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**STANDING COMMITTEE ON RAILWAYS
(2025-26)**

(EIGHTEENTH LOK SABHA)

**MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

EIGHTH REPORT

**DEMANDS FOR GRANTS
(2026-27)**



**LOK SABHA SECRETARIAT
NEW DELHI**

March, 2026/Phalguna, 1947 (Saka)

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(RAILWAY BOARD)**

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(2026-27)**

Presented to Lok Sabha on 10.03.2026

Laid in Rajya Sabha on 10.03.2026



LOK SABHA SECRETARIAT

NEW DELHI

March, 2026/Phalguna, 1947 (Saka)

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COMPOSITION OF STANDING COMMITTEE ON RAILWAYS (2025-26)[@]

Dr. C.M. Ramesh - **Chairperson**

MEMBERS

LOK SABHA

2. Shri Damodar Agrawal
3. Shri Tariq Anwar
4. Shri T. R. Baalu
5. Shri Ummeda Ram Beniwal
6. Shri Chhotelal
7. Smt. Sangeeta Kumari Singh Deo
8. Dr. Amol Ramsing Kolhe
9. Shri Kaushalendra Kumar
10. Shri Balabhadra Majhi
11. Shri Khagen Murmu
12. Adv. Adoor Prakash
13. Shri Awadhesh Prasad
14. Shri Sudama Prasad
15. Shri M K Raghavan
16. Smt. Satabdi Roy
17. Dr. Swami Sachidanand Hari Sakshi
18. Dr. Bhola Singh
19. Shri Bharatbhai Manubhai Sutariya
20. Shri Gopal Jee Thakur
21. Shri Vijayakumar Alias Vijay Vasanth

Rajya Sabha

22. Shri Narhari Amin
23. Dr. Fauzia Khan
24. Shri Subhasish Khuntia
25. Shri Upendra Kushwaha
26. Dr. K. Laxman
27. Shri Khiru Mahto
28. Shri Meda Raghunadha Reddy
29. Smt. Sadhna Singh
30. Dr. Sumer Singh Solanki
31. Shri Mukul Balkrishna Wasnik

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[@] Constituted w.e.f. 26.09.2025 vide Lok Sabha Bulletin Part II No. 3290 dated 01.10.2025.

LOK SABHA SECRETARIAT

- | | | | |
|----|-----------------------|---|-----------------------------|
| 1. | Shri Dhiraj Kumar | - | Joint Secretary |
| 2. | Md. Aftab Alam | - | Director |
| 3. | Ms. Savdha Kalia | - | Deputy Secretary |
| 4. | Shri Ram Sharan Yadav | - | Assistant Executive Officer |

List of Abbreviations

ABS	Automatic Block Signaling
ACF	All Communication Failure
ATP	Automatic Train Protection
BCACBM	Bogie Covered Double Decker Wagon
BCACM	Container Flat Auto Car Carrier (Modified) Wagon
BCATIC	Bogie Covered Autocar Taller (IVC) now renamed as ACT1Wagon
BCCNR	Bogie Covered Wagon for loading of autocar (Single Deck) Wagon
BLSS	Bogie Container Spine Car Wagon
BE	Budget Estimate
BG	Broad Gauge
CF	Capital Fund
CAO	Chief Administrative Officer
CCTV	Closed-Circuit Television
CONCOR	Container Corporation of India Limited
DF	Development Fund
DFC	Dedicated Freight Corridor
DFCCIL	Dedicated Freight Corridor Corporation of India Limited
DFG	Demand for Grants
DL	Doubling of Lines
DRDO	Defence Research and Development Organization
DRF	Depreciation Reserve Fund
EMU	Electric Multiple Unit
EOL	Engine on Load
EPC	Engineering Procurement Construction
FBG WILD	Fiber Bragg Grating-based Wheel Impact Load Detector
FOB	Foot Over Bridge
FMCG	Fast Moving Consumer Goods
FY	Financial Year
GAD	General Arrangement Drawing
GC	Gauge Conversion
GCT	Gati Shakti Cargo Terminal
GPWIS	General Purpose Wagon Investment Scheme
HOG	Head on Generation
HRD	Human Resource Development
ICF	Integral Coach Factory
IISc	Indian Institute of Science
IR-ATP	Indian Railways Automatic Train Protection
IRCTC	Indian Railway Catering and Tourism Corporation
IRRB	International Railway Research Board
ISA	Independent Safety Assessor
KMPH	Kilometers Per Hour
KRCL	Konkan Railway Corporation Limited

KRRI	Korea Railroad Research Institute
LC	Level Crossing
LHB	Linke Hofmann Busch
LED	Light Emitting Diode
LLF	Land License Fee
MLC	Manned Level Crossing
MGR	Marry Go Round
MoRTH	Ministry of Road Transport and Highways
MoU	Memorandum of Understanding
MRVC	Mumbai Railway Vikas Corporation Limited
MT	Million Tonnes
MTP	Metropolitan Transport Projects
MUTP	Mumbai Urban Transport Project
NHAI	National Highways Authority of India
NHRCL	National High Speed Rail Corporation Limited
NID	National Institute of Design
NITI	National Institution for Transforming India
NL	New Lines
NMG	New Modified Goods
NMGH	New Modified Goods High Speed
NMGHS	New Modified Goods High Speed with side entry
NSG	Non-Suburban Grade (Stations)
NTKMs	Net Tonne Kilometers
NZCE	Net Zero Carbon Emitter
OEM	Original Equipment Manufacturer
OEW	Other Electrical Works
OHE	Overhead Equipment
PAPIS	Public Address And Passenger Information System
PH	Plan Head
PKM	Passenger Kilometers
PMS	Project Management Services
PPP	Public-Private Partnership
PU	Production Unit
RE	Revised Estimate
RDSO	Research Designs and Standards Organization
RFP	Request for Proposal
RKM	Route Kilometer
ROB	Road Over Bridge
RMS	Remote Monitoring System
RSP	Rolling Stock Programme
RSW	Road Safety Works
RTRI	Railway Technical Research Institute
RUB	Road Under Bridge
RVNL	Rail Vikas Nigam Limited
RWH	Rain Water Harvesting
S&T	Signaling and Telecommunication

SIL	Safety Integrity Level
SPAD	Signal Passing at Danger
TRD	Traction Distribution
TVU	Train Vehicle Unit
UIC	University Illinois Chicago
ULIP	Unified Logistics Interface Platform
UMLC	Unmanned Level Crossing
WAG	Wide-gauge AC Goods (freight locomotives)
WILD	Wheel Impact Load Detector
WRI	Wagon Rolling Index

INTRODUCTION

I, the Chairperson, Standing Committee on Railways (2025-26) having been authorised by the Committee to submit the Report on their behalf, present this Eighth Report on ‘Demands for Grants (2026-27) of the Ministry of Railways’.

2. The Committee considered the Demands for Grants (2026-27) pertaining to the Ministry of Railways which were laid on the Table of the House on 02.02.2026. This Report is based on facts and figures submitted by the Ministry of Railways and the depositions made by the representatives of the Ministry of Railways (Railway Board) before the Committee on 23.02.2026. The Committee considered and adopted the Report at their sitting held on 09.03.2025. Minutes of the related sittings are given in the Appendix to the Report.

3. The Committee wish to express their thanks to the officers of the Ministry of Railways (Railway Board) for appearing before the Committee and furnishing the information that the Committee desired in connection with the examination of the Demands for Grants (2026-27). They would also like to place on record their appreciation for the assistance rendered to them by the officials of Lok Sabha Secretariat attached to the Committee.

4. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in Part-II of the Report.

New Delhi;
09 March, 2026

18 Phalguna, 1947 (Saka)

DR. C.M. RAMESH
Chairperson
Standing Committee on Railways

REPORT

PART-I

I. INTRODUCTORY

1.1 Indian Railways continues to serve as the backbone of the nation's transportation system, connecting diverse regions and driving economic growth through its extensive and integrated network. Reflecting the Government's sustained commitment to infrastructure expansion and modernization, the Capital Outlay for 2026–27 has been pegged at Rs. 2,93,030 crore, which is Rs. 27,830 crore higher than the Revised Estimates for 2025–26. The Gross Budgetary Support (GBS) has been fixed at Rs. 2,78,030 crore, supplemented by Rs. 3,000 crore from Internal Resources and Rs. 12,000 crore under Extra Budgetary Resources (Partnership).

1.2 The Annual Plan for 2026–27 places continued emphasis on removal of traffic bottlenecks, capacity augmentation and strengthening of safety infrastructure across the railway network. In pursuit of these objectives, substantial allocations have been made under Budgetary Sources in BE 2026–27, including Rs. 36,722 crore for New Lines, Rs. 37,750 crore for Doubling works, Rs. 22,853 crore for Track Renewals, Rs. 800 crore for Safety Works at Level Crossings, Rs. 8,225 crore for Road Over/Under Bridges (ROBs/RUBs) and Rs. 7,500 crore for Signal and Telecommunication works. The overall Capex allocated for capacity augmentation stands at Rs.1,13,670 crore, for customer amenities at Rs. 11,900 crore and for rolling stock and inventories at Rs. 64,397 crore.

1.3 Indian Railways have formulated the National Rail Plan (NRP) with the objective of creating a “future-ready” railway system by infrastructure augmentation. The Plan envisions meeting the growing demand for passenger and freight transport, segregating freight and passenger traffic on High Density Networks through Dedicated Freight Corridors, enhancing speeds of both freight and passenger trains, expanding connectivity to ports, mines and industrial clusters, and increasing the network to about 72,000 route kilometers. It also emphasizes induction of modern

rolling stock, redevelopment of 1,337 stations under the Amrit Bharat Scheme, implementation of advanced safety systems such as KAVACH, elimination of level crossings, adoption of predictive maintenance practices, 100% electrification and achievement of Net Zero Carbon Emissions by 2030.

1.4 Indian Railways have completed several landmark railway infrastructure projects aimed at enhancing regional connectivity and national integration. The Udhampur–Srinagar–Baramulla Rail Link (272 km) has been dedicated to the nation, ensuring seamless and all-weather connectivity of the Kashmir Valley with the rest of the country. The commissioning of the 51.38 km Bhairabi–Sairang New Line project through challenging hilly terrain has provided direct rail connectivity to Aizawl, the capital of Mizoram. Also, the inauguration of the New Pamban Bridge, the country's first vertical lift sea bridge connecting Rameswaram Island to the mainland, marks a significant engineering achievement and strengthens connectivity in the southern region.

II. BUDGET ANALYSIS

2.1 The Demands pertaining to Ministry of Railways for the year 2026-27 were laid in Lok Sabha on 02.02.2026. These demands are detailed as under :-

(Rs. in thousands)

Sl. No.	Details	Total Demand (2026-27)	
		Voted	Charged
	Revenue		
1	Indian Railways – Policy Formulation, Direction, Research, and other Miscellaneous Organization	2894,51,00	5,50,00
2	General Superintendence and Services on Railways	10954,12,98	21,99
3	Repairs and Maintenance of Permanent Way and Works	23333,28,34	287,72
4	Repairs and Maintenance of Motive Power	8415,03,95	--
5	Repairs and Maintenance of Carriages and Wagons	20653,86,42	3,00
6	Repairs and Maintenance of Plant and Equipment	12780,43,75	3,24
7	Operating Expenses – Rolling Stock and Equipment	26166,68,51	--
8	Operating Expenses – Traffic	61251,74,96	1,00
9	Operating Expenses – Fuel	33142,36,44	--
10	Staff Welfare and Amenities	11476,44,75	8,76
11	Miscellaneous Working Expenses	10683,17,90	547,66,29
12	Provident Fund, Pension and Other Retirement Benefits	83777,82,00	8,00
13	Appropriation to Funds	76100,00,00	--
14	Other Transport Services - 60 - Others	3547,32,00	--

	Total Revenue	385176,83,00	556,50,00
	Capital		
15	Assets – Acquisition, Construction and Replacement	498997,64,00	264,33,00
	Grand Total (Revenue + Capital)	884174,47,00	820,83,00

III. ANNUAL PLAN 2026-27

3.1 Regarding Annual Plan (2026-27), the Ministry have furnished the following details :

Sl. No	Head	Annual Plan						
		2023-24		2024-25		2025-26		2026-27
		RE	Actual	RE	Actual	RE	Actual (31.01.26)	BE
1.	Gross Budgetary Support (GBS)	2,40,200	2,42,649	2,52,200	2,52,324	2,52,200	2,23,577	2,78,030
2.	Internal Resources	3,000	2,943	3,000	1,988	3,000	2,028	3,000
3.	Market Borrowing							
4.	Funding thorough PPP	17,000	16,625	10,000	15,049	10,000	10,940	12,000
5.	Total EBR including PPP (3+4)	17,000	16,625	10,000	15,049	10,000	10,940	12,000
6.	RRSK (GBS)	10,000	10,000	10,000	10,000	10,000	10,000	10,000
7.	RRSK(IR)	1,000	1,322	1,000	1,000	1,000	1,025	1,000
8.	DRF	1,000	668	1,000	541	1,000	556	1,000
9.	DF	1,000	953	1,000	448	1,000	448	1,000
10.	Total Plan Size (1+2+5)	2,60,200	2,62,217	2,65,200	2,69,361	2,65,200	2,36,545	2,93,030

3.2 The plan-head wise allocation of funds for BE 2026-27 as furnished by the Ministry is as under :

(Rs. in crore)

Plan Head	BE 2026-27
New Lines	36,722
Gauge Conversion	4,600
Doubling	37,750
Traffic Facilities	7,897
Computerisation	493
Railway Research	87
Rolling Stock	65,497
Leased Assets	39,650

Plan Head	BE 2026-27
Level Crossings	800
Road Over/Under Bridges	8,225
Track Renewals	22,853
Bridge Works	2,558
Signal & Telecom	7,500
Elect Projects	5,000
Other Elect Works	1,952
Machinery & Plant	649
Workshops Incl PUs	3,888
Staff Welfare	967
Customer Amenities	11,972
Inv. in PSU/JV/SPV	17,251
Other Spec Works	1,371
Training/HRD	488
MTPs	4,498
Total Net (Inv.)	800
EBR(P)	12,000
Credits/ Recoveries	2,438
Total Capex	2,93,030

3.3 The main objectives and thrust areas of Annual Plan 2026-27 are expanding, modernizing and enhancing the operational efficiency of the railway. The Ministry while detailing the main objectives and thrust areas remarked as under:

A. Capacity Augmentation and Network Expansion:

- **New Lines (PH11) :** Construction of new rail lines presents a strategic avenue for enhancing last-mile connectivity. It contributes significantly

to economic development, particularly in remote areas, such as the Northeastern states and Jammu & Kashmir, Himachal Pradesh and Uttarakhand. New rail lines are planned to make travel easier within the country, helping people reach and leave areas that are difficult to access. Construction of new railway lines helps reduce congestion on existing routes by providing additional capacity for passenger and freight services. Improved transportation infrastructure attracts investment, support tourism, and enhance regional development. It also provides environmental benefits such as reduction of greenhouse gas emissions and contributes to a more sustainable and green transportation system by providing an alternative to road transportation.

- **Gauge Conversion (PH14) :** Gauge conversion projects provide a uniform gauge for the smooth and fast flow of traffic, which is necessary for strategic and operating point of view. It improves the operational efficiency.
- **Doubling (PH15) :** The plan prioritizes the expansion of rail network capacity to meet the increasing demand for passenger and freight services. Projects for track doubling, tripling, and even quadrupling are underway to enhance line capacity.
- Double-track railways use each track exclusively in one direction. This arrangement simplifies signaling systems. When one track of a double-track railway is out of service due to track maintenance work or a train breaks down or during an unusual (Accident or ACF), all trains may be concentrated on a single usable track. Maintenance and engineering work are easier on tracks in quadruple line with little resulting delay because standard double-track service can continue even if the other two double tracks are halted during the work.
- **Traffic Facilities (PH16) –** Yard remodeling helps reduce congestion and improve the movement of passenger and freight trains. It involves interlocking of tracks to increase safety and capacity. Old yards were built for past needs, so remodeling removes issues like short shunting

necks and inadequate lines for cleaning or stabling trains. It also allows for more platforms to handle more trains, improving efficiency and reducing delays. Overall, yard remodeling is essential for improving railway infrastructure and making train services more reliable and efficient.

- **Dedicated Freight Corridors (PH61)** - Completion and operationalization of key sections of the Western Dedicated Freight Corridors to decongest the existing network.

B. Modernization and Technological Upgradation:

- **Computerization (PH17)** : Updating mobile app services for passengers to improve the booking process and offer real-time train tracking. Freight digitalization by online Indent placement, Supply information, Freight calculation and payment, Movement of receipt, Tracking of consignment, Detention charges (wharfage, demurrage) application.
- **Rolling Stock (PH21)** – Operationalization of coaches like; Vande Bharat, Amrit Bharat, LHB and Vande Sleeper, equipped with GPS, Wi-Fi, bio-toilets, and real-time information systems and upgraded interiors for enhancing passenger services. Acquisition of modern locomotives, exemplified by the WAG-12, represents a remarkable advancement in terms of power output and capabilities. Introduction of modern age wagons like Flat Multi-purpose Wagon, BCATIC and BLSS.
- **S&T Works (PH33)** - Advance signaling technologies such as Automatic Block Signaling (ABS) for increased train frequency, KAVACH to avoid train collision etc. are useful in improving safety and efficiency.
- **Customer Amenities (PH53)** - Station Modernization by redevelopment of major railway stations under Amrit Bharat Station Scheme to provide world-class facilities to passengers. Modern Goods

Shed with high level platform, cover over platform, lighting and concrete pathways.

- **National High-Speed Rail Corporation Limited (PH61)** – Notable progress on Mumbai-Ahmedabad bullet train project.

C. Safety and Security:

- Road Safety Works- LC/ROB/RUB (PH29/30) - Continuing efforts to eliminate all unmanned level crossings across the broad-gauge network. The closure of level crossings and the construction of Road Over Bridges (ROBs) or Road Under Bridges (RUBs) offer numerous benefits, contributing to enhanced safety, efficiency, and overall effectiveness of railway and road transportation systems.
- Track Renewal/Bridge Works, Tunnel Works & Approaches (PH31/32) - Significant investments in renewing old tracks, bridges and tunnels to enhance safety, Capacity, Operational Efficiency, Long-Term Durability and Passenger Experience.
- Workshops including Production Units (PH42) – Workshops and PUs contribute to the overall performance of the rail network by facilitating timely repairs, maintenance, and production of rolling stocks. This, in turn, enhances the reliability and efficiency of the railway system, fulfils operational needs, enhance safety standards, and boost capacity and throughput.

D. Electrification:

- Electrification Projects (PH35) - Indian Railways aims to achieve 100% electrification. This is in line with the goal of reducing dependence on fossil fuels and making railways a greener, more sustainable mode of transportation.

E. Sustainability and Green Initiatives:

- Other Specified Works (PH64) - Projects include installation of solar power plants, rainwater harvesting systems and water recycling plants at stations and maintenance depots.

F. Human Resource Development:

- Training/HRD (PH65) - Training programs to equip railway personnel with up-to-date skills and knowledge, preparing them to handle the complexities of modern railway operations. It leads to a more competent and efficient workforce to insure safety and operational efficiency.

G. Urban Transport Integration:

- Metropolitans Transport Project (PH81) - Expanding and improving suburban rail networks in major metropolitan areas to ease congestion and provide better connectivity for commuters.

H. Freight Sector Development:

- Encouraging public-private partnerships (PPPs) in freight operations, development of private freight terminals, and wagon leasing.

I. Financial Sustainability and Resource Mobilization:

- Monetization of Assets: Indian Railways plans to monetize assets like land, stations, and other infrastructure through long-term leasing and partnerships with private players.
- Non-Fare Revenue: Increasing non-fare revenue through advertising, real estate development, and leasing of railway infrastructure.

3.4 During evidence dated 23.02.2026, the representative of Ministry deposed as under:

“सर, यदि डिमांड फोर ग्रांट्स में देखें तो सर इस बार हमारे पास जो चैलेंज है सर वो है कैपेक्स खर्च करने का और जैसा सर सभी माननीय सदस्यों को यह जानकर खुशी होगी कि इस बार हम लोगों ने अपना 82% दिसंबर तक और इस बार अभी 92% जनवरी-फरवरी तक सर हमारा हुआ है। इस बार हम सर बहुत जल्दी ही 100% पर पहुंचने वाले हैं। सभी मिनिस्ट्रीज में रेलवे आगे रहा है कैपेक्स में। हमारा उद्देश्य यही है कि हमारे कैपेक्स के द्वारा किए जाने वाले विभिन्न कार्यों में गति आए और खर्चा होने पर यह बिल्कुल क्लियर होता है कि हम लोग वास्तव में सही डायरेक्शन में जा रहे हैं। चैलेंज सर ये है कि इस बार करीबन 25,000 करोड़ हमको बढ़ाना है जो कि हमें कैपेक्स में और ईबीआर और इंटरनल रिसोर्सेज ये भी एक इंपॉर्टेंट आइटम है। पीपीपी पर पिछली बार सर मीटिंग जब हुई थी तो इस पर भी हम लोगों ने काफी सारे प्रोजेक्ट चिन्हित करके नीति आयोग को दिए हुए हैं। पीपीएसी को गए हुए हैं और यह उम्मीद करते हैं कि जल्दी ही नई पीपीपी पॉलिसी के तहत भी प्रोजेक्ट धीरे-धीरे होंगे। अभी ये संख्या कम है। परंतु इस तरीके से भी

कैपेक्स इन्वेस्टमेंट की तैयारी रेल मंत्रालय द्वारा शुरू कर दी गई है। यदि हम इस कैपेक्स को देखें तो करीबन 113000 करोड़ रुपये का हमारा कैपेसिटी ऑगमेंटेशन में चला जाता है। करीबन 12,000 करोड़ रुपये कस्टमर अमिनिटीज स्पेशल डेवलपमेंट के प्रोजेक्ट्स में और सर रोलिंग स्टॉक सर ये भी बहुत जरूरी है हमारे यहां पर रिप्लेसमेंट रोलिंग स्टॉक का होना तो करीबन 64000 करोड़ रुपये हमारा इसमें चला जाता है। यदि हम सेफ्टी रिलेटेड कार्य देखें, सेफ्टी रिलेटेड कार्य, सर इवन जो ट्रैक के रिप्लेसमेंट्स होते हैं जो ब्रिजेस के रिप्लेसमेंट्स हैं, सर वे सारे के सारे कार्य, आरओबी आरयूबीज़ के जो कार्य हैं, वह सब इसमें आते हैं। मतलब दोनों तरह के कार्य सर कैपेक्स के थ्रू और चाहे वो रनिंग मेंटेनेंस के थ्रू तो दोनों का सर इन्वेस्टमेंट इतना है जिससे कि हम लोग अपने वेरियस रोलिंग स्टॉक्स और वेरियस एसेट्स की मेंटेनेंस हम सही तरीके से कर पाते हैं।“

IV. INTERNAL RESOURCES

4.1 The Ministry while commenting on static year on year trend of Internal Resources detailed the action plan to meet the target of RE during the remaining period of 2025-26 and concrete initiatives taken to increase the internal resources of the Railways as under :-

- “Indian Railways incurred revenue expenditure of ₹ 2,63,018 crore in 2024-25, with nearly 90% classified as inelastic and committed expenditure, increasing annually which includes establishment cost, pension, lease, fuel charges etc.
- Passenger services are highly subsidized, with an average concession of about 45%, and uneconomical routes are operated to maintain connectivity to remote and rural regions.
- As a result, Indian Railways bears a social service obligation exceeding ₹ 40,000 crore annually.
- The expenditure is increasing year on year on account of:
 - Periodic increases in pay and allowances
 - Fresh recruitments
 - Higher maintenance costs due to addition of new assets
 - Repayment of the COVID-related loan from the Ministry of Finance (MoF)
- Despite substantial fixed and rising obligations, Indian Railways consistently generates operational surplus through:
 - Strong freight performance
 - Improved asset utilization
 - Cost rationalization
- Since 2022-23, Railways has undertaken record levels of capital expenditure (capex) focused on:
 - New lines
 - Track doubling

- Electrification
- Rolling stock expansion
- Modern signaling systems

These investments are long-term growth enablers, not merely expenditures.

- Over time, enhanced capacity and efficiency from this capex are expected to result in:
 - Higher freight and passenger revenues
 - Improved logistics competitiveness
 - Reduced logistics costs
 - Stronger export competitiveness
 - Greater support to the national economy

Measures to improve Internal Resources:

In RE 2024-25, Railways targeted to achieve internal resource of Rs. 2,141 cr. and against this Railway achieved Rs. 3,460 cr. internal resources. To increase internal resources, IR have to increase Railways' earnings and control expenditure. Therefore, to increase revenue, several measures have been taken by Indian Railways. These include the following:

- To increase the network capacity, rail network expansion has been taken up in a big way by construction of new lines, multi tracking of existing lines and gauge conversion of existing lines.
- Removing bottlenecks in operations by yard remodeling, construction of bypass/chord lines, rail flyovers etc.
- The construction of Eastern Dedicated Freight Corridor (EDFC) from Ludhiana to Sonnagar (1,337 Km) and Western Dedicated Freight Corridor (WDFC) from Jawaharlal Nehru Port Terminal (JNPT) to Dadri (1,506 Km) has completed approx. 96% as out of total 2,843 kms, 2,741 route kms (96.4%) has been commissioned and operational. Remaining 102 Km of WDFC will be completed by May,2026.
- Indian Railways has taken up electrification of Railway lines in a mission

mode. So far, about 99.1% of Broad Gauge (BG) network has been electrified.

