

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
LOK SABHA
UNSTARRED QUESTION NO. 4136
TO BE ANSWERED ON 12.08.2026**

RESULTS OF INCREASED CAPITAL EXPENDITURE ON RAILWAYS

4136. SMT. PRATIMA MONDAL:

Will the Minister of RAILWAYS be pleased to state:

- (a) whether the Government has significantly increased capital expenditure on Railways during the last decade and if so, the details thereof;**
- (b) the details of the measurable improvements Government has achieved in punctuality, average train speeds, congestion reduction and passenger experience rather than infrastructure creation alone;**
- (c) the details of the time-bound roadmap has been adopted to extend Kavach across the high-density rail network and the manner in which the Government prioritising vulnerable sections that continue to operate without automatic train protection; and**
- (d) the manner in which the Government is balancing investments in future high-speed projects with the urgent modernisation of the existing railway network in view at the Government has announced seven new high-speed rail corridors while several conventional routes continue to face capacity constraints, overcrowding and speed restrictions?**

ANSWER

**MINISTER OF RAILWAYS, INFORMATION & BROADCASTING AND
ELECTRONICS & INFORMATION TECHNOLOGY**

(SHRI ASHWINI VAISHNAW)

(a) to (d) : The Government has significantly enhanced capital investment in Indian Railways, with Gross Budgetary Support increasing more than 9.5 times from ₹29,055 crore in 2013-14 to ₹2,78,030 crore in 2026-27. This sustained increase in investment has enabled the Railways to undertake large-scale capacity augmentation, modernization and

infrastructure development across Indian Railways. This enhanced capital expenditure has resulted in:

- **Capacity augmentation through New Lines, Doubling/Tripling, Electrification and Signalling upgrades, contributing to improved punctuality and operational efficiency;**
- **Development of logistics infrastructure to improve freight handling and logistics efficiency; and thereby increase in Revenue Earnings.**
- **Redevelopment and modernization of railway stations with improved passenger amenities and accessibility ensuring passenger experience through modern stations, improved safety, enhanced amenities, cleaner facilities, and introduction of upgraded rolling stock and digital passenger services.**

Capacity enhancement and Infrastructure augmentation

Capacity enhancement of railway network has been taken up by Indian Railways in a big way during the last 12 years. The details of commissioning/laying of new track across Indian Railways are given below:-

Period	New track Commissioned	Average commissioning of new tracks
2009-14	7,599 Km	4.2 Km/day
2014-26	36,429 Km	8.32 Km/day (nearly 2 times)

As on 01.04.2026, across Indian Railways, 514 Railway infrastructure projects (169 New Line, 29 Gauge Conversion and 316 Doubling) of total length 40,000 Km, costing approx. Rs. 8.31 lakh crore are sanctioned. The summary is as under:-

Category	No. of Projects	Total Length NL/GC/DL (km)	Length Commissioned till Mar'26 (Km)	Total Expenditure upto Mar'26 (Rs. in Crore)
New lines	169	16,634	3,361	1,57,572
Gauge conversion	29	3,987	3,045	24,227
Doubling	316	19,379	6,177	1,23,454
TOTAL	514	40,000	12,583	3,05,253

Ministry of Railways had taken up the construction of two Dedicated Freight Corridors (DFC) viz. Eastern Dedicated Freight Corridor (EDFC) from Ludhiana to Sonnagar (1337 Km) and the Western Dedicated Freight Corridor (WDFC) from Jawaharlal Nehru Port Terminal (JNPT) to Dadri (1506 Km). The work on both EDFC and WDFC has been completed and commissioned.

On average, about 443 trains are operated per day on DFCs. The Dedicated Freight Corridors have demonstrated robust operational performance. Freight volumes have steadily increased, with higher average speeds, faster turnarounds, and enhanced reliability. DFC has contributed to creating additional paths on the conventional network by diverting freight traffic to EDFC and WDFC. As a result, Railways have been able to run additional goods and coaching services over its network.

