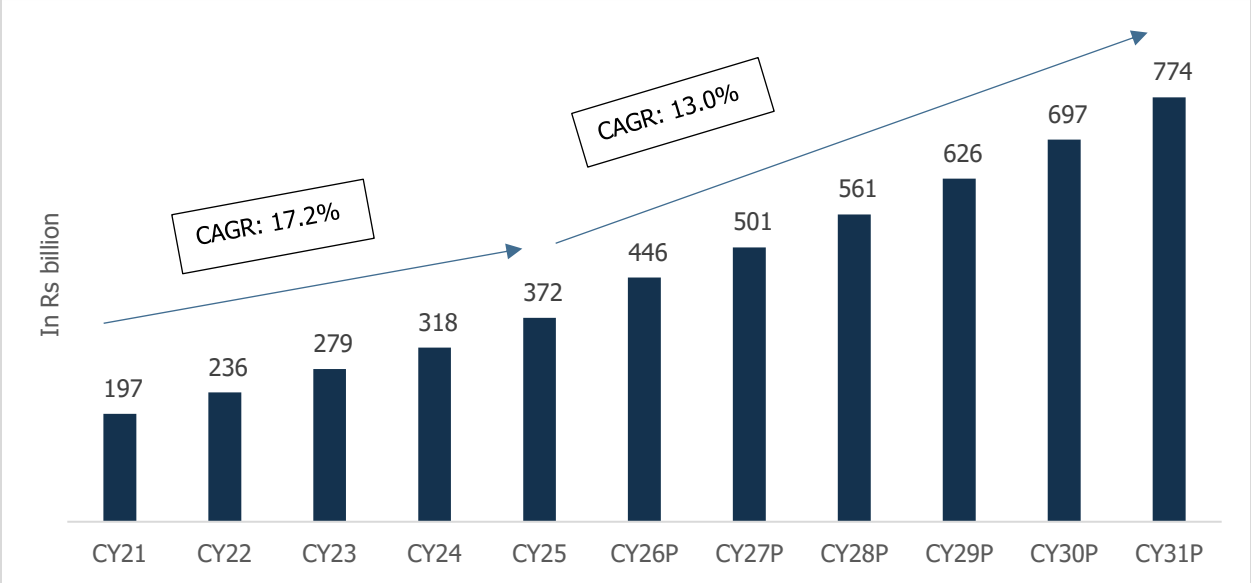
cities as of May 2026, making India the third-largest metro system globally. Today, nearly 1.12 crore passengers use metro services daily. The government has played a pivotal role in this expansion, with central budgetary allocation towards metro rail increasing significantly from Rs 8,997.87 crore in FY21 to Rs 30,996.05 crore in FY27 (Budget Estimates). Additionally, over 3,000 km of metro projects across 29 cities are under various stages of development.

City Bus Systems: City buses form the backbone of urban public transport in India due to their extensive reach and affordability providing essential connectivity across urban areas. In recent years, governments have focused on modernising bus fleets through the introduction of electric buses, intelligent transport systems, and improved passenger amenities. To modernise urban bus transport and promote sustainable mobility, the Government of India launched the PM e-Bus Sewa Scheme, under which the deployment of 10,000 air-conditioned electric buses has been sanctioned across 116 cities in 20 states and 6 Union Territories through a Public-Private Partnership (PPP) model. The scheme has a total estimated outlay of Rs 57,613 crore, including central government support of Rs 20,000 crore, reflecting the government's commitment to expanding clean, efficient, and accessible public transportation.

Suburban Rail: Suburban rail systems serve as a vital mode of transportation in large metropolitan regions, particularly in cities such as Mumbai, Chennai, Kolkata, and Hyderabad. These networks connect city centres with suburban and peripheral areas, enabling millions of commuters to travel efficiently over long distances. Suburban rail plays a crucial role in reducing dependence on private vehicles and easing traffic congestion in densely populated urban regions. According to the Ministry of Railways, nearly 3,200 suburban train services are operated daily in the Mumbai region. To further improve capacity and commuter convenience, the government has sanctioned major infrastructure projects under the Mumbai Urban Transport Project (MUTP). The combined cost of MUTP-II, MUTP-III, and MUTP-IIIA exceeds Rs 52,700 crore, covering new rail corridors, additional railway lines, station upgrades, and network expansion projects. Additionally, 238 new 12-car suburban train rakes have been sanctioned at a cost of Rs 19,293 crore to enhance passenger carrying capacity and improve travel conditions.

Bus Rapid Transit System (BRTS): BRTS is a high-capacity public transport system using buses, designed to work like a metro but at lower cost. By separating buses from regular traffic, it helps reduce travel time and improve service reliability. Several Indian cities, including Ahmedabad and Pune, have implemented BRTS networks to enhance public transport capacity while offering a cost-effective alternative to rail-based transit systems. Among the various BRTS projects in India, Ahmedabad's Janmarg BRTS is considered one of the most successful with network spanning over 160 km, operates around 380 buses, and serves approximately more than 2.2 lakh passengers daily. To ensure efficient operations and passenger safety, a Central Command and Control Centre provides round-the-clock surveillance of buses and stations through smart CCTV cameras, enabling real-time monitoring and tracking of the system.

Chart 32: Market size of Bus Terminal infrastructure



Source: Inkwood Research, CareEdge Research

Note: P stands for Projection, USD values have been converted using the average exchange rate for the respective year. For projections, the average rate up to 17 June 2026 has been used.

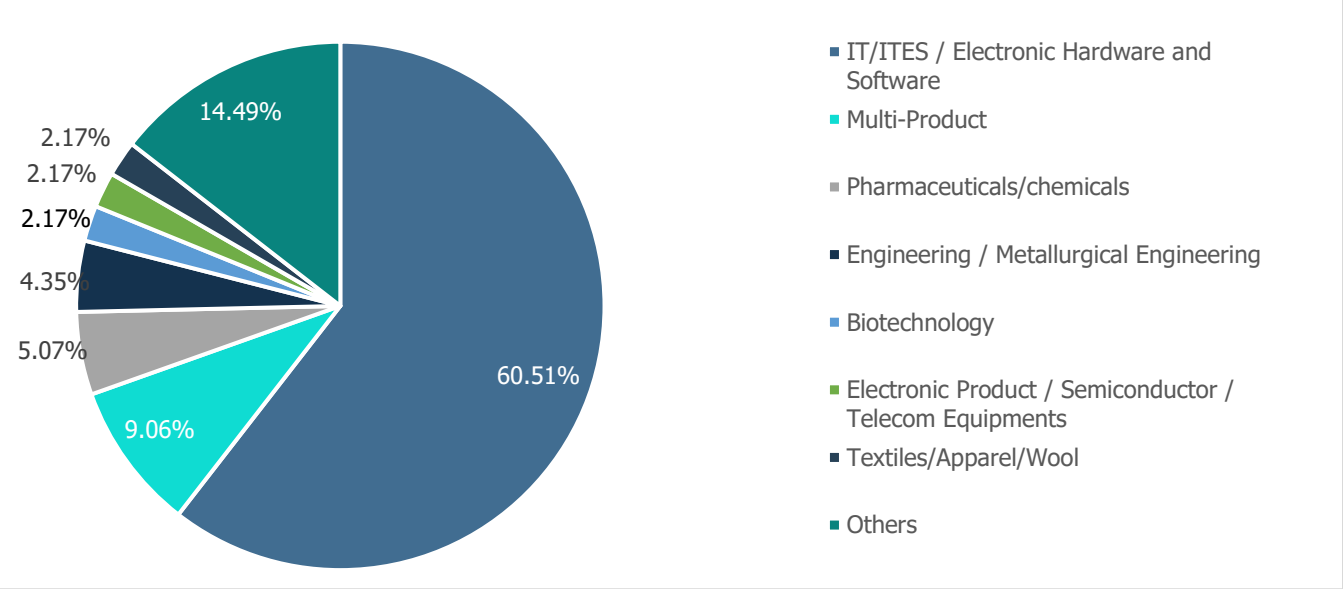
The market size for bus terminal infrastructure has increased from Rs 197 billion in CY21 to Rs 372 billion in CY25, reflecting a CAGR of 17.2% the market share is estimated to reach Rs 774 billion by CY31P, registering a CAGR of 13.0% during CY25 to CY31P. The growth supported by the expansion and modernisation of urban public transport infrastructure, development of bus depots and terminals, and increasing adoption of electric buses. The PM-eBus Sewa scheme provides for deployment of 10,000 electric buses along with associated depot and power infrastructure, while more than 200 infrastructure proposals had been sanctioned as of December 2025.