- Procurement of Wagons and Locomotives: To increase freight carrying capacity, large numbers of IR wagons have been procured and locomotives have been manufactured. During 2014 to 2025, about 2 lakh wagons have been procured and more than 10,000 locomotives have been added for increasing freight loading and mobility.
- Industry participation in investment in General Purpose Wagons, Special Purpose/High- Capacity wagons and Automobile carrier wagons for cement, oil, steel, fly-ash, automobile etc. So far, around 240 rakes of special purpose wagons, 374 rakes of general-purpose, wagons and 48 rakes of automobile wagons have been inducted.
- Under the ‘Gati Shakti Multi-Modal Cargo Terminal (GCT)’ policy so far, 124 terminals completed, 290 are in process, with an estimated traffic capacity of 192 million tonnes per annum (MTPA).
- A “Bulk Cement Terminal Policy” for setting up terminals on Railway land has been launched recently as part of Railway reforms for facilitating Bulk Cement transportation.
- Ensuring increased availability of rakes/wagons against demand.
- Use of Information Technology in freight operations to improve monitoring and utilization of assets.
- Induction of higher horsepower locomotives.
- Improvement in maintenance practices of wagons and locomotives resulting in increased availability of loco and rolling stock for traffic use.
- Improvement in track and signaling standards to carry higher volume of traffic.

Because of the above measures, the cargo loading has increased from 1,052 MT in 2013-14 to 1,615 MT in 2024-25 i.e. increase of about 54%. The total traffic revenue has also increased substantially during this period from Rs. 1,39,838 cr. in 2013-14 to Rs. 2,65,004 cr. in 2024-25 i.e. increase of about 90%.

To enhance passenger revenue, passenger fare has been increased in certain classes. Railways are also running special trains during Diwali, Chhath, Holi,

Summer and Holiday season. The other initiatives have also been undertaken to enhance sundry earnings as given below:

- Station Seva and Suvidha at Amrit Bharat Stations Anubandh: This initiative, One Station- One Service Provider, could be a key contributor to increasing NFR through enhanced services and infrastructure utilization
- Yatri Seva Anubandh (YSA) - One train - One Service Provider: To provide seamless service to the passengers. This eliminates fragmented contracts and enhances earnings.
- Rail Display Network (RDN): To disseminate railway information and generate revenue through digital advertising across the railway network.
- Gaming and Recreation Zones: The proposed gaming and recreation zones, in collaboration with RailTel, could yield higher revenues.
- Branding of Summer and Winter Special Trains: Seasonal branding and partnerships can provide new revenue opportunities through advertising and sponsorship deals.

Moreover, to enhance revenue by fully utilizing the extensive advertisement space, the existing policies of NINFRIS (New and Innovative Non-Fare Revenue Ideas Scheme), ATMs, and the other policies are suitably being modified and on boarded with the e-auction policy and to align with the Out of home(OOH) market conditions. Railways realized a Sundry earning of Rs. 3,129 cr. from Land in 2024-25 alone. By implementing these initiatives, Indian Railways may significantly enhance its sundry earnings and increase its share to Railways total receipts.

Further, Railway is also taking various steps to optimize revenue expenditure as given below:-

- Rigorous monitoring of expenditure w.r.t. the monthly budget proportions based on Spending Limits.
- Implementation of the guidelines on expenditure control & management circulated by the Ministry of Finance on the Railways also.

- Optimizing expenditure in areas such as contractual payment, overtime allowance, purchase of material etc.
- Progressive electrification and reduction in expenditure under HSD oil, optimizing the fuel consumption, Energy Audit, etc.
- Improvement in inventory management
- Prioritization of expenditure on works for better use of available resources.
- Better asset utilization.
- Improving staff productivity by better man-power planning.

Due to progressive electrification of Railway tracks more than Rs. 8,000 cr. (Rs. 4,700 cr. in 2023-24 and Rs. 3,300 cr. in 2024-25) has been saved in last two year under Diesel traction.

As a result of all these ongoing measures, Railways generated a Net Revenue of Rs. 2,660 against target of Rs. 1,341 cr. in 2024-25.”

4.2 During evidence dated 23.02.2026, the representative of Ministry with regard to Internal resources deposed as under:

“इंटरनल रिसोर्सेज के बारे में एक प्रश्न है। यह हमारे लिए चैलेंजिंग है, क्योंकि हमारा मोस्टली खर्चा हमारी सैलरी, पेंशन, फ्यूल और अन्य चीजें हैं। हमारे यहां जो टोटल रिसोर्स बचता है, वह करीब 3000-4000 करोड़ रुपये ही है। यह भी एक चैलेंज है। उम्मीद करते हैं कि आने वाले सालों में जब कैपेसिटी कंस्ट्रेंट कम हो जाएंगे तो लोडिंग और बढ़ेगी। हर मिलियन टन आने से हमें 111 करोड़ रुपये का फायदा होता है। हम इस पर काम कर रहे हैं। “

V. EXTRA BUDGETARY RESOURCE (EBR)

5.1 Plan head wise distribution of BE 2026-27 under the source EBR (P) as furnished by the Ministry is as detailed below:-

Rs in Crores	
Plan Head	Amount {Rs. in crores}
11- New Lines	1600
16-Traffic Facilities	2100
21- Rolling Stock	1900
30- ROB/RUB Works	500
36- Other Elect/ TRD works	5800
53-Customer Amenities	100
Total	12000

5.2 When enquired about the reasons for not keeping more ambitious PPP targets considering need for capital, the Ministry have stated as under: -

“The EBR (P) segment comprises estimated investments from public-private partnerships (PPP) and other stakeholders. While private and state government contributions are driven by active project execution—and 2024-25 surpassed initial estimates and the 2026-27 Budget Estimate (BE) shows only moderate growth due to lesser new projects for the corresponding year. Following a renewed focus on attracting private capital, these projections will be adjusted during the RE/BE stages to align with emerging investment trends. More PPP investment will be visible in coming years.”

5.3 During evidence dated 23.02.2026, the representative of Ministry with regard to EBR and PPP targets deposed as under:

“हमारा उद्देश्य यही है कि हमारे कैपेक्स के द्वारा किए जाने वाले विभिन्न कार्यों में गति आए और खर्चा होने पर यह बिल्कुल क्लियर होता है कि हम लोग वास्तव में सही डायरेक्शन में जा रहे हैं। चैलेंज सर ये है कि इस बार करीबन 25,000 करोड़ हमको बढ़ाना है जो कि हमें कैपेक्स में और ईबीआर और इंटरनल रिसोर्सेज ये भी एक इंपॉर्टेंट आइटम है। पीपीपी पर पिछली बार सर मीटिंग जब हुई थी तो इस पर भी हम लोगों ने काफी सारे प्रोजेक्ट चिन्हित करके नीति आयोग को दिए हुए हैं। पीपीएसी को गए हुए हैं और यह उम्मीद करते हैं कि जल्दी ही नई पीपीपी पॉलिसी के तहत भी प्रोजेक्ट धीरे-धीरे होंगे। अभी ये संख्या कम है। परंतु इस तरीके से भी कैपेक्स इन्वेस्टमेंट की तैयारी रेल मंत्रालय द्वारा शुरू कर दी गई है।..... There are two models on which we have gone. One is this DP model and another is annuity model. सर हम लोगों ने छह प्रोजेक्ट नीति में दिए थे फॉर देयर कमेंट्स सर उसका डिस्कशन सर अभी चल रहा है। Very soon, these things will take up. We have identified 1,80,000 over the period of five years or so. So that is quite a challenging figure and once these things start on PPP mode. “

VI. RAILWAY REVENUE

6.1 The Gross Traffic Receipt (GTR) as furnished by the Ministry is as detailed below:

(Rs. in crore)

Sl. No.	Year	BE	RE	Actuals
1	2022-23	2,39,600	2,42,693	2,39,983
2	2023-24	2,64,600	2,57,900	2,55,273
3	2024-25	2,78,100	2,78,600	2,65,114
4	2025-26	3,01,400	2,78,257	
5	2026-27	3,01,700		

6.2 The earnings from passenger and freight traffic over the years as furnished by the Ministry is detailed below:

(Rs. in crore)	Actuals 2023-24	Actuals 2024-25	BE 2025-26	RE 2025-26	Actuals 2025-26 (to end of Dec'25)	BE 2026-27
Passenger	70,693	75,367	92,800	80,000	58,256	87,300
Freight	1,68,293	1,71,163	1,88,000	1,78,457	1,27,233	1,88,800

6.3 When asked to provide reasons for variation between RE and actuals, the Ministry replied as under:

“In 2023-24, Railway Passenger revenue was Rs. 70,693 cr. and surpassed the BE 2023-24 target of Rs. 70,000 cr. At RE stage passenger revenue target was revised upward to Rs. 73,000 cr. However, achievement was short of the target due to less originating passenger under PRS segment. Goods revenue was Rs. 1,68,293 cr. against RE 2023-24 target of Rs. 1,69,000 cr. meanings Railway achieved 99.6% of RE 2023-24 target.

2024-25

The shortfall in Goods earnings was mainly due to less freight loading by 20 MT in Actuals 2024-25 over RE 2024-25 target of 1,635 MT. Passenger earnings was less than target due to shortfall in PKMs.”

6.4 The Ministry have provided the details of Net Revenue as under :-

(Rs.in crore)

Sl. No.	Year	BE	RE	Actuals
1	2022-23	5,360	2,393	2,517
2	2023-24	2,210	2,000	3,260
3	2024-25	2,800	1,341	2,660
4	2025-26	3,041	1,957	#
5	2026-27	3,000		

#Net Revenue is calculated only at the end of the fiscal.

6.5 The Ministry further detailed the targets and achievement of Gross Traffic Receipts (GTR) over the years as under:

“In 2022-23 Railway achieved GTR of Rs. 2,39,983 cr. against BE projection of Rs. 2,39,600 cr. i.e. achievement of 100.1 % of the targets.

In 2023-24, Railway Passenger revenue were Rs. 70,693 cr. against target of Rs. 70,000 cr. Similarly, Sundry revenue were Rs. 9,652 cr. against target of Rs. 8,000 cr. in BE 2023-24. Both Passenger and Sundry revenue surpassed targets kept in BE 2023-24. However, Goods revenue showed shortfall on account of lower freight loading and lower yield per MT. Overall, Railway achieved 99% of GTR estimated at RE 2023-24.

In 2024-25 Railways’ GTR achievement was 95% of the target. The shortfall in Goods earnings was due to less loading of 20 MT in Actuals 2024-25. The shortfall in passenger earnings was due to shortfall in PKMs. However, Railway Sundry earnings was Rs. 11,587 cr. against target of Rs. 11,000 cr. i.e achievement of 116% of the target.”

6.6 During evidence dated 23.02.2026, the representative of Ministry with regard to revenue generation from passenger and freight segment viz-a-viz targets and sundry earnings deposited as under:

“आप अर्निंग देखें तो 1,88,800 करोड़ रुपये हमने गुड्स से और पैसेंजर से 87,300 करोड़ रुपये की प्लानिंग की हुई है। परन्तु, यह हमने 1765 मिलियन टन पर की है, क्योंकि हम लोग टारगेट थोड़ा चैलेंजिंग ही रखते हैं, जिसे सब डिपार्टमेंट करें। अंत में हम लोग अचीव करने की कोशिश करते हैं। करेंट ईयर में हमारा टारगेट 1700 मिलियन टन का है, but we are finding that around 50 million tonnes will be short in that. But it will be much higher than 2024-25, which was 1,617 million tonnes.

सर, इसमें लोडिंग परफॉर्मेंस है। जैसा मैंने बताया कि वर्ष 2025-26 में हमारा टारगेट 1700 मिलियन टन था, उसमें हम 1650 मिलियन टन तक जाएंगे। हमने आगामी वर्ष में वर्ष 2026-27 में टारगेट 1765 मिलियन टन रखा है। इसमें थोड़ा चैलेंज रहेगा। But we will make all our efforts.

सर, अगर आप सन्ड्री अर्निंग में देखें तो इसमें काफी इम्प्रूवमेंट हुआ है। यदि आप वर्ष 2019-20 को और वर्तमान वर्ष को देखें तो A lot of input has gone. This is also a largely non-fair revenue only. जो नॉन फेयर रेवेन्यू होता है, उसको हम इसके अलावा काउंट करते हैं। सन्ड्री से वर्ष 2019-20 से लेकर अभी के समय को देखें तो करीब 2.5 टाइम बढ़ गये हैं। इसमें प्रोग्रेस अच्छी है।”

VII. RAILWAY EXPENDITURE

7.1 The Ministry have provided the head wise detail of revenue expenditure on Indian Railways as under: -

(Rs. in crore)

Heads	2020-21	2021-22	2022-23	2023-24	2024-25	RE 2025-26	BE 2026-27
Staff Cost	83,723	91,473	98,535	1,07,901	1,15,684	1,18,608	1,22,269
Fuel - Diesel	10,548	17,261	19,607	14,672	11,459	9,475	7,462
Fuel - Electricity	8,905	13,195	18,234	20,059	20,919	22,992	25,059
Total Fuel	19,452	30,456	37,841	34,731	32,379	32,467	32,520
Stores & Contractual Payment	14,408	14,198	18,585	21,741	22,722	22,477	22,678
Lease Charges for IRFC, O&M Expenses of TAC to DFCCIL etc.	11,950	13,976	16,619	16,944	18,237	23,635	35,130
Other Expenditure	6,312	6,403	8,675	9,776	11,446	10,813	10,902
Total Ordinary Working Expenses	1,35,845	1,56,506	1,80,256	1,91,094	2,00,469	2,08,000	2,23,500
Appropriation to Pension Fund	623	48,200	54,800	59,100	59,600	65,600	71,600
Appropriation to DRF	200		700	800	800	1,000	1,500
Miscellaneous Exp.	1,569	1,685	1,904	1,840	2,149	2,400	2,900
Grand Total	1,38,236	2,06,392	2,37,660	2,52,834	2,63,018	2,77,000	2,99,500

7.2 When asked to provide details of steps being taken to reduce expenditure, the Ministry have stated as under:

“Railway is taking various steps to optimize revenue expenditure which are as under: -

- Rigorous monitoring of expenditure w.r.t. the monthly budget proportions based on Spending Limits.
- Implementation of the guidelines on expenditure control & management circulated by the Ministry of Finance on the Railways also.

- Optimizing expenditure in areas such as contractual payment, overtime allowance, purchase of material etc.
- Progressive electrification and reduction in expenditure under HSD oil, optimizing the fuel consumption, Energy Audit, etc.
- Improvement in inventory management
- Prioritization of expenditure on works for better use of available resources.
- Better asset utilization.
- Improving staff productivity by better man-power planning.

Due to progressive electrification of Railway tracks more than Rs. 8,000 cr. (Rs. 4,700 cr. in 2023-24 and Rs. 3,300 cr. in 2024-25) has been saved in last two year under Diesel traction.”

VIII. OPERATING RATIO

8.1 The Ministry have provided the following details pertaining to the operating ratio of Indian Railways:-

Sl. No.	Year	BE	RE	Actuals
1	2022-23	96.98	98.22	98.10
2	2023-24	98.45	98.65	98.43
3	2024-25	98.22	98.90	98.22
4	2025-26	98.43	98.82	
5	2026-27	98.40		

8.2 Regarding reasons/factors anticipated while keeping BE 2026-27 for operating ratio, the Ministry have stated as under: -

“Operating Ratio (OR) of Indian Railways is the ratio of its Working Expenses (comprising Ordinary Working Expenses and appropriation to Depreciation Reserve Fund and Pension Fund) to Total Traffic Revenue (comprising revenue receipts from passenger, goods, other coaching and sundry segments). In BE 2026-27, Railways’ total traffic revenue is estimated at Rs. 3,01,600 cr. consist of Passenger (Rs. 87,300 cr.), Other Coaching (Rs. 9,500 cr.), Goods (Rs. 1,88,800 cr.) and Sundry (Rs. 16,000 cr.). The Passenger earning target is based on 7,709 million originating passenger and 1,230 billion Passenger KMs (PKM). Similarly, the Freight earning target is based on 1,765MT loading and 996 billion Net Tonne KMs (NTKM). On the other hand, Railways’ total working expenses is estimated at Rs. 2,96,500 cr. which includes OWE (Rs. 2,23,500 cr.), appropriation to Pension Fund (Rs. 71,500 cr.) and appropriation to DRF (Rs. 1,500 cr.). Accordingly, Operating Ratio in BE 2026-27 is projected at 98.40%. Appropriation to Pension fund in BE 2026-27 provision

of Rs. 7,598 cr. towards repayments of Covid related resource gap loan which also affects IR operating ratio”

8.3 With regard to measures being taken for improving of operating ratio, the Ministry detailed the following initiatives: -

“Improving the Operating Ratio is always a priority for Railways. To improve the Operating Ratio, IR have to increase Railways’ earnings and control expenditure. Therefore, to increase revenue, several measures have been taken by Indian Railways. These include the following:

- To increase the network capacity, rail network expansion has been taken up in a big way by construction of new lines, multi tracking of existing lines and gauge conversion of existing lines.
- Removing bottlenecks in operations by yard remodeling, construction of bypass/chord lines, rail flyovers etc.
- The construction of Eastern Dedicated Freight Corridor (EDFC) from Ludhiana to Sonnagar (1,337 Km) and Western Dedicated Freight Corridor (WDFC) from Jawaharlal Nehru Port Terminal (JNPT) to Dadri (1,506 Km) has been taken up. Out of total 2,843 kms, 2,741 route kms (96.4%) has been commissioned and operational.
- Indian Railways has taken up electrification of Railway lines in a mission mode. So far, about 99.1% of Broad Gauge (BG) network has been electrified.
- Procurement of Wagons and Locomotives: To increase freight carrying capacity, large numbers of IR wagons have been procured and locomotives have been manufactured. During 2014 to 2025, about 2 lakh wagons have been procured and more than 10,000 locomotives have been added for increasing freight loading and mobility.
- Industry participation in investment in General Purpose Wagons, Special Purpose/High- Capacity wagons and Automobile carrier wagons for cement, oil, steel, fly-ash, automobile etc. So far, around 240 rakes of special purpose wagons, 374 rakes of general-purpose, wagons and 48 rakes of automobile wagons have been inducted.

- Under the ‘Gati Shakti Multi-Modal Cargo Terminal (GCT)’ policy so far, 124 terminals completed, 290 are in process, with an estimated traffic capacity of 192 million tonnes per annum (MTPA).
- A “Bulk Cement Terminal Policy” for setting up terminals on Railway land has been launched recently as part of Railway reforms for facilitating Bulk Cement transportation.
- Ensuring increased availability of rakes/wagons against demand.
- Use of Information Technology in freight operations to improve monitoring and utilization of assets.
- Induction of higher horsepower locomotives.
- Improvement in maintenance practices of wagons and locomotives resulting in increased availability of loco and rolling stock for traffic use.
- Improvement in track and signaling standards to carry higher volume of traffic.”

IX. ANNUAL PERFORMANCE

9.1 The physical targets and achievements during the last three years with respect to Central Sector Schemes/National Projects/heads (2023-24 to 2025-26) and targets set for the year 2026-27 as provided by the Ministry are as under :-

Progress of Monitorable Targets- Ministry of Railways

Items/Unit	Annual Target 2023-24	Achv. 2023-24	% Achv.	Annual Target 2024-25	Achv. 2024-25	% Achv.	Annual Target 2025-26	Achv. 2025-26 (till Dec.'25)	% Achv. (till Dec.'25)	Annual Target 2026-27
Originating Loading (Million Tonnes)	1600	1590.63	99.41%	1650	1617.38	98.02%	1700	1216.77	74.19%	1765
Freight NTKMs (Billions)	942	913	96.92%	958.78	913	95.23%	958	681.13	74.52%	996
Originating Passengers Total (Millions)	6843.58	6946.82	101.51%	7409	7374	99.53%	7390	5722.32	77.43%	7709
PKMs Total (Billions)	1102.41	1076.04	97.61%	1205.5	1143.96	94.90%	1167.8	881.67	75.50%	1230.69
New Lines (Kms)	600	2806	467.67%	700	1105	157.86%	700	345	49.29%	500
Doubling (Kms)	2800	2244	80.14%	2900	1977	68.17%	2600	573	22.04%	2400
Gauge Conversion (TKM)	150	259	172.67%	200	166	83.00%	200	193	96.50%	100
Electrification Projects (RKM)	6500	7188	110.58%	2405	2701	112.31%	1015	1011	99.61%	NA
Rolling Stock										
Total Locomotives Produced including PU & Trade (Electric+Deisel) (Nos)	1190	1472	123.70%	1380	1681	121.81%	1826	1404	76.88%	1700
Wagons Produced under RSP (Nos)	23000	20186	87.77%	30000	29889	99.63%	26000	25326	97.41%	NA
Total Coaches Produced including PU & Trade (PCV+OCV) (Nos)	6978	6550	93.87%	7784	7237	92.97%	9665	5855	60.57%	9000

9.2 The financial allocation and actual expenditure for the last three years with respect to Central Sector Schemes/National Projects/heads (2023-24 to 2025-26) and proposed allocation for the year 2026-27 as provided by the Ministry are as under :-

(Rs. in Crore)

(₹ in Crore)

Plan Head	2023-24		% Achv.	2024-25		% Achv.	2025-26		% Achv. (till Dec.'25)	2026-27
	RE	Actual		RE	Actual		RE	Actual (till Dec.'25)		BE
New Lines	34410	33702.18	97.94%	31459	33363.03	106.05%	30632	22339.89	72.93%	36721.6
Gauge Conversion	4279	4487.62	104.88%	4536	5212.30	114.90%	4284	3188.67	74.43%	4600
Doubling	35046	36806.08	105.02%	31032	32791.16	105.67%	29026	21457.27	73.92%	37750
Traffic Facilities	7809	7374.67	94.44%	8599	7334.29	85.30%	7874	5735.28	72.84%	7897.27
Computerisation	690	480.89	69.69%	309	360.98	116.97%	441	281.83	63.91%	492.64
Railway Research	67	28.33	42.28%	64	42.44	66.69%	87	34.67	39.73%	86.72
Rolling Stock	50325	53957.51	107.22%	58852	60624.00	103.01%	63373	50135.40	79.11%	65496.6
Leased Assets	21300	20741.37	97.38%	24920	22699.42	91.09%	28157	20540.12	72.95%	39650
Road Safety Works- LCs	552	564.62	102.29%	710	598.84	84.34%	700	471.78	67.40%	800
Road Safety Works- ROB/RUBs	6297	6097.39	96.83%	7474	7048.85	94.31%	7734	5637.59	72.89%	8225
Track Renewals	16826	17850.25	106.09%	22669	23432.67	103.37%	25166	21134.96	83.98%	22853
Bridge Works, Tunnel Works & Approaches	2000	1906.52	95.33%	2130	2160.59	101.46%	2529	2156.80	85.30%	2557.96
S & T Works	3581	3750.97	104.75%	6006	5567.60	92.70%	6500	4794.21	73.76%	7500
Electrification Projects	8361	5806.98	69.45%	6072	4248.38	69.96%	4500	3330.90	74.02%	5000
Other Electrical Works (incl. TRD)	1545	1434.41	92.84%	1633	1596.40	97.76%	1959	1535.92	78.41%	1952.27
Machinery & Plant	468	523.61	111.88%	436	440.59	100.99%	622	491.23	78.93%	649.49
Workshops Incl. PUs	3458	4514.70	130.56%	4546	3989.54	87.76%	3185	2402.56	75.43%	3888.29
Staff Welfare	733	669.46	91.33%	737	722.58	98.04%	1000	823.83	82.38%	967.31
Customer Amenities	9618	8121.73	84.44%	12994	13034.11	100.31%	12121	9659.66	79.70%	11971.8
Invest. In PSU/JV/SPV (Govt./Non-Govt.)	32870	31909.37	97.08%	27948	25740.82	92.10%	21607	17308.03	80.10%	17251
Other Specified Works	851	794.60	93.37%	1136	1150.68	101.33%	1371	987.04	72.01%	1370.77
Training/HRD	242	101.93	42.12%	197	152.76	77.38%	395	268.20	67.89%	488.28
Metropolitan Transport Projects	4601	4486.84	97.52%	3940	3645.67	92.53%	3990	3285.78	82.35%	4498.1
Inventories (Net)	250	2406.78		250	1759.46	703.78%	800	9242.80	1155.35%	800
EBR (P)	17000	16625.36	97.80%	10000	15048.85	150.49%	10000	7998.26	79.98%	12000
Total Capex		265144.17			272766.02			215242.69		
Credits & Recoveries	2977	2927.24		3448	3405.92		2852	1893.92		2438.1
Net Capex	260200	262216.93	100.78%	265200	269360.64	101.57%	265200	213348.77	80.45%	293030

9.3 Details of physical targets vis-à-vis achievements made during the year 2025-26 with respect to all Plan heads as furnished by the Ministry is as under :-

Indicator	Unit	Annual Target	Progres (till Dec.'25)
1. New Lines (CS)			
New Lines constructed	(In km)	700	345
2. Gauge Conversion (CS)			
Total length of Gauge Conversion completed	(In km)	200	193
3. Doubling (CS)			
Total length of Line Doubling completed	(In km)	2600	573
4. Signalling and Telecom (CS)			
No. of stations where Modern Signaling works completed	nos.	382	200
No. of LC gates where interlocking works completed	nos.	284	200
5. Track Renewals (CS)			
Total length of tracks renewed (km.)	(In km)	5500	5901
6. Road Safety Works -Level Crossings (CS)			
No. of manned LCs removed	nos.	900	330
7. Road Safety Works -Road Over/Under Bridges (CS)			
No. of ROBs/RUBs constructed	nos.	1100	674
8. Rolling Stock (CS)			
No. of Locomotives (PU+Trade) operationalized during FY	nos.	1826	1404
No. of coaches operationalized during FY	nos.	9665	5855
No. of track machines operationalized during FY	nos.	80	66
9. Traffic Facilities -Yard Remodeling and Others (CS)			
No. of works commissioned during FY	nos.	90	102
10. Workshop Including Production Units (CS)			
No. of Projects commissioned during FY	nos.	326	246
11. Machinery and Plant (CS)			
Total value of Machinery and Plant spent on replacement account (Rs. in Cr.) in current FY	₹ in Cr.	78	116.48
Total value of Machinery and Plant spent on additional account (Rs. in Cr.) in current FY	₹ in Cr.	277	311.51
Total value of Machinery and Plant spent on RRSK account (Rs. Cr.)	₹ in Cr.	150	63.23
12. Customer Amenities (CS)			
Number of stations upgraded	nos.	100	67
Number of foot over bridges constructed	nos.	150	193
13. Metropolitan Transportation Projects (CS)			
Length of metropolitan new lines works commissioned	(In km)	46.45	5
14. Bridge Works, Tunnel Works and Approaches (CS)			
No. of bridge works undertaken	nos.	2550	2119
15. Training/Human Resource Development (CS)			
No. of trainings / workshops / seminars conducted	nos.	1190	688

9.4 Regarding current status of new lines, Gauge Conversion, Track renewals, doubling, railway electrification and timeline for completion of these projects, the Ministry have stated as under :-

“Railway projects are surveyed/ sanctioned/executed Zonal Railway wise and not State-wise as the Railway projects may span across State boundaries. Railway projects are sanctioned on the basis of remunerativeness, traffic projections, last mile connectivity, missing links and alternate routes, augmentation of congested/saturated lines, demands raised by State Governments, Central Ministries, Members of Parliament, other public representatives, Railway’s own operational requirement, socio-economic considerations, regional connectivity gaps etc. depending upon throwforward of ongoing projects and overall availability of funds. Sanctioning of project requires consultation with various stake-holders including State Governments and necessary approvals viz. appraisal of NITI Aayog, Ministry of Finance etc. As on 01.04.2025, across Indian Railways, 431 Railway infrastructure projects (154 New Line, 33 Gauge Conversion and 244 Doubling) of total length 35,966 Km, costing approx. `6.75 lakh crore are sanctioned. The summary is as under:-

Category	No of Projects	Total Length NL/GC/DL (km)	Length Commissioned till Mar'25 (Km)	Total Exp upto Mar'25 (in Cr)
New Lines	154	16,142	3,036	1,45,318
Gauge Conversion	33	4,180	2,997	22,753
Doubling / Multitracking	244	15,644	6,736	1,22,858
Total	431	35,966	12,769	2,90,929

The details of commissioning/laying of new track across Indian Railways is given below:-

Period	New track Commissioned	Average commissioning of new tracks
2009-14	7,599 Km	4.2 Km/day

2014-25	34,428 Km	8.6 Km/day (more than 2 times)
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Zone-wise/year-wise details of all Railway projects are made available in public domain on Indian Railway's website.

