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The Great Indian Railways

INR 50 trillion Opportunity:
'Future Ready' Railway System by 2030

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The Great Indian Railways

Double-digit growth opportunity for Railway companies

CELEBRATING INDIAN RAILWAY DAY –

APRIL 16TH

The day commemorates the first passenger train journey in India, from Bori bunder (now Mumbai) to Thane, on April 16, 1853

INR 50 trillion Opportunity: 'Future Ready' Railway system by 2030

India is making significant strides in improving its railways. The government has announced various plans including Bullet trains, indigenously developed semi-high-speed trains, upgrading existing lines for higher speeds, expanding new lines, modernization of railway stations, and developing dedicated freight corridors.

As per the government's estimate Indian Railways would need Capital investment of around ₹ 50 lac crore (~USD 600 billion) up to 2030 for network expansion and capacity augmentation, rolling stock induction and other modernization works.

Capex budget of Railways has grown at CAGR of more than 20% over the last 14 years and in the last five years, since the announcement of National Rail Plan (NRP), 11.4 lac crore has been allocated, and our conservative estimate indicates additonal15 lac crore budgetary allocation by 2030. This augmented with capex from private sector and states take the total investment close to the initial estimate of 50 lac crore. This opens up huge total addressable market (TAM) for the railway companies that are a part of this ecosystem.

According to various sources, India's logistics cost is around 14% of the GDP which is significantly higher than what is observed in the developed countries where the range is 8-9% of the GDP. Similarly, China's logistics cost is estimated to be 8% of its GDP.

NRP envisages to increase railway's share of freight traffic from the current 27-28% to 45%, thus helping bring down the total logistics cost to 7-8% range.

This report delves deeper into the Railway Ecosystem, Capex budget of Railways, its financial statements, recent developments, and future prospects, highlighting its impact on India's socio-economic landscape and discuss why we see ***the Great Indian Railways as a Great Investment Opportunity.***

"Railway has long been the 'Lifeline of India' and now it is also the 'Growth Engine' for the Indian Economy."

Indian Railways

Indian Railways, one of the world's largest railway networks, plays a pivotal role in the country's transportation infrastructure, connecting remote regions with bustling urban centers. Serving millions of passengers daily, Indian Railways (IR) is not only a lifeline for commuters but also a significant contributor to the nation's economy. Indian Railways operates 13,000 trains daily, connecting 7,325 stations across the nation.

Currently, logistics costs in India account for approximately 14-15% of the total GDP, relatively high compared to developed countries where it is typically below 10%. Enhancing the railway infrastructure is crucial to reducing these costs. Train transportation emits 28 gm of carbon per NTKM, significantly less than the 64 gm per NTKM for road transportation, making rail transport an eco-friendly option.

Brief History

The first railway line in India was constructed in 1835 for freight, and the first passenger train ran between Mumbai and Thane in 1851. By 1905, the railway network had expanded to 26,955 kilometers, and by 1947, it reached 65,217 kilometers.

Railways were built primarily for strategic and commercial reasons, including the movement of troops and goods like opium and cotton. British investors were guaranteed a 5% return on capital, leading to extensive railway construction funded by private and government sources. Post independence, Chittranjan Locomotive Works (1950) and Integral Coach Factory (1955) were established for domestic production of locomotives and coaches.

Post-1947, the railway network was divided, with significant portions going to Pakistan, and India retained 53,168 kilometers of track. Electrification, which began in 1925, gained momentum in the last 10 years, and has reached 98% of the network by 2025. It is likely to reach 100% electrification sometime in 2025 or early 2026.

Various committees, including those led by Rakesh Mohan (2001, 2014) and Bibek Debroy (2015), recommended reforms such as corporatization, improved accounting practices, and increased private sector participation.

Railway Ecosystem - At a glance

Indian Railways has a broad ecosystem of public and private enterprises spanning across multiple sectors that are exposed to this Growth Vector of rail infrastructure transformation.

Exhibit 1: Indian Railways linked ecosystem

The rail infra Growth Vector has multiple sub-growth vectors in the form of Power (railway being the largest consumer of power currently), Engineering and Construction, Machinery, Equipment & Components (Trainsets, Rolling stock, Locomotives, Wagons, OHE, etc), Telecom (Signalling and safety systems), Specialized Software (Unified Logistics Interface Platform, Ticketing, ERP, etc.), Logistics (Multi-modal cargo hubs, 3PL, etc.) and Infrastructure Financing.

Amrit Kaal Vision: Activating the Virtuous Cycle of Growth

The Amrit Kaal Vision - to take India on a path to 'Viksit Bharat' has brought focus on reforms and strategic capital deployment to ensure a prosperous and resilient future. The unprecedented capital deployment in creating growth assets will result in a sustainable virtuous cycle of growth as shown below:

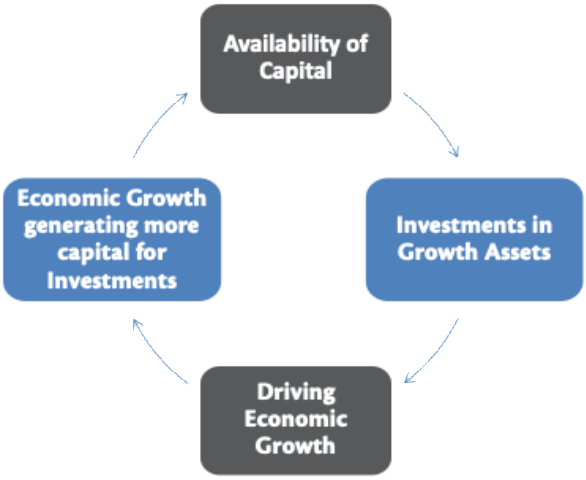


Exhibit 2: Amrit kaal virtuous growth cycle

This approach of creating growth assets is initiated by creating both digital and physical infrastructure to enhance productivity, foster inclusive development, and attract private investments. The phase I primarily focussed on digital infra and the process of creating India as one single market is nearly complete. Now the focus is on the physical infra where the largest piece now is railways.

Amrit Kaal Phase 1: GST & Digital Infrastructure: Creating a National Marketplace

Exhibit 3: Amrit Kaal phase 1 (GST & Digital Infrastructure)

India's digital infrastructure has seen remarkable advancements with the rollout of 5G, Aadhaar digital identity, Unified Payments Interface (UPI), Immediate Payment Service (IMPS), Open Network for Digital Commerce (ONDC), Goods and Services Tax Network (GSTN) etc. These initiatives have created a robust national market, facilitated seamless transactions and improved financial inclusion.

Now that the systems to allow a national transactions market place is in place, the next step is to create physical infrastructure to facilitate the transportation of goods across the nation.

Amrit Kaal Phase2: Physical Infrastructure: Building the Logistics & Transport Network

Key initiatives like NIP, NLP, NRP, NGHM are all aiming to create an integrated, seamless, and efficient logistics network, reducing costs and improving performance. The Indian Railways is at the centre of this futuristic logistics network.

Exhibit 4: Amrit Kaal phase 2 (Physical Infrastructure)

The financing of these investments is facilitated by easy access to capital, supported by government initiatives and private sector participation. This creates a favourable business environment, attracting further private investments and driving economic growth.

Amrit Kaal Phase 2- Modernising Railway Infrastructure

The development of world-class railway infrastructure is crucial, serving as a vital growth engine for India's supply chain. The following notable developments are taking place in Railways sector:

Metro Rail

- No. of Cities oper: 17
- No. of Cities w-i-p: 28
- No. of Cities proposed: 16
- Operational Routes: 946 Km
- Under Cons Routes: 970 Km
- ApprovedRoutes: 311 Km
- Proposed Routes: 1,003 Km

- **DMRC Avg Speed: 34 kmph**

RRTS

Delhi-NCR RRTS

- Operational Routes: 55 Km
- Under Cons Routes: 40 Km
- Proposed Routes: 1,000 Km

- No. of routes proposed: 12

- **Avg Speed: 100 kmph**

Bullet Train

High Speed Rail

- Under Cons Routes: 508 Km

- No. of routes proposed: 15
- Proposed Routes: 6,668 Km

- **Speed exceeding 250 kmph**

Exhibit 5: Metro, Semi-speed and High-Speed Rails Infrastructure

Tilting Trains: Indian Railways is modernizing its rolling stock by introducing tilting trains, which can navigate curves at high speeds. Around 100 Vande Bharat trains will feature this technology.

Smart Locos: With most routes electrified, Indian Railways is converting diesel locomotives to electric ones, reducing fossil fuel consumption and supporting its goal of becoming a net-zero carbon emitter by 2030.