The Dedicated Freight Corridor project is expected to strengthen the competitiveness of rail transport by enabling cost-effective, efficient and sustainable freight movement across the country. It is envisaged to facilitate a gradual modal shift of long-haul bulk commodities, container traffic and industrial freight from road to rail, thereby reducing overall logistics costs, improving supply chain efficiency and supporting economic growth.

Track Modernisation

Strengthening, upgradation, modernisation and improvement of existing track infrastructure is a continuous and ongoing process over Indian Railways and It also tells the same story of scaled-up ambition: annual outlay on track renewal and upgradation has grown from Rs 4,979 crore in 2013-14 to Rs 26,231 crore in 2025-26. The following measures are being taken by Indian Railways to upgrade railway tracks:

- i. Modern track structure consisting of 60 kg, 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 260 m long rail panels have been increased to avoid welding of joints, thereby improving safety.**
- 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.**

As a result of above measures, there has been significant increase in speed potential of the tracks. The details of speed potential of railway tracks during 2014 vis-a-vis 2026 are as under:

Sectional Speed (kmph)	2014		2026	
	Track Km	%	Track Km	%
130 & above	5,036	6.3	24,173	22.5
110 - 130	26,409	33.3	62,482	58.1
< 110	47,897	60.4	20,897	19.4
Total	79,342	100	1,07,552	100

Modernisation of Rolling stock

A Paradigm Shift can be seen in Safety and Passenger Experience also through the upgraded rolling stock and advanced safety technology. The work of replacement of earlier ICF coaches with safer and more modern LHB coaches has been taken up in a phased manner. Technologically superior LHB coaches have 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 2014-26 vis-à-vis 2004-14 is as under:

Period	LHB coaches manufactured
2004-14	2,337 nos.
2014-26	49,366 nos. (more than 21 times)

Vande Bharat services (Chair Car):

Indian Railways, with a view to improve travel experience of the passengers, have introduced indigenously designed and manufactured Vande Bharat trains with modern coaches, advanced safety features and passenger amenities. These Vande Bharat Chair Car Trains have following features:

- **Jerk Free Semi-Permanent couplers.**
- **Fitted with KAVACH.**
- **Centrally controlled Automatic Plug Doors and Fully Sealed wider gangways.**
- **Emergency Alarm Push buttons and Talk Back Units on all Coaches.**
- **Improved fire safety – Aerosol based fire detection and suppression system in electrical cabinets and lavatories.**
- **Higher acceleration with design/operating speed of 180/160 KMPH.**
- **Driver-Guard communication with voice recording facility & Crash hardened memory.**
- **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.**
- **Better Ride Comfort.**
- **CCTVs in all Coaches.**
- **For Divyangjan passengers special lavatory in the driving coaches on each end.**

- **Coach condition monitoring System (CCMS) display with remote monitoring.**

Vande Bharat services (Sleeper):

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 trains have been introduced on Indian Railways. 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:

- **Jerk-Free Semi permanent couplers and Anti Climbers.**
- **Fitted with KAVACH.**
- **Higher acceleration with design/operating speed of 180/160 KMPH.**
- **Crashworthy Design of Car body complying with EN standards.**
- **Fire barrier doors at the end of each coach for compliance of Fire Safety standards.**
- **Aerosol based fire detection and suppression system in electrical cabinets and lavatories.**
- **Regenerative braking system for energy efficiency.**
- **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.**
- **Centrally controlled Automatic Plug Doors and Fully Sealed wider gangways.**
- **CCTVs in all coaches.**
- **Emergency talk-back unit for communication between Passenger and Train Manager/Loco Pilot in case of emergency.**

- **For Divyangjan passengers special lavatory in the driving coaches on each end.**
- **Centralized Coach Monitoring System for better condition monitoring of passenger amenities such as Air conditioning, Saloon Lighting etc.**
- **Ergonomically designed ladder for ease of climbing on to upper berths.**

Amrit Bharat service:

To provide affordable means of transportation to the low and middle income families, Indian Railways have introduced Amrit Bharat services that are fully non-AC modern trains. The present composition of Amrit Bharat consists of 11 General Class coaches, 8 Sleeper Class coaches, 01 Pantry Car and 02 Luggage cum Divyangjan coaches.