During preparation of the DPR, due care is taken to ensure that no delays occur on account of level crossings. Elimination of level crossings (LCs) is a continuous and dynamic process of Indian Railway. Such works are taken up on the basis of its impact on safety in train operations, mobility of trains & impact for road users and feasibility etc. LCs are eliminated either by providing ROB/ RUBs in lieu of LCs or through direct closure (for low traffic LCs) or by diversion of road traffic to nearby ROB/RUB/LC depending upon the site conditions.

Completion of Railway project/s depends on various factors which include the following:

- Land acquisition by State Government
- Forest clearance
- Shifting of infringing utilities
- Statutory clearances from various authorities
- Geological and topographical conditions of area
- Law and order situation in the area of project site
- Number of working months in a year for particular project site etc.

All these factors affect the completion time and cost of the project/s.

Various steps taken by the Government for effective and speedy implementation of rail projects include:

- Substantial increase in allocation of funds.
- Delegation of powers at field level.
- Close monitoring of progress of project at various levels.
- Regular follow up with State Governments and concerned authorities for expeditious land acquisition, forestry and Wildlife clearances and for resolving other issues pertaining to projects.

	2022-23		2023-24		2024-25		2025-26		2026-27
Track Renewals (Track km)	Annual Target	Achievement	Annual Target	Achievement	Annual Target	Achievement	Annual Target	Achievement (upto Jan 26)	Annual Target
	4200	5227	4800	5950	5000	6851	5500	6696	6400

9.5 The following landmark projects have been completed by the Railways :

- (i) Bhairabi–Sairang (51.38 Km) new Line project passing through difficult hilly terrain providing direct connectivity to Aizawl, state capital of Mizoram has been commissioned.
- (ii) “Udhampur–Srinagar–Baramulla new Line (272 Km)” providing connectivity of the Kashmir valley with rest of country’s rail network was dedicated to the nation providing seamless and all-weather connectivity from Kashmir to other parts of the country.

X. ROAD SAFETY WORKS AND ELIMINATION OF MANNED LEVEL CROSSINGS

10.1 The Ministry have provided the following details regarding the financial and physical targets set and achievements made in regard to Road Safety Works (Level Crossings) and Road Over Bridge/Road Under Bridge for the last three years :-

Physical Targets & achievement:

(Figures in

SN	Item	2022-23		2023-24		2024-25		Target	Progress (upto Jan'26)
		Target	Progress	Target	Progress	Target	Progress		
1	Closure of Manned Level Crossings	1000	880	1100	784	1100	808	800	424
2	Construction of ROB's/ RUBs/ Subways	1000	1067	1100	1078	1100	1263	1100	816

Nos.)

All UMLCs on Broad Gauge were eliminated in Jan.'2019

Financial Target & Utilization of Funds:

(Figures-Rs. in crores)

Item		2022-23		2023-24		2024-25		2025-26	
		Alloc ation	Exp.	Alloca tion	Exp.	Allocat ion	Exp.	Allocat ion	Expendi ture (upto Jan'26)
PH-30 (ROB/ RUB Works)	BE	6500	4827	7400	6097	9275	7049	7000	6307
	RE	6000		6291		7409		7734	
	RE	750		552		675		687	

10.2 When asked to furnish the reasons for not meeting the targets and achievements made in the past three years as a result of initiatives taken to address the challenges faced in construction of Road Over Bridges (ROBs) and Road Under Bridges (RUBs), the Ministry have stated as under :-

“Completion & commissioning of ROB/RUB works depends on various factors like cooperation of State Governments in giving consent for closure of LC, fixing of approach alignment, approval of General Arrangement Drawing (GAD), land acquisition, removal of encroachment, shifting of infringing utilities, statutory clearances from various authorities, law and order situation in the area of project/work sites, duration of working season in a year for the particular project / area due to climatic conditions etc. All these factors affect the completion time of the projects / works. Therefore, it is not feasible to fix definite timelines for completion of ROB/RUB works.

Difficulties faced in construction of ROB/ RUBS: LCs are safety hazard for both road user as well as train operations. Elimination of LC in densely populated urban areas is desirable to avoid inconvenience to road user.

Generally, construction of approaches of ROB is used to be difficult due to various reasons enumerated as under (which were used to be generally responsibility of State Govt/Road owning agencies):

- Coordination issues with the state government
- Land acquisition requirements & Rehabilitation & resettlement
- Forest clearance
- Law and order situation in the area of project site, court case and public protest
- Allocation of requisite funds by State Government as required.
- Old Sanctioned cost sharing works, but stalled, due to no response regarding cost sharing from State Govt.

Initiatives taken by Railways to address the problems faced during construction:

- Land acquisition requirements & Rehabilitation & resettlement : New policy letters dated 2.3.23 & 19.08.2024 facilitate the charging cost land acquisition involving private land, R&R and utility shifting required for construction of ROB/RUB to estimate of ROB/RUBs works sanctioned on 100% cost of Railway.

- Instructions have been issued to all zonal railways for entering into running contracts for timely identification of utilities and fixed structures coming in the alignment of ROB/RUB and their early shifting to fast track the construction of ROB/RUB Works
- Now Land acquisition for ROB/RUB works can be done as special railway project.
- Coordination issues: As part of latest policy all ROB/RUBs works are to be undertaken by single entity to the extent possible, to reduce coordination issues.
- To expedite the ROB works, Joint survey with all Stakeholders including State Government to finalise the tentative General Arrangement Drawing (GAD).
- Periodic meeting of Railway & State Government officials to resolve various issues related to ROB/RUB works.
- Allocation of requisite funds by State Government :New policy letters dated 2.3.23 & 19.08.2024 facilitate the sanction of work for all LCs at the cost of Railways except on National Highway and where state Govt/road owning agency/Local authority wants to take up the works at its cost.
- Specific Guidelines regarding for geometry for RUBs and ROBs Based on MoRTH/IRC guidelines situated in congested areas are being developed by RDSO.

10.3 During evidence dated 23.02.2026, the representative of Ministry with regard to challenges being faced on railway crossings after construction of ROB/RUB, deposed as under:

“सर, मैं माननीय सांसद महोदय को बताना चाहूंगा कि अंडरपास बनाने में हमें भी दो मदद चाहिए। जहां पर विशेष रूप से फाटक है, जब उसे अंडरपास बनाकर खत्म किया जाता है, उसके बाद कृपया करके फाटक बंद करा दिया जाए। इसके संबंध में, मैं कुछ उदाहरण दूंगा, जिनमें से दो-तीन आपके क्षेत्र के भी हैं, हो यह रहा है कि आरयूबी बन जाने के बाद भी फाटक को बंद नहीं किया जाता है। इस तरह से, हमारे लिए यह एक बड़ा चैलेंज हो जाता है।”

XI. ROLLING STOCK

11.1 The physical targets and achievement of Indian Railway Production Units in regard to Rolling Stock for the last three years as furnished by the Ministry is as under:

	2022-23		2023-24		2024-25		2025-26	
	Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement (till January, 2026)
Coaches	7574	5869	6630	6470	7237	7237	9557	6586
Locomotives	1190	980	1180	1251	1475	1481	1626	1395

Production targets of Indian Railway Production Units vis-à-vis achievement, pertaining to the last three years as furnished by the Ministry is given below:

<u>Electric locos</u>		
Year	Target	Actual
2022-23	1190	977
2023-24	1180	1246
2024-25	1475	1476
2025-26 (Upto January, 2026)	1626	1385

Wagon

Rolling Stock: Physical/Financial targets and Achievements

(Rs. in crore)

2023-24				2024-25				2025-26 (upto December, 2025)			
Physical Target	Physical Achievements	Funds at RE stage	Actual Expenditure	Physical Target	Physical Achievements	Funds at RE stage	Actual Expenditure	Physical Target	Physical Achievements	Funds at RE stage	Actual Expenditure

2300 0	20186	937 1	10110. 06	3000 0	29889	1168 6.68	12484. 25	2600 0	18755	1099 9.99	6443.8 1*
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* Provisional

Funds & Actual Expenditure in crore of Rupees.

Actual expenditure (Net) incurred on Rolling Stock (Bulk Order) under following categories during the last three financial years are furnished below:

(Rs. In crore)

Category	2022-23	2023-24	2024-25	2025-26 (upto January, 2026) Prov.
Locos	21209.51	21895.12	22300.50	22087.99
Carriage	14636.06	18453.52	22625.15	19309.34
Wagons	7401.05	10110.06	12484.25	11418.06

11.2 Details of locomotives exported during the last three years as furnished by the Ministry is as below:

Year	Type of loco	Qty	Cost per loco (in Cr. of ₹)	Total cost (in Cr. of ₹)	Country to which exported
2022-23	Diesel HHP CG locos (3000 HP)	1	15.796	15.796	Mozambique
2023-24	-	-	-	-	-
2024-25	-	-	-	-	-
2025-26 (till 12.02.2026)	Diesel HHP CG locos (3300 HP)	8	20.526	164.208	Mozambique

The total value of exports of rolling stock as furnished by the Ministry is tabulated as under:

Year	Value of the order	Remarks
2024-25	Rs. 35.50 crore.	Export during 2024-25 includes Coaches, Locomotives, Supply of Spares and Incidental Services for Coaches, Locos and DEMUs to Sri Lanka, Bangladesh and Mozambique.
2023-24	Rs.126.55 crore.	Export during 2023-24 includes Coaches, Supply of Spares/ Incidental Service for Coaches and Locos and Supply of DH Shunting Loco to Sri Lanka, Mozambique and Bangladesh.
2022-23	Rs.304.14 crore.	Export during 2022-23 includes Coaches, Diesel Electric Locomotives, DEMUs, Supply of Spares and Exports Services Consultancy to Sri Lanka and Mozambique

11.3 For long distance travel, Indian Railways have introduced the sleeper variant of Vande Bharat express which has been indigenously designed and developed. Two such rakes have already been manufactured. After extensive trials two rakes are presently operational between Howrah and Kamakhya. A total of 260 Vande Bharat Sleeper trainsets are planned to be manufactured. To improve travel facilities for the general public, Indian Railways has introduced non-AC Amrit Bharat trains based on push-pull technology, comprising 11 General, 8 Sleeper, 1 Pantry Car and 2 Luggage-cum-Divyangjan coaches. So far, 31 Amrit Bharat rakes have been manufactured. Further, 100 Amrit Bharat Non-Air-Conditioned rakes with enhanced features and 33 Amrit Bharat rakes with mixed Air Conditioned /Non- Air-Conditioned configuration have been planned for production. Augmentation of Production capacity is a continuous process in Indian Railways Production Units. The production capacity is augmented from time to time as per requirements. Various works and augmentation of M&P are sanctioned from time to time to enhance the output of the production units. Fund provisioning as per requirements is done in Budget Estimate and subsequently reviewed in Revised Estimate and Final Modification stage as per physical progress of Rolling Stock Production.

11.4 Regarding monitoring mechanism to review the performance of Production Units, the Ministry have stated as under:

“Regular meetings are conducted with Production Units (PUs) to monitor the progress of production and resolve problems being faced by PUs in achieving the targets, if any. Production units are also involved in the performance review meetings for the locomotives where all stakeholders including RDSO and Zonal Railways participate. Production units also do the customer feedback meeting for taking feedback from maintenance depots and Zonal Railways. Review meetings are also conducted with the approved vendors, RDSO and PUs to ensure timely supply of sub-assemblies of locomotives to the PUs. Production Program as per traffic requirement dully approved by Board is conveyed to Production Unit. Monthly Production in PUs is monitored by Railway Board. Every month production data from PUs is monitored in Board office. Regular review meetings are held at different level to monitor the production performance of different Production Units.”

11.5 When enquired about the new technological innovations introduced/proposed with respect to rolling stock and measures taken by the Railways to ensure that such innovations and best practices are systematically disseminated and adopted across all Production Units, the Ministry have stated as under:

“Indian Railways has proliferated technologically superior LHB coaches with better riding, improved aesthetics and features like lightweight design, anti climbing features, air suspension (Secondary) with failure indication system, stainless steel shell and disc brake system etc.

Production of LHB coaches during 2014-25 vis-à-vis 2004-14 is as under:

Period	LHB coaches manufactured
2004-14	2,337 nos.
2014-25	42,677 nos. (more than 18 times)

All ICF rakes are planned to be replaced with LHB rakes in phases.

So far, more than 1494 ICF rakes have been replaced with LHB coaches. The remaining 491 ICF rakes will be replaced in due course.

The shift from ICF to LHB coaches has gradually improved train speeds due to higher speed potentials of LHB coaches.

Further, with a view to improve travel experience of the passengers, Indian Railways has introduced indigenously designed and manufactured Vande Bharat trains with modern coaches, advanced safety features and passenger amenities. Presently, 164 Vande Bharat services are in operation on the Indian Railway network.

These new Vande Bharat Trains have following features:

- I. Fitted with KAVACH.
- II. Jerk Free Semi-Permanent couplers.
- III. Centrally controlled Automatic Plug Doors and Fully Sealed wider gangways.
- IV. Emergency Alarm Push buttons and Talk Back Units on all Coaches.
- V. Improved fire safety – Aerosol based fire detection and suppression system in electrical cabinets and lavatories.
- VI. Higher acceleration with design/operating speed of 180/160 KMPH.
- VII. Driver-Guard communication with voice recording facility & Crash hardened memory.
- VIII. Air conditioning units with indigenously developed UV-C lamp based disinfection system.
- IX. Better Ride Comfort.
- X. CCTVs in all Coaches.
- XI. For Divyangjan passengers special lavatory in the driving coaches on each end.
- XII. Coach condition monitoring System (CCMS) display with remote monitoring.

Railways have developed fully non-AC modern train named as Amrit Bharat express. Already 54 services are in operation. Presently, these modern trains

comprise of 11 General Class coaches, 8 Sleeper Class coaches, 01 Pantry car and 02 Luggage cum Divyangjan coaches.

These trains have following enhanced features and amenities:

- I. Better aesthetics of seat and berths with enhanced look & feel on the lines of Vande Bharat Sleeper.
- II. Jerk Free Semi-Automatic Couplers.
- III. Improved Crashworthiness in coaches by provision of crash tube.
- IV. Provision of CCTV system in all coaches and Luggage room.
- V. Improved designs of toilets.
- VI. Improved design of Ladder for ease of climbing on to the berth.
- VII. Improved LED Light fitting & Charging Sockets.
- VIII. Provision of EP assisted braking system.
- IX. Aerosol based fire suppression system in toilets and electrical cubicles.
- X. USB Type-A and Type-C mobile charging sockets.
- XI. Emergency Talk Back system for two-way communication between Passenger and Guard/Train Manager.
- XII. Non-AC pantry with enhanced heating capacity.
- XIII. Fully sealed gangways with quick release mechanism for easy attachment and detachment.

Namo Bharat Rapid Rail has been introduced to enhance the travelling experience of suburban and regional commuters for inter-city short distance movement by harnessing the features of Vande Bharat Trains. Presently, 4 NamO Bharat Rapid Rail services are in operation on the Indian Railway network.

The prominent features of NamO Bharat Rapid Rail are as follows:

- I. Centrally controlled Double Leaf Automatic Sliding Doors.
- II. CCTVs for safety and passenger surveillance.
- III. Modular interior with Cushioned Seats and Sealed Flexible Gangway.
- IV. Emergency Talk System.
- V. Continuous LED lighting with Energy Efficient Lighting system.
- VI. FRP Modular Toilets with vacuum evacuation.

VII. Fully Air-Conditioned trains with Driver cab AC.

For long distance travel, the sleeper variant of Vande Bharat Express has been indigenously designed and developed. Two such trains have already been manufactured. After extensive trials these are presently operational between Howrah and Kamakhya.

To improve travel experience of the passengers and set new benchmarks in terms of safe and comfortable journey, these train sets have been provided with modern coaches having advanced safety features and passenger amenities like:

- I. Jerk-Free Semi permanent couplers and Anti Climbers.
- II. Fitted with KAVACH.
- III. Higher acceleration with design/operating speed of 180/160 KMPH.
- IV. Crashworthy Design of Car body complying with EN standards.
- V. Fire barrier doors at the end of each coach for compliance of fire safety standards.
- VI. Improved fire safety – Aerosol based fire detection and suppression system in electrical cabinets and lavatories.
- VII. Regenerative braking system for energy efficiency.
- VIII. Air conditioning units provided with indigenously developed UV-C lamp-based disinfection system for deactivating 99 % harmful bacteria from conditioned air to improve the hygiene standards inside the passenger area.
- IX. Centrally controlled Automatic Plug Doors and Fully Sealed wider gangways.
- X. CCTVs in all coaches.
- XI. Emergency talk-back unit for communication between Passenger and Train Manager/Loco Pilot in case of emergency.
- XII. For Divyangjan passengers, special lavatory in the driving coaches on each end.
- XIII. Centralized Coach Monitoring System for better condition monitoring of passenger amenities such as Air conditioning, Saloon Lighting etc.
- XIV. Ergonomically designed ladder for ease of climbing on to upper berths.

Modernization and Improvement/up-gradation of Rolling Stock to enhance safety, convenience and comfort of passengers is a continuous and ongoing process on Indian Railways.

The following new technologies have been adopted in locomotives in recent years:

- i) Head on Generation Technology: In HOG system electrical power is fed to the coaches directly from the Overhead Equipment (OHE) through the Locomotive. It eliminates the need for separate diesel fuelled power cars in trains and thus reduces the need for pulling extra coaches and also increases efficiency further resulting in reduction in carbon footprint.
Indian Railways have a total of 2342 HOG compliant locomotives as in January 2026.
- ii) Provision of RMS on electric locos: Remote Monitoring System helps in remote diagnostic of the failures in the locomotives bringing down the failure investigation time. As in January 2026, it has been commissioned on about 2233 electric locomotives and 2910 diesel locomotives.
- iii) Kavach (loco equipment): Kavach is an indigenously developed Automatic Train Protection (ATP) system. Kavach aids the loco pilot in train running within specified speed limits by automatic application of brakes in case it is exceeded to ensure safely.
- iv) High Reach Pantographs: High Reach Pantographs are being provided to for seamless working in high-rise OHE territory. Till date, 5655 locomotives have been provided with High Reach Pantographs pantographs.
- v) Waterless urinals: Waterless Urinals are being provided in locomotives as an amenity to the loco crew. These are robust in design considering riding shocks and vibrations and can be retrofitted without many alterations to layout and without interference with working of other equipment of locomotive. Till date more than 2000 locomotives have been provided with Urinals as in January 2026.

vi) LED headlight: LED Headlights are being provided in locomotives to improve visibility to Loco Pilots during train operations. 7362 locomotives have been provided with LED Headlights. All new locomotives are being manufactured with LED Headlights. Total 8718 locomotives are provided with LED Headlights as in January 2026.

vii) Energy saving mode in electric locomotives: To save Electrical Energy in 3-phase freight locomotives (WAG9/WAG9H/WAG9HC) modification is being carried out in existing scheme of load distribution and 'Energy Saving Mode' has been included in software of Auxiliary converter to put off the auxiliary blowers of locomotives, when cooling is not required during the idling of locomotives. 3028 locomotives have been modified with this feature as in January 2026.

Technological improvement is a continuous process. As a step towards the modernization of Indian Railways (IR), many technology driven projects are being introduced to improve upon the Safety & Productivity and to enhance availability, reliability, operability, maintainability of the Rolling Assets like Wheel Impact Load Detector (WILD) and Hot Axlebox Hot Wheel (HAHW) Detector/Hot Box Detector (HBD). WILD is a way-side inspection system that measures the impact of wheel on tracks to automatically identify the defective wheels in Rolling Stock and HAHW/HBD are automatic systems consisting of infrared sensors installed on wayside to measure the temperature of axle bearing box/wheel of rolling stock while in motion.

Further, as a step towards inducting latest technology on IR, the pilot projects viz. Machine Vision based Inspection Systems (MVIS) and Automatic Wheel Profile Measurement System (AWPMS) have been taken up. The MVIS will generate alerts on detecting any hanging, loose or missing components of moving trains and AWPMS allows automatic non-contact measurement of train wheel profile ensuring measurement of wheel geometry and wear.

In addition, installation of CCTV cameras in coaches and locomotives has been taken up to strengthen passenger security.

Innovation is a continuous process to Rolling Stock Manufacturing to enhance safety, convenience and passenger comfort. All the Production units of Indian Railways are International Railway Industry Standard (IRIS) certified units adopting International Standards and practices in Rolling Stock manufacture. RDSO, the research, design and standardization organization regularly communicates with PUs on different modifications, alterations etc. for standardization across different PUs.

11.6 Regarding key focus areas of railway workshop modernization, projects currently underway in Zonal Railway workshops, expenditure incurred and the status of projects, the Ministry have submitted as under :

“Presently, 291 projects (approx.) are under progress across various Zonal Railways pertaining to setting up of new workshops, as well as upgradation and augmentation of maintenance facilities in existing workshops. These projects have been identified and sanctioned based on various factors such as planned overhauling capacity, type of rolling stock to be overhauled, requisite machinery and plants to be installed, etc. An expenditure of approximately Rs. 3,097 Crore has been incurred on these projects up to January, 2026 against a total sanctioned cost of Rs.7,347 crore. These projects are at various stages of progress and are being monitored on regular basis to ensure their timely completion.”

11.7 The Ministry have furnished the following details of training, skill development of personnel engaged in production and maintenance of advanced rolling stocks :

“Indian Railways (IR), with a workforce of around 1.25 million dedicated employees, is committed towards providing safe and efficient rail services nationwide. To maintain a skilled workforce, IR has developed a robust and structured training framework that addresses the diverse needs of employees across all departments.

2. Railway personnel undergo different training modules at relevant stages of their careers namely Initial, Refresher, Promotional, and Specialized training. These trainings are primarily conducted in the extensive network of Indian Railways' Training institutes, which include Centralized Training Institutes, Zonal & Divisional Multidisciplinary Training Institutes as well as Specialised Training Centres spread across the country and are designed to address training needs of its workforce. These training modules for different categories of staff are being regularly updated to ensure continuous development and upgradation of skills as well as the evolving technological requirements of the railway system.

3. All newly recruited maintainers of Indian Railways undergo a detailed training programme of one to one and half years duration. This initial training programme consists on-job training (field training) component as well as classroom training in the Zonal training schools.

4. MoR aims to ensure that its human resources remain at the forefront of technological competence, for skill development of personnel thereby enabling smooth deployment, operation, production and maintenance of rolling stock.

5. The comprehensive and structured training modules of **Mechanical and Electrical Departments** are catering the requirements of rolling stock. The training modules of the **Mechanical Department** cover theoretical and practical aspects related to carriage and wagon maintenance, diesel locomotives, DEMU, SPART, and trainsets such as MEMU/EMU, including exposure to modern coach production technologies. In addition to this, Integrated course also conducted at IRIMEE regarding advancement in rolling stock technology. Similarly, the **Electrical Department** module includes **Specialized Training Courses in Traction Rolling Stock (Locomotives/EMU/MEMU)** for JE/SSE cadres (Drawing Group) and other supervisory staff, covering aspects required for rolling stock maintenance, etc.

6. In addition, **Periodic refresher courses** are conducted to keep the workforce updated with technological advancements, also covering the aspects i.e modifications in maintenance and production practices of rolling stock.

7. All the training activities are monitored at various levels through regular meetings, periodical reports and online data monitoring system to ensure efficiency, quality, and accountability. Through sustained investment in people and infrastructure, IR is always committed to develop a skilled, adaptive, and technology-driven workforce capable of meeting the growing demands of safe, efficient, and modern railway operations.”