More than 200 infrastructure proposals have been sanctioned (both civil depot and power infrastructure) with the demand of 10,000 e-buses and more than 500 circuit kms of High Tension (HT) line infrastructure and depot construction on more than 300 acres of land has been sanctioned for deployment of electric buses. The total amount sanctioned and spent for the infrastructure proposals (Behind-the-Meter power infrastructure and Civil Depot Infrastructure) till December 2025 is Rs 1,254.38 crore and Rs. 483.70 crore respectively under the Scheme. The development of supporting infrastructure for electric buses, including civil depots, power infrastructure and charging facilities, is expected to increase requirements for infrastructure consultancy services.

9.2.2 Special Economic Zones (SEZs)

A Special Economic Zone (SEZ) is a geographically designated area within a country that operates under a distinct regulatory and fiscal framework, where business, trade, customs, and taxation regulations are more liberal than those applicable in the rest of the country. SEZs are established to promote exports, attract domestic and foreign investment, generate employment, and accelerate industrial development. In India, SEZs are governed by the Special Economic Zones Act, 2005 and SEZ Rules, 2006, and are approved by the Board of Approval (BoA) comprising 19 members. Each SEZ is divided into a processing area, where production units operate, and a non-processing area, where supporting infrastructure such as offices, housing, utilities, and amenities is located. Each zone is administered by a Development Commissioner, who functions as the regulatory authority within the SEZ.

Chart 33: Sector-wise Distribution of Operational SEZs in India



Source: Department of commerce, Note: Data as on 31-12-25

As of 31 December 2025, India had 370 notified SEZs and 276 operational SEZs, with total investment of Rs 7.82 trillion. India's operational SEZ ecosystem is largely driven by the IT/ITeS and Electronic Hardware & Software segment, which accounts for 61% of total operational SEZs. This highlights the sector's dominant role in India's export-oriented SEZ framework. Multi-Product (9%), Pharmaceuticals/Chemicals (5%) and Engineering & Metallurgical Engineering (4%) are the other key segments, while the remaining sectors individually account for a relatively small share of operational SEZs.

9.2.3 Water Supply and Sanitation

Urban water supply and sanitation infrastructure covers the full chain of services that provide clean water to households and safely treat and dispose off wastewater. Key components include source intake structures (rivers, reservoirs, or groundwater), water treatment plants (WTPs) that make raw water safe for drinking, a distribution network of pipes and pumping stations that delivers treated water to homes and businesses, a sewage collection network that conveys wastewater from households, sewage treatment plants (STPs) that treat wastewater before it is discharged or reused, and solid waste collection and processing facilities. Together, these systems form the foundation of public health in any urban area.

Under the framework of the 74th Constitutional Amendment, urban water supply and sanitation are municipal functions entrusted to Urban Local Bodies (ULBs), including municipal corporations, municipalities and town panchayats. However, in many states, planning, implementation and operation of water and sewerage infrastructure are undertaken jointly by ULBs and state-level utilities or parastatal agencies. Given the limited technical and financial capacity of many ULBs, the central government has played a significant role in supporting infrastructure development through flagship programmes such as the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), AMRUT 2.0 and the Swachh Bharat Mission–Urban (SBM-U).

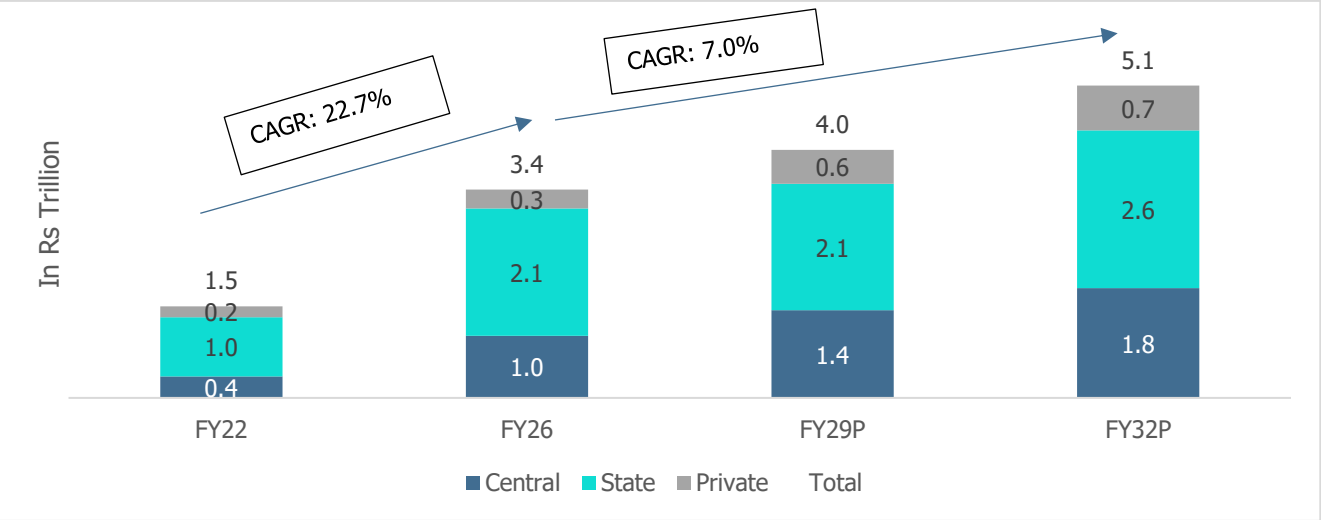
The sector is witnessing a gradual shift towards sustainable and technology-driven solutions. Urban local bodies and implementing agencies are increasingly adopting Geographic Information Systems (GIS)-based planning, smart

metering, remote monitoring systems and data-driven asset management practices to improve operational efficiency. At the same time, greater emphasis is being placed on reducing non-revenue water, groundwater recharge, rainwater harvesting and wastewater reuse, reflecting the growing importance of long-term water security and climate resilience in infrastructure planning.

9.3 Investment in Urban Infrastructure Projects

Investments in Urban Infrastructure grew from Rs 1.5 trillion in FY22 to Rs 3.4 trillion in FY26 growing at a CAGR of 22.7% and the investments are expected to reach Rs. 5.1 trillion by FY32P. Investments in the sector was driven by expansion of metro rail networks, urban water supply and sewerage systems, solid waste management, affordable housing and other municipal infrastructure. Programmes for urban water and sanitation, including AMRUT 2.0 and SBM-U 2.0, supported a large project pipeline. States remained the largest source of investment as urban infrastructure is primarily implemented by State Governments, urban local bodies and State-level agencies, with Central assistance supplementing State and municipal expenditure.

Chart 34: Investment Trend in Indian Urban Infrastructure



Source: Union Budget Documents, RBI, CareEdge Estimates; Note Urban infrastructure includes Water infrastructure.

Going forward, investment is expected to remain State-led, supported by continued urbanisation and rising requirements for metro and urban transport systems, water and wastewater infrastructure, municipal services and urban redevelopment. Central Government funding is expected to remain an important catalyst through centrally sponsored schemes and project support, while private investment is likely to gradually increase through PPPs, municipal infrastructure projects and commercially viable urban assets. The Urban Challenge Fund, approved with Central assistance of Rs 1 trillion, is intended to support around Rs 4 trillion of urban investment over five years through market-linked financing.

