GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS

LOK SABHA
UNSTARRED QUESTION NO. 629
TO BE ANSWERED ON 23.07.2025

NUMBER OF MAJOR RAILWAY ACCIDENTS

629. SHRI K RADHAKRISHNAN:

Will the Minister of RAILWAYS be pleased to state:

(a) the number of major railway accidents reported across the country during the last five years;
(b) the primary causes identified for these accidents;
(c) the total number of casualties and the estimated loss of properties in each case;
(d) the amount sanctioned by the Government to the State of Kerala during the last five years for infrastructure development projects;
(e) the detail of key projects undertaken in Kerala with the sanctioned funds, including those related to track doubling, level crossing elimination, overbridges, station redevelopment and implementation of safety technologies like Kavach;
(f) the present status of each of these projects and their expected date of completion;
(g) the measurable impact of these initiatives on improving railway safety and reducing accidents in the country; and
(h) whether the Government has any further proposals under consideration for enhancing railway safety in India, and if so, the details thereof?

ANSWER

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

(SHRI ASHWINI VAISHNAW)

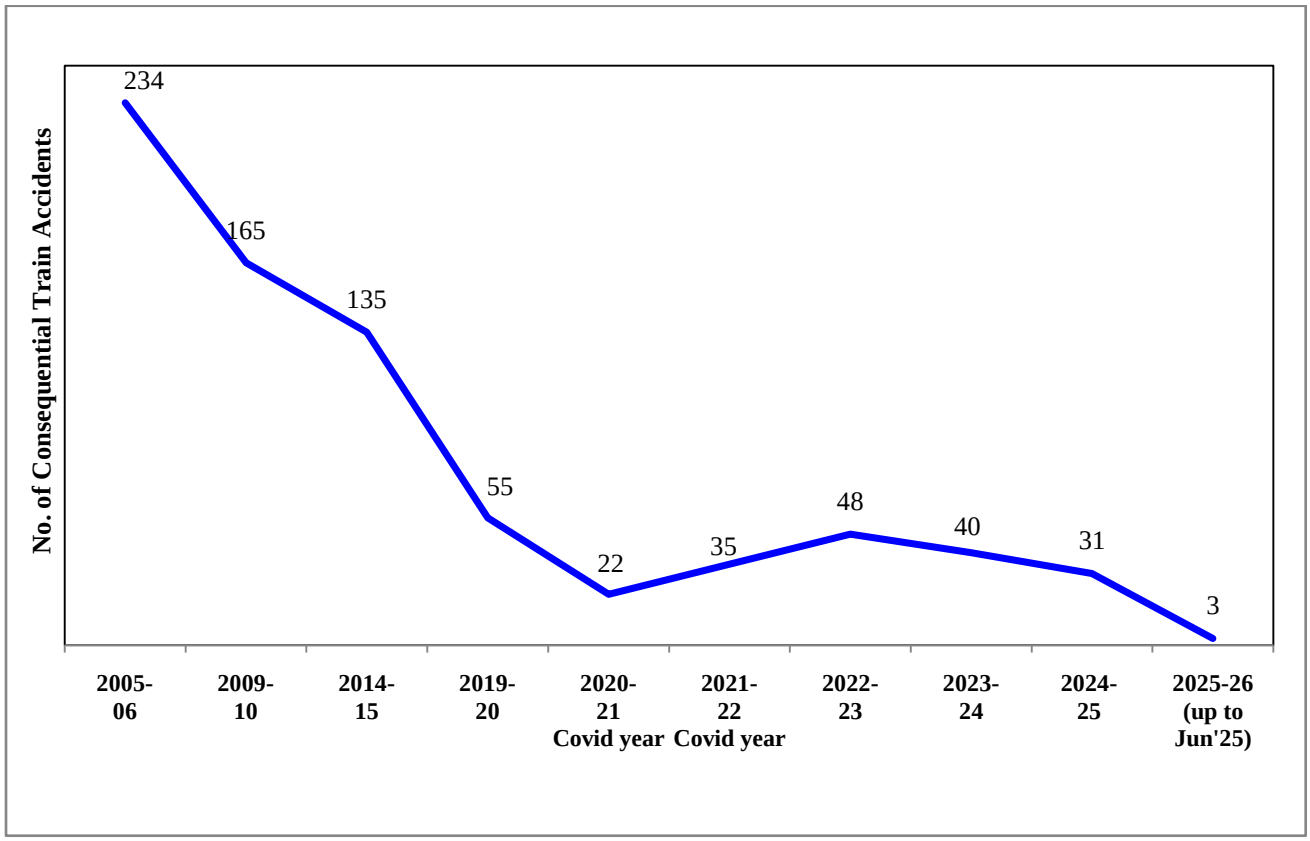
(a) to (h): Safety is accorded the highest priority on Indian Railways. As a consequence of various safety measures taken over the years, there has