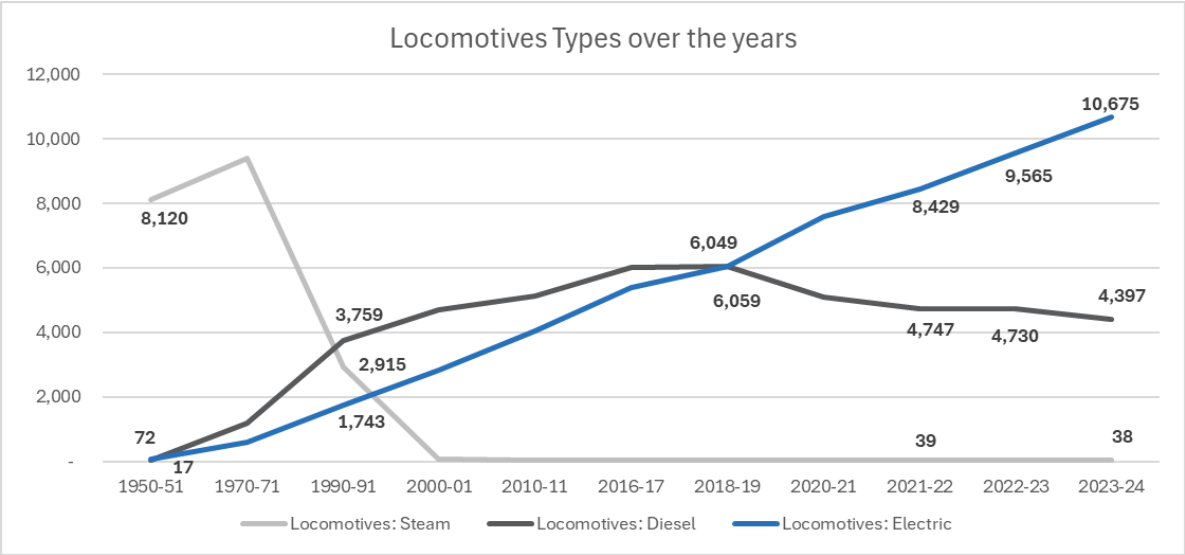


Exhibit 6: Indian railways locomotives growth and shift over the years

Integrated Vehicle Control Unit: Modern safety and operational subsystems, such as distributed power wireless control system (DPWCS), Kavach, and end of train telemetry (EoTT), are being integrated into locomotive controls.

Amrit Bharat Scheme Revolutionizes Railway Stations Across India

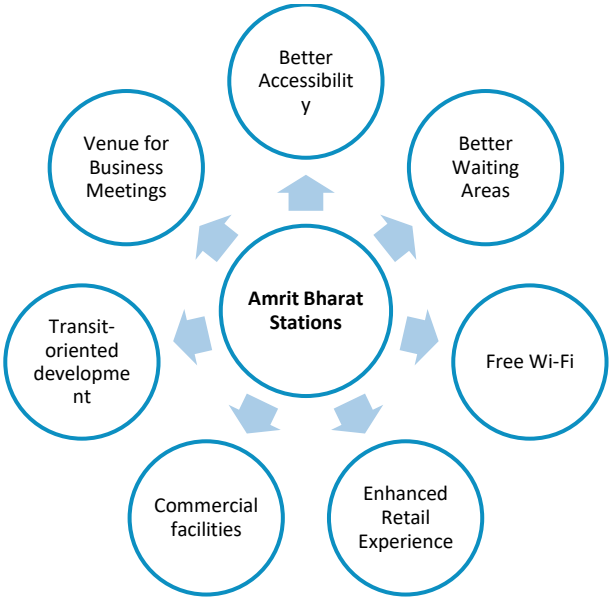
India's railway stations are set for a major transformation under the Amrit Bharat Station Scheme. This ambitious plan aims to modernize over 1,300 stations, with the Prime Minister laying the foundation for 553 stations on February 26, 2024, with work already in progress on 508 stations.

The scheme focuses on enhancing passenger amenities with modern facilities like aesthetically designed facades, resurfaced platforms, landscaped areas, roof plazas, kiosks, food courts, and kids' play areas. It also includes widening roads, removing unwanted structures, installing clear signage, creating pedestrian pathways, and improving parking and lighting.

A key feature is the incorporation of local culture and heritage into station designs. For example, Ahmedabad station draws inspiration from the Modhera Sun Temple, while Dwarka station reflects the Dwarkadheesh Temple. Stations like Gurugram and Baleshwar will have themes based on IT and Jagannath Temple, respectively.

The scheme's origins trace back to 2021 with the modernization of Gandhinagar station, followed by Rani Kamalapati station. In 2022, the redevelopment of New Delhi, Ahmedabad, and Chhatrapati Shivaji Maharaj Terminus was approved.

Uttar Pradesh leads with 149 stations under redevelopment, followed by Maharashtra (126), West Bengal (94), Gujarat (87), Bihar (86), Rajasthan (82), and Madhya Pradesh (80).



Examples of Planned Development:

Habibganj (Bhopal)

Shivaji nagar (Pune)

Bijwasan

New Delhi

AJNI, Nagpur Station

Present Position:

How it will look like:

Modernisation of Rolling Stock

Vande Bharat: Launched in 2019, Vande Bharat is India's first indigenous semi high-speed train, available in sleeper, chair car, and metro models. These trains feature quick acceleration, a maximum speed of **180 kmph**, automatic sliding doors, retractable footsteps, and zero discharge vacuum bio toilets. The railways are also partnering with technology firms to manufacture energy-efficient trains.

During the period 2019-2020 to 2023-2024, 772 train services, including 100 Vande Bharat services, have been introduced over the Indian Railways network. BEML aims to start exporting Vande Bharat, metro trains in coming years.

Amrit Bharat: Recently introduced, Amrit Bharat trains are LHB push-pull trains with locomotives at both ends for better acceleration and enhanced passenger comfort. These non-air-conditioned, low-cost, sleeper-cum-unreserved express trains connect cities over 800 km apart or with travel times exceeding 10 hours. These trains can reach speeds of up to **130 kmph**.

'Railway Minister Ashwini Vaishnaw said 100 Amrit Bharat, 50 Namo Bharat and 200 Vande Bharat, both sleepers as well as chair car variants, will be manufactured in the next 2-3 years'

Tourist Coaches: Indian Railways has introduced Vistadome tourist coaches to provide a world-class travel experience. These coaches offer panoramic views through wider windows and transparent ceiling sections, observation lounges, electronically controlled opalescence glass windows, ergonomically designed reclining seats with 180-degree rotation, and CCTV systems.

Smart Coaches: Indian Railways is incorporating smart coaches equipped with modern amenities like smart public address and passenger information systems, smart HVAC systems, and IoT-based monitoring systems. Real-time data collection enables predictive maintenance, optimizing energy usage and traffic management. For FY2026, the new general coaches target is 2000.

Double-Decker Freight Train For SUV Transport

On Jan. 7, 2021, Prime Minister Narendra Modi flagged off the world's first double-stack long-haul container train from New Ateli to New Kishanganj. In Feb. 2025, Kia India, a leading mass-premium car manufacturer, has launched the country's first double-decker freight train for SUV transport from Penukonda railway station in February.

The ACT1 model rake, consisting of 33 specially designed wagons, features an innovative double-decker design that allows SUVs to be loaded onto both decks, enhancing capacity and reducing transportation costs.

This innovation aims to revolutionize automotive logistics by significantly boosting transport efficiency and increasing each train's load capacity. **The new double-decker train can carry up to 264 cars, more than twice the capacity of a regular train, which holds around 100 vehicles.**

Exhibit 7: Double-decker Freight Trains

So far, Kia has transported over 60,000 SUVs across northern, eastern, and western India via the railway network. This increased capacity will enhance operational efficiency, reduce transit times, and help meet the growing demand in India's automotive market.

Electric Railway Revolution

In the past decade, India has electrified 40,000 kilometers of track and is on track to achieve 100% electrification this year, with 97% of its broad-gauge lines already transitioned.

This gives India the second highest electrification rate among major rail networks globally, just behind Switzerland. In comparison, the UK has 37% electrification, Australia 10%, and the US less than 1%.

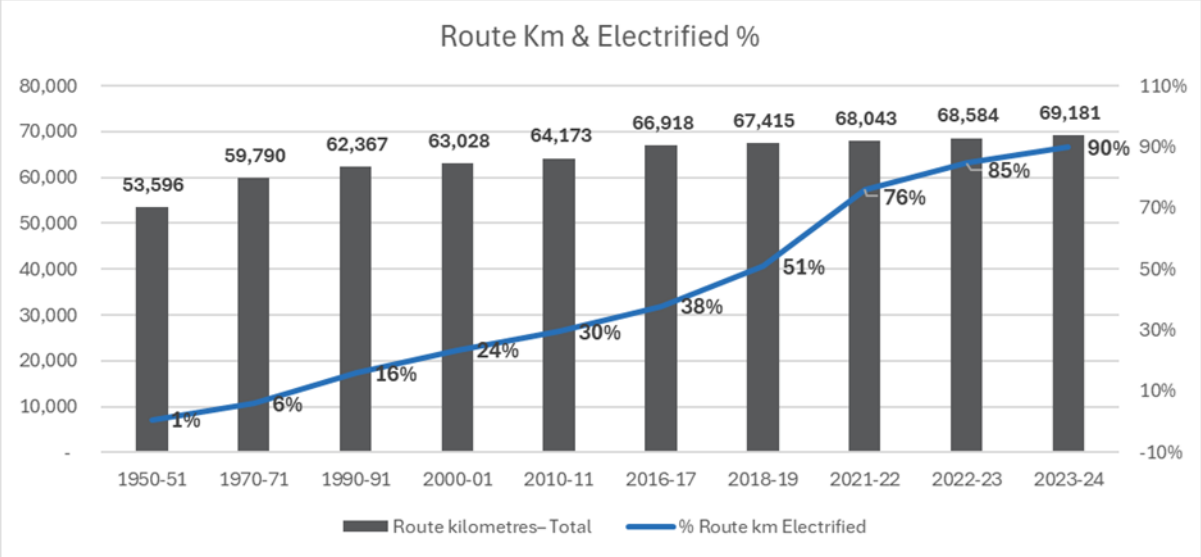


Exhibit 8: Indian railways total Route-Kms and % Route Km electrified over the years

India's journey towards electrification began in 1925 with the first electric train running in Mumbai. By the time of independence, there were 388 kilometers of electrified commuter lines. Inspired by France's SNCF, India adopted similar systems and standards, prioritizing lines through a series of five-year plans, often transitioning directly from steam to electric to avoid volatile oil prices.