9.4 Need for Urban Infrastructure Development

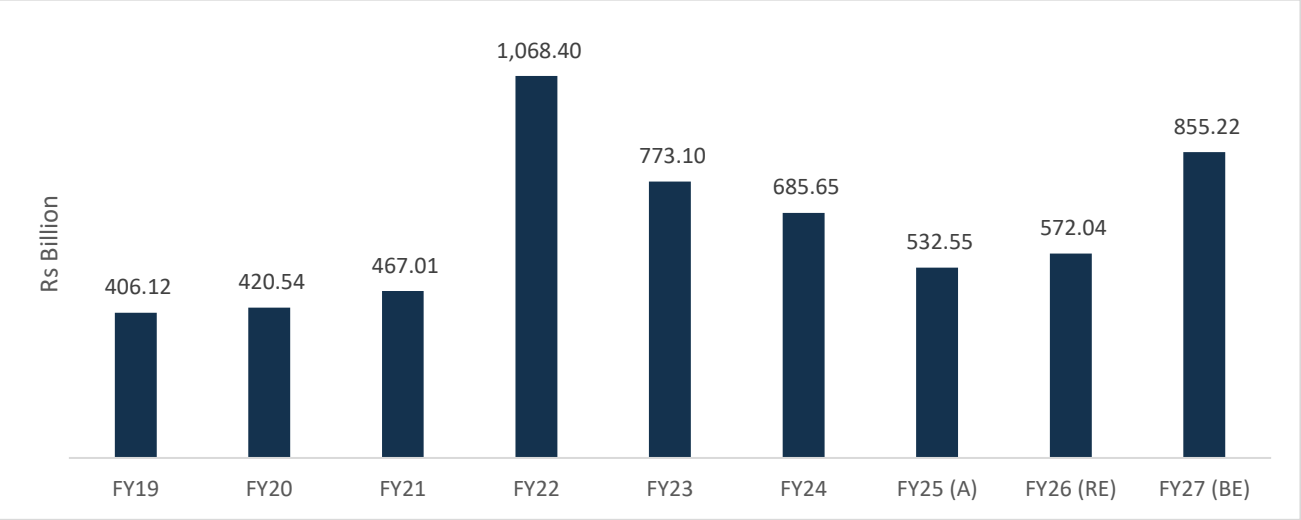
India is undergoing rapid urbanisation, which is expected to significantly increase the demand for urban infrastructure over the coming decades. According to World Bank, India's urban population is projected to reach approximately 600 million by 2036, accounting for around 40% of the country's total population. Urban areas are also expected to contribute nearly 70% of India's GDP, underscoring their importance as engines of economic

growth. As cities expand and economic activity becomes increasingly concentrated in urban centres, the need for adequate housing, transportation systems, water supply, sanitation, drainage networks and other civic infrastructure is expected to rise substantially.

Despite this growing demand, a significant infrastructure gap continues to exist. The World Bank estimates that nearly 70% of the urban infrastructure required by 2047 is yet to be built. Many cities continue to face challenges relating to congestion, inadequate public transportation, pressure on water and sanitation systems, and shortages of affordable housing. Addressing these deficiencies is essential for improving productivity, supporting economic development, enhancing quality of life and ensuring sustainable urban growth. To meet the needs of its rapidly urbanising population, India will require substantial investment in urban infrastructure. The World Bank estimates that India will need to invest approximately USD 840 billion in urban infrastructure by 2036, equivalent to around USD 55 billion annually or 1.2% of GDP Per annum.

9.5 Budgetary Allocation for Urban Development

Chart 35: Budgetary Allocation Towards Urban Development



Source: Budget Documents

India's budgetary allocation for urban development has exhibited a fluctuating trend in recent years. The allocation rose significantly from Rs 406.12 billion in FY19 to Rs 1,068.40 billion in FY22, driven by enhanced investments in flagship missions such as Smart Cities, AMRUT, and Swachh Bharat Mission-Urban. However, the momentum declined in the subsequent years, with allocation dropping to 532.55 billion in FY25. In FY26 (RE), the allocation witnessed a modest recovery to Rs 572.04 billion and was further raised to Rs 855.22 billion in FY27 (BE), reflecting a 49.5% y-o-y increase over FY26 (RE).

The government has also announced the creation of Urban Challenge Fund of Rs 1 trillion aimed at positioning cities as engines of economic growth, enabling creative redevelopment, and strengthening water and sanitation infrastructure. For FY27, an allocation of Rs 100 billion has been proposed for the Urban Challenge fund. The initiative is expected to boost a total investment of around Rs 4 trillion in the urban sector over the next five years. In addition, Rs 30 billion has been provisioned for second phase of the Pradhan Mantri Awas Yojana-(Urban) 2.0 Interest subsidy scheme, and another Rs 80 billion is proposed for the Urban Rejuvenation Mission, covering 500 cities across India.

The Smart Cities Mission, launched in 2015 to enhance the quality of life across 100 cities through improved urban services, infrastructure, and sustainable development, concluded in June 2025 with over 94% of projects completed and investments of approximately Rs 1.64 trillion. While no fresh allocations have been made under the programme following its completion, the government continues to support urban infrastructure development through a dedicated outlay of Rs 0.45 billion for transport planning and capacity building across metro and non-metro cities. Additionally, the proposed allocation of Rs 50 billion per City Economic Region (CER) over five years aims to accelerate growth in Tier II and III cities and temple towns. These initiatives reflect the government's continued focus on urbanisation and are expected to create opportunities in infrastructure development, real estate expansion, and the development of emerging urban growth corridors.

9.6 Infrastructure Consultancy in Urban Development in India

Urban infrastructure consultancy comprises specialised planning, engineering, advisory and project management services that support the development, expansion and modernisation of urban infrastructure assets. Consultants are typically involved across the entire project lifecycle, beginning with city master plans, feasibility studies, GIS mapping, traffic and mobility assessments, demand forecasting and preparation of Detailed Project Reports (DPRs). These services help urban authorities identify infrastructure gaps, evaluate project viability, estimate costs and structure implementation strategies. This covers projects such as urban water supply, sewerage networks, storm-water drainage systems, roads, bridges, public transport infrastructure, housing developments, riverfront projects and other civic amenities. Beyond planning and design, consultants provide detailed engineering, tender documentation, procurement support, contract management, construction supervision, quality assurance and project management consultancy (PMC) services to ensure timely and cost-effective execution. Because urban infrastructure projects involve multiple agencies and can be technically complex, consultants often work closely with Urban Local Bodies (ULBs), state agencies, and SPVs as key partners to help plan, coordinate, and deliver efficient, resilient, and sustainable urban systems.

Urban infrastructure consultancy is characterised by the importance of technical expertise, sector-specific experience and execution capabilities. Consultancy assignments are typically awarded based on a firm's track record in delivering similar projects, the qualifications of its technical team and its ability to manage complex infrastructure programmes. For large externally funded projects supported by institutions such as the World Bank, ADB, JICA and KfW, international and domestic consultants often work together, combining global best practices with local regulatory knowledge and implementation experience. In contrast, projects undertaken under programmes such as AMRUT and the Smart Cities Mission are largely executed by domestic consultancies, government-owned engineering organisations and project management consultants engaged by Urban Local Bodies (ULBs), state governments and Special Purpose Vehicles (SPVs). The scope of urban infrastructure consultancy has also expanded with the growing adoption of technology in project planning and execution. Consultants are increasingly using GIS-based mapping, Building Information Modelling (BIM), digital surveys and data-driven monitoring tools to support planning, design, construction supervision and asset management activities. These technologies help improve project coordination, enhance visibility over project progress and support more efficient management of urban infrastructure assets throughout their lifecycle.