XII. REDEVELOPMENT OF RAILWAY STATIONS

12.1 The Ministry have furnished the following details of railway stations redeveloped and those currently being redeveloped under the Amrit Bharat Station Scheme along with reasons for shortfall in achieving the targets fixed and the corrective steps being taken to expedite completion :

“Ministry of Railways has launched Amrit Bharat Station Scheme for redevelopment of stations with a long-term approach.

The scheme involves preparation of master plans and their implementation in phases to improve the stations. The master planning includes:

- Improvement of access to station and circulating areas
- Integration of station with both sides of city
- Improvement of station building
- Improvement of waiting halls, toilets, sitting arrangement, water booths
- Provision of wider foot over bridge/air concourse commensurate with passenger traffic
- Provision of lift/escalators/ramp
- Improvement /Provision of platform surface and cover over platforms
- Provision of kiosks for local products through schemes like ‘One Station One Product’
- Parking areas, Multimodal integration
- Amenities for Divyangjans
- Better passenger information systems
- Provision of executive lounges, nominated spaces for business meetings, landscaping, etc. keeping in view the necessity at each station.

The scheme also envisages sustainable and environment friendly solutions, provision of ballastless tracks etc. as per necessity, phasing and feasibility and creation of city centre at the station in the long term.

So far, 1337 stations have been identified for development under this scheme which are well distributed across the country. Development works at railway stations under Amrit Bharat Station Scheme have been taken up at a good pace. Till now, works of 172 stations have been completed and works have been taken up at 1072 stations. Name of stations completed so far are as following:

Alnavar, Amb Andaura, Ambikapur, Amgaon, Anandpur Sahib, Anara, Ayodhya Dham, Badami, Bagalkot, Baijnath Paprola, Balrampur, Bantawala, Barabhum, Baramati, Bareilly City, Baripada, Barmer, Barpali, Begumpet, Beohari, Bhanupratappur, Bhilai, Bhind, Bijnor, Bimalgarh, Bommidi, Bundi, Chanda Fort, Chalakudi, Changanassery, Chennai Park, Chidambaram, Chinchpokli, Chinna Salem, Chirayinkeezh, Cuttack, Dakor, Derol, Deshnoke, Devlali, Dharwad, Dhule, Dongargarh, Fatehabad, Fatehpur, Fatehpur Shekhawati, Gadag, Gangapur City, Godda, Godhra Jn., Gogameri, Gokak Road, Gola Gokarnath, Gomti Nagar, Govardhan, Govind Garh, Govindpuri, Govindpur Road, Hafizpeta, Haibargaon, Haldia, Hapa, Harpalpur, Hathras City, Hodal, Idgah Agra Jn., Izzatnagar, Jaisalmer, Jam Jodhpur, Jam Wanthali, Joychandi Pahar, Junnor Deo, Kakinada Town, Kalyani Ghoshpara, Kamakhyaguri, Kanalus Jn., Karaikkudi Jn., Karamsad, Karimnagar, Katni South, Kedgaon, Khairthal, Khambhaliya, Khalilabad, Koppal, Kosamba Jn., Kulitturai, Kuttipuram, Lasalgaon, Limbdi, Lohardaga, Lonand Jn., Mahe, Mahuva, Mailani, Mandal Garh, Mandawar Mahwa Road, Madhupur, Manaparai, Mandi Dabwali, Mangalagiri, Mannargudi, Matunga, M.C.S. Chhatarpur, Mithapur, Morappur, Morbi, Muktsar, Munirabad, Muri Jn., Murtizapur Jn., Nainpur Jn., Nandura, Narmadapuram (Hoshangabad), Netaji Subhash Chandra Bose Itwari Junction, Okha, Orchha, Palitana, Panagarh, Panki Dham, Parel, Parlakhemundi, Pirpainti, Piska, Pokhrayan, Pollachi Jn., Polur, Porbandar, Rajgarh, Rajmahal, Rajula Jn., Ramghat Halt, Rayanpadu,

Saharanpur Jn., Sahibzada Ajit Singh Mohali, Sahebgunj, Samakhiali, Samalpatti, Sanchi, Sankarpur, Savda, Seoni, Shahad, Shajapur, Sholavandan, Shoranur Jn., Shridham, Siddharth Nagar, Sihor Jn., Siuri, Sri Bala Brahmeswara Jogulamba, Srirangam, Srivilliputtur, St.Thomas Mount, Sullurpeta, Suraimanpur, Swaminarayan Chappia, Talcher, Tamluk, Thawe, Thiruvapur Jn., Tiruvannamalai, Tuni, Ujhani, Urkura, Utran, Vadakara, Vadala Road, Vidisha, Vriddhachalam Jn., Wadancheri, Warangal

Good progress has been achieved at the stations where activities for development have been taken up and progress of some of these stations is given below:

- **Tirupati station:** The structural framework of new second entry station building on South side and 2 nos. air concourses have been completed. The finishing works of new second entry station building on South side and air concourses, structural work of station building on North side, platform shelter, lift, escalator etc. have been taken up.
- **Nellore station:** The structural framework, brickwork and plastering of station building on both East and West sides have been completed. The finishing works of station building on both East and West side and air concourse, extension work of subway, water tanks and sewage treatment plant have been taken up.
- **Bangalore Cantt. station:** The works of diversion road on South side, training centre, hostel on North side, electric substation building have been completed. The works of South side station building, North side station building, circulating area and Foot Over Bridge have been taken up.
- **Kota Junction station:** The structural works of front departure hall, front arrival hall-1 at Mumbai end and rear side station building and air concourse have been completed. The finishing works of new station

building, air concourse, through roof, platform shelter, platform refurbishment, circulating area and parking have been taken up.

- **Bhubaneswar station:** The structural works of West side and East side station building, air concourse, underground tanks, sewage treatment plant have been completed. The finishing works of West side and East side station building, air concourse, lift and escalator have been taken up.

Further, development / upgradation of railway stations is complex in nature involving safety of passengers & trains and requires various statutory clearances such as fire clearance, heritage, tree cutting, airport clearance etc. The progress also gets affected due to brownfield related challenges such as shifting of utilities (involving water/sewage lines, optical fibre cables, gas pipe lines, power/signal cables, etc.), infringements, operation of trains without hindering passenger movement, speed restrictions due to works carried out in close proximity of tracks and high voltage power lines, etc. and these factors affect the completion time.

Development/Upgradation/Modernisation of stations including under Amrit Bharat Station Scheme is generally funded under Plan Head-53 ‘Customer Amenities’. The details of allocation and expenditure under Plan Head-53 are maintained Zonal Railway-wise and not work-wise or station wise or state-wise. The fund allocation of ₹ 12,120 crore has been made for the financial year 2025-26 under Plan Head–53 and expenditure (up to December, 2025) of ₹ 9,660 crore has been incurred so far.”

12.2 The following mechanisms and monitoring systems have been put in place by the Ministry to ensure timely execution of station redevelopment projects and to prevent cost overruns and delays:

“Indian Railways has a well-established mechanism to monitor implementation of projects including their reviews, inspection, check for time and cost overruns, quality of works and audits. Monitoring of projects is done at various

levels including through dedicated portal of Indian Railways named Indian Railway Project Sanction and Management (IRPSM). Works are carried out adhering to the standards and specifications laid down in various codes and manuals. Inspections/audits/checks are carried out from time to time by various agencies/officials/multi-disciplinary teams as per laid down instructions and actions for correction are taken immediately. The issues faced by the executing units are accordingly addressed. This is a continuous and ongoing process.”

12.3 The Ministry provided the following details of railway stations redeveloped or proposed to be redeveloped under the Public Private Partnership (PPP) model and the mechanism for dissemination of key lessons and best practices deriving from station redevelopment initiatives undertaken under the PPP model :

“Ministry of Railways explored various models of development of stations including Public Private Partnership (PPP). Rani Kamalapati station in the state of Madhya Pradesh has already been developed and commissioned under PPP model. Presently, 15 nos. of stations namely Avadi, Andheri, Anand Vihar, Bhopal, Bangalore City, Chennai Central, Coimbatore Jn., Dadar, Delhi junction, Hazrat Nizamuddin, Tambaram, Kalyan, Pune, Vadodara and Vijayawada have been identified for development on PPP model. Out of these 15 stations identified under PPP mode, the proposal for redevelopment of Vijayawada Railway Station has been approved by the competent authority on PPP (Design, Build, Finance, Operate and Transfer) mode and the bid has been invited for the project. The other 14 stations have been taken up for Master planning and financial modelling.

Public Private partnerships have evolved over time and experience gained from the redevelopment of Rani Kamalapati station on PPP mode provides important lessons for designing sustainable PPP frameworks. In comparison to earlier PPP models of station redevelopment, the revised model incorporates a more balanced risk-sharing approach, greater contractual clarity and enhanced commercial flexibility. These measures are expected to improve bankability of the project, reduce uncertainty for private participants and increase investor

confidence in station redevelopment projects under the PPP framework. The provisions to ensure equitable allocation of risks by distinguishing between delays attributable to the Authority and those attributable to the Concessionaire, have been incorporated thereby providing contractual certainty and reducing exposure to unforeseen delays.”

12.4 When enquired about the assessment of passenger satisfaction and improvement in amenities at redeveloped stations, the Ministry have stated as under :

“RailMadad is Indian Railways grievance redressal mechanism that provides passengers an integrated platform for grievances, assistance and inquiry. In RailMadad, passengers can seek redressal through multiple channels such as Helpline number-139, RailMadad Web, App and SMS. RailMadad also allows passengers to share feedback on the resolution of their grievances.

During the period from 01.04.2025 to 31.01.2026, 70 percent of feedback was excellent and satisfactory pertaining to Passenger Amenities at redeveloped stations.

Suggestions / Representations, both formal and informal for Railway projects / works across the country are received on the basis of demands raised by State Governments, Members of Parliament, Ministries of Central Government, elected representatives, Railways' own requirements, organizations / rail users etc., at various levels including Railway Board, Zonal Railways, Division Office etc. Receipt of such suggestions / representations is a continuous and dynamic process and these are examined and action as found feasible and justified is taken from time to time.”

12.5 The Ministry detailed the following provisions made to ensure that redevelopment works do not adversely affect passenger movement, safety and train operations during the construction phase:

“Indian Railways has a well established mechanism to monitor implementation of projects including their reviews, inspection, check for safety, quality of works and audits, passenger movement and train operations. Works are carried

out adhering to the standards and specifications laid down in various codes and manuals. Inspections/audits/checks are carried out from time to time by various agencies/officials/multi-disciplinary teams as per laid down instructions and actions for correction are taken immediately. This is a continuous and ongoing process. Railway is dedicated for ensuring safe and convenient passenger experience so as to maintain smooth and efficient passenger movement by way of proper barricading, standard signages/display boards including train indicator boards and coach guidance systems/boards with good visibility and public announcement system.”

12.6 With regard to standardized designs and modular infrastructure adopted to ensure uniformity, cost efficiency and faster replication across stations, the Ministry informed as under:

“Indian Railways has issued various comprehensive instructions for usage of standard designs and drawings in execution of various components of works at stations which include station building, Foot Over Bridge, ramps, platform surfacing, platform shelter, elevators, escalators, ticket counters, signage, finishing and fixtures etc. to maintain uniformity, cost efficiency and faster replication of works at stations. These include various specifications, drawings and standards issued vide RDSO specifications, CPWD DSR, USSOR, standard drawings, Indian Railways Works Manual, Indian Railways Construction Manual, Indian Railways Schedule of Dimensions 1676 mm Broad Gauge (BG) etc.

Further, Indian Railways is committed to make its railway stations accessible for Persons with Disabilities (Divyangjans) and passengers with reduced mobility as part of “सुगम्य भारत अभियान” or ‘Accessible India Campaign’ of Government of India. In compliance of the Rights of Persons with Disabilities Act, 2016, “Guidelines on accessibility of Indian Railway stations and facilities at stations for differently abled persons (Divyangjans) and passengers with reduced mobility” have been circulated and notified in the Gazette of India.

The guidelines include provisions of facilities for Divyangjans and passengers with reduced mobility such as entrance ramps, accessible parking, low height ticket counters/help booths, toilets, drinking water booths, subways/foot over bridges with ramps/lifts, standard signages including Braille signages and tactile pathways for visual impairment, etc. which are being provided in a phased manner and on the principles of reasonable accommodation.

Standardisation and upgradation of drawings and designs is a continuous and ongoing process based on past experience, extant codal provisions, requirements of stakeholders, feasibility for execution, optimization, matching for international standards, replaceability, modern technology etc.”

XIII. RAIL FREIGHT STRATEGY UNDER THE NATIONAL RAIL PLAN

13.1 Commodity-wise revenue and traffic loading details of Railways for the past three years, including the percentage contribution of each commodity to the total loading and total earnings as furnished by the Ministry are as under :-

Commodity-wise Freight Loading & Revenue 2022-23					
S.No.	Commodity Group	Tonnes Originating (000)	% age to Total	Earnings in Rs (000)	% age to Total
1	Total Coal	727237	48.19	807467517	50.42
2	Iron Ore	160136	10.61	123140755	7.69
3	Cement	143930	9.54	121968315	7.62
4	Food Grains	70922	4.70	100383085	6.27
5	Iron & Steel	69868	4.63	105293298	6.57
6	Total Exim Container	59394	3.94	46669835	2.91
7	Chemical Manures	56340	3.73	66294462	4.14
8	Mineral Oils	48219	3.20	63050551	3.94
9	Limestone & Dolomite	36090	2.39	32573691	2.03
10	Stone Other Than Marble And Gypsum	22079	1.46	15625488	0.98
11	Rmc Carried In General Service Wagons	21810	1.45	13271300	0.83
12	Total Domestic Container	19827	1.31	24149880	1.51
13	Jute Manufactured	11089	0.73	6263796	0.39
14	Ores Other Than Manganese And Iron	9125	0.60	9560290	0.60
15	Salt	8839	0.59	11707930	0.73
16	Non-Ferrous Metal	7574	0.50	8555597	0.53
17	Gypsum	6446	0.43	7404470	0.46
18	Sugar	5813	0.39	9740350	0.61
19	Provisions	4221	0.28	5094618	0.32
20	Lime	2727	0.18	4990022	0.31
21	Cement Manufactured	2646	0.18	1912038	0.12
22	Manganese Ores	1549	0.10	1601529	0.10
23	Fruits & Vegetable Fresh	1396	0.09	1761283	0.11
24	Sand	1328	0.09	1512210	0.09
25	Edible Oils	1281	0.08	1575237	0.10
26	Caustic Soda	839	0.06	971499	0.06
27	Wood Unwrought (Other Than Firewood)	369	0.02	272231	0.02
28	Opium & Other Narcotic	363	0.02	970145	0.06

	Drugs				
29	China Clay	347	0.02	426489	0.03
30	Fodder Oil Cake	239	0.02	505128	0.03
31	Commodities other than above	7060	0.47	6871809	0.43
	Total	1509103	100.00	160158484 8	100.00

Commodity-wise Freight Loading & Revenue 2023-24					
S.No.	Commodity Group	Tonnes Originating (000)	% age to Total	Earnings in Rs (000)	% age to Total
1	Total Coal	786839	49.55	851305501	51.32
2	Iron Ore	180948	11.39	131557675	7.93
3	Cement	152717	9.62	133025977	8.02
4	Iron & Steel	75766	4.77	114644695	6.91
5	Total Exim Container	63779	4.02	53851175	3.25
6	Chemical Manures	58920	3.71	70681078	4.26
7	Food Grains	51440	3.24	70240274	4.23
8	Mineral Oils	49882	3.14	67067072	4.04
9	Limestone & Dolomite	38057	2.40	32920492	1.98
10	Rmc Carried In General Service Wagons	25937	1.63	14925148	0.90
11	Total Domestic Container	20977	1.32	27321209	1.65
12	Stone Other Than Marble And Gypsum	17619	1.11	12753139	0.77
13	Jute Manufactured	11357	0.72	7678305	0.46
14	Ores Other Than Manganese And Iron	9413	0.59	7000108	0.42
15	Salt	8395	0.53	11491501	0.69
16	Non-Ferrous Metal	7667	0.48	9026044	0.54
17	Gypsum	5640	0.36	6883383	0.41
18	Provisions	3626	0.23	5174635	0.31
19	Lime	2922	0.18	5828783	0.35
20	Sugar	2908	0.18	7128124	0.43
21	Manganese Ores	1604	0.10	1517972	0.09
22	Cement Manufactured	1591	0.10	1313348	0.08
23	Edible Oils	1320	0.08	1719031	0.10
24	Sand	937	0.06	1340729	0.08
25	Caustic Soda	766	0.05	941798	0.06
26	Fruits & Vegetable Fresh	738	0.05	1002092	0.06
27	Wood Unwrought (Other Than Firewood)	337	0.02	236214	0.01

28	Fodder Oil Cake	243	0.02	517580	0.03
29	Bamboos	223	0.01	249773	0.02
30	Dry Grass	150	0.01	341827	0.02
31	Commodities other than above	5343	0.34	9121123	0.55
	Total	1588061	100.00	165880580 5	100.00

Commodity-wise Freight Loading & Revenue 2024-25					
S.No	Commodity Group	Tonnes Originating (000)	% age to Total	Earnings in Rs (000)	% age to Total
1	Total Coal	821889	50.89	86989284 7	51.68
2	Iron Ore	178123	11.03	12455709 4	7.40
3	Cement	149532	9.26	13020517 6	7.74
4	Iron & Steel	72260	4.47	11591215 8	6.89
5	Total Exim Container	63319	3.92	55292295	3.28
6	Chemical Manures	59707	3.70	74364988	4.42
7	Mineral Oils	50275	3.11	67919330	4.04
8	Food Grains	49766	3.08	76467910	4.54
9	Limestone & Dolomite	39303	2.43	34549103	2.05
10	RMC carried in General Service Wagons	30127	1.87	17008683	1.01
11	Total Domestic Container	25097	1.55	32603614	1.94
12	Stone other than Marble and Gypsum	15723	0.97	12033242	0.71
13	Jute Manufactured	9949	0.62	6437252	0.38
14	Ores other than Manganese and Iron	9385	0.58	7442989	0.44
15	Salt	9171	0.57	12453746	0.74
16	Non-Ferrous Metal	7736	0.48	9355009	0.56
17	Gypsum	5272	0.33	6586090	0.39
18	Sugar	2811	0.17	6712901	0.40
19	Lime	2804	0.17	5557702	0.33
20	Manganese Ores	1572	0.10	1534605	0.09
21	Provisions	1566	0.10	2164456	0.13
22	Edible Oils	1250	0.08	1568285	0.09
23	Paper	889	0.06	1825202	0.11
24	Sand	705	0.04	1191453	0.07

25	Caustic Soda	666	0.04	942028	0.06
26	Cement Manufactured	520	0.03	640714	0.04
27	Bamboos	332	0.02	444334	0.03
28	Fruits & Vegetable Fresh	302	0.02	393604	0.02
29	Wood Unwrought (Other than Firewood)	283	0.02	145778	0.01
30	Dry Grass	202	0.01	72848	0.03
31	Commodities other than above	4369	0.28	6960625	0.38
Total		1614905	100.00	16832360 61	100.00

13.2 The following steps as detailed by the Ministry are being taken to improve capacity and cost efficiency of rail freight operations and to raise the maximum speed of freight trains to 100 kmph :

“DFCCIL has significantly enhanced the efficiency of freight transportation, resulting in faster movement of traffic from industrial hubs to ports and from coal mines to thermal power plants. This has led to minimizing transit delays, lowering inventory holding requirements, and reducing wastage and degradation of goods during transit.

- Trucks on Train (ToT): Enables loaded trucks to be transported on flat rail wagons, reducing transit time, road congestion, and carbon emissions.
- Double stack container trains: Enhancing containerization efficiency for higher cargo capacity and reduced freight by 50% for upper deck.
- Simplified Business Processes: IT-driven solutions for ease of doing business

Steps to improve the average speeds

- Segregation of wagons to optimize the maximum permissible speeds of rakes
- Induction of 100 kmph speed potential wagons
- Indian Railway’s Terminals capacity enhancements to reduce bottlenecks at exit points of DFC
- more holding lines on EDFC & WDFC

- Centralized traffic control (CTC) system over DFC Introduction of Kavach.

To improve the efficiency of rail freight handling at the terminals, Indian Railway has adopted two- pronged approach: encouraging private sector to develop the modern rail freight terminals and augmenting/ upgrading the infrastructure at railway owned goods sheds. GCT policy provides framework for development of rail freight terminals equipped with modern facilities including mechanized handling. Till date, a total of 124 GCTs have already been commissioned. Further, a work of Rs.14,500 crore has been sanctioned for development of customer amenities at the goods sheds and parcel offices during 2023-24, 2024-25 & 2025-26.”

13.3 During evidence dated 23.02.2026, the representative of Ministry with regard to the initiatives being taken to augment freight capacity deposed as under:

“सभी को जानकर खुशी होगी कि अब जो लास्ट हमारा जो वेस्टर्न डेडिकेटेड फ्रेड कॉरिडोर का जो लास्ट लेग था वह मार्च 31 तक हम लोग खत्म कर देंगे और उम्मीद करते हैं कि उसके दो-तीन महीने में गाड़ियां चलना शुरू हो जाएंगी। पूरा हमारा जो वेस्टर्न डेडिकेटेड फ्रेड कॉरिडोर जेएनपीटी से पूरा का पूरा कनेक्ट हो जाएगा।

पीपीपी पर प्राइवेट फ्री टर्मिनल ला रहे हैं। इस पर हम लोगों ने एक नई पॉलिसी गतिशक्ति 2.0 पॉलिसी बनाई है। उसके तहत भी हम लोगों ने एक नई, एज अ रिफॉर्म्स भी दिया है। उसमें पीपीपी में जो हमारे यहां पर साइडिंग्स पुरानी है जो मतलब जहां पर कम चलती है सर उसको प्राइवेट पर देने के लिए हम लोगों ने पूरी एक स्कीम बनाई है तो मुझे लगता है कि आगे आने वाले टाइम में पीपीपी पर करने में दो फायदे हैं, स्पेशली तो एक तो हमारा जो साइडिंग है अच्छी डेवलप हो जाएगी दूसरा, He will bring more traffic there. This is what our planning is. This will take up very soon. इसमें सर सर हम लोगों ने उसको स्टोरेज संबंधी सुविधा भी वहां दी है। उसमें वह प्रोसेसिंग भी कर सकता है। स्पेशली रिलेटेड टू सीमेंट्स, क्लिंकर्स एंड ऑल दैट।“

13.4 Further the representative of Ministry with regard to the cement terminal policy submitted during the evidence dated 23.02.2026 as under:

“सर, इसमें सेकेंड में बल्क सीमेंट टर्ननल पॉलिसी है। इसमें हमें बहुत फायदा हुआ है। जो स्पेशल टाइप के बल्क सीमेंट के बैग्स हैं, उसके लिए हम लोगों ने एक प्लैट रेट निर्धारित किया था। अब उसका रेट कम हो गया है। कॉन्कोर जो एक्स्ट्रा चार्ज लेती था, उसने भी कम किया है। इस तरह से हमें बल्क सीमेंट में बहुत ज्यादा फायदा है। आगे जो भी सीमेंट है, हम कोशिश करेंगे कि बल्क सीमेंट के रूप में लेकर जाएं। उस तरह की पॉलिसी ऑलरेडी बन गई है। पॉलिसी बनने के बाद काफी लोग 20-20 फीट के सीमेंट वाले कंटेनर बना रहे हैं। करीब 200 कंटेनर कॉन्कोर के पास है। कॉन्कोर का टोटल 500 का प्लान है। यह एक महत्वपूर्ण स्टेप है। इससे केवल कॉस्ट ही कम नहीं हो रही है, इसमें सबसे ज्यादा फायदा यह है कि शहरों में जहां पर गुड्स शेड्स हैं, वहां पर खुले में सीमेंट खाली होता है। कुछ दिन बाद यह मैडेटर्री हो जाएगा कि हम लोग सीमेंट को इस तरह से ढोएं कि वातावरण साफ रहे। एक्यूआई लेवल ठीक रखने के लिए यह बहुत अच्छा मेथड है। इससे खाली बहुत जल्दी होता है। Health of the people, those who are working in that environment, is not affected.