In 2014, the government significantly increased its ambitions and funding for a fully electric railway. **The pace of electrification accelerated, with 6,565 kilometers of track electrified in 2022-23 alone, equivalent to about a third of the UK's entire network.**

India Railways continues to innovate with low-carbon solutions, including trials of direct solar power and hydrogen trains.

Electrification is the first step in a broader plan to achieve net zero emissions on the railway network by 2030. The rapid pace of track upgrades suggests this goal is within reach.

"India's rail crews got more done by their mid-morning tea-break on January 1st than Britain got done all year."

- JEREMY WILLIAMS (UK based author)

Source: https://earthbound.report/2025/02/03/indias-electric-railway-revolution/

PM Gati Shakti: Rs.11 Lakh Crore Initiative to Revolutionize India's Logistics Infra

In a major push to transform India's logistics sector, the Ministry of Finance has identified 434 projects under the PM Gati Shakti initiative.

With a budget of Rs 11.17 lakh crore, three economic corridors have been designated to enhance multi-modal connectivity and alleviate congestion in the railway network. The objective is to develop multi-modal logistics facilities under public-private partnership (PPP) mode and reduce logistics costs.

These corridors include:

(i) **energy, mineral, and cement corridors**, 192 projects identified to support India's energy demands and resource transportation

(ii) **port connectivity corridors**, 42 projects to bolster the efficiency of maritime transport, enabling seamless connectivity

(iii) **high traffic density corridors**, 200 projects aim to alleviate congestion and enhance high-traffic routes

68 projects sanctioned: Covering 6,290 km of track with a cost of ₹1.11 lakh crore.

88 projects under appraisal: Spanning 10,603 km, valued at ₹2.25 lakh crore, currently undergoing inter-ministerial consultations.

Transforming Freight Logistics: India's Dedicated Freight Corridors

The Dedicated Freight Corridors (DFCs) in India are a transformative initiative aimed at enhancing the efficiency and capacity of freight transportation. Managed by the Dedicated Freight Corridor Corporation of India Limited (DFCCIL), these corridors are designed to separate freight traffic from passenger traffic on high-density routes, thereby improving operational efficiency and reducing costs.

Corridor	Route	Length (Km)	Major Bridges	Road over Bridges	Road under Bridges	Rail-over-rail Flyover
Eastern Dedicated Freight Corridor (EDFC)	Sonnagar (Bihar) to Sahnewal (Punjab)	1,337	209	120	205	23
Western Dedicated Freight Corridor (WDFC)	JNPT (Mumbai) to Dadri (UP)	1,506	335	102	335	26

Exhibit 9: Major details of EDFC & WDFC as of FY24 DFCCIL annual report

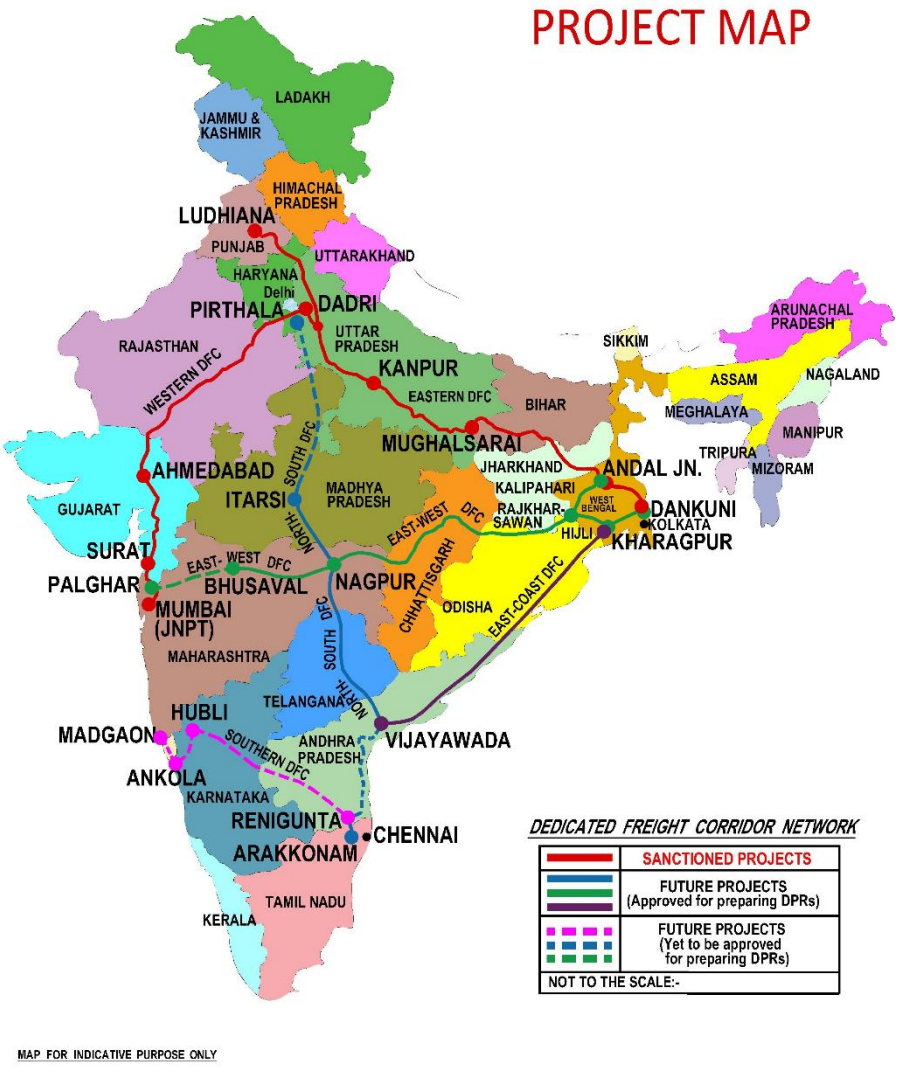


Exhibit 10: Project Map of Indian Railways DFCs vision

DFCs Slash Transit Times by Up to 40% and Boost Efficiency by 30% for Key Industries

- DFCs account for only 4% of the total Rail network but handle over 10% of the Gross Tonne Kilometres (GTKMs).
- Industries along the corridor report an average 30% reduction in freight transit times. Cement companies, in particular, have experienced a 25% improvement in freight evacuation efficiency.
- DFC contributes significantly to the environment by saving 457 million tons of CO2 emissions over 30 years.
- Transit Times between Sonnagar and Dadri was 34 hours, now after connection of EDFC, transit times are in the range of 19-20 hours, an impressive reduction of 40% transit time
- Milk from Palanpur to the NCR region which used to take about 24 hrs has been reduced to 16 hrs (reduction of approx. 30% of transit time)
- Transit time of EXIM traffic to and from the NCR area to Western ports has come down from about 72 hours to 24-28 hours.