10 State-wise Projects Opportunity

Table 10: Under planning stage projects in the State of Maharashtra

Promoter Name	Ownership	Project Name	Cost (Rs. Crore)	Sub-Sector	District
Maharashtra State Road Devp. Corpn. Ltd.	State Government	Pavnar-Patradevi Maharashtra Shaktipeeth Expressway Project	100,000	Road Infrastructure	Wardha
Mumbai Metropolitan Region Devp. Authority	State Government	Versova-Virar-Palghar Sea Link Project	52,652	Road Infrastructure	Palghar
National Highways Authority of India	Central Government	Highway (Vadhavan Port-NH-48) Project	24,939	Road Infrastructure	Palghar
Maharashtra Maritime Board	State Government	Shipyard Cluster (Dighi) Project	20,000	Shipping Infrastructure	Raigarh (MAH)
Mumbai Metropolitan Region Devp. Authority	State Government	Metro 13 (Subhash Chandra Bose Ground-Dongarpada) Project	17,725	Rail Infrastructure	Palghar
Mumbai Metropolitan Region Devp. Authority	State Government	Kanjurmarg-Badlapur (Metro 14) Project	13,500	Rail Infrastructure	Mumbai Suburban
Nagpur Metropolitan Region Development Authority	State Government	International Business & Finance Centre (Hingna) [New Nagpur]	11,300	Industrial & IT Parks	Nagpur
Central Railway	Central Government	Kasara-Manmad 3rd & 4th Railway Line Project	10,154	Rail Infrastructure	
Central Railway	Central Government	Itarsi-Nagpur 4th Railway Line Project	5,450	Rail Infrastructure	Hoshangabad
Central Railway	Central Government	Dharashiv-Beed-Chatrapati Sambhajinagar Railway Line Project	4,857	Rail Infrastructure	Dharashiv
Mahatma Phule Renewable Energy & Infrastructure Technology Ltd.	State Government	Artificial Intelligence Hub (Maharashtra) Project	4,000	Industrial & IT Parks	
National Highways Authority of India	Central Government	Greenfield Highway (Ahmadnagar-Solapur-Akkalkot) Project [Package-III]	3,117	Road Infrastructure	Ahmadnagar
National Highways Logistics Management Ltd.	Central Government	Multi-Modal Logistics Park (Pimpri)	1,381	Logistics & Warehouses	Pune
Maharashtra Maritime Board	State Government	Cruise Terminal (Ratnagiri) Project	-	Shipping Infrastructure	Ratnagiri
Maharashtra Maritime Board	State Government	Deepwater Port (Vijaydurg) Project	-	Shipping Infrastructure	Sindhudurg

Maharashtra Airport Devp. Co. Ltd.	State Government	Airport (Vadhavan Port) Project	-	Aviation Infrastructure	Palghar
City & Industrial Devp. Corpn. of Maharashtra Ltd.	State Government	Ulwe Coastal Road (MTHL-Dronagiri) Project	-	Road Infrastructure	Raigad
Public Works Department, Maharashtra	State Government	Nursing College (Kolhapur) Project	-	Healthcare	Kolhapur
Maharashtra Industrial Devp. Corpn.	State Government	Industrial Area (Khalapur) Project [Phase-III]	-	Industrial & IT Parks	Raigad
Central Railway	Central Government	Rail Freight Corridor (JNPT-Vadhvan Port) Project	-	Rail Infrastructure	Palghar

Source: Projects Today; Database assessed as on 30th August 2026

Table 11: Under planning stage projects in the State of Rajasthan

Promoter Name	Ownership	Project Name	Cost (Rs. Crore)	Sub-Sector	District
National Highways Authority of India	Central Government	Greenfield Expressway (Jaipur-Pachpadra) Project	11,492	Road Infrastructure	Jaipur
Inland Waterways Authority of India	Central Government	Inland Waterway (Jawai-Luni River) Project [NW-48]	10,000	Shipping Infrastructure	Jalor
Public Works Department, Rajasthan	State Government	Greenfield Expressway (Ajmer-Banswara) Project [Package-6]	8,934	Road Infrastructure	Ajmer
North Western Railway	Central Government	Coach Maintenance Facilities (Shri Ganganagar Station) [Phase-I] Project	174	Rail Infrastructure	Ganganagar
Public Works Department, Rajasthan	State Government	Byepass (Chhabra Town) Project	172	Road Infrastructure	Baran
Rajasthan State Indl. Devp. & Investment Corpn. Ltd.	State Government	Industrial Area (Amberi) Project	56	Industrial & IT Parks	
Rajasthan Heritage Protection & Promotion Authority	State Government	Meera Bai Mandir Beautification Project	-	Religious Projects	
Department of Information Technology & Communication, Rajasthan	State Government	Data Centre (Jaipur)	-	Data Centre	Jaipur
National Highways Logistics Management Ltd.	Central Government	Multi-Modal Logistics Park (Kota)	-	Logistics & Warehouses	Kota
Rajasthan State Road Devp. & Construction Corpn. Ltd.	State Government	Regional Transport Office (Jaipur) Project	-	Government Buildings	Jaipur
Public Works Department, Rajasthan	State Government	Ring Road (Banswara) Project	-	Road Infrastructure	Banswara
Department of Information Technology & Communication, Rajasthan	State Government	Data Center (Jodhpur) Project	-	Data Centre	Jodhpur
Rajasthan State Highways Authority	State Government	Highways (Sanchore-Raniwara-Mandar-Abu	-	Road Infrastructure	Jaipur

		Road) Project - [Package-I]			
Jaipur Devp. Authority	State Government	Elevated Corridor (Dravyavati River) Project	-	Road Infrastructure	Jaipur
Northern Railway	Central Government	Rewari-Jaipur Railway Line Project	-	Rail Infrastructure	Jaipur
Department of Skill, Employment & Entrepreneurship, Rajasthan	State Government	International Skilling & Overseas Placement Centre (Jaipur) Project	-	Educational Buildings	Jaipur
Public Works Department, Rajasthan	State Government	Bypass (Bhusawar Road-Bhusawar Ballabhgarh) Project	-	Road Infrastructure	Bharatpur
Public Works Department, Rajasthan	State Government	R-O-B (Bhadra) Project	-	Road Infrastructure	Hanumangarh
Public Works Department, Rajasthan	State Government	Bridge (Berach River) Project	-	Road Infrastructure	Chittorgarh
Urban Improvement Trust, Dausa	Government Local Bodies	Office Building (Dausa-Bandikui) Project	-	Government Buildings	Dausa

Source: Projects Today; Database assessed as on 30th August 2026

Table 12: Under planning stage projects in the State of Jharkhand

Promoter Name	Ownership	Project Name	Cost (Rs. Crore)	Sub-Sector	District
Eastern Railway	Central Government	Sainthia-Pakur 4th Railway Line Project	1,569	Rail Infrastructure	Pakur
South Eastern Railway	Central Government	Rajkharsawan-Dangoaposi 4th Railway Line Project	1,365	Rail Infrastructure	West Singhbhum
South Eastern Railway	Central Government	Gamaharia-Chandil 3rd & 4th Railway Line Project	1,168	Rail Infrastructure	Saraikela Kharsawan
South Eastern Railway	Central Government	Optical Fibre Cable Network (Adra, Chakradharpur, Kharagpur & Ranchi)	200	Telecom Infrastructure	Howrah
National Highways Authority of India	Central Government	Flyover (Ichak) Project	67	Road Infrastructure	Hazaribagh
Jharkhand State Building Construction Corpn. Ltd.	State Government	Medical College (Jamtara) Project	-	Healthcare	
Jharkhand State Building Construction Corpn. Ltd.	State Government	Medical College (Dhanbad) Project	-	Healthcare	
Jharkhand State Building Construction Corpn. Ltd.	State Government	Medical College (Giridih) Project	-	Healthcare	
Jharkhand Urban Infrastructure Devp. Co. Ltd.	State Government	Metro Rail (Ranchi) Project	-	Rail Infrastructure	Ranchi
Bokaro Power Supply Co. (P) Ltd.	Central Government	Railway Track (Tupkadih) Project	-	Rail Infrastructure	Bokaro