High Speed and enhanced Safety standards are the hallmarks of these trains with following enhanced features and amenities:

- **Better aesthetics of seat and berths with enhanced look & feel on the lines of Vande Bharat Sleeper.**
- **Jerk Free Semi-Automatic Couplers.**
- **Improved Crashworthiness in coaches by provision of crash tube.**
- **Provision of CCTV system in all coaches.**
- **Improved designs of toilets.**
- **Improved design of Ladder for ease of climbing on to the berth.**
- **Improved LED Light fitting & Charging Sockets.**
- **Provision of EP assisted braking system.**
- **Aerosol based fire suppression system in toilets and electrical cubicles.**
- **USB Type-A and Type-C mobile charging sockets.**

- **Emergency Talk Back system for two-way communication between Passenger and Guard/Train Manager.**
- **Non-AC pantry with enhanced heating capacity.**
- **Fully sealed gangways with quick release mechanism for easy attachment and detachment.**

Namo Bharat Rapid Rail services:

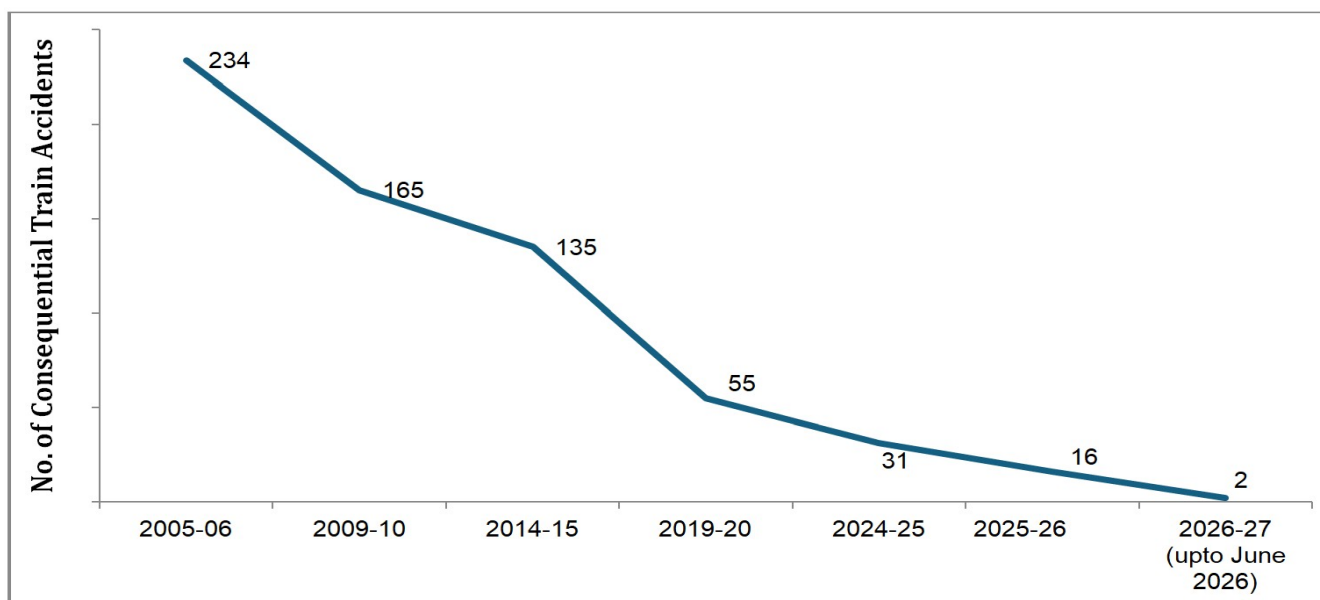
Namo Bharat Rapid Rail has been introduced to enhance the travelling experience of suburban and regional commuters for inter-city short distance movement by harnessing the features of Vande Bharat Trains.