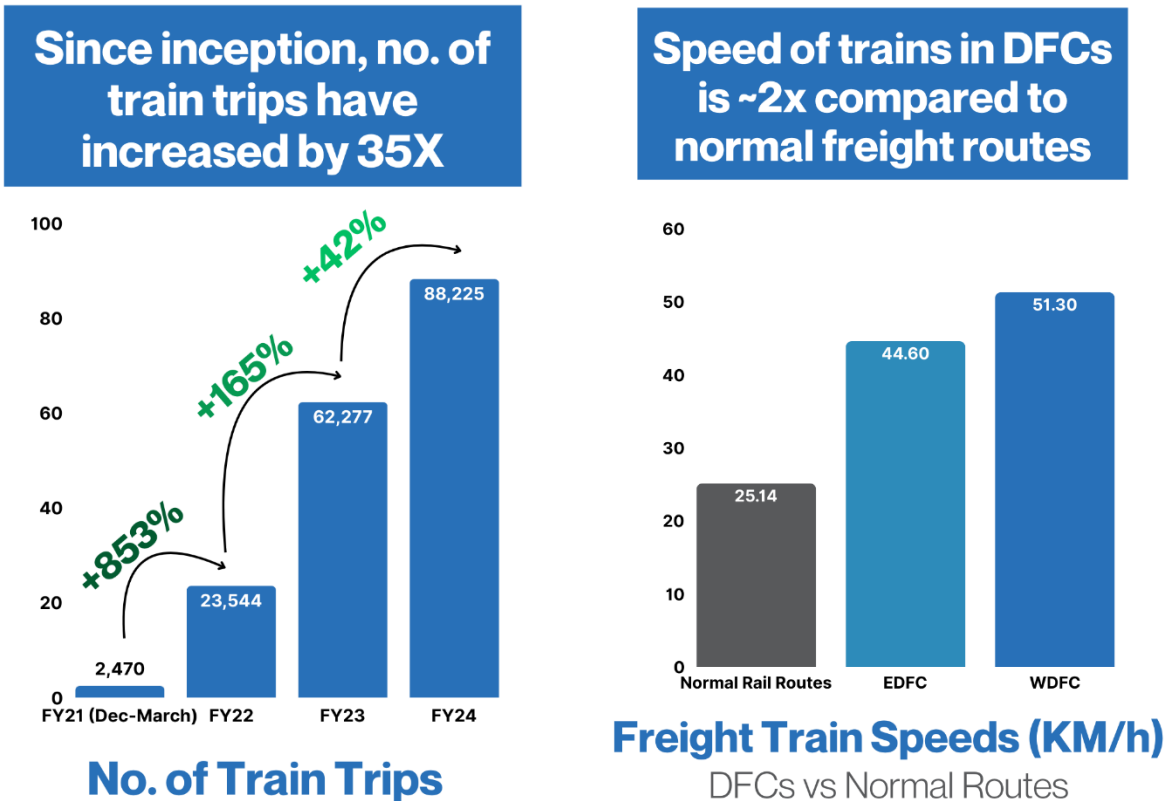
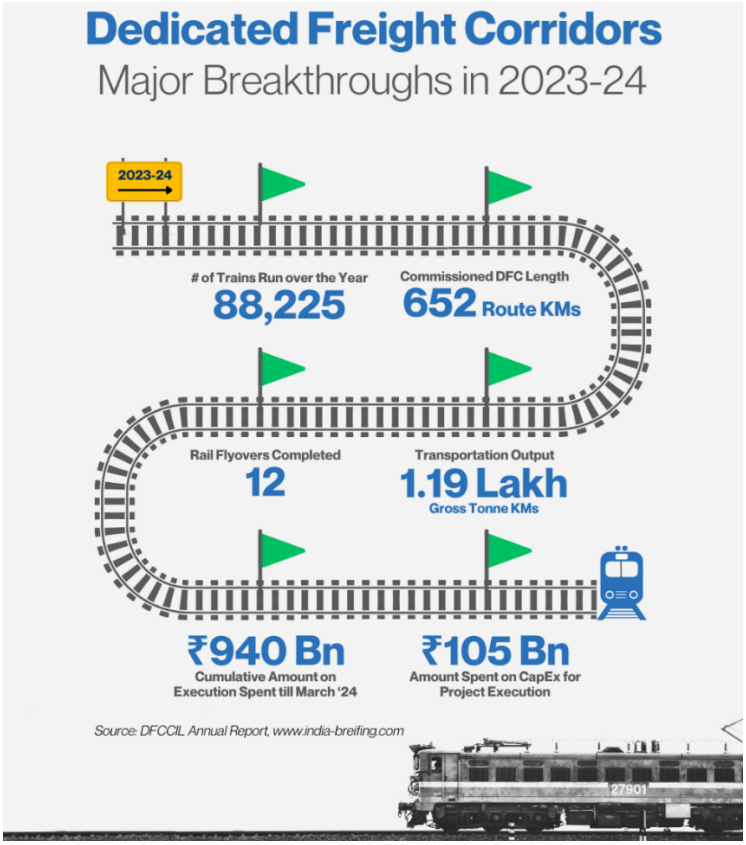


Exhibit 11: DFCs year-wise no. of train trips since inception and average speed in FY24



Railway's Share in total Logistics

~27%

Share of Roadways:
~71%

Daily Trains on DFCs, 2024

325

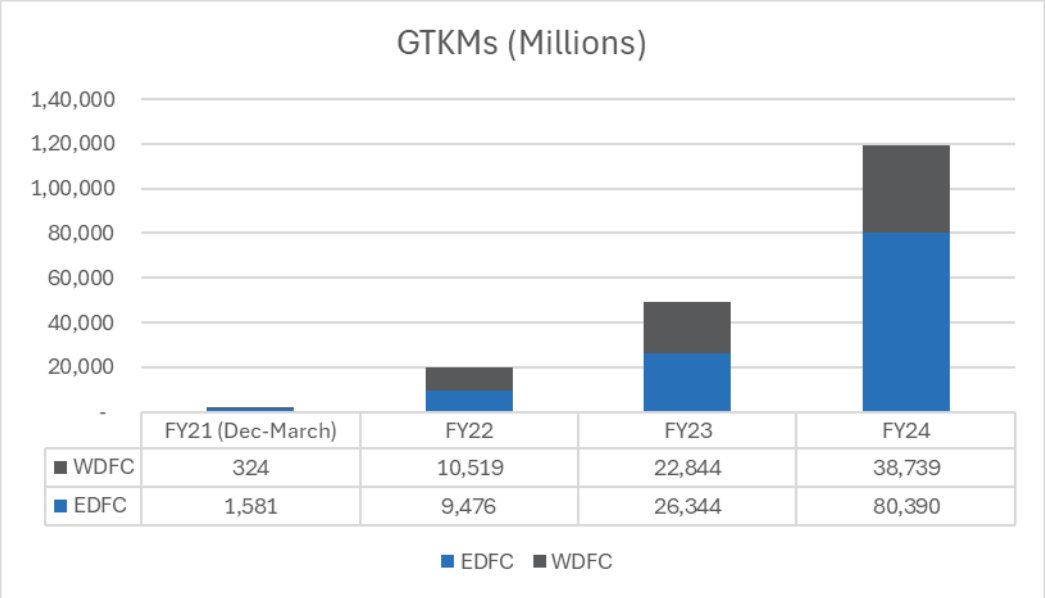
(60% Y.o.Y)

Total # of Trains Run
Till Oct' 2024

72,617

Gross Tonne-Kilometres (GTKM):

This metric measures the movement of freight or passengers by considering the total weight (including the weight of the vehicles) multiplied by the distance travelled.



	FY21 (Dec-March)	FY22	FY23	FY24
WDFC	324	10,519	22,844	38,739
EDFC	1,581	9,476	26,344	80,390

Exhibit 12: GTKMs growth on DFCs since inception

Budgetary Capex to Unlock INR 25 trillion (2020-30)

As per the government's estimate, as per the statement given by the former Minister of Railways and Commerce & Industry, Shri Piyush Goyal, the Indian Railways would need Capital investment of around ₹ 50 lakh crore up to 2030 for network expansion and capacity augmentation, rolling stock induction and other modernization works to enable better delivery of passenger and freight services and to improve its modal share in transport. There is steep increase in the budgetary support to railway capex in the last decade and it is anticipated that this shall continue, at least, in the next five years amounting to an estimated 25 trillion capex support from the government from 2020-30. To bridge the gap in capital funding and to induct modern technologies and improve efficiencies, it is being planned to use Public Private Partnership (PPP) model for few initiatives.

Source: https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1655118

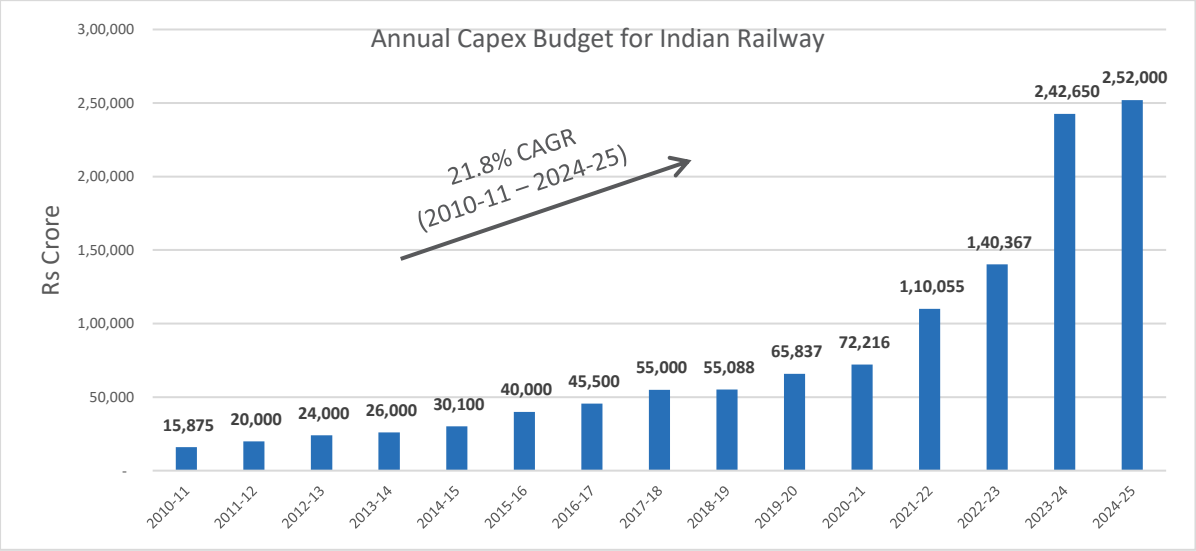


Exhibit 13: Budget support for Railway Capital Expenditure excluding IEBR (2010-11 to 2024-25)