National Highways Authority of India	Central Government	Bypass (Ukrid-Brambe-Kurgi-Phudi-Harbul) Project	-	Road Infrastructure	Ranchi
Public Works Department, Jharkhand	State Government	Road Upgradation (Chakradharpur-Goilkera-Manoharpur) Project	-	Road Infrastructure	West Singhbhum
Eastern Railway	Central Government	Siuri-Nala Railway Line Project	-	Rail Infrastructure	Birbhum
National Highways Authority of India	Central Government	Road Upgradation (Barwa-Adda-Panagarh) Project		Road Infrastructure	
Road Construction Department, Jharkhand	State Government	Flyover/Elevated Road (Hirak Point Chowk) Project		Road Infrastructure	Dhanbad
National Highways Authority of India	Central Government	Vehicular Underpasses (Gobindpur-Chas-Jainamore) Project		Road Infrastructure	Ranchi
Jharkhand State Building Construction Corpn. Ltd.	State Government	Girls Hostel (Kalyan Bhavan) Project		Government Buildings	Ranchi
Department of Forest & Environment, Jharkhand	State Government	Elephant Transit & Treatment Centre (Bokaro)		Healthcare	Bokaro
Road Construction Department, Jharkhand	State Government	Gola Bypass (Rajrappa) Project		Road Infrastructure	Ramgarh
Cantonment Board, Ramgarh	Central Government	Community Hall (Ramgarh) Project		Government Buildings	Ramgarh

Source: Projects Today; Database assessed as on 30th August 2026

Table 13: Under planning stage projects in the State of Madhya Pradesh

Promoter Name	Ownership	Project Name	Cost (Rs. Crore)	Sub-Sector	District
Madhya Pradesh State Electronics Devp. Corpn. Ltd.	State Government	AI Data Centre (Acharpura) Project	19,000	Data Centre	Bhopal
Western Railway	Central Government	Nagda-Mathura 3rd & 4th Railway Line Project	16,403	Rail Infrastructure	Mathura
National Highways Authority of India	Central Government	Road Upgradation (Jabalpur-Mandla-Chilpi) Project	15,000	Road Infrastructure	
National Highways Authority of India	Central Government	Greenfield Corridor (Bhopal-Indore) Project	12,000	Road Infrastructure	Bhopal
National Highways Authority of India	Central Government	High Speed Corridor (Lakhnadon-Raipur) Project	10,000	Road Infrastructure	Seoni

National Highways Authority of India	Central Government	Tiger Corridor (Kanha-Panna-Bandhavgarh-Pench) Project	5,500	Road Infrastructure	Mandla
National Highways Authority of India	Central Government	Chambal Expressway (Sada ka Pada-Chhavar) Project [Atal Progressway PKG-3]	1,359	Road Infrastructure	Sheopur
Public Works Department, Madhya Pradesh	State Government	NSCB Medical College (Jabalpur) Project - Redevelopment	900	Healthcare	
Madhya Pradesh State Indl. Devp. Corpn. Ltd.	State Government	Industrial Park (Chainpura) Project	218	Industrial & IT Parks	
Western Railway	Central Government	Ujjain Bypass Line (Naikheri-Chintaman Ganesh) Project	189	Rail Infrastructure	Ujjain
Madhya Pradesh State Indl. Devp. Corpn. Ltd.	State Government	Industrial Park (Cheetakheda)	100	Industrial & IT Parks	Neemuch
Urban Administration & Development Department, Madhya Pradesh	State Government	Hospital (Anuppur) Project	45	Healthcare	Shahdol
Madhya Pradesh Road Devp. Corpn. Ltd.	State Government	Greenfield Access Controlled Corridor (Bhopal-Mandsaur) Project [Package-A]	-	Road Infrastructure	Bhopal
National Highways Logistics Management Ltd.	Central Government	Multi-Modal Logistics Park (Bhopal)	-	Logistics & Warehouses	Bhopal
Madhya Pradesh Road Devp. Corpn. Ltd.	State Government	Flyover Bridge (Baradari-Hurawali) Project	-	Road Infrastructure	Gwalior
M P State Tourism Devp. Corpn. Ltd.	State Government	Temple Complex (Mamleshwar & Omkareshwar)	-	Religious Projects	Khandwa (East Nimar)
M P Laghu Udyog Nigam Ltd.	State Government	Flatted Industrial Complex (Indore)	-	Industrial & IT Parks	Indore
Madhya Pradesh Road Devp. Corpn. Ltd.	State Government	Tunnel (Chhuhiya-Ghati) Project	-	Road Infrastructure	Rewa
Municipal Council, Tikamgarh	Government Local Bodies	Geeta Bhavan (Khargapur) Project	-	Government Buildings	Tikamgarh
Urban Administration & Development Department, Madhya Pradesh	State Government	Office Building (Pohri) Project	-	Government Buildings	Shivpuri

Source: Projects Today; Database assessed as on 30th August 2026

Table 14: Under planning stage projects in the State of Uttar Pradesh

Promoter Name	Ownership	Project Name	Cost (Rs. Crore)	Sub-Sector	District
National Highways Authority of India	Central Government	Access Controlled Greenfield Expressway (Gorakhpur-Siliguri) Project	37,465	Road Infrastructure	Darjeeling
National Capital Region Transport Corpn. Ltd.	Central Government	Regional Rapid Transit System (Ghaziabad-Jewar) Project [Noida Airport Link]	20,637	Rail Infrastructure	Gautam Buddha Nagar
Western Railway	Central Government	Nagda-Mathura 3rd & 4th Railway Line Project	16,403	Rail Infrastructure	Mathura
DMIC Integrated Industrial Township Greater Noida Ltd.	Government Local Bodies	Multi-Modal Logistics Park (Sector Kappa-02)	5,881	Industrial & IT Parks	Gautam Buddha Nagar
Uttar Pradesh Metro Rail Corpn. Ltd.	State Government	Lucknow Metro Rail Project Phase-1B	5,800	Rail Infrastructure	Lucknow
National Highways Authority of India	Central Government	High Speed Access Controlled Corridor (Gorakhpur-Siliguri) Project [Phase -I]	3,014	Road Infrastructure	Darjeeling
Meerut Devp. Authority	State Government	Gems & Jewellery Flatted Factory Complex (Ved Vyas Puri)	800	Industrial & IT Parks	Meerut
Planning Department, Uttar Pradesh	State Government	Horticulture & Forestry University (Campiarganj) Project	491	Educational Buildings	Gorakhpur
Public Works Department, Uttar Pradesh	State Government	Major & Minor Bridge (Kali River-Ganga River-Ram Ganga River) [NH-730C] Project	481	Road Infrastructure	Farrukhabad
Ghaziabad Devp. Authority	State Government	Flyover (ALT Center-Shastri Nagar) Project	150	Road Infrastructure	
U P Expressways Industrial Devp. Authority	State Government	Integrated Manufacturing & Logistic Cluster (Sambhal) Project	97	Industrial & IT Parks	Sambhal
Planning Department, Uttar Pradesh	State Government	Waadkari Bhawan (Prayagraj) Project	82	Government Buildings	Prayagraj
Inland Waterways Authority of India	Central Government	Ayodhya Water Metro Project	-	Shipping Infrastructure	
Inland Waterways Authority of India	Central Government	Varanasi Water Metro Project	-	Shipping Infrastructure	
U P Expressways Industrial Devp. Authority	State Government	Vindhya-Purvanchal Link Expressway Project	-	Road Infrastructure	
Central Public Works Department	Central Government	Executive Hostel & Club Building (Sector-62, Noida)	-	Government Buildings	Gautam Buddha Nagar

Indian Port Rail & Ropeway Corpn. Ltd.	Central Government	Regional Centre of Excellence (Varanasi) Project	-	Government Buildings	Varanasi
Varanasi Development Authority	State Government	Medi-City (Shahanshahnur)	-	Healthcare	Varanasi
Airports Authority of India	Central Government	Airport (Bhadasna) Project - Expansion	-	Aviation Infrastructure	Moradabad
Atal Bihari Vajpayee Medical University, Lucknow	State Government	Medical College (Lucknow) Project	-	Healthcare	Lucknow