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जी सर, उसे ट्रक में रख देते हैं और वहां पर एक वैक्यूम वाला होता है, वह उसे सक करके जल्दी कर देता है। इसलिए यदि आपने देखा होगा, हमारी जो जीसीटी पॉलिसी है, वह अपना वेयरहाउस ही बना सकता है और वहां पर यह ज्यादा से ज्यादा मिक्सर में चला जाना चाहिए, यदि वह किसी वजह से नहीं जाता, ओनली मिनिमम ऑफ द क्वांटिटी शुड बी बैक।”

13.5 The details of new initiatives being taken for freight enhancement were elaborated during the evidence dated 23.02.2026 as under:

“मैं सॉल्ट के बारे में सभी माननीय सदस्यों को बताना चाहता हूँ। अभी हम लोगों ने एक सॉल्ट के लिए नया कंटेनर बनाया है, जिसमें कि सॉल्ट का एक ट्रायल किया गया है, वह पूरा का पूरा सक्सेसफुल है, वह स्टेनलेस स्टील का कंटेनर है, क्योंकि यदि आप सॉल्ट को देखें, तो जब हम उसको वापस ट्रांसपोर्ट करते हैं, तो उसकी पैकिंग का कार्य सबसे ज्यादा मुश्किल कार्य है, हैंडलिंग करने वाले के लिए भी मुश्किल है। वह स्टेनलेस स्टील में सीधा का सीधा लोड हो जाता है, तो हम लोग

उसमें डेवलपमेंट का कार्य कर रहे हैं। हम लोगों ने कंटेनर बनाया है, हम जल्दी ही उसकी पॉलिसी पर और आगे उस पर कार्य करेंगे। आप देख सकते हैं कि हम लोग सारे प्रोडक्ट्स पर कोशिश करेंगे कि जितना ज्यादा कंटेनर से कर सकें। That has been manufactured by one of the companies near Rewari. It is completely stainless steel. The loader comes from the top and when it goes to unloading point, hydraulic jacks tilt it up and it is offloaded. There are a few issues that we are addressing. Once we finalise all those issues, the salt can also be transported in containers. “

हम लोगों ने एक रेलगाड़ी चलाई है, जो कि टीकेडी से कोलकाता तक जाती है। वह एक कंटेनर ट्रेन है। हम उसको दो जगहों पर रोकते हैं। हम उसको आगरा और कानपुर रेलवे स्टेशंस पर रोकते हैं। जो कानपुर के व्यापारी हैं, वे कंटेनर्स में अपना सामान रखवाते हैं। जब वह गाड़ी वहां पहुंचती है, तो वह दो-तीन घंटे तक रुकती है। एक स्टैकर मशीन होती है, उस कंटेनर को उस पर लगा दिया जाता है और खाली कंटेनर को हटा दिया जाता है। हम यह प्रक्रिया इसलिए कर रहे हैं, ताकि हम छोटे से छोटे सामान को ले जा सकें। हम कानपुर में ऐसा करते हैं। वह ट्रेन 80 से 90 घंटे में कोलकाता पहुंचती है। हम लोग इसमें फर्स्ट लेग भी कर रहे हैं और लास्ट लेग भी कर रहे हैं। मैं आपको यह आश्वासन देना चाहता हूं। यही एक तरीका है, ताकि हम प्वाइंट टू प्वाइंट सर्विस दे सकें। हम इसको बैलेंस अदर गुड्स बोलते हैं। हमें इसको बढ़ाना है। हम भविष्य में भी यह करेंगे।”

13.6 Regarding the Gati Shakti Multi-Modal Cargo Terminal (GCT)’ policy enhancing the ease of doing businesses and increasing revenue for Indian Railways, the Ministry have stated that the single-window GCT link on Freight Business Development (FBD) portal has been activated to streamline the online application process for development of Gati Shakti Multi-Modal Cargo Terminals (GCTs) by providing a transparent, end- to-end digital platform. It enables prospective developers and freight customers to submit applications, upload documents, track approvals and obtain necessary information through a unified interface. This eliminates multiple physical interactions, reduces processing time, enhances transparency, and significantly improves the ease of doing business. By simplifying procedures and encouraging private participation in terminal development, the portal accelerates creation of modern cargo infrastructure and improves logistics efficiency. The

enhanced capacity, faster approvals, and customer-centric services attract more freight traffic to rail, thereby increasing cargo volumes and contributing to higher freight revenue for Indian Railways.

13.7 The Ministry have also stated that:

- Gati Shakti Multi Modal Cargo terminal policy issued in December, 2021 and subsequently revised in December, 2022 and January, 2026.
- 124 terminals completed, 290 are in process
- 846 goods sheds of Railway being improved

13.8 During evidence dated 23.02.2026, the representative of Ministry with regard to Gati Shakti Multi Modal Cargo terminal policy deposed as under:

“यदि सारे गतिशक्ति टर्मिनल्स देखते हैं, तो गतिशक्ति पालिसीज ने पूरा का पूरा सीन चेंज कर दिया है। इस तरह के कंटेनर सारे के सारे गतिशक्ति में होने में 124 टर्मिनल बन चुके हैं, करीब 290 में हमने आईपीए दे रखा है और हम करीब 846 गुड्स शेड को कर रहे हैं। हम लोगों ने यहां पर नई जीसीटी पॉलिसी में जो गुड्स शेड कम चलती हैं, जहां पर साल भर में लगभग 10 से 12 रैक ही आते हैं, वे हम प्राइवेट पार्टी को देने के लिए कर रहे हैं और कई लोग लेने को भी तैयार हैं, हम उस पर काफी रियायतें भी दे रहे हैं, उससे हमको दो फायदे हैं, एक तो वह डेवलप होगा और हमको एश्योर्ड ट्रैफिक भी मिलेगा।”

13.9 The following initiatives as detailed by the Ministry are planned to expand rail's share in non- bulk cargo segments such as automobiles, containers, parcels and fast-moving commercial goods:

i. **Parcel Traffic:**

a. **e-Auction Policy:** A new procedure i.e. e-Auction Policy introduced for Commercial Earning & Non-Fare Revenue contracts, on pan India basis, so as to reduce the time taken in finalization of tenders and to prevent revenue loss on this account.

b. **Launch of ‘Joint Parcel Product-Rapid Cargo Service (JPP-RCS)’:**
The services have been introduced with special focus on e-Commerce

and Fast Moving Commercial Goods (FMCG), with provision for online booking of parcel space in the JPP-RCS trains by Aggregators (in addition to the India Post) through a 'Virtual Aggregation Platform (VAP)'.

- c. In order to provide seamless Door to Door transportation services of parcel segment, CONCOR has been granted permission to operate a weekly 'door-to-door' service between Mumbai- Kolkata (by allotting 02 VPs) and Delhi-Kolkata (by allotting 03 VCPs) routes for which the booking of Parcel Vans is governed by JPP-RCS scheme.
- d. Inclusion of certain popular e-commerce commodities in the Red Tariff, so as to facilitate their movement through Railways' parcel services. Further, transportation of two-wheelers has been permitted in leased parcel space.
- e. The covered stock of idle BCN/BCNA wagons are utilized as 'Deemed VPs' to enable loading of cargo especially FMCG/FMCD and other White Goods (which are generally volumetric in nature), in these stocks.

ii. **Automobile Traffic:**

- a. the Automobile Freight Train Operator (AFTO) scheme is in place to enhance IR's share in automobile transportation by permitting private investment in automobile freight trains.
- b. **Significant Growth in Automobile Traffic & Revenue:** Loading increased from 427 rakes (₹64.34 crore) in 2013-14 to 7,587 rakes (over 1 million cars) earning ₹1,308 crore 2024-25, during which the rail coefficient in the car segment has risen from 1.5% to over 20%.
- c. **Infrastructure & Operational Support:** All container terminals have been permitted to handle automobile traffic, new stations/terminals are being opened based on demand, and automobile traffic has been exempted from Terminal Charges
- d. **Augmentation of Rolling Stock:** 180 rakes of Railway-owned NMG rakes have been inducted. Also, new taller double-deck wagon (ACT-1) has been operationalised in January 2025 to cater to SUV demand.

Additional designs (ACT-2 and ACT-3) are under approval

13.10 When enquired about the efficiency of the operational segments of the DFCs in reducing congestion on the traditional railway network, measurable improvements observed in the speed and efficiency of passenger train services on conventional routes as a result, the Ministry have submitted as under:

“DFCCIL is running 406 trains per day and approximately 13% of Indian Railway traffic. Considering single management system, as revenue DFCCIL is being given TAC, which consist of Debt repayment & OM expenditure.

Average speed of passenger carrying trains depends upon various factors which include Maximum Permissible Speed (MPS) of a section, condition / type of the coaching stock being used, traction used, Speed restrictions, Gradients and curves, number of stoppages, platform constraints at junction and other stations, terminal constraints etc. Presently trains on Indian Railways (IR) are being operated with two types of coaches viz. ICF and LHB, which have different speed potential. Simultaneously, the sectional speeds on IR are 110 kmph and 130 kmph. In its efforts to utilise the available resources in an optimal manner, the passenger carrying trains on IR have been charted at the Maximum Permissible Speed of the sections concerned. Regardless of the fact that common infrastructure is being utilized for operation of both freight and passenger trains, the punctuality of Mail / Express trains over NCR has improved as indicated in the table below:

Punctuality % of NCR for the last 03 years	
Financial Year	Mail / Express
2023-24	52.96
2024-25	72.35
2025-26 (Upto 15 th February)	77.81

Further, there has been an increase in the number of passenger services. During the last 3 years, a total of 465 new train services (Mail/Express & Passenger) have been introduced on the Indian Railway network.”

13.11 During evidence dated 23.02.2026, the representative of Ministry with regard to limitations faced in improving speed of the freight trains deposed as under:

फ्रेट ट्रेन्स के बारे में एक प्रश्न था कि 100 किलोमीटर की गति पर फ्रेट ट्रेन को चलाना। मैं यह बताना चाहता हूं कि जब हमारा एम्टी वैगन होता है, तो हर वैगन की चलने की क्षमता अलग है, स्पीड अलग है। चूंकि ये सारी गाड़ियां एक ही लाइन में चलती हैं, तो यह भी समझ लेना बहुत जरूरी है कि यदि आगे कम स्पीड वाली ट्रेन है, तो वह पीछे वाली गाड़ी को इफेक्ट करेगी, स्पेशली जब हम ऑटोमेटिक ब्लॉक सेक्शन में कार्य करते हैं। हमारा उद्देश्य यह रहता है कि सभी गाड़ियों की स्पीड एक जैसी रहे, परंतु इसको पूरा करना संभव नहीं हो पाता है। हम लोग कोशिश करते हैं कि जहां-जहां पर मैक्सिमम स्पीड अचीव हो सके, उसे हम अचीव करते हैं, लेकिन लोडेड में जो हमारी लार्जली गाड़ियां हैं, बॉक्सन हैं, वे 75 केएमपीएच पर चलती हैं। हम लोडिंग वाली वैगन के लिए भी कोशिश कर रहे हैं, परंतु 75 केएमपीएच के ऊपर लोडिंग में अच्छा नहीं माना गया है, क्योंकि इससे ट्रैक पर भी फर्क पड़ता है। हमारा मानना यह है कि हमारे जो वैगन्स हैं, उनके लिए हम 75 केएमपीएच लोडेड और एम्टी में 100 केएमपीएच में प्लान कर रहे हैं। यदि एवरेज स्पीड की बात की जाए, करीब-करीब 47 की एवरेज स्पीड डब्ल्यूडीएफसी पर है, मतलब वेस्टर्न डेडिकेटेड फ्रेट कॉरिडोर और ईस्टर्न डेडिकेटेड फ्रेट कॉरिडोर पर। यदि आप दोनों में भी देखें, तो वेस्टर्न डेडिकेटेड फ्रेट कॉरिडोर की ज्यादा है, क्योंकि वहां पर कंटेनर चलते हैं और हमारे ईस्टर्न डेडिकेटेड फ्रेट कॉरिडोर में बॉक्सन चलता है, जिसमें कोयला है, तो वहां पर स्पीड करीब 35-36 होती है। यह समझना बहुत जरूरी है कि यह लार्जली डिपेंड करता है कि किस तरह का ट्रैफिक चल रहा है, क्योंकि जब वहां पर कंटेनर चलता है, तो 100 की स्पीड पर भी चलता है।

13.12 Regarding mechanisms established by the Railways to gather feedback from industries and other consumers about freight operations of Railways on conventional as well as Dedicated Freight Corridors and inputs being acted upon to improve services, the Ministry have stated as under :

“Mechanisms to gather industry feedback are being actively pursued through structured and continuous industry outreach involving major companies across various sectors. Regular consultations and interactive meetings are conducted

with key private stakeholders to understand their requirements, operational challenges, logistics constraints, and suggestions for improving freight services. The inputs and concerns received from these stakeholders are systematically compiled and shared with the concerned Directorates for examination and necessary action. Based on feasibility and policy alignment, suggestions are translated into actionable measures.

Industry outreach is carried out in collaboration with prominent industry bodies and organisations such as NTPC, FICCI, Invest India, Cement Manufacturers Association, Freight Forwarders Associations, ASSOCHAM, Container Train Operators, and major automobile sector players. As part of this engagement framework, a National Conference on Fly Ash Utilisation and Transportation was organised in collaboration with NTPC on 25 August 2025 at PMI, Noida. The conference brought together generators, users, transporters, and policymakers, facilitating coordinated deliberations on sustainable fly ash management and strengthening rail-based evacuation through inter-ministerial and stakeholder alignment.

The Business Development Unit has institutionalised sector-specific Focus Group Discussions (FGDs) with key industries to obtain granular, commodity-level feedback. During December 2025 and January 2026, dedicated FGDs were held with Edible Oil manufacturers, Two-Wheeler OEMs, FMCG companies, and Milk & Milk Product stakeholders. These deliberations involved industry associations, wagon manufacturers, leasing companies, and logistics operators, and focused on tariff rationalisation, wagon design innovations, terminal infrastructure gaps, cold-chain requirements, rake availability etc.

Further, the stakeholder feedback process has been digitalised through the Business Development Portal, which is accessible to industry stakeholders as well as Zonal Railways and divisions. Industrial as well as zonal and divisional suggestions can be placed on the portal which then are tracked, assigned to the concerned divisions/directorates, and periodically reviewed to ensure closure.

This structured feedback-to-action mechanism ensures that policies, commercial initiatives, and operational improvements remain aligned with industry needs and contribute to a more efficient, sustainable, and customer-centric freight ecosystem.

Feedback & Stakeholder Engagement Mechanisms – DFCCIL

The management of the Dedicated Freight Corridor Corporation of India Limited (DFCCIL) regularly conducts review meetings and engages closely with freight customers regarding the development of Gati Shakti Cargo Terminal (GCTs) and innovative service offerings such as *Trucks on Train (ToT)* and high-speed small cargo services. These structured interactions help assess market response, identify operational challenges, and fine-tune service design to better align with industry requirements.

The increasing interest from logistics players and industries has also resulted in growing demand for new GCTs along the corridor.

DFCCIL actively participates in national and international exhibitions, trade fairs, heavy haul forums, and freight logistics conferences, providing direct engagement with industries, freight forwarders, infrastructure developers, and global experts. These platforms enable real-time feedback and exchange of best practices.

Further, DFCCIL has entered into Memoranda of Understanding (MoUs) with reputed academic institutions and leading global companies in the fields of engineering, logistics, and management, facilitating knowledge exchange, research collaboration, skill development, and adoption of advanced technologies.

Through structured stakeholder engagement, strategic collaborations, international affiliations, and continuous communication, DFCCIL systematically gathers inputs and acts upon them to enhance operational efficiency, service reliability, innovation, and customer satisfaction.”

13.13 The Ministry have submitted following details regarding the scope, timeline, strategic significance and projected cost along with budget provisions of the newly proposed Dedicated Freight Corridor connecting Dankuni in the East to Surat in the West :

A New Dedicated Freight Corridor i.e., Dankuni-Surat, has been announced by the Government of Bharat in the Budget 2026. For the expeditious implementation of the new Dedicated Freight Corridor announced in the Union Budget, DFCCIL has been asked to initiate action by considering the revised route as proposed in the Budget, finalizing optimum technical standards, preparing contract documents, undertaking a revised FIRR/EIRR analysis, and assessing optimum manpower requirements, among other related activities.

XIV. UPGRADATION OF TRACKS AND SIGNALLING SYSTEMS IN INDIAN RAILWAYS

14.1 Strengthening, upgradation, modernisation and improvement of track infrastructure is a continuous and ongoing process over Indian Railways. The following measures as detailed by the Ministry are being taken by Indian Railways to upgrade railway tracks:

- i. Modern track structure consisting of 60kg, 90 Ultimate Tensile Strength (UTS) rails, Wider and heavier Pre-stressed Concrete Sleepers (PSC) with elastic fastening, fan-shaped layout turnout on PSC sleepers and H-beam Sleepers on girder bridges are being used while carrying out primary track renewals.
- ii. The Thick Web Switches and Weldable CMS Crossings are being used in turnout renewal works.
- iii. Supply of 260m long rail panels have been increased to avoid welding of joints, thereby improving safety and riding quality
- iv. Thick Web Switch Expansion Joints are being used in place of earlier Conventional/Improved SEJs.
- v. Adoption of better welding technology for rails i.e. Flash Butt Welding.
- vi. Adoption of mechanized system for track maintenance using high output plain tampers and points & crossing tampers for improved maintainability & reliability of track.
- vii. Deployment of state-of-the-art modern machines including Rail Grinding Machines to further improve asset reliability.
- viii. Mechanisation of track laying activities through use of track machines like PQRS, TRT, T-28 etc.
- ix. Interlocking of Level Crossing (LC) Gates for enhancing safety at LC gates.
- x. Use of advanced Phased Array technology of testing of rail and welds.
- xi. Deployment of Integrated Track Monitoring Systems (ITMS) and Oscillation Monitoring System (OMS) for comprehensive health assessment to ascertain optimal maintenance requirements.

- xii. Adoption of portable Track Measuring Trolley for continuous recording of track parameters in yards.
- xiii. Using web enabled Track Management System (TMS) for integration and data analytics of the track inspection records received through various sources to enable precise maintenance inputs.

14.2 Indian Railway is continuously modernizing current infrastructure of its signalling system. The details as provided by the ministry are as under:

- a. Electrical/Electronic Interlocking Systems with centralized operation points and signals in place of old mechanical signalling have been provided at 6663 stations as on 31.01.2026. Electronic Interlocking have been provided at 3858 stations as on 31.01.2026.
- b. Interlocking of Level Crossing Gates (LC) has been provided at 10123 Level Crossing Gates upto 31.01.2026 for enhancing safety at LC Gate.
- c. Complete Track Circuiting of stations to enhance safety by verification of track occupancy by electrical means has been provided at 6,668 stations up to 31.01.2026.
- d. Axle counters for automatic clearance of Block Section, BPAC (Block Proving Axle Counter) are provided to ensure complete arrival of train without manual intervention before granting line clear to receive next train and to reduce human element. These systems have been provided on 6147 Block Sections up to 31.01.2026.
- e. Automatic Block Signalling (ABS) that enhances line capacity within existing track infrastructure, has been provided at 6709 Route km upto 31.01.2026. This includes commissioning of 3009 Rkm of Automatic Block Signalling during last & current year.
- f. Details of Indigenously developed Automatic Train Protection System (iR-ATP), KAVACH are covered under item no.50 below.

14.3 The Details of physical targets vis-à-vis achievements and financial allocation vis-à-vis actual expenditure for the last three years in schemes relating to tracks and signalling (including KAVACH) as furnished by the Ministry is as under :

Financial Year	Budget Grant (in cr)	Act. Exp. (in cr)	CTR Progress (in TKm)
2022-23	13335	16325	5227
2023-24	17297	17850	5950
2024-25	17652	23433	6851

Electronic Interlocking: Electronic Interlocking Systems with centralized operation points and signals in place of old mechanical signalling have been provided at 3858 stations as on 31.01.2026. This includes commissioning of Electronic Interlocking at 1993 stations during last five years including current year.

Automatic Block Signalling (ABS): Automatic Block Signalling (ABS) that enhances line capacity within existing track infrastructure has been provided at 6709 Route km upto 31.01.2026. This includes commissioning of 3009 Rkm of Automatic Block Signalling during last & current years itself.

Kavach: Kavach Version 4.0 has been successfully commissioned on 1297 Route Kilometres, covering the high density Delhi- Mumbai and Delhi-Howrah routes. On the Delhi–Mumbai route Kavach ver 4.0 has been commissioned on Junction cabin–Palwal–Mathura–Nagda section (667 Rkm), Vadodara- Virar section (336 Rkm) and Vadodara - Ahmedabad section (96 Rkm), and on the Delhi–Howrah route Kavach ver 4.0 has been commissioned on Gaya Sarmatanr section (93 Rkm) and Howrah–Bardhaman section (105 Rkm). Further, track side Kavach implementation work has been taken up on 23,360 RKM covering all GQ, GD, HDN and identified sections of Indian Railways. Tender has been finalised for equipping 6,300 Electric Locomotives

with Kavach version 4.0 and another tender for equipping 2,679 Diesel Locomotives is under finalisation

During the year 2025-26, ₹6800 crore have been allocated for Signalling & Telecom related works, out of which ₹5354.30 crore spent till Jan'2026.

For Kavach works, funds utilized so far up to Dec'25 is ₹2,573.36 Crores. The allocation of funds during the year 2025-26 is ₹1673.19 Crores. Requisite funds are made available as per the progress of works.

14.4 The Ministry have provided the following details of the phased rollout plan for KAVACH, including the timelines for coverage of major corridors, cost implications, indigenous manufacturing capacity and challenges faced in large-scale deployment across Indian railway network.

1. Kavach is an indigenously developed Automatic Train Protection (ATP) system. Kavach is a highly technology intensive system, which requires safety certification of highest order (SIL-4).
2. Kavach aids the Loco Pilot in running of trains within specified speed limits by automatic application of brakes in case Loco Pilot fails to do so and also helps the trains to run safely during inclement weather.
3. The first field trials on the passenger trains were started in February 2016. Based on the experience gained and Independent Safety Assessment of the system by Independent Safety Assessor (ISA), three firms were approved in 2018-19, for supply of Kavach Ver 3.2.
4. Kavach was adopted as National ATP system in July, 2020.
5. Implementation of Kavach System involves following Key Activities:
 - a. Installation of Station Kavach at each and every station, block section.
 - b. Installation of RFID Tags throughout the track length.
 - c. Installation of telecom Towers throughout the section.
 - d. Laying of Optical Fibre Cable along the track.

- e. Provision of Loco Kavach on each and every Locomotive running on Indian Railways.
6. Based on deployment of Kavach version 3.2 on 1465 Rkm on South Central Railway and experience gained, further improvements were made. Finally, Kavach specification version 4.0 was approved by RDSO on 16.07.2024.
7. Kavach version 4.0 covers all the major features required for the diverse railway network. This is a significant milestone in safety for Indian Railways. Within a short period, IR has developed, tested and started deploying Automatic Train Protection System.
8. Major improvement in Version 4.0 includes increased Location Accuracy, Improved Information of Signal Aspects in bigger yards, Station to Station Kavach interface on OFC and Direct Interface to existing Electronic Interlocking System. With these improvements, Kavach Ver.4.0. is planned for large scale deployment over Indian Railways.
9. After extensive and elaborate trials, Kavach Version 4.0 has been successfully commissioned on 1297 Route Kilometres, covering the high density Delhi-Mumbai and Delhi-Howrah routes. On the Delhi-Mumbai route Kavach ver 4.0 has been commissioned on Junction cabin-Palwal-Mathura-Nagda section (667 Rkm), Vadodara- Virar section (336 Rkm) and Vadodara - Ahmedabad section (96 Rkm), and on the Delhi-Howrah route Kavach ver 4.0 has been commissioned on Gaya Sarmatanr section (93 Rkm) and Howrah-Bardhaman section (105 Rkm).
10. Further, track side Kavach implementation work has been taken up on 23,360 RKM covering all GQ, GD, HDN and identified sections of Indian Railways.
11. Progress of key items of Kavach on High density routes including Delhi-Mumbai & Delhi- Howrah corridors as on 30.01.26 are as under:

	Item	Progress
i.	Laying of Optical Fibre Cable	8570 Km

ii.	Installation of Telecom Towers	938 Nos
iii.	Station Data Centre	767 Station
iv.	Installation of Track side equipment	5672 Rkm
v.	Provision of Kavach in Loco	4154

12. Tender has been finalised for equipping 6,300 Electric Locomotives with Kavach version 4.0 and another tender for equipping 2,679 Diesel Locomotives is under finalisation.

13. Specialized training programmes on Kavach are being conducted at centralized training institutes of Indian Railways to impart training to all concerned officials. By now about 48,000 technicians, operators and engineers have been trained on Kavach technology. This includes about 45,000 Loco Pilots & Assistant Loco Pilots. Courses have been designed in collaboration with IRISSET.

14. The cost for provision of Track Side including Station equipment of Kavach is approximately Rs. 50 Lakhs/Km and cost for provision of Kavach equipment on locomotives is approximately Rs. 80 Lakh/Loco.

15. The funds utilized on Kavach works so far up to Dec'25 is Rs. 2,573.36 Crores. The allocation of funds during the year 2025-26 is Rs. 1673.19 Crores. Requisite funds are made available as per the progress of works.

14.5 During evidence dated 23.02.2026, the representative of Ministry deposed with regard to Kavach as under:

“सेफ्टी से रिलेटेड जो कवच का डेवलपमेंट हम लोग आज की तारीख में कर रहे हैं और जिस तरह सर आगे बढ़ रहा है। आगे सर पोजीशन भी सर आपको दिखाएंगे। तो जुलाई 2024 में इसका स्पेसिफिकेशन कवच 4.0 का फाइनलाइज होने के बाद अब तेजी से चल रहा है और हमारा टारगेट है कि न्यू दिल्ली-मुंबई और न्यू दिल्ली-कोलकाता करीबन हम अगस्त 2026 तक पूरा कर दें और इसके बाद इसमें चलने वाले लोकोमोटिव्स में भी एक कवच सिस्टम लगाना होता है। उसमें भी कार्य चल रहा है। लगभग 4000 लोकोमोटिव में कवच लगा दिया गया है। परंतु वह सर वहीं काम

करेगा जहां रोड साइड में कवच संबंधी कार्य किया हुआ है। तो बाकी सर उस पे कार्य चल रहा है।“

XV. HIGH SPEED RAIL NETWORK IN INDIA

15.1 When enquired about the updated completion timeline of Mumbai–Ahmedabad High-Speed Rail (MAHSR) Project and concrete steps being taken to expedite the finalisation of the remaining contract packages and associated works to ensure timely completion of the project, the Ministry have stated as under :

“Bullet train project is a very complex and technology intensive project. The project involves technology transfer and procurement/supply from Japan and other countries. The development of E10 series of Shinkansen is underway in Japan; therefore, detailed information regarding the same is not available.

However, a decision has been taken to start the operation using B28 (Bharat made Bullet Trainset).

1. Tenders for alternative signalling system (based on ETCS L2) has been awarded and work has commenced.
2. Manufacturing of B28 is currently underway at BEML.

Anticipated timelines for the commencement of the project can be reasonably ascertained after the completion of all associated works of Civil Structures, Track, Electrical, Signalling & Telecommunication and supply of Trainsets. However, efforts are underway to start operation using B28 (Bharat made Bullet, 280 kmph) for Surat to Vapi (97km) in Aug 2027.”