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

- **Centrally controlled Double Leaf Automatic Sliding Doors.**
- **CCTVs for safety and passenger surveillance.**
- **Modular interior with Cushioned Seats and Sealed Flexible Gangway.**
- **Emergency Talk Back System.**
- **Continuous LED lighting with Energy Efficient lighting system.**
- **FRP Modular Toilets with vacuum evacuation.**
- **Fully Air-Conditioned trains with AC Driver cab.**

Safety

Safety is accorded the highest priority on Indian Railways. As a consequence of various safety measures taken over the years, there has been a steep decline in the number of accidents.



Number of Consequential Train Accidents has reduced as shown in the table below:-

Year	Consequential Accidents
2014-15	135
2025-26	16 (88% lesser)
2026-27 (upto June 2026)	2

Another important index showing improvement in safety in train operations is Consequential Accident Index, the details of which are as under:-

Consequential Accident Index:-

Year	Accident Index
2014-15	0.11
2025-26	0.01 (91% lesser)

This index measures number of consequential accidents as a ratio of total running kilometers of all trains.

$$\text{Accident Index} = \frac{\text{No. of consequential accidents}}{\text{No. of trains X million kilometers run}}$$

The various safety measures taken to enhance safety in train operations are as under:-

1. On Indian Railways, the expenditure on Safety related activities has increased over the years as under:-

Year	Expenditure/Budget on Safety related activities (Rs. in Cr.)
2013-14	39,200
2022-23	87,336
2023-24	1,01,662
2024-25	1,14,022
2025-26	1,17,693
2026-27	1,20,389

- 2. Electrical/Electronic Interlocking Systems with centralized operation of points and signals have been provided at 6,671 stations up to 30.06.2026 to reduce accidents due to human failure.**
- 3. Interlocking of Level Crossing (LC) Gates has been provided at 10,395 Level Crossing Gates up to 30.06.2026 for enhancing safety at LC Gates.**
- 4. Complete Track Circuiting of stations to enhance safety by verification of track occupancy by electrical means has been provided at 6,671 stations up to 30.06.2026.**
- 5. Detailed instructions on issues related with safety of Signalling, e.g. mandatory correspondence check, alteration work protocol, preparation of completion drawing, etc. have been issued.**
- 6. System of disconnection and reconnection for S&T equipment as per protocol has been re-emphasized.**
- 7. All locomotives are equipped with Vigilance Control Devices (VCD) to improve alertness of Loco Pilots.**

- 8. Retro-reflective sigma boards are provided on the mast which is located two OHE masts prior to the signals in electrified territories to alert the crew about the signal ahead when visibility is low due to foggy weather.**
- 9. A GPS based Fog Safety Device (FSD) is provided to loco pilots in fog affected areas which enables loco pilots to know the distance of the approaching landmarks like signals, level crossing gates, etc.**
- 10. Modern track structure consisting of 60kg, 90 Ultimate Tensile Strength (UTS) rails, Prestressed Concrete Sleeper (PSC) Normal/Wide base sleepers with elastic fastening, fan shaped layout turnout on PSC sleepers, Steel Channel/H-beam Sleepers on girder bridges is used while carrying out primary track renewals.**
- 11. Mechanisation of track laying activity through use of track machines like PQRS, TRT, T-28 etc. to reduce human errors.**
- 12. Maximizing supply of 130m/260m long rail panels for increasing progress of rail renewal and avoiding welding of joints, thereby improving safety.**
- 13. Ultrasonic Flaw Detection (USFD) testing of rails to detect flaws and timely removal of defective rails.**
- 14. Laying of longer rails, minimizing the use of Alumino Thermic Welding and adoption of better welding technology for rails i.e., Flash Butt Welding.**
- 15. Monitoring of track geometry by OMS (Oscillation Monitoring System) and TRC (Track Recording Cars).**
- 16. Patrolling of railway tracks to look out for weld/rail fractures.**
- 17. The use of Thick Web Switches and Weldable CMS Crossing in turnout renewal works.**
- 18. Inspections at regular intervals are carried out to monitor and educate staff for observance of safe practices.**