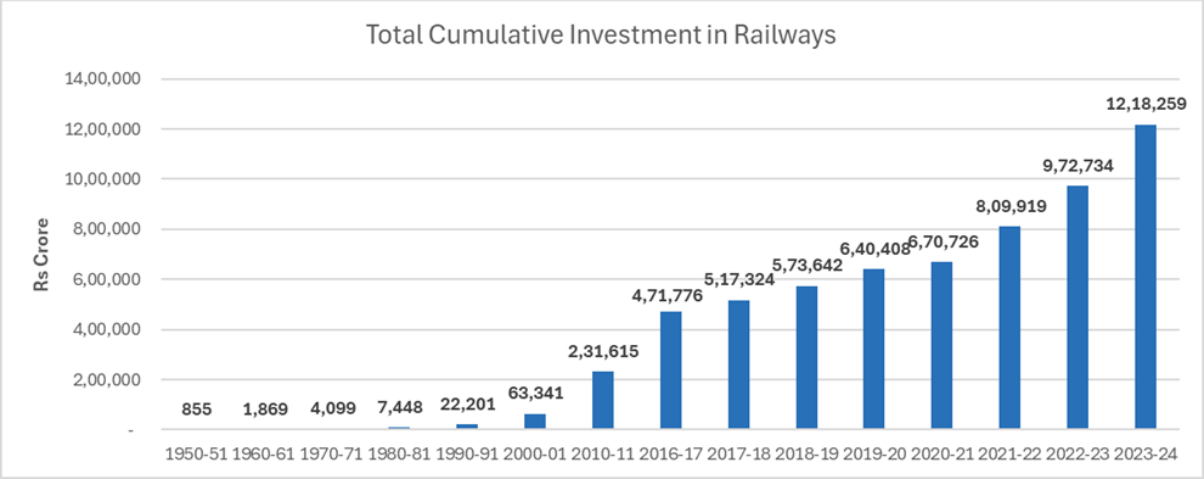
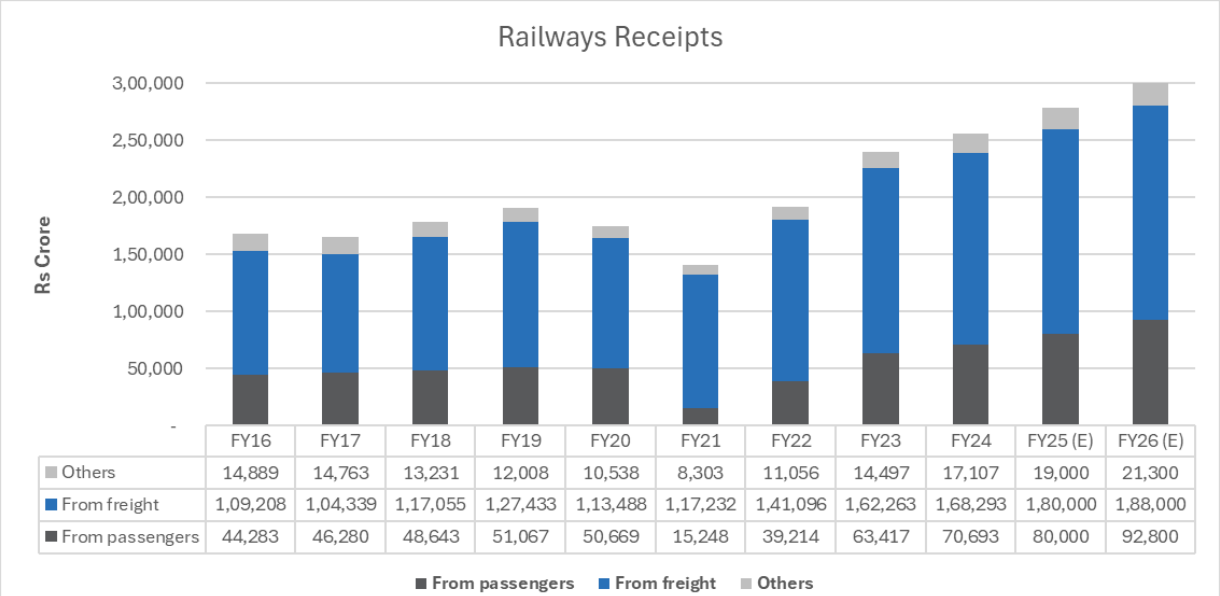


Exhibit 14: Total cumulative investment done in Indian Railways since independence

Freight Revenue: The Backbone of Railway Finances

Freight revenue has consistently been the cornerstone of railway finances, contributing the largest share to the total revenue receipts. It accounts on average 67% of total revenue receipts from FY16 to FY26 (E), highlighting its critical role in sustaining the railway's financial health.
The projected figures for FY25 and FY26, with freight revenue expected to reach Rs 1,80,000 crore and Rs 1,88,000 crore respectively, further emphasize its pivotal role.



	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25 (E)	FY26 (E)
Others	14,889	14,763	13,231	12,008	10,538	8,303	11,056	14,497	17,107	19,000	21,300
From freight	1,09,208	1,04,339	1,17,055	1,27,433	1,13,488	1,17,232	1,41,096	1,62,263	1,68,293	1,80,000	1,88,000
From passengers	44,283	46,280	48,643	51,067	50,669	15,248	39,214	63,417	70,693	80,000	92,800

Exhibit15: Indian Railways Receipts from Freight, Passengers and others over the years

Passenger revenue, the other major source of revenue receipts is projected to grow at 13.5% CAGR from FY23 to FY26 with projections indicating a rise to Rs 92,800 crore by FY26. Overall, the data highlights the railway's reliance on freight revenue as a stable and growing source of income, which is crucial for its long-term sustainability and growth.

This analysis suggests that strategic investments in freight services could yield significant financial benefits for the railways.

13% CAGR in Budgetary Support from FY16 to FY26 (E)

The Indian Railways budget was merged with Union budget in 2017. The total budgetary support for railways has seen a significant upward trend over the years, reflecting the government's commitment to enhancing railway infrastructure and services.

From FY16 to FY26 (E), budgetary support has increased from Rs 76,675 crore to an estimated Rs 2,62,200 crore. This substantial rise underscores the importance of government funding in driving the modernization and expansion of the railway network.