Source: Projects Today; Database assessed as on 30th August 2026

Table 15: Under planning stage projects in the State of Tamil Nadu

Promoter Name	Ownership	Project Name	Cost (Rs. Crore)	Sub-Sector	District
V.O. Chidambaranar Port Trust	Central Government	Outer Harbour (Tuticorin) Project	17,167	Shipping Infrastructure	Tuticorin
National Highways Authority of India	Central Government	East Coast Road (Nagapattinam-Tuticorin) Project	7,000	Road Infrastructure	Nagappattinam
Southern Railway	Central Government	Jolarpettai/Tirupattur-Hosur Railway Line Project	4,000	Rail Infrastructure	Krishnagiri
Southern Railway	Central Government	Chennai-Cuddalore Railway Line Project	2,350	Rail Infrastructure	Chennai
Southern Railway	Central Government	Gummadipundi-Gudur 3rd & 4th Railway Line Project	2,229	Rail Infrastructure	Tirupati
Southern Railway	Central Government	Chengalpattu-Arakkonam DL Railway Line Project	1,538	Rail Infrastructure	Chennai
Tiruchirappalli City Municipal Corpn.	Government Local Bodies	Elevated Carriageway (Panjapur-Karur Bypass) Project [Package-I to III]	340	Road Infrastructure	Tiruchchirappalli
Southern Railway	Central Government	Irugur-Podanur DL Railway Line Project	277	Rail Infrastructure	Chennai
Chennai Port Trust	Central Government	Coastal Berth (Chennai Port) [CB-I & CB-II] Project - Upgradation	143	Shipping Infrastructure	Chennai
Airports Authority of India	Central Government	Civil Enclave (Thanjavur) Project	100	Aviation Infrastructure	Thanjavur
Public Works Department, Tamil Nadu	State Government	Government Arts & Science College (Thuraiyur) Project	16	Educational Buildings	Tiruchirappalli
Airports Authority of India	Central Government	Airport (Rameswaram) Project	-	Aviation Infrastructure	Ramanathapuram

Southern Railway	Central Government	Villupuram-Thanjavur DL Railway Line Project	-	Rail Infrastructure	Viluppuram
Chennai Port Trust	Central Government	Outer Harbour (Chennai) Project	-	Shipping Infrastructure	Chennai
Chennai Metro Rail Ltd.	State Government	Chennai Metro Rail Project - Phase II Extension	-	Rail Infrastructure	Chennai
National High Speed Rail Corpn. Ltd.	Central Government	High Speed Rail Corridor (Hyderabad-Chennai-Amaravati-Bengaluru) Project	-	Rail Infrastructure	Hyderabad
Tamil Nadu Industrial Devp. Corpn. Ltd.	State Government	Biotech Park (Chengalpattu) Project	-	Industrial & IT Parks	Chengalpattu
Tamil Nadu State Highways Authority	State Government	Greenfield Corridor (Singaperumal Koil-Parandur Airport) Project	-	Road Infrastructure	Kancheepuram
National Shipbuilding & Heavy Industries Park Tamil Nadu Ltd.	State Government	Shipbuilding Cluster (Thoothukudi)	-	Shipping Infrastructure	Thoothukudi
National Highways Authority of India	Central Government	Greenfield Highway (Trichy-Karur-Coimbatore) Project	-	Road Infrastructure	Coimbatore

Source: Projects Today; Database assessed as on 30th August 2026

11 Risk and Challenges to the service of the issuer company

Concentration risk - The Company's operations and project portfolio are concentrated in Maharashtra, exposing it to regional concentration risks. Any slowdown in infrastructure development activity, changes in government spending or policies, regulatory developments or delays in approvals in the state may adversely affect the Company's business and results of operations.

Internationally, the Company's operations are concentrated in the United Arab Emirates, exposing it to changes in regulatory requirements, economic conditions, infrastructure spending and competitive dynamics in the UAE, which may affect its ability to secure and execute consultancy assignments.

Uncertainty in project awarded – A significant portion of the Company's revenue is derived from assignments undertaken for government authorities, public sector undertakings and other government-related entities. Any reduction in project awarding, delay in public infrastructure spending, or changes in policies and project implementation by such entities may result in delays or cancellation of projects awarded and could impact the Company's business, financial condition.

Dependence on Technical and Professional Personnel – The company's ability to undertake consultancy assignments across feasibility studies, detailed project reports, design engineering, project management and specialised advisory services is dependent on the availability and retention of personnel with relevant technical, project management and sector-specific expertise. Any loss or unavailability of key personnel or qualified professionals may affect the Company's ability to execute assignments within prescribed timelines and maintain the required quality of services, which could affect its business operations.

Delayed payments and working capital requirements – The Company's consultancy assignments are subject to contractual payment terms and the payment practices of its clients. Delays in approval or release of payments, particularly by government and government-related entities, may extend the receivables cycle and increase the Company's working capital requirements. Any significant or prolonged delay in collections may adversely affect the Company's liquidity, cash flows and financial condition.

12 Company Profile

12.1 About the Company

Pentacle Consultants (I) Limited is an infrastructure consultancy company providing design engineering, project management consultancy, and specialized advisory services across India and international markets. The Company operates across the following sectors: Transportation, Urban Development, Industrial and Luxury Development, Marine and Ports, Special Projects and Social and Community Infrastructure. Its services span the entire infrastructure lifecycle and are categorized into Studies & Planning, Design Engineering, Project and Programme Management, and Specialized Advisory Services. The Company serve a diverse client base comprising government authorities, public sector undertakings (PSUs), municipal corporations, and private enterprises across India, including MSRDC, MCGM, MMRDA, MAHAGENCO, etc. The Company leverages technologies such as 5D Building Information Modelling (BIM), geospatial analytics, drone/UAV-based surveys, and digital project management tools, strengthening its ability to deliver accurate, coordinated, and timely consultancy services.

Pentacle Consultants (I) Limited has been rated third for DPR consultants by MoRTH published by NHAI dated June 18, 2026. The company has also been awarded by the Government of Maharashtra Public Works Department and Maharashtra State Road Development Corporation Certificate for contributions towards Maharashtra Samruddhi Mahamarg.

Key Projects Across Sectors

Transportation Infrastructure:

The Company has contributed to several large-scale transportation infrastructure projects and was appointed as the DPR Consultant for the proposed six-lane Greenfield Konkan Expressway connecting Mumbai and Goa. It also served as the DPR Consultant for the Versova–Bandra Sea Link in Mumbai. Additionally, the Company acted as the Project Support Office and Nodal Consultant for the proposed six-lane Pune Ring Road project. It was also engaged as the Programme Management Consultant for the Nagpur–Mumbai Expressway (Samruddhi Mahamarg), a six-lane expressway being developed by MSRDC.

Urban Development, Industrial and Luxury Development:

The company collaborates with urban development authorities to support the planning and evolution of city infrastructure. For industrial systems, it supports feasibility, risk assessment, design evaluation and execution planning to help industrial facilities operate efficiently. It provides solutions for development of commercial/ institutional buildings and residential luxury development and refurbishment of old buildings. Key projects under this category includes E Ward and S Ward Administrative office buildings for BMC, Project Management Consultant for the development of a Special Economic Zone in Navi Mumbai.

Marine and Port Infrastructure:

The company has been involved in major Indian port initiatives, including engagements with Jawaharlal Nehru Port Authority (JNPA) and the Greenfield Vadhavan Port. Its work spans greenfield port development, encompassing master planning, DPR preparation, and integrated infrastructure planning covering marine facilities, road and rail connectivity, and utilities, as well as coastal berth planning and design to support efficient cargo handling and regional connectivity.

Special Projects:

The company focuses on complex and specialised infrastructure assignments requiring integrated planning, design and project management. This includes 5D BIM technology, water management projects, abattoir modernisation, Industry projects and IT infrastructure, with a focus on efficient coordination and project delivery.

Social and Community Infrastructure:

The Company provides consultancy services for social and community infrastructure projects, with a focus on developing essential facilities that cater to public needs and enhance the quality of life. Key projects include the D. D. Upadhyay Municipal School and the Municipal School at Mahul. The Company has also acted as the Project Management Consultant for the redevelopment of Rajawadi Hospital in Ghatkopar on an EPC basis.