been a steep decline in the number of accidents. Consequential Train Accidents have reduced from 135 in 2014-15 to 31 in 2024-25 as shown in the graph below. The causes of these accidents broadly include track defects, loco/coach defects, equipment failures, human errors etc.

It may be noted that the Consequential Train Accidents during the period 2004-14 was 1711 (average 171 per annum), which has declined to 31 in 2024-25 and further to 3 in 2025-26 (upto June, 2025).

Another important index showing improved safety in train operations is Accidents Per Million Train Kilometer (APMTKM) which has reduced from 0.11 in 2014-15 to 0.03 in 2024-25, indicating an improvement of approx. 73% during the said period.

The number of consequential train accidents during the last five years are depicted in the Graph below.



Consequential Train Accidents on Indian Railways and casualties (including railway passengers and railway personnel) therein are as follows:-

Period	No. of Consequential Train Accidents	No. of Deaths	No. of Injuries
2004-05 to 2013-14	1,711	904	3,155
2014-15 to 2023-24	678	748	2,087

Total cost of damages to railway properties in consequential train accidents during the last five years has been about Rs 432.91 Cr.

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:-

Expenditure on Safety related activities (Rs. in Cr.)					
	2013-14 (Act.)	2022-23 (Act.)	2023-24 (Act.)	RE 2024-25	BE 2025-26
Maintenance of Permanent Way & Works	9,172	18,115	20,322	21,800	23,316
Maintenance of Motive Power and Rolling Stock	14,796	27,086	30,864	31,540	30,666
Maintenance of Machines	5,406	9,828	10,772	12,112	12,880
Road Safety LCs and ROBs/ RUBs	1,986	5,347	6,662	8,184	7,706
Track Renewals	4,985	16,326	17,850	22,669	22,800
Bridge Works	390	1,050	1,907	2,130	2,169
Signal & Telecom Works	905	2,456	3,751	6,006	6,800
Workshops Incl. PUs and Misc. expenditure on Safety	1,823	7,119	9,523	9,581	10,134
Total	39,463	87,327	1,01,651	1,14,022	1,16,470

2. Electrical/Electronic Interlocking Systems with centralized operation of points and signals have been provided at 6,635 stations up to 30.06.2025 to reduce accident due to human failure.

3. Interlocking of Level Crossing (LC) Gates has been provided at 11,096 level Crossing Gates up to 30.06.2025 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 6,640 stations up to 30.06.2025.

5. Kavach is a highly technology intensive system, which requires safety certification of highest order. Kavach was adopted as a National ATP system in July 2020. Kavach is provided progressively in phased manner. Kavach has already been deployed on 1548 RKm on South Central Railway and North Central Railway. Presently, the work is in progress on Delhi-Mumbai and Delhi-Howrah corridors (approximately 3000 RKm). Track side works on these routes have been completed on about 2200 RKm as on 30.06.2025. Regular trials are being done on these sections.

6. 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.

7. System of disconnection and reconnection for S&T equipment as per protocol has been re-emphasized.

8. All locomotives are equipped with Vigilance Control Devices (VCD) to improve alertness of Loco Pilots.

9. 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.