15.2 Regarding anticipated cost escalation, major contributing factors and the specific measures being undertaken to prevent cost overruns and keep the project financially on track and the plan of Indian Railways to fund these cost overruns, the Ministry have stated as under :

“The cost of ₹97,636 crore, approved by CCEA in December, 2015, was based on the feasibility report. Detailed engineering review was to be done subsequent to the approval of the feasibility report. Construction was initially planned partly on viaduct and mostly on embankment. The Empowered

Committee decided to construct entirely on viaduct in 2016 because embankment would lead to higher cost of land acquisition; would divide the villages; would result in lesser safety because people are likely to trespass; and would affect drainage. The cost escalation is thus due to the detailed engineering, fluctuation in exchange rate, land, resettlement & Rehabilitation cost, normal inflation, costs which were not considered in the feasibility report (like utility shifting, power sourcing, station approach development, ticketing, Statutory charges etc.) including GST and cess and certain other enabling cost to make the corridor operational.

The major contributory factors are the cost components which were not considered in the feasibility report viz. taxes and cess (₹29,330 crore), Utility shifting (₹2625 crore), Station approach development (₹2195 crore), Power sourcing arrangement (₹1250 crore), Indigenous Rolling Stock and ETCS signalling system (₹16,500 crore), ticketing (₹283 crore) and statutory charges owing to forest clearances etc (₹400 crore). In addition the escalation due to rise in economic factors of production (inflation and price rise) is ₹19,084 crore as the project was sanctioned in the year 2015. The substantial increase in land rates particularly in urban areas including cost of land at Mumbai, has led to the increase in the land, resettlement and rehabilitation cost to ₹16,695 crore.

The revised cost estimate for the project of Mumbai Ahmedabad High Speed Rail Line is under sanction.”

15.3 Regarding long-term sustainability of high-speed rail operations, roadmap for expanding indigenous manufacturing of components under the Make-in-India initiative, specific components being indigenised and timelines and institutional mechanisms put in place for enhanced domestic capacity development, the Ministry have submitted as under :

“Mumbai- Ahmedabad High Speed Rail project has been a good platform for learning, indigenising and executing bullet train projects in the country.

Make in India Initiative (MII):

Several steps have been taken in indigenising soft and hard skills which include:

1. The principal designer for the project is a Japanese entity. However, the design variation during construction have been dealt by Indian agencies, duly validated by Centre of Excellences i.e. IITs of the country thereby providing a road map and repository of knowledge for dealing with such cases in future. The dynamic effect i.e. train-structure interaction including deck acceleration, resonance effects (vibration), superstructure displacement, train running safety and riding comfort parameters increase with train speed and this increase becomes significant at speeds greater than 200 kmph i.e. High Speed Railway (HSR). Carrying out dynamic analysis for every superstructure span and for different rolling stock is an iterative and time-consuming process. Details regarding dynamic analysis for HSR, which were not made available by the principal designer, have been independently developed (i.e. dynamic design charts nomograms) by Indian side for various rolling stocks in association with IIT Mumbai.
2. Similarly in case of Long span steel truss girder designed in Japan and fabricated in Indian workshops, performance parameter for Dynamic loading has not been shared by the principal Japanese designer. At present Indian Railway Standards designs are fit for only 160kmph. To ascertain the dynamic performance parameter instrumentations have been installed in collaboration with IIT Kanpur, this will help in validation of high speed designs parameters through analytical modelling and field measurements by the instruments on these girders. This will facilitate NHRCL to finalise design of long span steel truss girders for high speed rail in India.
3. Heavy construction machinery, like moulds, Straddle carrier, bridge gantry, girder transporters and launching gantries (all 5 types of machines used for full span launching method), which were initially

imported, have been indigenised and are now being manufactured in India.

4. Most of the Track Materials (including track fittings, Insulation pads, Reference pins, PC Sleepers, Track Inserts) required for Japanese Slab Track Technology has been developed indigenously and being manufactured by the Indian Manufactures. Efforts for development of Balance 25 % materials are also in process. CAM as per indigenous components have been developed in association with IIT Kharagpur and same can be adopted after field trials.
5. Similarly, Track Machineries (like Rail Feeder Car, Track Slab Laying Car, Track motor car, Carriage Wagons, CAM Injection Car) required for Shinkansen Track technology has been developed and manufactured indigenously.
6. To prevent displacement of girders in the event of an earthquake, each girder is provided with 4 number of seismic stoppers. These stoppers, made of steel boxed provided with rubberised surfaces, designed for High Speed Viaduct, were initially planned to be procured from Japan. However, the same have now been indigenously developed and manufactured in India for Mumbai- Ahmedabad HSR Project.

Innovation:

1. For the first time in the country, a full span launching method has been adopted for launching of prestressed box girders weighing around 1000 MT. The method has been extensively used in the MAHSR project and quite unique to the world for this size of launching. The process has been highly optimised in terms of quality, safety and speed of construction. A girder of 40m length, with this technology, can be launched within 16 hours.
2. To minimise noise level for residents near HSR alignment, indigenously produced noise barriers are being installed for the entire elevated stretch of the MAHSR corridor.

3. Simulation software for OHE and Pantograph interaction have been developed under NHSRCL. In addition to this, “Indigenous simulation model for design and validation of traction power supply system” has also been developed in collaboration with IIT Delhi.
4. Innovative methodology for erection of OHE masts and other components of overhead equipment have been developed and used for speedier construction surpassing the methodology used in Japan.
5. Monitoring of all worksites by establishing control centres, and a centralised control centre for monitoring progress and safety has been undertaken.
6. An end to end paperless “document management system”, integrating the Project Management Consultant (PMCs) and the Contractors has been installed thereby bringing greater accountability, transparency and data digging mechanism.
7. First time ever, an underground station is being built with provision for construction of 90 m high building using the same foundation.
8. Light Detection and Ranging (LiDar) technology has been used for survey for the first time in a railway project for expeditious and accurate finalisation of vertical and horizontal alignments for high-speed railway corridors. This will also help in faster land acquisition.

Training:

Indian Engineers and Skilled workers (approx. 1000 nos.) have been trained for Japanese track methodology and presently, track works are being executed under their supervision. A Special Track training facility has been created at Surat for training and regular refresher courses.

Stations:

1. HSR station is not only a transit building but instead is developed as a destination or Gateway to the city, hence Station architecture has been derived based on some important Characteristics of that city to build

relatability with the local population and to showcase its uniqueness on this ambitious project.

2. The design for Station provides for security measures like controlled entry points, baggage scanners, DFMDs (Door Frame Metal Detectors), CCTV (Close Circuit Television) cameras etc.
3. For passenger safety, various architectural features have been used. The station roof has been designed leaving sufficient gap above the tracks to release the wind pressure created due to passing through trains, crossing the station in high speed. As a special safety feature, the false ceiling of the station is supported using anti-vibration hangers to mitigate the vibrations generated due to HSR trains. Also to minimize the post casting drilling on station RCC structure, necessary clamps & bolting plates have been left in station structure during casting itself, to support multiple services and architectural finishing items.
4. To make the overall experience of passengers to & from the station more comfortable and hassle free; ample parking and drop off area is provided adjacent to the station and Multi-modal Integration has been planned by providing smooth connectivity with all existing transport facilities. Additionally, in order to ensure structured future development around upcoming HSR stations, Master Plan with suitable infrastructure are being updated in collaboration with City Municipal authorities. The Station design is in line with sustainable Architecture and related energy efficient features have been planned complying to Platinum rating of IGBC.

Geo-technical investigation:

Greater emphasis has been put on geo technical investigations (GTI) to be sure of structural adequacy and to rule out possibility of geological surprises. The GTI has been generally carried out at 100 m, and at shorter intervals in case of special structures. In the process, a new geo tech lab was set up in Gujarat which was Asia's largest such lab.

Track:

1. Special fittings like Rail Turnover Prevention Device (RTPD) which prevents turnover of rails even if the rail fasteners are damaged/destroyed by the wheels of the train at the time of or after the derailment, also developed and manufactured indigenously.
2. High Speed Tracks are being laid with very precise tolerances of +/-1 mm for which special tools and equipment having computerised adjustment system are being used. High Speed Turnouts i.e. 1 in 18 Turnouts with Swing Nose Movable Crossings having speed potential of 320 Kmph on Main lines and 80 Kmph on Loop lines being laid on Synthetic sleepers.

Safety and security:

1. Mumbai-Ahmedabad High Speed Rail (MAHSR) Project (508 km) is under execution with technical and financial assistance from Government of Japan. From security and safety considerations, MAHSR Project is planned and constructed on a Viaduct above Ground level. This has not only also reduced land acquisition but is also helping the villagers in commuting across HSR alignment without facing a barrier. All the maintenance access to Viaduct are Gated with Access Control & CCTV monitoring systems.
2. Higher level of security measures has been adopted for operation areas as well as buildings housing equipment that are sensitive from passenger safety and security point.
3. The design and construction of Civil Engg structures have been carried out with best international practices with well-established norms to assure adequacy, particularly w.r.t safety. The designs have been validated by Japanese High-Level Committee.

For safety during earthquake, the structures have been designed keeping appropriate earthquake zone in view, and provision of Steel stoppers / Dampers stoppers have been made on Viaduct & Bridges to avoid dislodgment of superstructure. Further, an earthquake early warning system (EQEWS) is also being installed.

Indigenous manufacturing of Rolling stock

1. 2 nos. indigenous rolling stock of design speed of 280 kmph is being developed indigenously.
2. The first train is likely to be ready by 1st quarter of 2027.
3. The train will undergo extensive testing and trials thereafter.

Electrical Components:

The Contractor are required to procure a percentage of all materials required to be delivered in the EW-1 package under the Make in India scheme. List of items to be procured under MII scheme is given in the Contract document.”

15.4 When enquired about the present status of capacity-building initiatives, including the number of personnel trained so far and the plans for scaling up training to meet operational requirements of MAHSR and future corridors, the Ministry have stated as under :

“Present Status of Capacity-Building Initiatives for MAHSR

The MAHSR project has implemented structured capacity-building initiatives through collaboration with Japanese partners and the establishment of the High-Speed Rail Training Institute at Vadodara.

1. Overseas Training - Completed / Ongoing:

- a. **74 personnel** have successfully completed training in Japan, comprising:
 - i. 13 Key Operations & Maintenance (O&M) Leaders
 - ii. 45 Junior Management Level personnel
 - iii. 16 High Speed Rail (HSR) Pilots
- b. **In addition, 45 site supervisor level employees** are currently undergoing training in Japan. This includes personnel from Civil, Track, Electrical, S&T, Rolling Stock & Operations (OCC/Station/Train)

2. Overseas Training - Further Planned upto March 2027:

- a. 15 Junior Level Management employees
- b. 30 Site Supervisor Level employees

3. Core O&M Team : Overseas Training as mentioned above will be completed for **164 trained personnel** by March 2027 - (prior to the planned trial run between **Surat–Vapi in August 2027**). **Further training of core staff is also planned along with Japanese side.** These trained personnel form the core O&M team for MAHSR. They are being involved in:

- a. Planning and structuring O&M frameworks
- b. Preparation of operating manuals and training materials
- c. Establishment of maintenance depots and centres
- d. Development of processes, procedures, and safety protocols

4. Scaling-Up Plan for Operational Requirements of MAHSR and future corridors

- a. As per planning developed in cooperation with the Japanese, for full-scale operations of MAHSR, approximately **3000+ personnel** are projected to be required. In view of Phasewise opening of sections, additional **personnel** are planned to be inducted and trained at the **High Speed Rail Training Institute (HSRTI), Vadodara.**
- b. The HSRTI is being developed as a **world-class training centre** dedicated to High Speed Rail operations. The institute is equipped with advanced infrastructure including Crew simulators, Civil infrastructure & track training systems, Rolling stock systems, Electric power and catenary systems, Signalling & Telecommunication (S&T) systems, Computer-assisted instruction modules, Audio-visual and digital learning systems.
- c. In addition Training Provisions are also included in the specific OEM contracts like signaling and Rolling stock so as to provide the required inputs.
- d. Further capacity addition will be done on a need basis for future corridors as per choice of technology and other factors.”

15.5 During evidence dated 23.02.2026, the representative of Ministry further explained the details of the proposed High Speed rail Network in India along with the Make in India initiatives being undertaken as below:

“महोदय, यह बुलेट ट्रेन के बारे में है। यह हमारा बहुत बड़ा प्रोजेक्ट है। इसमें जापान की ओर से रोलिंग स्टॉक मिलने में चैलेंजेज़ हैं। आप सभी को यह जानकर खुशी होगी कि हम भारत में बी-28 बना रहे हैं। इसका मतलब यह है कि इसे 280 किलोमीटर प्रतिघंटे के लिए डिजाइन किया गया है। यह पहले स्टेज में 250 किलोमीटर पर चलेगी। इसके बाद हम इसे 350 या 320 पर डेवलप करेंगे। यह मेक इन इंडिया के अंतर्गत है। इस पर हमारा एक पीएसयू बीएमएल है, वह कार्य कर रहा है। हमें अगस्त 2027 में सूरत में पहला कॉमर्शियल रन करना है। यह हमारे लिए बहुत बड़ा चैलेंज है और हम इस पर कार्य कर रहे हैं। इसमें संबंधित सिग्नलिंग प्रणाली जो ईटीसीएस लेवल टू है, जो कि 250 और 280 किलोमीटर पर कार्य करेगी। उसका टेंडर ऑलरेडी अवॉर्ड हो चुका है। वह हम लगा रहे हैं। जापान वाला आएगा। अभी हम अपना कार्य कर रहे हैं। इससे दो फायदे हैं। इस बार के बजट में 4,000 किलोमीटर के लिए सेंक्शन हुआ है। हम इसे पहले ही बनाने में सक्षम हो जाएंगे। इन सभी नए रूटों पर भी भारतीय रोलिंग स्टॉक चलेगा, ऐसा हमारा मानना है। इस संबंध में रेल मंत्रालय पीएसयू के साथ काफी सीरियसली कार्य कर रहा है। इसे स्क्रेच से डेवलप किया जा रहा है।

महोदय, पहले यह प्रोजेक्ट 97,000 करोड़ रुपये का था, परन्तु उसमें बहुत सारी कॉस्ट्स नहीं ली गई थीं। अभी रिवाइज्ड एस्टीमेट सैंक्शन में है। पहले इसमें टैक्सेज़ सेस नहीं लिया गया था, यूटिलिटी शिफ्टिंग के आइटम नहीं लिए गए थे और स्टेशन डेवलपमेंट के कार्य नहीं थे। एक बार फाइनल होने के बाद जब रिव्यू होगा, तो इसके बारे में बताएंगे।

महोदय, मेक इन इंडिया में जितना भी सिविल इंजीनियरिंग का काम हो रहा है, वह सारा इंडिजनाइज्ड हो गया है। पिलर्स, वॉयर डेक्ट आदि काम पूरे हो गए हैं। रोलिंग स्टॉक में हम डेवलपमेंट स्टेज में हैं। पहले हम बी-28 करेंगे और उसके बाद बी-35 करेंगे। बी-35 में 350 मैक्सिमम होगा और उसकी ऑपरेटिंग स्पीड 320 होगी। इस पर कार्य चल रहा है। जहाँ-जहाँ पर हमें जापान से टेक्नोलॉजी ट्रांसफर हुई है, हम उसे इंडियन रूप में बना रहे हैं। जैसा कि इस स्लाइड में लिखा है, हम आईआईटीज़ के साथ को-ऑर्डिनेट कर रहे हैं और यह कोशिश कर रहे हैं कि जो

भी कार्य है, वह हम मेक इन इंडिया के तहत करें। निचले पैरा में जो लिखा है कि हैवी कंस्ट्रक्शनल मशीनरी, मोल्ड्स, ब्रिज गेंट्री आदि शुरू में तो हमने लिए थे, लेकिन उसके बाद सब भारत में ही बना है। ईको सिस्टम डेवलप हो गया है। यह प्रोजेक्ट अगले दो से तीन साल में खत्म हो जाएगा। इससे हमारी इकोनॉमी को बहुत बूस्ट मिलेगा, क्योंकि इसमें लगभग 16 लाख करोड़ रुपये के प्रोजेक्ट्स हैं।

महोदय, यह पिक्चर हमारे बी-28 की है। इसमें मैनुफेक्चरिंग शुरू हो गई है, जो कि बेंगलुरु में की जा रही है। हमारे मुंबई और अहमदाबाद में लगभग 3,000 लोग हैं, वर्तमान में सभी को ट्रेनिंग की जरूरत नहीं है। हमें वर्ष 2027 तक 164 ट्रेन करने हैं, जिनमें से हम 70-80 ट्रेन कर चुके हैं। शेष पर कार्य चल रहा है। हमारा वडोदरा में एक ट्रेनिंग इंस्टीट्यूट भी है, जो हाई स्पीड के बारे में ट्रेनिंग देता है। जो केवल एक्जिस्टिंग हाई स्पीड के लिए ही जरूरी नहीं है, बल्कि आगे के भी लिए भी जरूरी है।“

15.6 The Ministry have provided the status of the newly announced High-Speed Rail corridors in Budget 2026-27 as under :

1. Status of Projects announced in budget

a. DPRs prepared already submitted to Railway Board; Approval of DPRs is awaited

- i. Mumbai – Pune
- ii. Pune – Hyderabad
- iii. Chennai – Bengaluru
- iv. Delhi-Varanasi
- v. Varanasi – Patna (Part of Varanasi – Siliguri corridor)

b. DPRs under preparation

- i. Hyderabad – Chennai
- ii. Hyderabad – Bengaluru
- iii. Patna – Siliguri (Part of Varanasi – Siliguri corridor)

These DPRs are likely to be completed between September, 26 to March, 27.

2. Works can be taken up on approval and sanction of project, as per project implementation schedule provided in respective DPRs.

XVI. RESEARCH AND DEVELOPMENT

16.1 The Ministry have provided the following details of financial allocation vis-à-vis actual expenditure incurred on Research & Development for the last three years (separately for RDSO and under other heads):

Expenditure incurred on RDSO for last three years			
<i>(in Crores)</i>			
Year	Original Budget Allocation (OBA)	Final Budget Allocation (FBA)	Actual Expenditure
2022-23	51.05	38.15	39.12
2023-24	61.50	27.83	28.34
2024-25	72.01	42.48	42.44

Research & Development activities on Indian Railways are carried out by RDSO under Ministry of Railways.

The allocation and expenditure on R&D activities under Revenue and Capital sections over the last three years is indicated below –

(Rs. in crore)		
	Revenue	Capital
RE 2023-24	350	67
Actual 2023-24	381	28
RE 2024-25	387	64
Actual 2024-25	422	42
RE 2025-26	380	87
BE 2026-27	410	87

16.2 The Ministry have provided the following details of research and development initiatives undertaken by Indian Railways/RDSO and tangible outcomes achieved in terms of safety, efficiency and cost reduction:

- 1. Development of Kavach System for** Automatic Train Protection in Indian Railways which is comparable to World Standards and is cost effective.
- 2. New Modern Rolling Stock** like Vande Bharat, Trains, VB Sleeper trains, Amrit Bharat Trains, and Vande Metro Trains have been developed.
- 3. Other New Rolling Socks have been Developed** like Double Decker Cargo Liner, Treasury Vans, Linke Hofmann Busch (LHB) Parcel Van with rear opening, Automobile Carriers Vistadome Coaches and Dining Cars.
- 4. Development of 2.4 MW first Hydrogen Fuel Cell DEMU** has been done by Research, Designs and Standards Organisation (RDSO). The rake is ready and is awaiting Petroleum and Explosives Safety Organization (PESO) clearance at Northern Railway for the Hydrogen Fueling infrastructure.
- 5. Semi Automatic Couplers** with Crash Tube is being developed to provide slack free coupling in Amrit Bharat trains. This will reduce Jack-Knifing and jerks in trains.
- 6. Comprehensive review/ framing of guidelines on issues related to Disaster Management** leading to more reliable equipment, coordinated response and time sensitive response to unforeseen circumstances.
- 7. Development of Emission kit for achieving US Environmental Protection Agency (EPA) Tier 0+ emission standards in HHP Diesel locomotives**
Presently High Horse Power (HHP) Diesel locos do not meet any emission norms. In June 2022, Railway Board entrusted RDSO to float EOI for supply of Emission kits to upgrade HHP diesel Locomotives to US EPA Tier 0+ emission standards. After floating Expression of Interest (EOI), RDSO developed the specification for the emission kits for achieving Tier 0+ emission standards.
- 8. Diesel locomotive operation in USBRL (Udhampur- Srinagar - Baramulla Rail Link) Section**
Original Equipment Manufacturers (OEMs) of Diesel locomotives viz M/s WABTEC and M/s Progress Rail were approached by Northern Railway to

provide a solution for running of Diesel Locomotives in harsh climatic conditions of USBRL section. Due to low volumes of the number of locomotives to be modified for the new section, both the OEMs didn't provide any solution. NR approached RDSO to provide a scheme for modification of HHP Diesel locomotives to enable them run in sub zero temp. & high altitudes. A detailed study was carried out and each and every system of the locomotive was analysed for suitability to the climate. A scheme for modification was developed and provided to NR enabling operation of HHP Diesel locomotives over USBRL. Trials were successfully conducted in December 2024 over USBRL with WDG4D loco and presently 20 Diesel locomotives are operating in USBRL section.

9. Modification in Diesel locomotives to enhance safe operation of trains in ghat sections

RDSO has issued instructions for modification in Diesel locomotives for provision of Audio Visual indication in Banker/Rear Diesel Locomotives for Brake Pipe (BP) pressure drop. This modification in the Diesel locomotive will provide additional alert to the loco pilot of the Banker/Rear locomotive when Braking is initiated by the loco pilot of the leading locomotive so that the loco pilot in Banker/rear loco can also initiate braking simultaneously. This enhances the safety of train operation in Ghat section of Railways.

10. Three-phase Propulsion Technology has been introduced in Distributed Power Rolling Stocks (DPRS) i.e EMUs/MEMUs/Vande Bharat Trainsets having potential for regeneration of energy to the extent of 30% resulting in saving of overall energy consumption and operating efficiency.

11. Fire safety has been improved in terms of use of HL2/HL3 compliant items/components as per EN 45545 for Rolling stock application..

12. Development of Reverse cycle Roof Mounted Packaged Unit (RMPU) has been undertaken to improve the fire safety, reliability and energy efficiency.

13. Improvement in specifications: More than 60 Specifications have been taken up for upgradation during 2025-26 to improve Safety, Operational reliability, efficiency and indigenization leading to cost control.

- 14. Securing arrangement:** To ensure proper securing of hanging parts and consignments, following safety improvements have been done:
- Provision of additional safety brackets for auxiliary air reservoir.
 - Provision of lock bolts in place of rivets for securing of critical components of Centre Buffer Coupler.
 - Guideline for lashing & securing of road vehicles over wagons has been issued.
 - Guidelines for securing various types of steel products and other items over flat and open wagon has been issued.
- 15. Speed enhancement and standardization for freight stock:** Approx. 94% of all wagon designs have been made fit for operation at common higher speed of 100 kmph in empty and 75 kmph in loaded condition. This will ensure efficient freight operation and standardization of wagon by reducing the number of variants. Modification of wagons to achieve speed of 100/75 kmph under way.
- 16. Phased Array Ultrasonic Testing (PAUT)** as an advanced technology for Ultrasonic Flaw Detection (USFD) has been introduced for Rail & Rail weld for improving safety after R&D and field trial. Several Research and Development (R&D) initiatives aimed at enhancing track safety, reliability, speed potential, and lifecycle cost optimization, like upgradation of USFD, by routine quality audit of Flash Butt Welding (FBW) etc. accordingly tangible outcome reduction of fracture of rail, reliability of rail weld joints have been taken.
- 17. Development of measurement techniques** for return current through rail and investigations on computation of rail potential rise, Drone Inspection of Overhead Equipment Parameters, etc. are under research stage at IITs under CRR(Centre for Railway Research).
- 18. Following Products were developed for efficiency and reliability** of OHE infrastructure: Power Quality restorer(PQR), Automatic fault locator (AFL), Copper-silver (Cu-Ag) and copper-magnesium (Cu-Mg) Conductors, Rail Earth Clamp(REC) and Transformers of different ratings to be used in 2x25 KV System.

19. To enhance the **driving efficiency of Loco Pilot (LP)/ Assistant Loco Pilot (ALP)** through targeted training, in motion and desktop based simulators' specification has been prepared and design evaluation of developing firms is undertaken.