Chart 36: Key Services Offered

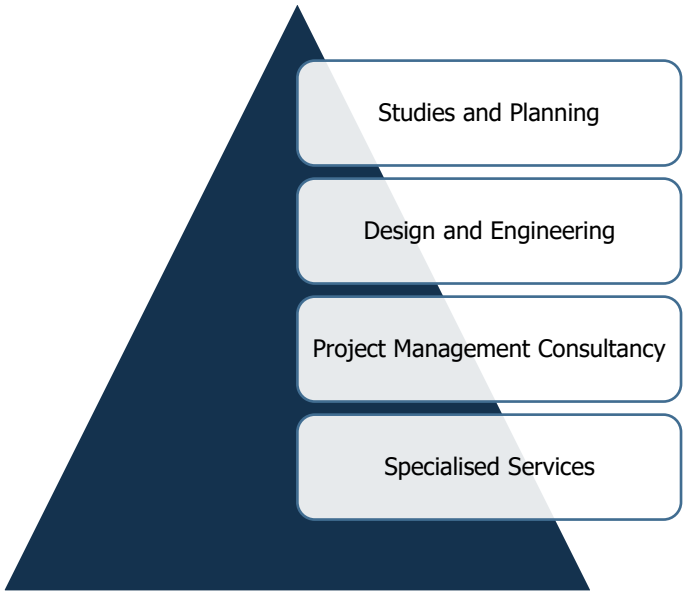


Table 16: Key Projects by Nodal Agencies in Maharashtra

Major projects by Maharashtra State Road Development Corporation (MSRDC)	Major projects by Mumbai Metropolitan Region Development Authority (MMRDA)	Major projects by Maharashtra Maritime Board (MMB)
Nagpur-Mumbai Samruddhi Mahamarg	**Versova-Virar-Palghar Sea Link Project**	**Vadhavan Port – Palghar**
Pune Ring Road	Mumbai Trans Harbour Link (MTHL) (Vajpayee Sewri–Nhava Sheva Atal Setu)	Rewas-Aware Port
Virar-Alibaug Multi-Modal Corridor	Balkum–Gaimukh / Thane Coastal Road	Jaigarh port
Revas–Redi Coastal Highway	Eastern Freeway Extension – Chheda Nagar to Anand Nagar, Thane	Jetty (Elephanta Island) Project - Extension

Versova-Bandra Sea Link	Bridge (Vasai-Bhayander) Project	Ro-Ro Terminal (Mora) Project
Jalna-Nanded Expressway	Kalyan Ring Road	Deepwater Port (Ganeshgule) Project
Nariman Point-Kandivali Coastal Road Project	Airoli-Katai Naka Road / Flyover	Vijaydurg Port
Mumbai-Goa / Konkan connectivity projects	Anand Nagar–Saket Elevated Road	Inland Dry Port & Logistics Park (Beed)
Mumbai-Pune Expressway – Missing Link	Gaimukh–Payegaon Creek Bridge	Deepwater Port (Vijaydurg) Project
Connectivity between Vadhvan Port and Samruddhi Mahamarg (Tawa-Bharvir Highway)	Kasarvadavali–Kharbav Creek Bridge	Dighi Sea Port

Source: Projects Today, CareEdge Research

The company has established relationships with key infrastructure authorities, having been associated with 5 of the 10 key projects undertaken by MSRDC, along with 1 project each undertaken by MMRDA and the Maharashtra Maritime Board.

12.2 Business Model and Key Projects

The company operates as a multidisciplinary project management and infrastructure development consulting firm, generating revenue through engineering consultancy, PMC, feasibility studies, engineering design and technical advisory services. Pentacle primarily caters to government authorities, PSUs, private developers and urban local bodies across urban infrastructure, townships, metropolitan development and large-scale public infrastructure programs, with project experience across India and UAE. The company secures these projects through competitive bidding, empanelment or direct nominations. A significant portion of the company's mandates are repeat or extended assignments, especially in project management and execution oversight roles.

13 Competitive Landscape

13.1 Peer Company Profile

Name of the Company	Business Overview
Pentacle Consultants (I) Limited	Pentacle Consultants (I) Limited is a global infrastructure consulting company based in Mumbai, engaged in providing end-to-end solutions across transportation, urban development, water management and public infrastructure sectors. The company offers services including consulting, feasibility studies, planning, project management, detailed design and engineering, etc.
Dhruv Consultancy Services Ltd	Dhruv Consultancy Services Ltd, incorporated in 2003, is an infrastructure consultancy company engaged in providing EPC and integrated project management consultancy services across highways, bridges, tunnels, ports and urban infrastructure projects. The company offers services including DPR and feasibility studies, O&M works, project management consultancy, project planning and design, traffic and transportation engineering, financial and technical audits, structural inspections and techno-legal services, primarily catering to government bodies and infrastructure developers.
Aarvee Engineering Consultants Limited	Aarvee Engineering Consultants Limited, incorporated in 2005, is an infrastructure consultancy company providing services across design, engineering and supervision services across multiple infrastructure sectors. The company also offers feasibility studies, detailed project reports (DPRs), pre-bid services, detailed design, project management consultancy (PMC), construction supervision, operations and maintenance supervision, third-party inspection and lender's engineering services. It undertakes projects under public-private partnership (PPP) and build-operate-transfer (BOT) models, catering to government agencies and private sector clients in India and overseas.

13.2 Operational Comparison

Table 17: Peer profile

Company	Pentacle Consultants (I) Limited	Dhruv Consultancy services Ltd	Aarvee Engineering Consultants Limited
Year of Incorporation	2006 (19+ Years)	2003 (22+ Years)	2005 (21+ Years)
Order Book Value as of FY26 (in Rs million)	4,189.5	2,243.9	24,000+

Source: Company Websites, Investor presentations, Annual report, Transcript, IPO Prospectus; Note: Data is captured as per the latest available public document published by the company;

Pentacle Consultants (I) Limited order book as of 16th September 2026 stood at Rs 4,234.2 million.

Table 18: Sector Presence

Sectors	Pentacle Consultants (I) Limited	Dhruv Consultancy Ltd	Aarvee Engineering Consultants Limited
Road & Highway	✔	✔	✔
Bridges, Flyovers & Sea links	✔	✔	✔
Railways	✘	✘	✔
Metro	✘	✘	✔
Port & Marine Infrastructure	✔	✔	✔
Urban Infrastructure	✔	✔	✔
Water Supply & Resources	✔	✘	✔
Building, Architecture & Social Infrastructure	✔	✔	✔
Power Infrastructure	✘	✘	✔
Tunnels	✔	✘	✔

Source: Company Websites

13.3 Financial Comparison

As of FY26, Pentacle Consultants (I) Limited order book stands at Rs 4,189.5 million and as on 16th September 2026 at Rs 4,234.2 million and Revenue from Operations at Rs 917.3 million.

In FY26, Pentacle Consultants (I) Limited's EBITDA margin and PAT margin stood at 36.0% and 31.5%, respectively, placing the Company highest among the selected peers for FY26.

Based on the average ROE and ROCE for the last three years, Pentacle Consultants (I) Limited ranked highest among the selected peers, with average ROE at 29.2% and average ROCE at 23.3%. The Company's average D/E ratio stood at 0.21 in line among the selected peers.