10. **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.**
11. **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.**
12. **Mechanisation of track laying activity through use of track machines like PQRS, TRT, T-28 etc. to reduce human errors.**
13. **Maximizing supply of 130m/260m long rail panels for increasing progress of rail renewal and avoiding welding of joints, thereby improving safety.**
14. **Ultrasonic Flaw Detection (USFD) testing of rails to detect flaws and timely removal of defective rails.**
15. **Laying of longer rails, minimizing the use of Alumino Thermic Welding and adoption of better welding technology for rails i.e., Flash Butt Welding.**
16. **Monitoring of track geometry by OMS (Oscillation Monitoring System) and TRC (Track Recording Cars).**
17. **Patrolling of railway tracks to look out for weld/rail fractures.**
18. **The use of Thick Web Switches and Weldable CMS Crossing in turnout renewal works.**
19. **Inspections at regular intervals are carried out to monitor and educate staff for observance of safe practices.**
20. **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.**

21. Detailed instructions on issues related with safety of Track, e.g. integrated block, corridor block, worksite safety, monsoon precautions, etc. have been issued.

22. Preventive maintenance of railway assets (Coaches & Wagons) is undertaken to ensure safe train operations.

23. Replacement of conventional ICF design coaches with LHB design coaches is being done.

24. All unmanned level crossings (UMLCs) on Broad Gauge (BG) route have been eliminated by January 2019.

25. 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.

26. 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.

27. 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.

28. Regular counselling and training of staff is undertaken.

29. 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:-

S.N.	Item	2004-05 to 2013-14	2014-15 to 2024-25 (till March 25)	2014-25 Vs. 2004-14
	Technological improvements			
1.	Use of high-quality rails (60 Kg) (Km)	57,450 Km	1.43 Lakh Km	More than 2 times
2.	Longer Rail Panels (260m) (Km)	9,917 Km	77,522 Km	Nearly 8 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 31.03.25: 25,939	288 times
5.	Thick Web Switches (Nos.)	Nil	28,301 Nos.	
	Better maintenance practices			
1.	Primary Rail Renewal (Track Km)	32,260 Km	49,941 Km	1.5 times
2.	USFD (Ultra Sonic Flaw detection) Testing of Welds (Nos.)	79.43 Lakh	2 Crore	More than 2 times
3.	Weld failures (Nos.)	In 2013-14: 3699 Nos.	In 2024-25: 370 Nos.	90 % reduction
4.	Rail fractures (Nos.)	In 2013-14: 2548 Nos.	In 2024-25: 289 Nos.	More than 88% reduction
	Better infrastructure and Rolling stock			
1.	New Track KM added (Track km)	14,985 Nos.	34,428 Km	More than 2 times
2.	Flyovers (RoBs)/ Underpasses (RUBs) (Nos.)	4,148 Nos.	13,808 Nos.	More than 3 times
3.	Unmanned Level crossings (nos.) on BG	As on 31.03.14: 8948	As on 31.03.24: Nil (All eliminated by 31.01.19)	Removed
4.	Manufacture of LHB Coaches (Nos.)	2,337 Nos.	42,677	More than 18 times

Indian Railways continuously upgrades and modernises its signalling system to enhance safety. In this regards some of the steps taken are as follows:-

1. **Electrical/Electronic Interlocking Systems with centralized operation of points and signals in place of old mechanical signalling have been provided at 6635 stations as on 30.06.2025.**
2. **Complete Track Circuiting of stations to enhance safety for verification of track occupancy by electrical means has been provided at 6640 stations upto 30.06.2025.**
3. **Interlocking of Level Crossing Gates (LC) has been provided at 11096 Level Crossing Gates upto 30.06.2025 for enhancing safety at LC Gate.**
4. **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 30.06.2025.**
5. **Indian Railways has also gone for implementation of advance technology system "Kavach" as an Automatic Train Protection (ATP) system.**

   i. **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).**

   ii. **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.**

   iii. **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.**

iv. Kavach was adopted as National ATP system in July 2020.