- 19. Web based online monitoring system of track assets viz. Track database and decision support system has been adopted to decide rationalized maintenance requirement and optimize inputs.**
- 20. Detailed instructions on issues related with safety of Track, e.g. integrated block, corridor block, worksite safety, monsoon precautions, etc. have been issued.**
- 21. Preventive maintenance of railway assets (Coaches & Wagons) is undertaken to ensure safe train operations.**
- 22. Replacement of conventional ICF design coaches with LHB design coaches is being done.**
- 23. All unmanned level crossings (UMLCs) on Broad Gauge (BG) route have been eliminated by January 2019.**
- 24. Safety of Railway Bridges is ensured through regular inspection of Bridges. The requirement of repair/rehabilitation of Bridges is taken up based upon the conditions assessed during these inspections.**
- 25. Indian Railways has displayed Statutory “Fire Notices” for widespread passenger information in all coaches. Fire posters are provided in every coach so as to educate and alert passengers regarding various Do’s and Don’ts to prevent fire. These include messages regarding not carrying any inflammable material, explosives, prohibition of smoking inside the coaches, penalties etc.**
- 26. Production Units are providing Fire detection and suppression system in newly manufactured Power Cars and Pantry Cars, Fire and Smoke detection system in newly manufactured coaches. Progressive fitment of the same in existing coaches is also underway by Zonal Railways in a phased manner.**
- 27. Regular counselling and training of staff is undertaken.**
- 28. Concept of Rolling Block introduced in Indian Railways (Open Lines) General Rules vide Gazette notification dated 30.11.2023, wherein work**

of integrated maintenance/ repair/replacement of assets is planned up to 52 weeks in advance on rolling basis and executed as per plan.

The details of the Safety related works related to better maintenance practices, Technological improvements, better infrastructure and rolling stock etc. undertaken by Railways are tabulated below:-

SN	Item	2004-05 to 2013-14	2014-15 to 2025-26	2014-26 Vs. 2004-14
Technological Improvements				
1.	Use of high-quality rails (60 Kg) (Km)	57,450 Km	1.63 Lakh Km	More than 2.8 times
2.	Longer Rail Panels (260m) (Km)	9,917 Km	87,219 Km	Nearly 9 times
3.	Electronic Interlocking (Stations)	837 Stations	3,691 Stations	More than 4 times
4.	Fog Pass Safety Devices (Nos.)	As on 31.03.14: 90 Nos.	As on 31.03.26: 31,693 Nos.	352 times
5.	Thick Web Switches (Nos.)	Nil	35,971 Nos.	
Better Maintenance Practices				
1.	Primary Rail Renewal (Track Km)	32,260 Km	57,583 Km	1.78 times
2.	USFD (Ultra Sonic Flaw detection) Testing of Welds (Nos.)	79.43 Lakh	2.25 Crore	More than 2.8 times
3.	Weld failures (Nos.)	In 2013-14: 3,699 Nos.	In 2025-26: 272 Nos.	93 % reduction
4.	Rail fractures (Nos.)	In 2013-14: 2,548 Nos.	In 2025-26: 208 Nos.	92% reduction
Better Infrastructure and Rolling Stock				
1.	New Track KM added (Track Km)	14,985 Km	36,429 Km	Almost 2.5 times
2.	Flyovers (RoBs)/Underpasses (RUBs) (Nos.)	4,148 Nos.	14,362 Nos.	More than 3 times
3.	Unmanned Level crossings (Nos.) on BG	As on 31.03.14: 8,948	As on 31.03.26: Nil (All eliminated by	Removed

			31.01.19)	
4.	Manufacture of LHB Coaches (Nos.)	2,337 Nos.	49,366	More than 21 times

KAVACH

- 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 1,465 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 2,633 Route Kilometres as on 31.07.26, covering the high density Delhi- Mumbai and Delhi-Howrah routes as below:

SN	Section	Progress (Route Km)
(1)	Delhi-Mumbai route: 1,423 Rkm	
i	Tilak Bridge - Junction cabin – Palwal – Mathura – Kota-Nagda-Ratlam–Vadodara-Virar section	1,327
ii	Vadodara – Ahmedabad section	96
(2)	Delhi – Howrah route: 1,210 Rkm	
i.	Chipyana - Tundla - Kanpur - Subedarganj section	563
ii.	Kanpur – Lucknow section	71
iii.	Mirzapur - DDU (Excluding) section	64
iii.	DDU(FOC)-BhabuaRoad section	50
iv.	Sasaram - Phesar section	43
v.	Gaya -Sarmatarn- Nimiaghat section	159
vi.	Chota Ambana - Bardhaman – Howrah section	260

10. In addition, track side Kavach implementation work has been taken up on 21,794 RKM covering all GQ,GD,HDN and identified sections of Indian Railways.

11. The total Progress of key items of Kavach on Indian Railway sections are as under:-

SN	Item	Progress
i	Laying of Optical Fibre Cable	11,547 Km
ii	Installation of Telecom Towers	1,721 Nos.
iii	Station Data Centre	1,009 station
iv	Installation of Track side equipment	7,726 Rkm
v	Provision of Kavach in Loco	6,290 Nos.

- 12. In addition, work for installation of Kavach in 7,190 Locomotives and 1,200 EMU/MEMU has been taken up.**
- 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 more than 94,000 technicians, operators and engineers have been trained on Kavach technology. This includes about 57,000 Loco Pilots & Assistant Loco Pilots. Courses have been designed in collaboration with IRISSET.**
- 14. The funds utilized on Kavach works so far up to Jun'26 is Rs. 3,875 Crores. The allocation of funds during the year 2026-27 is Rs. 2066.24 Crores. Kavach work is going at good pace in the entire country. Requisite funds are made available as per the progress of works.**

Road over Bridge (ROB)/Road under Bridge (RUB):

Sanctioning of works of Road over Bridge (ROB)/Road under Bridge (RUB) in lieu of Level crossings (LCs) is another dynamic process of Indian Railway. Such works are prioritised and taken up on the basis of their impact on safety in train operations, mobility of trains & impact for road users and feasibility etc.

No. of ROBs/ RUBs constructed on Indian Railways during the period 2004-14 vis a vis 2014-26 (Upto May'26) is as under:

Period	ROBs/ RUBs constructed
2004-14	4,148 Nos.
2014-26 (Upto May'26)	14,451 Nos.

As on 01.06.2026, 4,993 Nos. ROBs/ RUBs works are sanctioned at a cost of approx. ₹ 1,17,492 Cr on Indian Railways which are at various stages of planning and execution.

Improvement in Punctuality and Train speed

Adding tracks and ROB/RUB is only one half of the story; real-time operational efficiency is required to keep trains moving safely and punctually. The following steps are being taken to improve the average speed:

- **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.**

All possible efforts are made to run trains on time. However, on Indian Railways, several factors affect punctuality which includes foggy weather, path constraints/congestion, asset maintenance and other issues, alarm chain pulling, agitations, cattle run over and other unforeseen circumstances.

The steps taken to improve punctuality of train services include:

- **Regular, continuous and real-time monitoring of punctuality of trains using technological tools and IT systems.**
- **Use of an integrated digital platform for monitoring of train operations comprising Integrated Coaching Management System (ICMS) and Control Office Application (COA) which are integrated with National Train Enquiry System (NTES).**
- **Progressive advancement for automatic uptake of timings by the train movement itself, is being achieved through GPS devices fitted locomotives {Real-Time Train Information System (RTIS) and Remote Monitoring and Management of Locomotives and Trains (REMMLOT)} and Data loggers integrated with the station signaling system.**
- **To improve punctuality, IR also undertakes rationalisation of time tables. One such exercise, in a scientific manner, was undertaken with the assistance of IIT- Mumbai using their traffic simulator. The exercise also aimed at provisioning of fixed Integrated Maintenance blocks on all sections to minimise detention and improve punctuality.**
- **Further, with a view to minimise and mitigate the effect of fog and to assist the Loco Pilots run the train during foggy weather conditions the following steps have been taken by Indian Railways:**