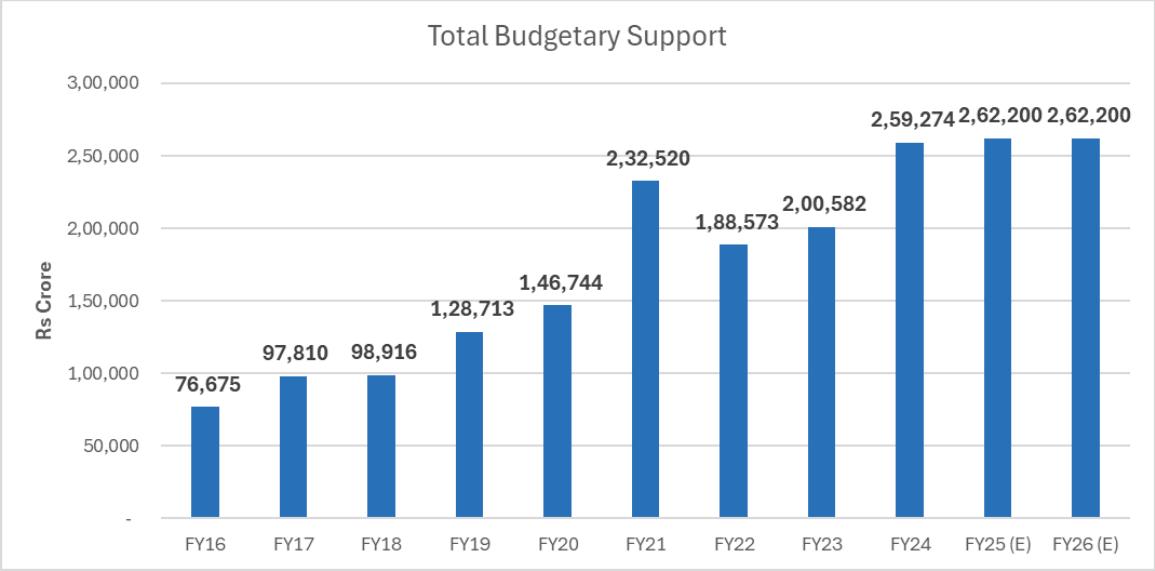


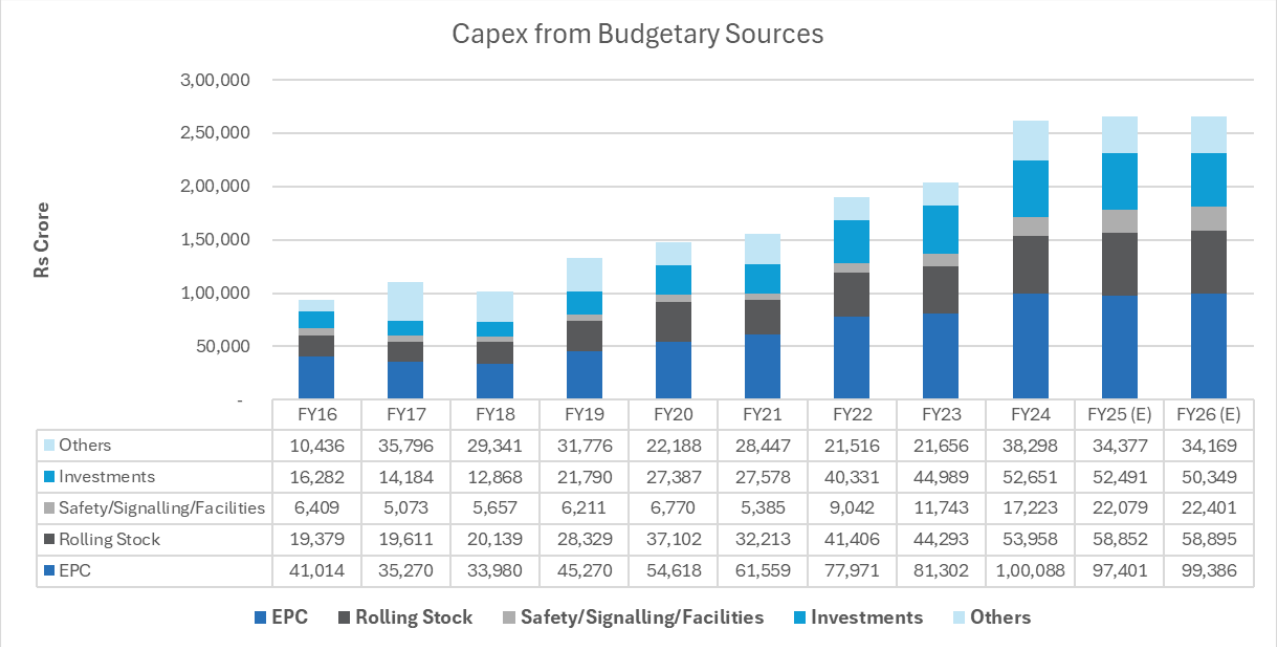
Exhibit 16: Total Budgetary Sources receipts of Indian Railways over the years

This financial backing is crucial for implementing large-scale projects, upgrading technology, and improving passenger and freight services.

Now let's further analyse the usage of the Budgetary support resources by Railways.

EPC & Rolling Stock Accounts for ~59% of Capex

The data on budgetary capital expenditure (Capex) for railways reveals a strategic focus on enhancing infrastructure and rolling stock, which are critical for operational efficiency and capacity expansion.



	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25 (E)	FY26 (E)
Others	10,436	35,796	29,341	31,776	22,188	28,447	21,516	21,656	38,298	34,377	34,169
Investments	16,282	14,184	12,868	21,790	27,387	27,578	40,331	44,989	52,651	52,491	50,349
Safety/Signalling/Facilities	6,409	5,073	5,657	6,211	6,770	5,385	9,042	11,743	17,223	22,079	22,401
Rolling Stock	19,379	19,611	20,139	28,329	37,102	32,213	41,406	44,293	53,958	58,852	58,895
EPC	41,014	35,270	33,980	45,270	54,618	61,559	77,971	81,302	1,00,088	97,401	99,386

Exhibit 17: Break-up of Budgetary receipts capex in different sections

Particulars (Rs Crore)	3-year CAGR	7-year CAGR	10-year CAGR
EPC	6.9%	11.9%	9.3%
Rolling Stock	10.0%	11.0%	11.8%
Safety/Signalling/Facilities	24.0%	20.1%	13.3%
Investments	3.8%	12.7%	12.0%
Others	16.4%	1.0%	12.6%

Exhibit 18: CAGR growth of Budgetary receipts capex in different sections

- The expenditure on Engineering, Procurement, and Construction (EPC) projects has seen a significant increase, with projected CAGR of 11.9% over the 7 years from FY19 to FY26 (E). This category consistently accounts for the largest share of budgetary Capex, averaging around 37-38% in recent years. The substantial investment in EPC projects underscores the importance of developing and maintaining robust railway infrastructure to support both passenger and freight services.

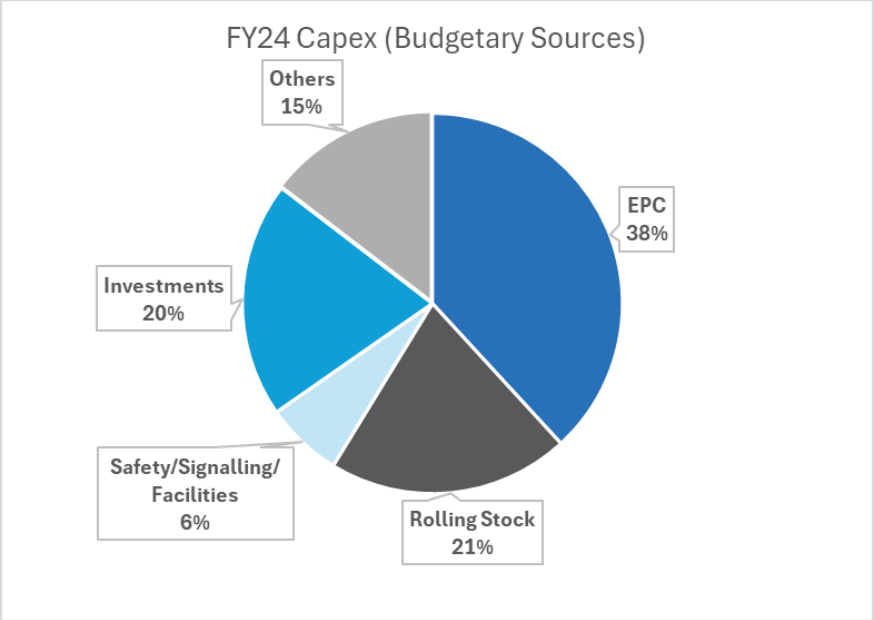


Exhibit 19: Budgetary Capex allocation to different sections in FY24

- Rolling stock, which includes locomotives, coaches, and wagons, has also received considerable attention, with projected 7-year CAGR of 11% from FY19 to FY26 (E). This investment is crucial for modernizing the fleet, improving service reliability, and enhancing passenger comfort.

- The allocation for safety, signalling, and traffic facilities has grown even more rapidly, with a remarkable projected 7-year CAGR of 20% from FY19 to FY26 (E). This reflects a heightened focus on safety measures and technological upgrades to ensure secure and efficient railway operations.

Particulars (Rs Crore)	Avg Capex FY16-18	Avg Capex FY24-26(E)	8-year CAGR
EPC	36,754	98,958	13.2%
Rolling Stock	19,710	57,235	14.3%
Safety/Signalling/Facilities	5,713	20,568	17.4%
Investments	14,445	51,830	17.3%
Others	25,191	35,615	4.4%

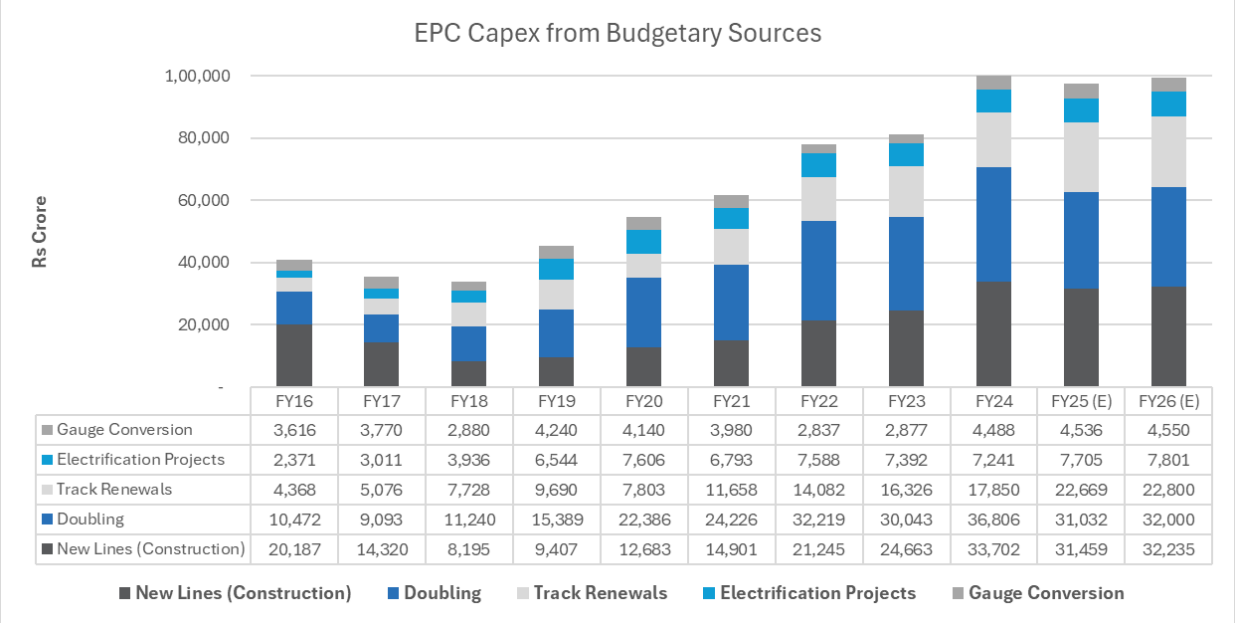
Exhibit 20: 3-year average capex CAGR growth over 8-years from FY16 to FY26 (E)

Overall, the data highlights a balanced and forward-looking approach to budgetary Capex, with significant investments in infrastructure, rolling stock, and safety measures. This strategic allocation is essential for the railways to meet future demands, enhance operational efficiency, and ensure passenger safety and satisfaction.