v. 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.

vi. Based on deployment of Kavach version 3.2 on1465 RKm on south central Railway, a lot of experience was gained. Using that further improvements were made. Finally, Kavach specification version 4.0 was approved by RDSO on 16.07.2024.

vii. 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.

viii. 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.

ix. Progress of Key items comprising Kavach system on Indian Railways upto 14.07.25 is as under:-

S. No.	Items	Progress
i.	Laying of Optical Fibre Cable	5856 Km
ii.	Installation of Telecom Towers	619 Nos.
iii.	Provision of Kavach at Stations	708 Nos.

iv.	**Provision of Kavach in Loco**	**1107 Locos**
v.	**Installation of Track side equipment**	**4001 Rkm**

x. Next phase of Kavach implementation is planned as under:-

a. Project for equipping 10,000 Locomotives has been finalized. 69 number of loco sheds have been prepared for equipping with Kavach.

xi. Bids for track side Works of Kavach for approximately 15,000 RKm have been invited covering all GQ, GD, HDN and identified sections of Indian Railways, out of which works of 14847 RKm have been awarded.

xii. The sections mentioned above also pass through the railway routes in state of Kerala.

xiii. 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 30,000 technicians, operators and engineers have been trained on Kavach technology. Courses have been designed in collaboration with IRISET.

<u>Infrastructure Projects</u>:-

Railway projects are surveyed/ sanctioned/executed Zonal Railway wise. Zonal Railway wise details of Railway projects are made available in public domain on Indian Railway's website.

As on 01.04.2025, 06 projects (02 New Lines and 04 Doubling), of a total length of 266 km, costing 9,415 crore, falling fully/partly in Kerala, are sanctioned, out of which 26 km length has been commissioned and an expenditure of `3,250 crore has been incurred upto March' 2025. The summary is as under:-

Category	No of sanctioned Projects	Total Length NL/DL (in Km)	Length Commissioned till Mar'25 (in Km)	Total Exp upto Mar'25 (` in Cr)
New Lines	2	146	0	3,864
Doubling / Multitracking	4	120	26	5,551
Total	6	266	26	9,415

Budget allocation for infrastructure projects and safety works, falling fully/partly in the State of Kerala is as under:-

Period	Outlay
2009-14	₹372 crore/year
2025-26	₹3,042 crore (more than 8 times)

Execution of important infrastructure projects falling fully/partly in the State of Kerala are held up due to delay in land acquisition. Status of land acquisition in the State of Kerala is as under:-

Total Land required for Projects in Kerala	476 Ha
Land Acquired	73 Ha (15%)
Balance Land to be acquired	403 Ha (85%)

Government of India is geared up to execute projects, however success depends upon the support of Government of Kerala. Railway had deposited ₹2,111.83 crore for land acquisition to Government of Kerala. Support of the Government of Kerala is needed to expedite the land acquisition. For instance, details of some major projects which are delayed due to land acquisition are as under:-

S. No.	Name of the project	Total land required (in Ha)	Land acquired (in Ha)	Balance Land to be acquired (in Ha)
1.	Angamali - Sabarimala new line (111 Km)	416	24.4	391.6
2.	Ernakulam – Kumbalam Patch Doubling (8 Km)	4.2	3.55	0.65

3.	Kumbalam - Turavur Patch Doubling (16 Km)	10.3	9.63	0.67
4.	Trivandrum – Kanyakumari Doubling (87 Km)	41	35.67	5.33
5.	Shoranur – Vallathol Doubling (10 Km)	4.77	0	4.77

Other factors influencing the completion of the projects include 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/s 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.