(i) GPS based FOG SAFE DEVICE – A Global Positioning System (GPS) based portable 'Fog Safe Device' (FSD) is being provided to Loco Pilots, which displays upcoming critical landmarks such as approaching signal, level crossing gates, permanent speed restrictions etc. in advance during poor visibility conditions like fog. This device is used for safe train operation especially during winter season and to help reduce stress on Loco Pilots while running in poor visibility conditions. As on 31.05.2026, there are 33,624 Fog Safe devices available over Indian Railways.

(ii) Modified Semi-Automatic Stop Signal (MASS) System: MASS has been introduced on the Automatic Signalling territory during abnormal conditions like Fog & Bad Weather impairing visibility. The system helps minimise delay in train operation during foggy weather conditions.

Train operation during fog and poor visibility conditions is an essential component of the training curriculum and the same has already been incorporated in the Transportation Module and Technical Module of the prescribed training syllabus for Loco Pilots (LPs) and Assistant Loco Pilots (ALPs).

Modernisation of Signalling infrastructure:

Indian Railway is continuously modernising current infrastructure of its Signalling system as under:

- 1. Electrical/Electronic Interlocking Systems with centralized operation of points and signals in place of old mechanical signalling. It has been provided at 6671 stations as on 30.06.2026, out of which Electronic Interlocking have been provided at 3954 stations.**
- 2. Complete Track Circuiting of stations to enhance safety for verification of track occupancy by electrical means has been provided at 6671 stations upto 30.06.2026.**
- 3. 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 6085 Block Sections up to 30.06.2026.**
- 4. Automatic Block Signalling (ABS) that enhances line capacity within existing track infrastructure has been provided at 7464 Route Km upto 30.06.2026.**

5. Modified Semi-Automatic Stop Signal (MASS) System has been introduced on the Automatic Signalling territory during abnormal conditions like Fog & Bad Weather conditions impairing visibility. The system helps to minimise delay in train operation during foggy weather conditions.

6. Signalling assets maintenance are planned & undertaken during Rolling Block introduced in Indian Railways (Open Lines) General Rules vide Gazette notification dated 30.11.2023, wherein work of integrated maintenance/repair/replacement of assets is planned in advance on rolling basis and executed.

Due to these initiatives, Indian railways, during 2025-26 recorded an overall punctuality of more than 77%. The average punctuality of trains on Indian Railways during 2023-24, 2024-25 and 2025-26 is as under:

Year	Mail/Express
2023-24	73.62%
2024-25	77.12%
2025-26	77.43%

High Speed Projects

Railway is also making a fine balance between modernization and up gradation of present assets with high speed vision. The next chapter is already under construction. While upgrading existing mainline routes, Indian Railways simultaneously laid the foundation for high-speed rail. Presently, the Mumbai-Amdavad High Speed Rail (MAHSR) Project (508 km) is under execution. The Project is passing through the States of Gujarat, Maharashtra and Union Territory of Dadra & Nagar Haveli with 12 stations

planned at Mumbai, Thane, Virar, Boisar, Vapi, Billimora, Surat, Bharuch, Vadodara, Anand, Amdavad and Sabarmati.

Entire land (1389.5 Ha.) for MAHSR project has been acquired. All Statutory Clearances have been obtained. All 1651 utilities have been shifted. The delay in land acquisition in the State of Maharashtra has impacted the project till 2021. The land acquisition picked up in 2022 in Maharashtra.

The progress of various major items so far is as under:

Item	Progress
Piers	452 kms.
Girder	356 kms.
Track Bed	209 kms.
OHE Masts	190 kms.