20. Development of heavy haulage locomotives such as WAG12, D9 has been completed by RDSO.

16.3 During evidence dated 23.02.2026, the representative of Ministry with regard to initiatives of RDSO deposed as under:

“आरडीएसओ ने कवच में काफी काम किया है। रोलिंग स्टॉक में आप वंदे स्लीपर देख रहे हैं, अमृत भारत देख रहे हैं। भारतीय रेलवे में रोलिंग स्टॉक की टोटल इमेज चेंज हो चुकी है। हम अच्छे से अच्छे कोचिस देंगे। हम अमृत भारत में लो इनकम ग्रुप और कम फेयर के लिए सभी क्षेत्रों में हम काम कर रहे हैं। हाइड्रोजन ट्रेन टैस्टिंग में है। आरडीएसओ द्वारा सेमी ऑटोमेटिक कपलर पिछले डेढ़ साल में डेवलप किया गया है। कई बार माननीय सदस्यों द्वारा कहा जाता है कि कोचिस में जर्क होते हैं। आप अमृत भारत में देखें कि जर्क नहीं लगते। इसके लिए हमने टोटली नया ऑटोमेटिक कपलर डिजाइन तैयार किया है। हम दूसरे कोचिस में सेम काम कर रहे हैं। बेसिकली कपलर्स रिडिजाइन किए गए हैं।

हमें आरडीएसओ में ज्यादा खर्च करना चाहिए। हमें धनराशि की कभी कमी नहीं आई। हम डेवलपमेंट में ऑटोमैटिक ट्रेन प्रोडक्शन में एआई मॉडलिंग और मशीन लर्निंग मॉडल को सीख रहे हैं और यूज़ करने की कोशिश कर रहे हैं। इससे मैन्टेनेंस पर काम होगा क्योंकि मैन्टेनेंस में कई जगह दिक्कत होती है। आप देखें कि ओवरहेड लाइन को मैन्टेन करना बहुत बड़ा चैलेंज है। मैं उदाहरण के लिए बताता हूं, नॉर्मली ऑनफुट एक आदमी चलता है कि तार कैसी है या एक ब्लॉक लेना पड़ता है जिसमें आदमी गाड़ी के ऊपर टॉवर वैगन पर चढ़ता है। यह सब टाइम कन्ज्यूमिंग होता है। अब हमने ड्रॉन्स से इसकी फोटो लेनी शुरू की है और हम फोटो को एनालाइज़ करने के लिए एआई यूज़ करेंगे। इस पर कार्य चल रहा है। गाड़ियों की डेंसिटी बढ़ने से मैन्टेनेंस के टाइम में बहुत इम्पैक्ट हो जाता है। पहले नापने के अलग तरीके थे जैसे तार इस वक्त कितनी ऊंचाई पर है, दो तारों के बीच स्टैगर होता है, हम लेज़र से नापते हैं। इसमें सब सुविधाएं हैं।

एआई मॉडल अब शुरू किया गया है और इस पर अलग-अलग जोन्स काम कर रहे हैं। इसी के माध्यम से मैन्टेनेंस में सुधार किया जाएगा।“

16.4 When enquired about steps being taken by Indian Railways to collaborate with private sector to develop advanced technologies for rolling stock, signalling etc, the Ministry enumerated the following steps by the Indian Railways to collaborate with private sector:

“Steps taken to collaborate with JV partners and technological partner to develop advanced technologies for locomotives are submitted as under:

1. Electric Locomotive Factory / Madhepura Project: Procurement-cum-Maintenance Agreement (PCMA) was signed on 30.11.2015 between Ministry of Railways and Madhepura Electric Locomotive Private Limited (MELPL) for setting up of factory at Madhepura, Bihar for manufacturing and supply of 800 nos. 12000 Horse Power, State of the Art Electric Locomotives in 11 years and maintenance depots at Saharanpur and Nagpur. These locomotives are energy efficient with State of the Art technology and IGBT based propulsion system. MELPL is a Joint Venture of Ministry of Railways (MoR) and Alstom Transport India Limited (ATIL). Equity Share of MoR is 26% amounting to Rs. 100 Crore.
2. Diesel Locomotive Factory / Marhowra Project: Procurement-cum-Maintenance Agreement (PCMA) was signed on 30.11.2015 between Ministry of Railways and Wabtec Locomotive Private Limited (WLPL) for setting up of factory at Marhowra, Bihar for manufacturing and supply of 1000 nos. (700 nos. 4500 HP & 300 nos. 6000 HP) locomotives in 11 years and maintenance depots at Roza and Gandhidham. These locomotives are fuel efficient with State of the Art technology and IGBT based propulsion system. WLPL is a Joint Venture of Ministry of Railways (MoR) and Wabtec India Industrial Private Limited (WI IPL). Equity Share of MoR is 25% amounting to Rs. 100 Crore.

3. Manufacturing of 9000 Horse Power (HP) Electric Freight Locomotives at Dahod in Gujarat: Manufacturing-cum-Maintenance Agreement (MCMA) was signed on 16.01.2023 between Ministry of Railways and M/s Siemens Ltd. M/s Siemens Ltd. has to manufacture and supply 1200 nos. (9000 HP) Electric Freight locomotives at Loco Manufacturing Shop, Dahod, Gujarat in 11 years and provide 35 years of full-service maintenance at 4 IR maintenance depots at Visakhapatnam, Raipur, Kharagpur and Pune. These locomotives are energy efficient with State of the Art technology and IGBT based propulsion system.

Indian Railways (IR) has been actively collaborating with private sector companies to develop advanced technologies for rolling stock. RDSO has taken up work of indigenous development of Machine Vision based Inspection Systems (MVIS) and Acoustic Bearing Detector (ABD) through open-ended Expression of Interest (EOI).

1. **BIS Methodology for development of Specification** through wider Stakeholder consultation has been adopted
2. **4 Centre of Railway Research (CRRs) have been developed at IITs** to develop new technologies and work on emerging Railway Related subjects
3. Indian Railways (IR) has introduced advanced high horse power diesel locomotives under an agreement with M/s Wabtec for setting up a factory at Marhowra, Bihar, and for procurement and maintenance of 1000 locomotives (300 of 6000 HP and 700 of 4500 HP). These will be maintained at state-of-the-art sheds at Roza and Gandhidam. RDSO played a key role in design, prototype clearance, and trials.
4. **Private Wagon Design Approval Policies** have been issued by Railway Board for collaboration with private sector for development of new wagon designs and components. Following designs of rolling stock have been recently developed jointly with private sector. New Wagon designs developed include Bogie Low-platform Spinecar (BLSS), Broad Gauge Open Steel Modified (BOSM) etc.

5. RDSO regularly interacts with the industry through bodies such as CII, FICCI to share its needs and scout for emerging technologies and their possible adoption for IR. Regular EOIs are also floated to invite Industry participation in fields where IR needs new ideas/ Vendors
6. RDSO undertakes Proof of Concept (PoC) for developing advanced technologies in Electric Locomotives. One such development is the TRINETRA project for assisting visibility of Loco Pilot in case of foggy weather. RDSO has placed orders on two firms for developing the device which is undergoing trials.
7. Layout of VB Sleeper trainsets has been approved for manufacturing by Technology Partners like Bharat Heavy Electricals Limited (BHEL) and M/s KINET.

Kavach: Indian Railway has undertaken development of indigenous Automatic Train Protection System (IR-ATP) Kavach in association with private sector/industry partners. Kavach is a highly technology intensive system, which requires safety certification of highest order (SIL-4).

The first field trials on the passenger trains were started in February 2016. Based on the experience gained and Independent Safety Assessment of the system by Independent Safety Assessor (ISA), three firms were approved in 2018-19, for supply of Kavach Ver 3.2. Kavach was adopted as National ATP system in July, 2020.

Based on deployment of Kavach version 3.2 on 1465 RKm on South Central Railway and experience gained, further improvements were made. Finally, Kavach specification version 4.0 was approved by RDSO on 16.07.2024.

Presently there are three Indian OEMs who are approved for Kavach version 4.0. Efforts are being made to develop more vendors to enhance the capacity and scale up the implementation of Kavach.

AI/ML: Pilot initiatives involving Artificial Intelligence/Machine Learning (AI/ML) driven predictive maintenance of Signalling system is being undertaken over Indian Railways. At some of the stations it has been used to evaluate efficacy

of maintenance. Measurable outcome includes limited Prediction Logics and Alerts mechanism.

Indian Railways has signed Manufacturing-cum-Maintenance Agreements (MCMA) with technology partners for manufacture and maintenance of 200 Vande Bharat Sleeper trainsets who will also be undertaking their maintenance over next 35 years, thereby strengthening private participation in high-end train manufacturing and maintenance of Rolling Stock. Similarly locomotive manufacturing is being undertaken at different units (Madhepura, Marhowra, Dahod etc.) by technology partners who will also undertake their maintenance during the service life.”

16.5 Further when asked about the mechanisms to ensure that R&D outcomes are adopted and implemented within a fixed timeframe across Indian Railways and the major technologies that have moved from research stage to actual field deployment during the last three years, the Ministry have submitted as under:

“Once the technology matures, it is incorporated in the Specifications as well as Procurement instructions for large scale procurement by Zonal Railways. Some recently developed and adopted technologies are

1. Time-bound field trials with defined performance defined performance criteria.
2. Output obtained on field trial is implemented based on the existing procedure.
3. Reasoned document is uploaded on RDSO website.
4. Final protocol/ Code of Practice (COP) is framed on the basis of comments received and issued to zonal railways for its implementation.
5. Issue of Indian Railway Standard (IRS) Specifications and Guidelines (mandatory across IR).
6. Technical circulars and correction slips issued to Indian Railways Permanent Way Manual (IRPWM) and other manuals for updates.

Major Technologies :

(a) Design-B Elastomeric (EM) pad to improve the reliability of primary suspension of Cast Steel Snubber Bogie (CASNUB) bogie. The existing design have been modified to improve the reliability and life through field studies simulation and lab test. The improved design has been tested for efficacy on a wider scale of service. Based on performance further proliferation is under way.

(b) Design and development of low dia spring with cold rolled process to improve the reliability of low dia springs a new manufacturing process i.e. cold rolled has been adopted. The springs manufactured through the cold roll have shown substantial improvement in the reliability during the service.

(c) Fiber Bragg Grating (FBG) based sensors for wheel impact detection

(d) Phased Array Ultrasonic Testing introduced.

(e) Automatic fault locator (AFL) is under implementation in the field and Rail Earth Clamp (REC) is under developmental stage.”

XVII. INDIAN RAILWAYS ROADMAP TO NET ZERO CARBON EMISSIONS

17.1 The Ministry detailed the following policy measures, infrastructure upgrades and operational strategies being implemented/ proposed to be implemented by Indian Railways to achieve Net Zero Carbon Emissions by 2030 :

Indian Railways (IR) is an environment friendly means of bulk transportation system and it has set a target of making itself 'Net Zero Carbon Emitter' (NZCE) by 2030. A number of initiatives are being taken by Indian Railways in the area of green technology and sustainable practices. Expansion and modernization works are taking place over IR in which environment related aspects are taken care of and provision of funds for the same is provided. Additionally, provision for Environment Related Works (ERW) fund has been made an integral part of work estimates of certain plan heads, which is 0.5% of the total amount sanctioned under that Plan Head. Apart from that, Indian Railways has taken following key measures to promote renewable energy, sustainable and green practices:

1. Establishment of dedicated wing for Environment related affairs: Ministry of Railways has set up Environment and Housekeeping Management (EnHM) Directorate in Railway Board in year 2015 to deal with the issues related to Environment as well as Housekeeping Management of Indian Railways. EnHM wings are also established in all Zones.
2. Electrification: Indian Railways has electrified about 99.4% of the total broad-gauge network of Indian Railways. The electrification in remaining network has been taken up. Electrification carried out during 2014-25 & before 2014 is as under:

Period	Route Kilometer
Before 2014 (about 60 years)	21,801
2014-25	46,900

3. Solar & Wind Energy installed over Indian Railways: Increasing use of renewable energy sources, such as solar and wind power, across railway operations to improve overall energy efficiency and sustainability. Till January 2026, about 1092 Mega Watt (MW) of solar power plant (both rooftop and land) and around 103 Mega Watt (MW) of wind power plants have been commissioned over Indian Railways. In addition, 100 MW of renewable power under Round the Clock (RTC) mode has also started flowing.

4. Energy Efficiency Measures:

- Introduction of Insulated-Gate Bipolar Transistor (IGBT) based 3-phase propulsion system with regenerative braking in Electrical Multiple Unit (EMU) trains, Mainline Electrical Multiple Unit (MEMU) trains, Kolkata Metro rakes and Namo Bharat Rapid Rail (Vande Metro) to conserve energy during the operations.
- All new passenger electric locomotives are being manufactured with Hotel Load converter to feed Hotel load supply to LHB coaches leading to saving in diesel besides being energy efficient. Also, conversion of existing End on Generation (EOG) trains into Head On Generation (HOG) trains to reduce noise and air pollution at stations and in trains.
- Energy saving mode on three-phase locomotives has been provided on three-phase electric locomotives to reduce power consumption during stationary conditions.
- Loco Pilots are trained during their initial training as well as during promotional training and refresher courses for saving of energy/fuel to achieve better energy/fuel efficiency by good driving technique, good road

learning and simulator training. Loco Pilots are being regularly counselled to use of coasting, regenerative braking feature and switch off blowers in case detention is more than 15 minutes to save energy.

- Trailing locomotives of Multi Units (MU) hauling light loads are switched off to save energy.
- Provision of external 750V power supply at washing/sick lines for maintenance and testing of LHB coaches.
- Provision of energy efficient Light Emitting Diode (LED) lighting in Railway installations including Railway stations, service buildings, coaches, EMUs/MEMUs for reduction in electricity consumption.
- Use of automatic platform lighting management system at stations as per train services/passenger requirement.
- Use of timer on high mast tower lightings/street lighting/circulating area of Railway stations.
- Use of energy efficient Brushless Direct Current (BLDC) motor fans in coaches and buildings.
- Use of capacitor banks in traction sub-stations to maintain near unity power factor for energy saving.
- Procurement of BEE 5-Star rated appliances, Variable Frequency Drives (VFDs), energy efficient motors and pumps.

5. Environment Management Plan: Redevelopment of Railway Stations: In redevelopment process, all environmental norms are duly considered for achieving sustainable modernization of stations. A specific committee of officers has been constituted to grant the clearance for the Environment Management Plan(EMP) of station redevelopment projects. All aspects of Environment Protection (EP Acts) are being taken care of during the process of sanction of EMP, which are broadly enumerated below:-

- a. Adherence to the stipulations made / observed by the State Pollution Control Board and the State Government.
- b. Statutory compliance;
- c. Air quality monitoring and preservation;

- d. Water quality monitoring and preservatin;
 - e. Noise monitoring and prevention;
 - f. Energy Conservation measures; Waste Management;
 - g. Green Cover;
6. Green Rating/Certification: IR has taken the initiative of undertaking Green Rating Certification for different types of Railway establishments, including the industrial units. Such certification mainly covers assessment of parameters having direct bearing on environment, such as, energy conservation measures, use of renewable energy, impact on GHG emission, water conservation, solid and liquid waste management, green cover etc.
 7. Solid Waste Management: Zonal Railways and Production Units have taken initiatives to set up solid waste management facilities including segregation and waste processing methods such as composting, vermi-composting, bio-methanation for bio- degradable waste and recycling of recyclable waste.Waste disposal is also being done with coordination of Urban Local Bodies (ULBs).
 8. Single use Plastic ban –In order to control plastic pollution over Indian Railways, Railway Board has been issuing guidelines time to time on plastic waste management, single use plastic ban, and availability & promotion of alternatives to banned single-use plastic items etc. To give more impetus to the ban on Single Use Plastic, various drives are also launched by Railways regularly.
 9. Vande Bharat Train sets
New and improved version of Vande-Bharat Train sets have been introduced in regular service covering length and breadth of the country. These train sets are equipped with following environment friendly technologies focusing on environmental sustainability such as:
 - Regenerative Braking system which converts kinetic energy into electric power, resulting in reduced overall energy consumption.
 - Bio-vacuum toilets and waste management systems.
 - Use of water-based organic solvents, instead of harmful chemicals, for cleaning purposes.

- This not only ensures a cleaner and more hygienic environment but also significantly reduces the need for frequent cleaning, thereby reducing water consumption.
- Use of organic fumigants for disinfecting the train is an other such measure adopted by the Railways to reduce the use of chemicals.
- Ambient LED Lighting.
- Variable Frequency Drive (VFD) has been provided in the RMPU's of Vande Bharat Express which results in increased efficiency and energy saving.

Vande Bharat services since its introduction in February 2019, have been proliferated to 82 routes (164 train services) up to January 2026.

10. Hydrogen For Heritage

Indian Railways has taken up a state-of-the-art project for running of its first hydrogen train, on pilot basis, as per specifications framed by the Research, Design & Standards Organization (RDSO) to demonstrate the use of hydrogen powered train technology in Railways. Manufacturing of Hydrogen Train-set has been completed. For providing hydrogen for use in this train-set, a hydrogen plant has been conceived at Jind. In this plant, hydrogen is being produced using electrolysis process which is key element of green hydrogen generation. Prominent features of Hydrogen Train-set are as below:

- Presently, it is the world's longest (10 coaches) and most powerful (2400 kW) Hydrogen Train-set on Broad Gauge platform.
- Zero CO₂ emissions; only emission is water vapour.
- Major step in development of next generation fuel technology in Railways.

11. Bio Toilets in coaches

As a part of "Swachh Bharat Mission Indian Railway has completed the work of fitment/Installation of Bio Toilets in all its coaches online. This has ensured that no human waste is discharged from coaches on track. Further, all newly manufacture coaches, turning out of Production Units, are being provided with

bio-toilets. With this effort, all coaches running on line are having provision of bio-toilets. The details of provision of Bio-toilets are as under:

Period	No. of Bio-Toilets fitted
2004-14	9,587
2014-till date	3,61,572

17.2 Further the Ministry detailed that Indian Railways have undertaken the following research, technology development or collaboration with national/international agencies to support this objective :

1. Development and adoption of Diesel Alternator (DA) sets compliant to environment friendly CPCB IV+ norms for power cars of train application has been completed.
2. Adoption of environment friendly R407C refrigerant in AC packaged units used in rolling stock application.
3. Flat Multipurpose Wagon (FMP): The wagon is developed for transportation of loaded as well as empty commercial vehicles. One rake can transport 45 road trucks, thus, reducing emission generated by road vehicles.
4. Autocar wagons type 'Bogie Covered Auto Car Carrier wagon with Modified/Movable deck' (BCACBM), Auto Car Taller (ACT)1 and ACT2: These wagons are developed for transportation of automobile cars. Presently, around 15 lakhs cars are being transported by railways annually. The rail share of transportation of autocar has been substantially increased from 3% to 27%, thus, reducing Carbon emission generated by trucks to transport these cars.
5. Several Memorandum of Understanding (MoUs) are in place for development and deployment of Technologies by IR with organizations such as 'Automotive Research Association of India (ARAI)' (For Crashworthiness testing) 'Council

of Scientific & Industrial Research - Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP)' (For malodour mitigation), 'International Centre for Automotive Technology (ICAT)' Pune (For endurance testing of rubber metal bonded items)

DFCCIL has already embarked on a journey towards comprehensive sustainability, emphasizing environmental conservation" community engagement and economic development along the Dedicated Freight Corridors which includes greenbelt development, use of Miyawaki technique to enhance green cover conservation of top soil and natural soil, measures adopted to curb the noise pollution by erecting noise barriers, water management and conservation by developing ponds/air pollution by regularly sprinklings the water, energy management by using five star electrical instruments and panel etc.

PART-II
OBSERVATIONS/RECOMMENDATIONS

ANALYSIS OF THE DEMANDS FOR GRANT (2026-27)

1. Indian Railways, widely regarded as the backbone of India's transport system, continues to strengthen national connectivity and fuel economic growth through its expansive network. The 2026–27 budget underscores the Government's firm commitment to modernization and expansion, reflecting a strategic focus on infrastructure development and long-term sustainability. The annual plan emphasizes removal of traffic bottlenecks, capacity augmentation, and safety improvements, with major allocations for new lines, doubling works, track renewals, and significant investments in safety works, bridges, and signaling. Overall, a substantial amount has been earmarked for capacity augmentation, customer amenities and rolling stock. The National Rail Plan envisions a future-ready system with dedicated freight corridors, enhanced train speeds, expanded connectivity to industrial hubs, redevelopment of 1,337 stations, advanced safety systems like KAVACH, elimination of level crossings, predictive maintenance, full electrification, and net zero carbon emissions by 2030. Landmark projects already completed include the Udhampur–Srinagar–Baramulla link connecting Kashmir, the Bhairabi–Sairang line linking Mizoram's capital Aizawl, and the New Pamban Bridge, India's first vertical lift sea bridge. The Demands for Grants for the year 2026–27 of the Ministry of Railways were tabled in the House on 2nd February, 2026. The Committee thereafter undertook a detailed scrutiny of these Demands, examining both revenue and capital provisions in light of the objectives of modernization, capacity augmentation, and safety enhancement across the railway network. Following its deliberations, the Committee have formulated a set of recommendations, which are summarized in the succeeding paragraphs.

ANNUAL PLAN

2. The Committee note that the Ministry has set the Annual Plan for the year 2026-27 at Rs. 2,93,030 crore which is more than the Revised Estimates for 2025-26 by Rs. 27,830 crore. This includes Rs. 2,78,030 crore as Gross Budgetary Support (GBS) including Rs. 10,000 crore under the Rashtriya Rail Sanraksha Kosh (RRSK). Internal Resources contribute Rs. 3000 crore including Rs.1000 crore Railway's contribution for RRSK, while Rs. 12,000 crore comes from Extra Budgetary Resources (EBR). The Committee further note that the focus of the Annual Plan 2026–27 continues to be on expanding, modernizing and enhancing the operational efficiency of railway. Accordingly, allocations have been made under key plan heads such as New Lines (Rs. 36,722 crore), Doubling (Rs. 37,750 crore), Track Renewals (Rs. 22,853 crore), Rolling Stock (Rs. 65,497 crore), Safety Works of Level Crossings (Rs. 800 crore), Road Over/Under Bridges (Rs. 8,225 crore), Customer Amenities (Rs. 11,972 crore) and Signal & Telecom Works (Rs. 7,500 crore) under Budgetary Sources in BE 2026–27. While noting that utilization of the 2025–26 budgetary allocation stands at around 90% till January, 2026, the Committee recommend full and optimal utilization of budgetary resources and urge the Ministry to ensure timely execution of projects to avoid time and cost overruns. The Committee emphasize an adoption of safety first and technology driven infrastructure approach. The Committee further recommend that priority be accorded to new lines, gauge conversion, doubling works, and timely completion of Dedicated Freight Corridors to ensure expansion of the railway network. Alongside these measures, modernization of rolling stock and enhancement of customer amenities should remain a key focus. The Committee also emphasize the need for a forward-looking approach that integrates sustainability and green initiatives, human resource development, urban transport integration, and resource mobilization, while ensuring financial sustainability at the core of the annual targets set by Indian Railways.

INTERNAL RESOURCES

3. The Committee note the persistent shortfall in internal resource generation over the past few years. Against the Revised Estimates of Rs. 3000 crore for 2023–24, the actual generation stood at Rs. 2943 crore; for 2024–25, actual receipts were Rs. 1988 crore and in 2025–26, Rs. 2028 crore has been realized up to January, 2026 against RE of Rs. 3,000 crore. Notwithstanding this trend, the target for internal resource generation has been retained at Rs. 3,000 crore at the BE stage for 2026–27. The Committee, while appreciating the various measures undertaken to augment internal resources despite nearly 90% of expenditure being classified as inelastic and committed, are of the considered view that any shortfall in internal resources may compel the Ministry to curtail or reallocate budgetary provisions from planned heads. Such adjustments, in turn, could adversely impact the timely execution of projects for which allocations were originally envisaged, thereby impacting the overall pace of modernization and expansion of the railway network. The Committee further observe that inadequate internal resource generation increases reliance on Gross Budgetary Support. Therefore, the Committee recommend the Ministry to undertake a comprehensive review of all potential avenues for resource mobilization, with focused efforts on improving operational efficiency, enhancing returns from commercially viable initiatives, augmenting non-fare revenue and optimization of terminal and logistics infrastructure for freight earning. The Committee note that expanding network capacity, removing bottlenecks, developing freight corridors and cargo terminals, and introducing freight-specific policies are important steps. Improving procurement and maintenance of rolling stock, tracks, and signaling is also necessary. These measures should be carried out in a time-bound and outcome-oriented manner. Doing so will help Indian Railways generate more internal resources which will protect the financial stability of the Railways and ensure steady funding for both ongoing projects and future growth initiatives.

EXTRA BUDGETARY RESOURCES (EBR)

4. The Committee observe that resource generation through Extra Extra Budgetary Resources (Public Private Partnership) over the past few years has met or surpassed the targets and note that for 2023–24, actual generation was Rs. 16,625 crore against RE of Rs. 17,000 crore, in 2024–25, with actual generation of Rs. 15,049 crore against RE of Rs. 10,000 crore, and in 2025–26, where Rs. 10940 crore has been realized up to January, 2026 against RE of Rs. 10,000 crore. The target for EBR (P) generation has now been kept at Rs. 12,000 crore at the BE stage for 2026–27. The Committee note that internal revenue generation has remained largely stagnant in recent years, necessitating reliance on GBS in addition to EBR for financing ongoing and expansion projects. The Committee appreciate that the Ministry has exercised financial prudence by limiting borrowings under EBR in order to avoid additional lease liabilities and is prioritizing GBS to augment capacity without increasing repayment burdens. In this context, the Committee recommend the Ministry to adopt a calibrated and project-specific approach towards PPP-based investments, ensuring that critical and capacity-enhancement projects are not delayed due to funding constraints. The Committee note and appreciate the renewed focus of Indian railways on attracting private investments via different models, the results of which shall be visible in coming years. The Committee therefore desire the Ministry to identify commercially viable and revenue-generating projects for private participation, explore the feasibility of evolving appropriate risk-sharing mechanisms to safeguard the interests of private investors, and streamline approval and regulatory processes to attract credible private investment.

NET REVENUE

5. The Committee observe that the net earnings of the Railways for 2024–25 were estimated at Rs. 2800 crore at the Budget Estimates (BE) stage, which was subsequently revised downward to Rs. 1341 crore at the Revised Estimates (RE)

stage, while the actual realization stood at Rs. 2660 crore. For 2025–26, the BE was pegged at Rs. 3041 crore, later revised downward to Rs. 1957 crore at the RE stage. For 2026–27, the target has been fixed at Rs. 3000 crore. The Committee note that passenger services continue to be operated with a substantial social obligation component, with an average subsidy of about 45 per cent, and that several uneconomical routes are maintained in order to ensure connectivity to remote and rural regions of the country. The Committee further observe that since 2022–23, the Railways has undertaken record levels of capital expenditure, with significant investments directed towards new line construction, track doubling, electrification, augmentation of rolling stock and adoption of modern signalling systems. The Committee acknowledge that such capital investments are not merely routine expenditures but constitute long-term strategic assets aimed at enhancing capacity, efficiency, safety and sustainable growth of the Indian Railways. However, the Committee are of the view that improving financial sustainability in Indian Railways requires a balanced and result driven approach to both revenue augmentation and expenditure control. The Committee further stress that the substantial capital outlay on new lines, doubling, rolling stock, and Dedicated Freight Corridors must be effectively translated into measurable outcomes, particularly in terms of traffic growth and revenue enhancement. Therefore, the Committee desire the Ministry to take concrete steps to narrow the gap between passenger earnings and operating costs without compromising affordability for vulnerable sections through a segment-wise review of passenger operations to identify services that can be commercially strengthened through better capacity utilisation, demand-based fare management and targeted introduction of premium services. Further monetisation of non-fare avenues through measures like advertisements/hoardings at stations and inside trains, leasing land for commercial development and setting up ATMs should be further explored. In freight segment, the Committee desire the Ministry to focus on increasing freight capacity and market share. While continuing with the impetus on infrastructure strengthening and modernization, focus needs to be to reduce maintenance costs.