Double-digit CAGR in Budgetary Capex of EPC Segments

Significant investments have been made in key areas such as new lines construction, doubling of tracks, track renewals and electrification, with 8-year compound annual growth rates (CAGR) of 10.9%, 15.8%, 17.7% and 11.8% respectively. These investments are crucial for expanding the railway network, reducing congestion, and improving overall efficiency.

The focus on electrification projects, which have seen an 11.8% CAGR, aligns with the broader goal of sustainable and energy-efficient operations.



	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25 (E)	FY26 (E)
Gauge Conversion	3,616	3,770	2,880	4,240	4,140	3,980	2,837	2,877	4,488	4,536	4,550
Electrification Projects	2,371	3,011	3,936	6,544	7,606	6,793	7,588	7,392	7,241	7,705	7,801
Track Renewals	4,368	5,076	7,728	9,690	7,803	11,658	14,082	16,326	17,850	22,669	22,800
Doubling	10,472	9,093	11,240	15,389	22,386	24,226	32,219	30,043	36,806	31,032	32,000
New Lines (Construction)	20,187	14,320	8,195	9,407	12,683	14,901	21,245	24,663	33,702	31,459	32,235

Exhibit 21: Budgetary capex allocation in EPC Section over the years

EPC Capex (Rs Crore)	Avg Capex FY16-18	Avg Capex FY24-26 (E)	8-year CAGR
New Lines (Construction)	14,234	32,465	10.9%
Gauge Conversion	3,422	4,525	3.6%
Doubling	10,269	33,279	15.8%
Track Renewals	5,724	21,106	17.7%
Electrification Projects	3,106	7,582	11.8%

Exhibit 22: 3-year average capex CAGR in EPC Sections over 8-years from FY16 to FY26 (E)

The order books of Engineering, Procurement, and Construction (EPC) companies from the railways sector reflect a strong outlook.

Major Railways EPC Companies Order Books	Latest Order Books (Rs Crore)
RVNL	47,600
Ircon International Ltd	17,075
Rites Ltd	2,828
H.G. Infra Engineering Ltd	2,289
Afcons Infrastructure Ltd	1,901

Exhibit 23: Latest order books of major railway EPC companies

14.3% CAGR in Rolling Stock Capex

Rolling stock has also been a major area of focus, with an 8-year CAGR of 14.3%, reflecting the need to modernize the fleet and enhance service quality.

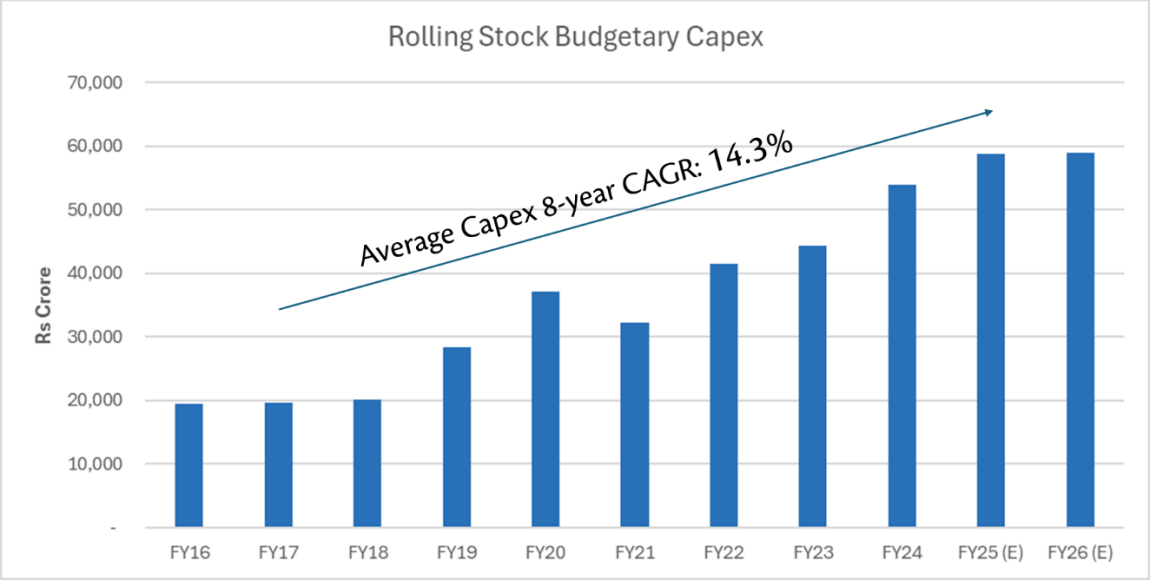


Exhibit 24: Budgetary capex allocation in Rolling Stocks over the years

Particulars (Rs Crore)	Avg Capex FY16-18	Avg Capex FY24-26 (E)	8-year CAGR
Rolling Stock Capex	19,710	57,235	14.3%

Exhibit 25: 3-year average capex CAGR in Rolling Stock over 8-years from FY16 to FY26 (E)

The order books of rolling stock companies from the railways sector:

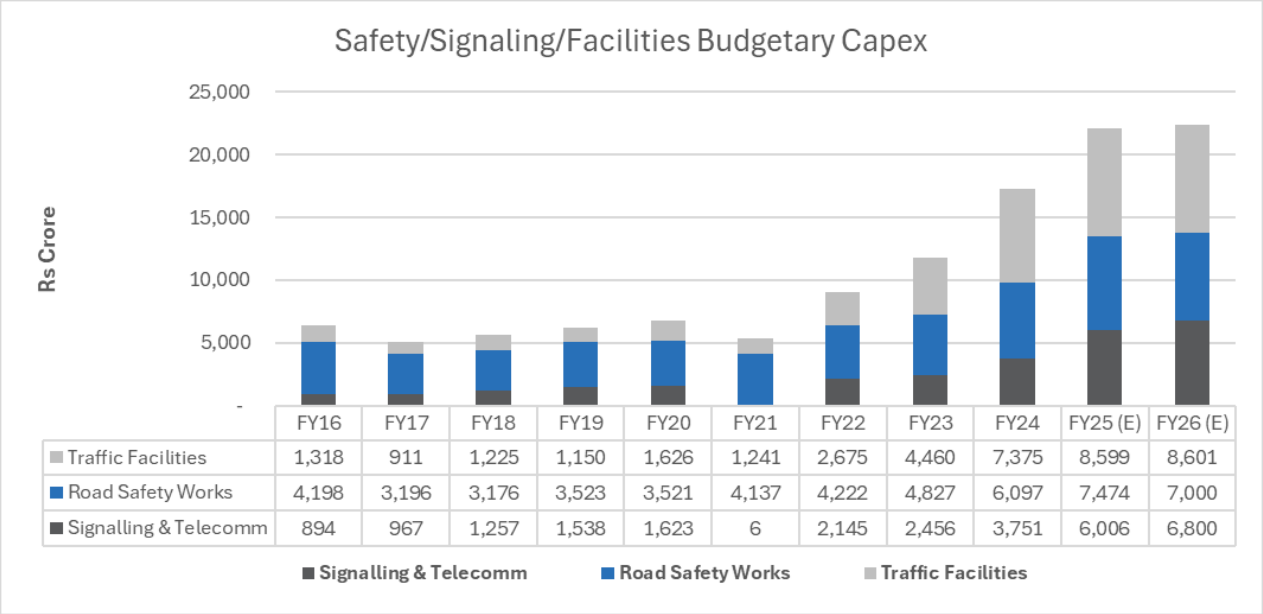
Major Rolling Stock Companies Order Books	Latest Order Books (Rs Crore)
Titagarh Rail Systems Limited	25,333
Jupiter Wagons Ltd	6,320
BEML Ltd (38% revenue contribution by Rail & Metro)	11,453
Texmaco Rail & Engineering Ltd	5,000
Rites Ltd	1,135

Exhibit 26: Latest order books of major railways rolling stock manufacturing companies

Pioneering Safety and Efficiency in Railway Investments

Notably, signalling and telecommunication works have experienced high growth rate at 23.2% CAGR, along with traffic facilities works at 27.8% CAGR, underscoring the importance of advanced technology in ensuring safety and operational efficiency.

A prime example of this technological advancement is the implementation of the **Kavach** system, an indigenous Automatic Train Protection (ATP) system developed to enhance railway safety.