The progress of stations is given below:-

S.No.	Station	Status
1	Sabarmati	Foundation & structural works completed. Finishing work have been taken up.
2	Amdavad	Structural works completed. Finishing works and track works have been taken up.
3	Anand/Nadiad	
4	Vadodara	Foundation & structural works completed. Finishing work have been taken up.
5	Bharuch	Structural works completed and finishing works have been taken up. At Surat, Bilimora and Bharuch Track works have also been taken up.
6	Surat	
7	Bilimora	
8	Vapi	
9	Boisar	Foundation works have been taken up and in advanced stage. Structural works have been taken up.
10	Virar	
11	Thane	
12	BKC (Mumbai)	This is an underground station. Foundation works almost completed and Base Slab has been taken up.

The progress on the River Bridges is as under:-

S. No.	River Name	Status
1	Sabarmati River (480m)	Sub-Structure work completed, Superstructure work has been taken up.
2	Meshwa River (120m)	Bridge construction completed. Track works completed and OHE works have been taken up at Mohar River. Track works in progress at Vatrak River.
3	Vatrak River (280m)	
4	Mohar (Shedhi) River (160m)	
5	Mahi River (720m)	Foundation completed. Pier works and Girder launching have been taken up.
6	Vishwamitri River (80m)	Bridge construction completed.
7	Dhadhar River (120m)	
8	Narmada River (1366m)	21 out of 25 wells completed; 6 out of 24 spans launched
9	Kim River (120m)	Bridge construction completed.
10	Tapi River (720m)	09 out of 13 Pier Cap completed.
11	Mindhola River (240m)	Bridge construction completed. Track and Electrical works have been taken up.
12	Purna River (360m)	
13	Ambika River (200m)	
14	Venganiya River (200m)	
15	Kaveri River (120m)	
16	Kharera River (120m)	
17	Auranga River (320m)	
18	Par River (320m)	
19	Kolak River (160m)	
20	Daman Ganga River (360m)	
21	Darotha River (80m)	
22	Jagani River (360m)	Substructure works have been completed.
23	Vaitarna River (2320m)	17 Pile Cap and 15 Pier (out of 58) completed.
24	Ulhas River Branch (120m)	Temporary Access Bridge (TAB) completed to start the foundation work.
25	Desai Khadi River Bridge (400m)	Geo-technical Investigation (GTI) has been completed and Design work has been taken up.

The work of the under-sea tunnel (approximately 21 km) has commenced, out of which 4.8 km of tunnel between Ghansoli and Shilphata in Maharashtra has been completed.

On the Surat–Vapi section (97 km) entire civil works including river bridge construction, have been completed and 86% of the track bed has been laid.

To strengthen national transport infrastructure, provide a fillip to regional connectivity, economic growth, tourism, investment and employment generation, and encourage modal shift from road and air transport to rail, the Government has announced the development of the following seven new High-Speed Rail (HSR) corridors in the Union Budget 2026-27:-

- (i) Mumbai–Pune**
- (ii) Pune–Hyderabad**
- (iii) Hyderabad–Bengaluru**
- (iv) Hyderabad–Chennai**
- (v) Chennai–Bengaluru**
- (vi) Delhi–Varanasi**
- (vii) Varanasi–Siliguri**

Post Budget announcement, the cost updation, alignment finalization & land survey etc. have been taken up in Detailed Project Report (DPR). The details of the stations/cities covered, investment, route length etc. can be firmed up only after DPR is finalised.

However, being highly capital intensive, the decision to sanction any HSR Corridor/Project depends on many factors such as outcome of DPR, techno economic feasibility studies and availability of resources such as financing options etc.

Taken together, the 9.5 times rise in capital expenditure since 2013-14 has not been spent in isolation on any one goal. It has bought more track, freed capacity through dedicated freight corridors, increased freight loading and revenue, nudged punctuality steadily upward, embedded automatic safety protection and a transformed passenger experience thereby increasing freight loading 1670 MT and becoming second largest freight carrier in the world.