Station Redevelopment:-

Ministry of Railways has launched Amrit Bharat Station Scheme for development/upgradation of stations over Indian Railways. So far, 1337 stations have been identified for development under Amrit Bharat Station Scheme, out of which 35 stations are located in the state of Kerala. The names of stations identified for development under Amrit Bharat Station Scheme in the state of Kerala are as following:-

State	No. of Amrit Stations	Names of Amrit Stations
Kerala	35	Alappuzha, Angadippuram, Angamali For Kaladi, Chalakudi, Changanassery, Chengannur, Chirayinikil, Ernakulam, Ernakulam Town, Ettumanur, Ferok, Guruvayur, Kannur, Kasargod, Kayankulam Jn, Kollam Jn (Quilon), Kozhikode Main (Calicut), Kuttippuram, Mavelikara, Neyyattinkara, Nilambur Road, Ottappalam, Parappanangadi, Payyanur, Punalur, Shoranur Jn., Thalassery, Thiruvananthapuram Central, Thrisur, Tirur, Tiruvalla, Tripunithura,

		Vadakara, Varkala Shivagiri, Wadakancheri

Development works at railway stations under Amrit Bharat Station Scheme in the state of Kerala have been taken up at a good pace. Till now Phase – I works of Chirayinkeezh and Vadakara stations in the state of Kerala have been completed under this scheme.

Amrit Bharat Station Scheme envisages improving amenities at the stations like improvement of station access, circulating areas, waiting halls, toilets, lift/escalators as necessary, platform surfacing and cover over platform, cleanliness, free Wi-Fi, kiosks for local products through schemes like 'One Station One Product', better passenger information systems, executive lounges, nominated spaces for business meetings, landscaping, etc. keeping in view the necessity at each station.

The scheme also envisages improvement of building, integrating the station with both sides of the city, multimodal integration, amenities for Divyangjans, 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.

Development / Redevelopment / Upgradation / Modernisation of stations on Indian Railways is a continuous and ongoing process and works in this regard are undertaken as per requirement, subject to inter-se priority of the statons and availability of funds.

Kerala is covered under Southern Railway. The fund allocation to Southern Railway for development and maintenance of stations under Plan Head-53 'Customer Amenities', for the last 5 years including the current year is as follows:-

(fig. in Cr. of Rupees)

Year	2021-22 (RE)	2022-23 (RE)	2023-24 (RE)	2024-25 (RE)	2025-26 (BE)
Allocation	218	431	563	1,098	1,122

Development / Redevelopment / Upgradation / Modernisation of railway stations is complex in nature involving safety of passengers & trains and requires various statutory clearances such as fire clearance, heritage, tree cutting, air-port 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. Therefore, no time frame can be indicated at this stage.

Level Crossings/Road Over Bridges (ROB) and Road Under Bridges (RUB):-

All Unmanned level crossings (UMLCs) on running lines of Broad Gauge (BG) network of Indian Railway including in Kerala have been eliminated by 31.01.2019. As on 01.04.2024, there are total 378 Nos. Manned Level Crossings (MLCs) in the State of Kerala.

Sanctioning and execution of works of Road Over Bridges/ Road Under Bridges (ROBs/RUBs) in lieu of LCs is a continuous and ongoing process on Indian Railways. Such works are prioritized and taken up on the basis of its impact on safety and mobility in train operations and impact on road users.

No. of ROBs/RUBs constructed on Indian Railways during the period 2004-14 vis-a-vis 2014-25 is as under:-

Period	ROBs/RUBs constructed
2004-14	4,148
2014-26 (upto June'25)	13,426 (including 118 Nos. in the state of Kerala)

As on 01.04.2025, 4,402 Nos. ROBs/ RUBs are sanctioned at the cost of Rs. 1,00,860 Cr. on Indian Railways including 140 Nos. Road Over Bridges / Road Under Bridges at the cost of Rs. 4,837 crore in the State of Kerala, which are at various stages of planning and execution. Out of 140 Nos. ROBs/RUBs in the state of Kerala, 132 Nos. ROBs/RUBs are sanctioned in lieu of LCs.

Completion and commissioning of ROB/RUB works depend on various factors like cooperation of State Governments in giving consent for closure of LCs, fixing of approach alignment, approval of General Arrangement Drawing (GAD), land acquisition, removal of encroachments, 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 determine the completion time of the projects / works.

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