Table 19: Revenue from operations

Particulars (in Rs Million)	FY24	FY25	FY26
Dhruv consultancy services ltd	817.3	1,019.6	429.0
Aarvee Engineering Consultants Ltd	5,170.0	5,671.3	6,829.7
Pentacle Consultants (I) Limited	302.8	602.3	917.3

Source: Company Annual report, Public disclosures, CareEdge Research

Table 20: EBITDA

Particulars (in Rs Million)	FY24	FY25	FY26
Dhruv consultancy services ltd	133.9	144.3	-330.1
Aarvee Engineering Consultants Ltd	676.5	858.4	781.2
Pentacle Consultants (I) Limited	57.1	142.7	330.6

Source: Company Annual report, Public disclosures, CareEdge Research

Table 21: EBITDA Margin

Particulars	FY24	FY25	FY26	Average (FY24 – FY26)
Dhruv consultancy services ltd	16.4%	14.1%	-76.9%	-15.5%
Aarvee Engineering Consultants Ltd	13.1%	15.1%	11.4%	13.2%
Pentacle Consultants (I) Limited	18.9%	23.7%	36.0%	26.2%

Source: Company Annual report, Public disclosures, CareEdge Research

Table 22: PAT

Particulars (in Rs Million)	FY24	FY25	FY26
Dhruv consultancy services ltd	59.0	69.5	-284.8
Aarvee Engineering Consultants Ltd	408.6	515.9	380.1
Pentacle Consultants (I) Limited	28.9	105.1	288.6

Source: Company Annual report, Public disclosures, CareEdge Research

Table 23: PAT Margin

Particulars	FY24	FY25	FY26	Average (FY24 – FY26)
Dhruv consultancy services ltd	7.2%	6.8%	-66.4%	-17.5%
Aarvee Engineering Consultants Ltd	7.9%	9.1%	5.6%	7.5%
Pentacle Consultants (I) Limited	9.5%	17.5%	31.5%	19.5%

Source: Company Annual report, Public disclosures, CareEdge Research

Table 24: Debt-to-Equity

Particulars	FY24	FY25	FY26	Average (FY24 – FY26)
Dhruv consultancy services ltd	0.23	0.15	0.27	0.22
Aarvee Engineering Consultants Ltd	0.19	0.24	0.29	0.24
Pentacle Consultants (I) Limited	0.24	0.14	0.24	0.21

Source: Company Annual report, Public disclosures, CareEdge Research

Table 25: Return on Equity

Particulars	FY24	FY25	FY26	Average (FY24 – FY26)
Dhruv consultancy services ltd	9.6%	8.2%	-32.4%	-4.9%
Aarvee Engineering Consultants Ltd	24.2%	24.1%	13.9%	20.7%
Pentacle Consultants (I) Limited	9.8%	28.7%	49.1%	29.2%

Source: Company Annual report, Public disclosures, CareEdge Research

Table 26: Return on Capital Employed

Particulars	FY24	FY25	FY26	Average (FY24 – FY26)
Dhruv consultancy services ltd	10.5%	8.5%	-46.7%	-9.2%
Aarvee Engineering Consultants Ltd	26.1%	26.1%	15.7%	22.6%
Pentacle Consultants (I) Limited	8.4%	28.0%	33.6%	23.3%

Source: Company Annual report, Public disclosures, CareEdge Research

Formula Sheet

Parameter	Formula
Revenue	Revenue from Operations
EBITDA	Profit before tax, extraordinary and exceptional items + Interest Exp on borrowing (Excluding Bank charges and Cost of Borrowing) + Depreciation & Amortization - Other Income
EBITDA Margin	EBITDA/ Revenue from operations
EBIT	EBITDA - Depreciation & Amortization
PAT	Profit After Tax
PAT Margin	Profit after Tax/Revenue from operations
Debt	Long term Borrowings + Short term Borrowings
Total Equity	Equity Share Capital+ Other Equity reserves & surplus (Including Non-controlling interest)
Debt to Equity	(Long term Borrowing + Short term Borrowing)/ Total Equity
Return on Equity (ROE)	PAT/ ((Opening Total Equity) + (Closing Total Equity))/ 2)
Return on Capital Employed (ROCE)	EBIT/ Capital employed
Capital Employed	Total Equity (Excluding Non-controlling interest) – Deferred Tax Assets + Deferred Tax Liabilities + long term borrowings + short-term borrowings

List of Abbreviations	
ADB	Asian Development Bank
AfDB	African Development Bank
AI	Artificial Intelligence
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
AR	Augmented Reality
BE	Budget Estimates
BIM	Building Information Modelling
BoA	Board of Approval
BOQs	Bill of Quantities
BOT	Build-Operate-Transfer
BRSR	Business Responsibility and Sustainability Reporting
BRT	Bus Rapid Transit
BRTS	Bus Rapid Transit Systems
CAGR	Compound Annual Growth Rate
CCTV camera	Closed-Circuit Television camera
CER	City Economic Regions
CPSE	Central Public Sector Enterprises
CVC	Central Vigilance Commission
CY	Calendar Year (Jan - Dec)
DEA	Department of Economic Affairs
DPRs	Detailed Project Reports
EFTA	European Free Trade Association
EIA	Environment Impact Assessment
EMP	Environment Management Plan
EPC	Engineering, Procurement and Construction
ESG	Environmental, Social and Governance
EV	Electric Vehicle
EXIM	Export-Import
FAME	Faster Adoption and Manufacturing of Electric Vehicles
FDI	Foreign Direct Investment
FOBs	Foot Over Bridges
FRE	First Revised Estimates
FTA	Free Trade Agreement
FY	Financial Year (Apr - Mar)
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
GFR	General Financial Rules
GIS	Geographic Information System
GNDI	Gross National Disposable Income
GVA	Gross Value Added
GW	GigaWatt
HAM	Hybrid Annuity Model

ICT	Information and Communication Technology
IDB	Inter-American Development Bank
IEA	International Energy Agency
IIP	Index of Industrial Production
IMF	International Monetary Fund
InvITs	Infrastructure Investment Trusts
IoT	Internet of Things
IT/ITES	Information Technology Enabled Services
IWDC	Inland Waterways Development Council
JICA	Japan International Cooperation Agency
JJM	Jal Jeevan Mission
LARR	Land Acquisition, Rehabilitation and Resettlement
LCS	Least Cost System
LEED	Leadership in Energy and Environmental Design
MDF	Maritime Development Fund
MEP	Mechanical, Electrical, and Plumbing
MMT	Million Metric Tonnes
MMTPA	Million Metric Tonnes Per Annum
MoHUA	Ministry of Housing and Urban Affairs
MoRTH	Ministry of Road Transport and Highways
MoUs	Memorandum of Understanding
MUTP	Mumbai Urban Transport Project
NaBFID	National Bank for Financing Infrastructure and Development
NH	National Highways
NHAI	National Highways Authority of India
NHIDCL	National Highways and Infrastructure Development Corporation Limited
NHSRCL	National High-Speed Rail Corporation Limited
NIP	National Infrastructure Pipeline
NMP	National Monetization Pipeline
NMT	Non-Motorised Transport
O&M	Operations and Maintenance
PFCE	Private Final Consumption Expenditure
PIB	Press Information Bureau
PLI	Production-linked Incentive
PMAY	Pradhan Mantri Awaas Yojana
PMC	Project Management Consultancy
PPP	Public-Private Partnership
PPP-AC	Public Private Partnership Appraisal Committee
PSUs	Public Sector Undertakings
PWDs	Public Works Departments
QCBS	Quality and Cost Based Selection
RBI	Reserve Bank of India
RE	Revised Estimates

REITs	Real Estate Investment Trusts
ROB	Road Over Bridge
RUB	Road Under Bridge
SBDS	Shipbuilding Development Scheme
SBFAS	Shipbuilding Financial Assistance Scheme
SBM-U	Swachh Bharat Mission–Urban
SEBI	Securities and Exchange Board of India
SEZs	Special Economic Zones
SIA	Social Impact Assessments
SPVs	Special Purpose Vehicles
STPs	Sewage Treatment Plants
TOT	Toll-Operate-Transfer
TWh	Terawatt-hour
UAE	United Arab Emirates
UCF	Urban Challenge Fund
UIDF	Urban Infrastructure Development Fund
ULBs	Urban Local Bodies
ULBs	Urban Local Bodies
UN	United Nations
USAID	United States Agency for International Development
USBRL	Udhampur-Srinagar-Baramulla Rail Link
USD	United States Dollar
VOP	Vehicular Overpass
VR	Virtual Reality
VUP	Vehicular Underpass
WTP	Water Treatment Plants
Y-o-Y	Year on Year

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