The Committee also recommend implementing of modern IT and AI based systems to improve asset utilization and reduce, for instance, energy costs and manpower optimization.

EXPENDITURE AND OPERATING RATIO (OR)

6. The Committee note that the revenue expenditure of Indian Railways has increased substantially over the years, rising from Rs.1,38,236 crore in 2020–21 to a projected Rs.2,99,500 crore in 2026–27. However, the Committee appreciate the proactive steps being taken by Indian railway by adopting the two-pronged approach of increasing revenue and reducing expenditure and recommend that sustained efforts be made to reduce Ordinary Working Expenses by promoting energy efficiency, expanding the use of predictive and technology-driven maintenance systems including AI system to minimize repair and breakdown costs, and strengthening skill development initiatives to enhance workforce productivity and operational efficiency. The Committee further observe that the Railways have taken several initiatives to improve the Operating Ratio, such as enhancing freight capacity and efficiency through network expansion, modernization of rolling stock, rationalizing repair and maintenance of rolling stock, development of cargo terminals under the Gati Shakti Multi-Modal Cargo Terminal (GCT)’ policy, etc. The Committee also note that from the year 2022-23, the Railways Operating Ratio has continuously been above 98% besides showing an upward trend. For the year 2025-26, Operating Ratio is estimated to be 98.82%. The Committee observe that for 2026-27 the Railways have projected a target of 98.40% for its Operating Ratio which continues to be above 98%. Therefore, the Committee desire the Ministry to boost freight revenue through better utilization of DFCs and expansion into non-bulk cargo, strengthening non-fare revenue through structured asset monetization, station redevelopment and commercial use of railway land. The Committee emphasize timely completion of capacity augmentation projects to avoid cost overruns and need for linking capital investment to measurable revenue outcomes to ensure sustainable financial improvement.

DOUBLING OF RAILWAY LINES

7. The Committee notes that removal of traffic bottlenecks has been accorded priority in the Budget 2026–27, with a significant increase in the throw-forward for doubling works, rising to Rs. 37,750 crore over the previous year. However, the Committee observe that against a target of 2,600 km for 2025–26, 573 km (22.04%) was completed up to December 2025, while financial utilization stood at Rs. 21,457.27 crore, i.e., 73.92% of the Revised Estimate of Rs. 29,026 crore. The Committee acknowledge that doubling projects are long-gestation assets involving land acquisition, statutory clearances and complex execution in high-density corridors which effect the completion time as well as cost estimates. However, the Committee stress the need to minimize the gap between expenditure incurred and corresponding physical achievement. Doubling of lines is a critical capacity augmentation measure with direct implications for operational safety, congestion reduction and revenue growth. The Committee therefore expect that in 2026–27, budgetary allocations will be optimally utilized with commensurate achievement of physical targets. Accordingly, the Committee recommend that Ministry of Railways strengthen pre-construction preparedness, particularly in respect of land acquisition and statutory clearances, improve coordination with State authorities and other allied agencies to avoid delays, and ensure stage-wise monitoring of doubling projects. The Committee further urge the Ministry to prioritize the implementation of doubling projects on capacity-constrained and freight-intensive routes in a focused mission mode manner, while leveraging modern mechanized construction technologies to accelerate execution.

NEW RAILWAY LINES

8. The Committee commends Indian Railways for the successful completion of the Udhampur–Srinagar–Baramulla Rail Link (272 km), providing seamless and all-weather connectivity to the Kashmir Valley and the Bhairabi–Sairang (51.38 km) line connecting Aizawl in Mizoram, thereby strengthening national

integration and providing access to remote regions. The Committee note that against the RE of Rs. 30,632 crore for New Lines in 2025–26, expenditure up to December, 2025 stands at Rs. 22,339.89 crore (73% approx.) with physical progress of 345 km(50% approx.) against the annual target of 700 km. The Committee note that the same has been rationalized in the 2026-27 budget as BE for 2026–27 has been further augmented to Rs. 36,721.6 crore with a target of 500 km. The Committee further observe that physical achievements during 2023–24 and 2024–25 exceeded targets. While acknowledging that projects are executed zone-wise and obtaining necessary clearances along with timely land acquisition by State Governments is a critical factor, the Committee recommend a structured mechanism incorporating improved project planning and monitoring, parallel processing of approvals and clearances, prioritization of high-impact connectivity projects, focused execution of corridors with economic impact and seamless financing to ensure timely completion/achievement of targets established. The Ministry may also study the applicability of the model of National Highways Authority of India (NHA) on project execution and PPP models in planning and undertaking key railway projects for new tracks including Dedicated Freight Corridors (DFCs) and High-Speed Rail corridors. The Committee further desire the Ministry to adopt a targeted and scientific approach for systematic consideration of proposals for new railway lines received from State Governments, Central Ministries, public representatives, as well as those arising from Railways own operational requirements. While examining such proposals, due weightage may be accorded to factors such as traffic projections, bridging of missing links, provision of alternate routes and augmentation of congested or saturated corridors.

ROAD SAFETY WORKS AND ELIMINATION OF MANNED LEVEL CROSSINGS

9. The Committee note that safety works related to Level Crossings (LCs) and Road Over/Under Bridges (ROBs/RUBs) are key focus areas in the Annual Plan for 2026-27, with allocations of Rs. 800 crore and Rs. 8225 crore,

respectively. During 2025-26, allocation had been kept as Rs. 700 crore at the Revised Estimate (RE) stage for LC safety works and Rs. 471.78 crore has been utilized as of December, 2025. Similarly, for ROB/RUBs, allocation had been kept as Rs. 7734 crore at the RE stage, with actual utilization standing at Rs. 5637.59 crore (till December, 2025). The Committee note that the targets fixed for elimination of manned level crossings have not been fully met and emphasize the necessity for renewed focus and strengthened execution to ensure timely completion of these critical safety works. The Committee, while acknowledging the progress made by Indian Railways in road safety works, construction of Road Over Bridges (ROBs)/Road Under Bridges (RUBs) and elimination of manned Level Crossings, emphasize the need for full utilization of allocated funds and adherence to physical targets. The Committee note the persistent challenges such as land acquisition, utility shifting, statutory clearances, cost-sharing issues with State Governments, local resistance, inadequate approach roads, traffic congestion and recurring waterlogging in RUBs while stress that these obstacles must be addressed through a time-bound, mission-mode approach with strengthened coordination among Railways, State Governments and road owning authorities and streamlined approvals. The Committee recommend to prioritize ROB/RUB works on high-density routes, incorporating site-specific engineering solutions and improved drainage systems at the design stage to avoid water logging in RUBs, shifting towards condition-based or predictive maintenance, and establishing a robust grievance redressal mechanism with active involvement of people's representatives and local authorities to ensure timely completion of these critical infrastructure projects.

ROLLING STOCK

10. The Committee appreciate the introduction of advanced rolling stock such as Vande Bharat Express (Sleeper) and Amrit Bharat Express, incorporating enhanced safety features and modern passenger amenities aimed at inducting high-capacity, lightweight, sturdy and faster trains. The Committee note that

during 2025–26 (up to December, 2025), production of Locomotives, Coaches and Wagons stood at 1404, 5,855 and 25,326 against annual targets of 1826, 9665 and 26,000 respectively. The Budget Estimate (BE) for Rolling Stock for 2025–26 was enhanced to Rs. 63,373 crore at the Revised Estimate (RE) stage, while actual expenditure stood at Rs. 50,135.40 crore up to December, 2025. For 2026–27, the BE has been kept at Rs. 65,496.6 crore. Considering the shortfall against annual targets, the Committee recommend augmentation and modernization of Production Units to ensure timely achievement of rolling stock targets and strengthening indigenisation and skill development aligned to next-generation technologies.

The Committee also observe that while manufacturing capabilities have advanced significantly, the maintenance ecosystem in Zonal workshops must be strengthened commensurately. Therefore, the Committee desire the Ministry to prioritise workshop modernization through induction of advanced diagnostic equipment, digital maintenance systems and structured technical training modules. A formal mechanism for seamless transfer of technology and technical know-how from Production Units to workshops should be institutionalised to ensure reliability, safety, reduction in maintenance time and cost for optimal lifecycle performance of rolling stock.

The Committee further with regard to rolling stock recommend for modernization efforts beyond core mechanical systems to ancillary and passenger-facing components so that coach interiors, finishing and overall aesthetics are aligned with the technological standards of modern rolling stock, thereby enhancing passenger experience and service quality.

REDEVELOPMENT OF RAILWAY STATIONS

11. The Committee note that the Ministry of Railways have launched the Amrit Bharat Station Scheme for phased redevelopment of railway stations across the country under which 1,337 stations have been identified and 172 stations have been completed while work is in progress at 1,072 stations. The

Committee desire that station redevelopment works be implemented in a phased manner under a structured project monitoring framework for each station, incorporating physical and financial progress tracking, periodic field inspections, reporting of shortfalls against prescribed targets, identification of underlying causes, and time-bound corrective measures. The Committee further emphasise the establishment of robust institutional mechanisms to prevent cost overruns and avoidable delays through improved project planning and inter-agency coordination. The Committee also recommend that comprehensive traffic management plans and stringent safety protocols be mandatorily implemented to ensure minimal disruption to passenger movement and train operations during the construction phase. Further, the Committee underscore the need for periodic assessment of passenger satisfaction and post-redevelopment impact evaluation, particularly with regard to amenities, accessibility, cleanliness and safety standards. The Committee also recommend that feedback and grievance redressal mechanisms be formed as an integral part of the station redevelopment process to ensure continuous improvement.

The Committee further recommend that station redevelopment plans be based on assessment of passenger traffic patterns, projected demand and future growth potential of the city or region concerned, so as to ensure that the upgraded infrastructure remains scalable, demand-responsive and aligned with local development needs.

RAIL FREIGHT STRATEGY UNDER THE NATIONAL RAIL PLAN

12. The Committee observe that freight remains the backbone of Indian Railways, contributing about 65% of its revenue. The Committee note that Coal, Iron Ore, Cement, Iron and Steel constitute about 70% of freight loading and revenue generation through freight operation. The Committee note that Dedicated Freight Corridors Corporation of India Limited is running 406 trains per day and handling approximately 13% of Indian Railway traffic. The Committee view that announcement of the Dankuni–Surat Dedicated Freight

Corridor in Budget, 2026 represents a strategically significant expansion of the freight network and its timely execution and cost control will ensure economic and operational benefits, including decongestion of conventional routes and improved freight efficiency. The Committee are aware that Railways have implemented various policies for promoting non-bulk cargo segments such as automobiles, containers, parcels and fast-moving commercial goods. The Committee appreciate the product specific policies being designed which are enhancing freight earnings and recommend further strengthening of transport policy/model for light and low-density cargo to increase market share for Indian railways in commodity transportation. The Committee desire the Ministry to take concerted efforts in minimizing transit delays, lowering inventory holding requirements, reducing wastage and degradation of goods during transit and further simplify business processes. The Committee recommend the Ministry to accord priority for integration of freight corridors with industrial corridors, ports and multimodal logistics facilities to maximize logistics efficiency and long-term financial sustainability. The Committee also recommend the Indian Railways to scale up the Joint Parcel Product–Rapid Cargo Service (JPP-RCS) on high-demand routes and expand the model to other commercially viable corridors across the country. The Committee urge the Ministry to strengthen partnerships with other logistics aggregators on similar lines to enhance connectivity and augment asset utilisation.

13. The Committee note that Gati Shakti Multi Modal Cargo terminal policy issued in December, 2021 and subsequently revised in December, 2022 and January, 2026, provides framework for development of rail freight terminals equipped with modern facilities including mechanized handling. The Committee also note that till date, a total of 124 GCTs have already been commissioned, 290 are in process. Besides 846 goods sheds of Railway are being improved and a work of Rs.14,500 crore has been sanctioned for development of customer amenities at the goods sheds and parcel offices during 2023-24, 2024-25 and 2025-26. The Committee further note that in order to improve the efficiency of rail freight handling at the terminals, Indian Railway has adopted two-pronged

approach of encouraging private sector to develop the modern rail freight terminals and augmenting/upgrading the infrastructure at railway owned goods sheds. While appreciating these efforts, the Committee recommend the Ministry to accord higher priority to increasing rail's modal share in freight through creation of an extensive and commercially viable network of privately operated and railway-supported GCTs. The Committee further recommend simplification and standardization of siding approval procedures, along with ensuring time-bound rail connectivity from the nearest railhead to upcoming terminals. From an operational perspective, the Committee emphasize the need for technology-driven mechanized loading and unloading systems, assured and predictable rake supply and seamless multimodal integration with ports and major road corridors to reduce dwell time and enhance reliability of freight movement. The Committee also recommend instituting a performance-based monitoring framework for terminals, incorporating measurable indicators such as turnaround time, rake availability and utilization, degree of mechanization, safety compliance and customer satisfaction, so that the policy not only expands infrastructure capacity but also leads to higher freight earnings and improved asset utilization.

UPGRADATION OF TRACKS AND SIGNALLING SYSTEMS IN INDIAN RAILWAYS

14. The Committee observe that Indian Railways has undertaken substantial measures towards upgradation of track and signalling infrastructure, including adoption of modern track structures, mechanised maintenance, deployment of Electronic Interlocking, Automatic Block Signalling and large-scale rollout of the indigenously developed Kavach system. The financial outlay under Signalling & Telecom has shown a consistent upward trend, with actual expenditure exceeding budget estimates, reflecting prioritisation of safety and capacity enhancement. During the year 2025-26, Rs. 6500 crore (RE) have been allocated for Signalling & Telecom related works, out of which Rs. 5354.30 crore has been spent till January, 2026. The allocation is Rs. 7500 crore for the year 2026-27. For Kavach works, funds utilized so far up to December, 25 is Rs. 2,573.36 crores. The

Committee note that Kavach version 4.0 has been successfully commissioned on 1297 Route Kilometers, covering the high density Delhi- Mumbai and Delhi-Howrah routes. The track side Kavach implementation work has been taken up on 23,360 RKM covering all GQ, GD, HDN and identified sections of Indian Railways. Tender has been finalised for equipping 6,300 Electric Locomotives with Kavach version 4.0 and another tender for equipping 2,679 Diesel Locomotives is under finalization. The Committee desire the Ministry to ensure time-bound completion of ongoing track renewal and signalling projects through project monitoring mechanisms with clearly defined physical and financial targets. The Committee also desire the Ministry to expedite large-scale deployment of Kavach across high-density and high-risk routes, strengthen indigenous manufacturing capacity and ensure adequate training of personnel to maximise safety outcomes. The Committee further recommend that impact assessments be undertaken for measures implemented towards the upgradation of track and signalling infrastructure to evaluate reduction in accidents, improvement in punctuality and enhancement in line capacity.

HIGH SPEED RAIL NETWORK IN INDIA

15. The Committee note that Mumbai Ahmedabad High Speed Rail Line (MAHSR) (508 km) project was approved in 2015 at Rs. 97,636 crore. The Committee also note that the cost has increased mainly due to addition of taxes and cess (Rs. 29,330 crore), rolling stock and signalling (Rs. 16,500 crore), inflation (Rs. 19,084 crore) and higher land and resettlement and rehabilitation cost (Rs. 16,695 crore) and the revised estimate is under sanction. The Committee further note that the development of E10 series of Shinkansen is underway. Further the Committee appreciate the decision to start the operation using B28 (Bharat made Bullet Trainset) and efforts are underway to start operation using B28 (Bharat made Bullet, 280 kmph) for Surat to Vapi (97 km) in August, 2027. The Committee recommend that the Ministry adopt a robust execution framework to ensure effective inter-agency coordination, early

identification and resolution of bottlenecks, and expeditious completion of utility shifting works. Such measures are essential to prevent time and cost overruns and to secure timely delivery of projects. The Committee also note the various steps taken by the Railways under Make in India Initiative in indigenising soft and hard skills amongst other innovations. The Committee recommend accelerated indigenisation of high speed rail components and institutionalised capacity-building efforts through expansion of training programmes at the High Speed Rail Training Institute, Vadodara, and by leveraging international expertise. While pursuing indigenisation of high-speed rail components and associated technologies, the Committee recommend that the Railways undertake a comprehensive study of successful high-speed rail networks in countries where such systems are operating efficiently. The Committee are of the view that drawing upon international best practices in planning, execution and operations would help in expediting project completion, minimise cost overruns and facilitate the development of a world-class high-speed rail network in the country.

The Committee appreciate the forward-looking vision of Indian Railways in announcing new High-Speed Rail corridors in the Budget 2026–27. For future corridors, the Committee emphasise that land acquisition and other statutory clearances should be completed prior to the sanctioning of projects, so as to ensure time-bound implementation and safeguard financial viability.

RESEARCH AND DEVELOPMENT

16. While observing the trend of budgetary estimates and actual expenditure on Railway Research in recent years, the Committee feel the need to enhance the pace of expenditure in research and development activities. Such efforts are essential to support rapid modernization, indigenisation, safety enhancement and technological self-reliance. The Committee desire that the Budget Estimate of Rs. 86.72 crore for 2026–27 should be effectively utilized to meaningfully advance these objectives and accelerate innovation-led transformation in the Railways. The Committee recommend that research initiatives be strategically aligned with

emerging and future-oriented priorities, including advanced signalling and train control systems; energy efficiency and decarbonization; resilient construction and predictive maintenance of RUBs, ROBs, railway tunnels and bridges; next-generation rolling stock; high-speed rail technologies and digital transformation. The Committee further emphasize the need to establish clearly defined, outcome-oriented targets with timelines for each major R&D project, supported by a monitoring and evaluation framework to ensure accountability and measurable impact. The Committee also desire that sustained collaboration be fostered with premier national and international institutions and industry partners working in these domains, so that research investments result in scalable outcomes.

INDIAN RAILWAYS ROADMAP TO NET ZERO CARBON EMISSIONS

17. The Committee note the wide range of policy measures, infrastructure initiatives, technology adoptions and institutional mechanisms undertaken by Indian Railways to achieve the target of Net Zero Carbon Emissions by 2030, including near-complete electrification of the broad-gauge network, large-scale deployment of solar and wind energy, introduction of energy-efficient rolling stock and propulsion systems, promotion of green station redevelopment, solid waste management, bio-toilets, hydrogen train technology and enhanced rail share in automobile and freight transportation. The Committee appreciate the setting up of Environment and Housekeeping Management (EnHM) Directorate in Railway Board in year 2015 and EnHM wings in all Zones to deal with the issues related to Environment as well as Housekeeping Management of Indian Railways. The Committee also note development and deployment of technologies by Indian Railways with organizations such as Automotive Research Association of India (ARAI), Council of Scientific & Industrial Research-Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), International Centre for Automotive Technology (ICAT), Pune. While appreciating the energy efficiency and carbon reduction initiatives of Railways, the Committee recommend the Ministry to establish defined targets, rational timelines, and measurable

performance indicators. The Committee further recommend undertaking periodic impact assessments of these initiatives in collaboration with research organizations and technical institutions, so as to objectively evaluate actual reductions in energy consumption and carbon emissions. Such assessments would also help identify areas for improvement and enhance the overall effectiveness of the measures adopted.

New Delhi;
09 March, 2026
18 Phalguna, 1947 (Saka)

DR. C.M. RAMESH
Chairperson
Standing Committee on Railways

ANNEXURE-I

MINUTES OF THE SIXTH SITTING OF THE STANDING COMMITTEE ON RAILWAYS (2025-26)

The Committee met on Monday, the 23rd February, 2026 from 1215 hrs. to 1415 hrs. in Committee Room No. 2, Parliament House Annexe Extension, New Delhi.

PRESENT

Dr. C.M. Ramesh – Chairperson

MEMBERS

LOK SABHA

2. Shri Damodar Agrawal
3. Shri Tariq Anwar
4. Shri Ummeda Ram Beniwal
5. Smt. Sangeeta Kumari Singh Deo
6. Shri Kaushalendra Kumar
7. Shri Balabhadra Majhi
8. Shri Awadhesh Prasad
9. Shri Sudama Prasad
10. Shri M K Raghavan
11. Shri Gopal Jee Thakur

RAJYA SABHA

12. Shri Narhari Amin
13. Shri Subhasish Khuntia
14. Shri Upendra Kushwaha
15. Dr. K. Laxman
16. Shri Khiru Mahto

17. Shri Mukul Balkrishna Wasnik

SECRETARIAT

1. Shri Dhiraj Kumar - Joint Secretary
2. Md. Aftab Alam - Director
3. Smt. Savdha Kalia - Deputy Secretary

REPRESENTATIVES OF THE MINISTRY OF RAILWAYS (RAILWAY BOARD)

1.	Shri Satish Kumar	Chairman & Chief Executive Officer, Railway Board & Ex. -officio Principal Secretary to the Government of India.
2.	Smt. Manjusha Jain	Member (Finance) Railway Board & Ex. -officio Secretary to the Government of India.
3.	Shri Hari Shankar Verma	Member (Operation & Business Development) Railway Board & Ex. -officio Secretary to the Government of India.
4.	Shri R. Rajagopal	Member (Traction & Rolling Stock) Railway Board & Ex. -officio Secretary to the Government of India.
5.	Smt. Chhavi Jha	Additional Member/ Budget, Railway Board.
6.	Shri Shirish Kumar Sinha	Additional Member/ Planning, Railway Board.
7.	Shri N. B. Vikramaditya	Executive Director (Infrastructure), Railway Board.
8.	Shri R.K. Garg	Executive Director /Gati Shakti, Railway Board.
9.	Shri Braj Bhushan Singh Tomar	Principal Executive Director, Civil Engineering (Planning), Railway Board.

2. At the outset, the Chairperson welcomed the representatives of the Ministry of Railways (Railway Board) to the sitting of the Committee. The Chairperson then informed that the meeting has been convened to examine the Demands for Grants (2026-27) of the Ministry of Railways. He also drew the officials' attention to the

provisions of Direction 55 of the Directions by the Speaker, Lok Sabha emphasizing that the proceedings must be treated as confidential.

3. Thereafter, the representative of the Railway Board gave a brief presentation highlighting the salient features of the budgetary allocation under the Demands for Grants (2026–27) of the Ministry of Railways. The presentation highlighted expenditure priorities such as station redevelopment and implementation of advanced signalling systems including the indigenous KAVACH 4.0. The Committee were also apprised of the progress made in the Dedicated Freight Corridors, approval of a new Surat–Dankuni corridor, expansion of Gati Shakti Cargo Terminals, current status of the Mumbai–Ahmedabad High Speed Rail Project along with development of indigenous high-speed rolling stock (B-28) and the construction of ROBs and RUBs with site-specific measures being undertaken to address issues of water logging in certain RUBs.

4. The Committee, then, sought certain clarifications on the issues related to the Demands for Grants (2026-27) of Ministry of Railways. The representatives of the Railway Board replied to some of the queries. The Chairperson thanked the representatives of the Railway Board for appearing before the Committee as also for providing valuable information. The Chairperson also directed the Ministry to provide written replies to the queries in respect of which the information was not readily available, at the earliest. The evidence then concluded.

5. A copy of verbatim record of the proceedings of the Committee has been kept.

The witnesses then withdrew.

The Committee then adjourned.

ANNEXURE-II

MINUTES OF THE SEVENTH SITTING OF THE STANDING COMMITTEE ON RAILWAYS (2025-26)

The Committee met on Monday, the 9th March, 2026 from 1030 hrs. to 1100 hrs. in Committee Room 'C', Parliament House Annexe, New Delhi.

PRESENT

Dr. C.M. Ramesh – Chairperson

MEMBERS

LOK SABHA

2. Shri Damodar Agrawal
3. Shri Tariq Anwar
4. Shri Ummeda Ram Beniwal
5. Shri Chhotelal
6. Shri Kaushalendra Kumar
7. Shri Balabhadra Majhi
8. Shri Khagen Murmu
9. Adv. Adoor Prakash
10. Shri Awadhesh Prasad
11. Shri Sudama Prasad
12. Dr. Bhola Singh
13. Shri Bharatbhai Manubhai Sutariya
14. Shri Gopal Jee Thakur
15. Shri Vijayakumar Alias Vijay Vasanth

RAJYA SABHA

16. Shri Narhari Amin
17. Dr. Fauzia Khan
18. Shri Subhasish Khuntia

19. Shri Upendra Kushwaha
20. Dr. K. Laxman
21. Shri Khiru Mahto
22. Shri Meda Raghunadha Reddy
23. Dr. Sumer Singh Solanki
24. Shri Mukul Balkrishna Wasnik

SECRETARIAT

1. Shri Dhiraj Kumar - Joint Secretary
 2. Md. Aftab Alam - Director
 3. Smt. Savdha Kalia - Deputy Secretary
2. At the outset, the Chairperson welcomed the Members to the sitting of the Committee. Thereafter, the Committee took up the draft Report on Demands for Grants (2026-27) of the Ministry of Railways for consideration.
- The Committee adopted the above-mentioned Report without any modifications.
3. The Committee authorized the Chairperson to finalize and present the Report to the Parliament.

The Committee then adjourned.