	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25 (E)	FY26 (E)
Traffic Facilities	1,318	911	1,225	1,150	1,626	1,241	2,675	4,460	7,375	8,599	8,601
Road Safety Works	4,198	3,196	3,176	3,523	3,521	4,137	4,222	4,827	6,097	7,474	7,000
Signalling & Telecomm	894	967	1,257	1,538	1,623	6	2,145	2,456	3,751	6,006	6,800

Exhibit 27: Budgetary capex allocation in Safety, signalling and facilities over the years

Particulars (Rs Crore)	Avg Capex FY16-18	Avg Capex FY24-26 (E)	8-year CAGR
Signalling & Telecomm works	1,039	5,519	23.2%
Road Safety Works-Road Over/Under Bridges	3,523	6,857	8.7%
Traffic Facilities-Yard Remodelling & others	1,151	8,191	27.8%

Exhibit 28: 3-year average capex CAGR in Safety and related section over 8-years from FY16 to FY26 (E)

Strategic Leases and Investments growth at 17.3% CAGR

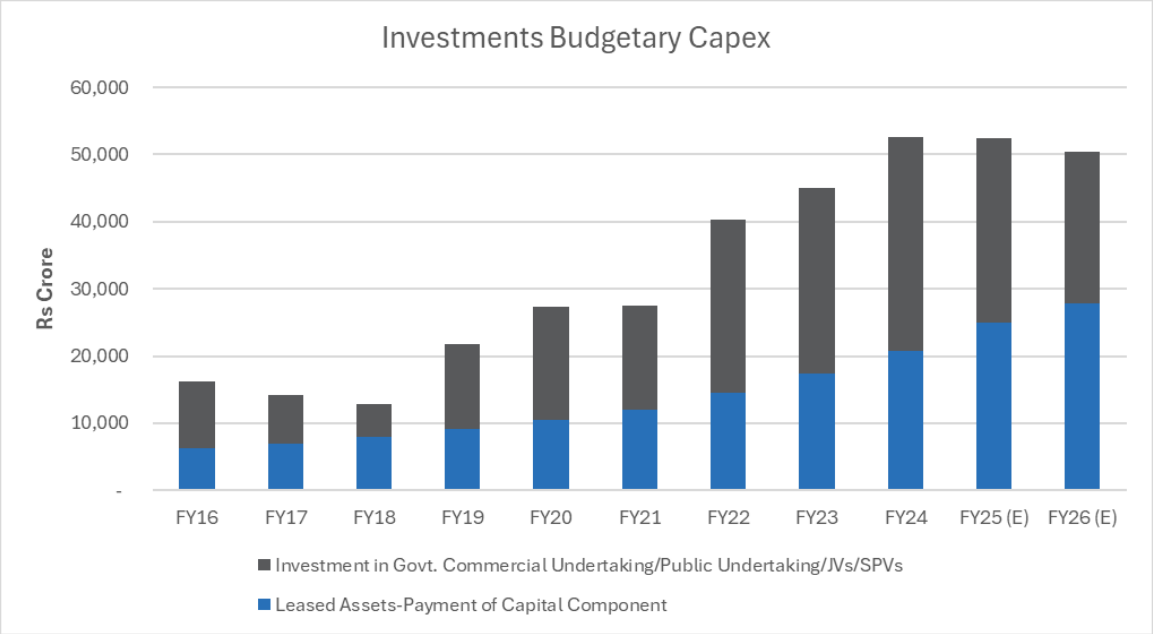


Exhibit 29: Budgetary Investments capex over the years

Supplier companies follow a leasing model to finance the rolling stock assets and project assets of Indian Railways. Capex related to these leases has been projected to grow at a 16.8% CAGR.

Particulars (Rs Crore)	Avg Capex FY16-18	Avg Capex FY24-26 (E)	8-year CAGR
Leased Assets-Payment of Capital Component	7,102	24,522	16.8%
Investment in Govt. Commercial Undertaking/Public Undertaking/JVs/SPVs	7,343	27,308	17.8%

Exhibit 30: 3-year average capex CAGR in Leasing & Investments over 8-years from FY16 to FY26 (E)

The investments in govt commercial undertaking/ Public undertaking/ JVs/ SPVs are aimed at fostering collaboration and leveraging the expertise of different entities to enhance railway operations and infrastructure.

For instance, investments in JVs and SPVs facilitate the development of specific projects, such as dedicated freight corridors and metro rail systems, which are critical for improving connectivity and efficiency. These investments have been projected to grow at 17.8% CAGR.

Budgetary Capex to Unlock Rs 15-16 trillion in Opportunities for EPC, Rolling Stock & related Companies in next 5 years

Scenario 1: The Indian Railways has set a capital expenditure of Rs 2,65,200 crore for FY26. Assuming this level of investment continues to grow annually at nominal GDP growth rate of 10% over the next 5 years, the cumulative potential order book for companies involved in executing these projects, such as Engineering, Procurement, and Construction (EPC) firms and wagon manufacturers, could reach an impressive Rs 16.19 lakh crore.

Under this scenario, potential order book opportunity is as:

Particulars (Rs Crore)	FY26 (E)	FY26-FY30 (E)
EPC	99,386	6,06,760
Rolling Stock	58,895	3,59,559
Safety/Signalling/Facilities	22,401	1,36,760
Investments	50,349	3,07,386
Others	34,169	2,08,607
Total	**2,65,200**	**16,19,073**

Exhibit 31: Cumulative capex from FY26-FY30 (E) @10% capex growth rate

This projected capex will translate into Rs 16 trillion and encompasses various sectors, including Engineering, Procurement, and Construction (EPC) with around Rs 6 trillion, Rolling Stock with Rs 3.5 trillion, Safety/Signalling/Facilities with Rs 1.4 trillion, and Investments with Rs 3 trillion.

Scenario 2: If we consider a shift in focus of Govt capex to some other sector and take a conservative growth rate in capex of railways @6%, the estimated capex will still potentially reach Rs 15 trillion, with the potential break up among each sector as follows:

Particulars (Rs Crore)	FY26-FY30 (E)
EPC	5,60,247
Rolling Stock	3,31,996
Safety/Signalling/Facilities	1,26,277
Investments	2,83,822
Others	1,92,616
Total	**14,94,957**

Exhibit 32: Cumulative capex from FY26-FY30 (E) @6% capex growth rate

Overall, in the EPC space, there are around 50 companies currently executing railway projects, and in the machinery, equipment & components space, there are nearly 30 companies with significant capabilities in the railway sector. Currently, the combined TTM (Trailing Twelve Months) revenue for these firms is around ₹2.7 lakh crores, which is a mix of railway and non-railway operations. Broadly, this implies that there is an order book potential that is 5 times the current combined turnover of these companies. This indicates a high double-digit revenue growth potential for this portfolio.

Scientific Investing: Curated Railway Portfolio

Railway Growth Vector provides an opportunity to curate a portfolio from a pool of 100+ companies providing exposure to railway consulting, EPC, capital equipment, power, logistics & financing domains. This curated portfolio has a strong balance sheets, large growth opportunity through order books and is currently available at favourable valuations as detailed below:

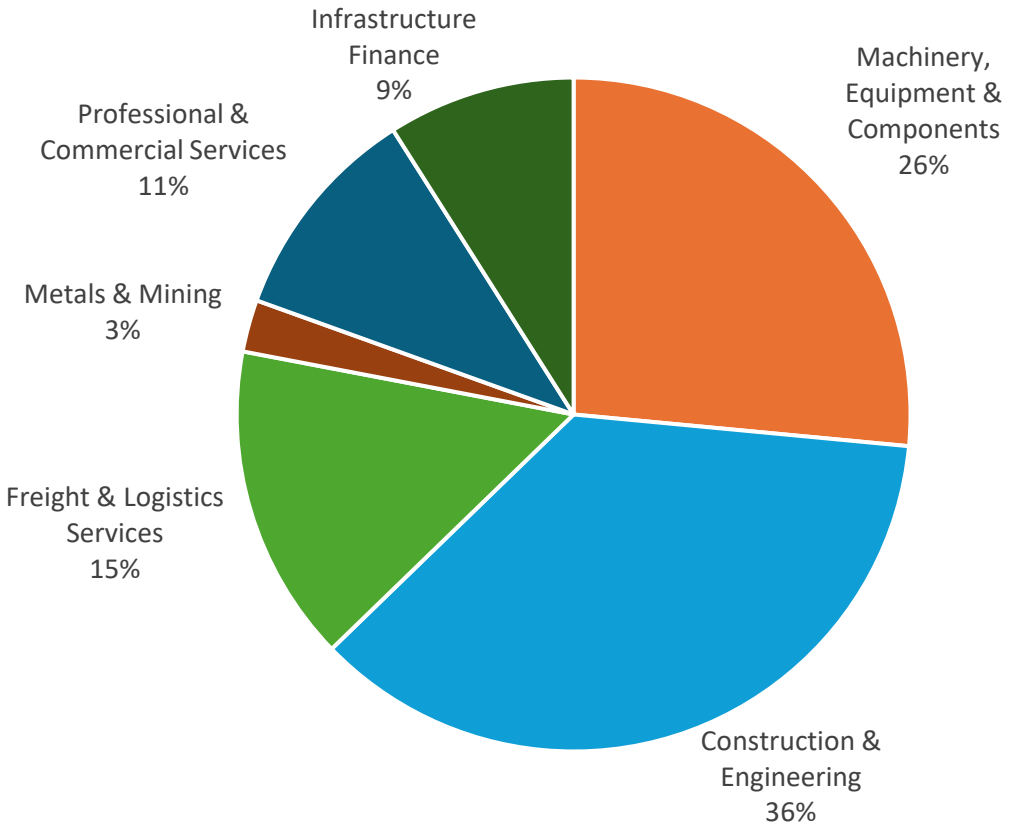


Exhibit 33: Segment-wise asset allocation in curated railways portfolio

Parameter (As of 11 Apr 2025)	**Benchmark**	**Railway Portfolio**
Price to Earnings (P/E)	28.6	21.9
Price to Book (P/B)	3.7	3.0
Dividend Yield	0.7%	1.3%
Growth	--	~18%

Exhibit 34: Valuation ratios comparison between benchmark and curated railway portfolio

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