

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS

RAJYA SABHA
UNSTARRED QUESTION NO. 589
ANSWERED ON 26.07.2024

OVERBURDEN OF RAILWAY SYSTEM

589 SHRI K.R. SURESH REDDY:

Will the Minister of RAILWAYS be pleased to state:

- (a) whether Government is aware that the railway system in the country often operates under heavy burden, with overcrowded trains and congested networks; and
- (b) if so, the details of the remedial steps that have been taken/ proposed to be taken by Government keeping in view the fact that lack of modernisation and stress on speed increases the risk of train accidents and jeopardizes passenger safety?

ANSWER

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

(SHRI ASHWINI VAISHNAW)

(a) and (b) A Statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) AND (b) OF UNSTARRED QUESTION NO. 589 BY SHRI K.R. SURESH REDDY ANSWERED IN RAJYA SABHA ON 26.07.2024 REGARDING OVERBURDEN OF RAILWAY SYSTEM

(a) and (b) To cater to the travelling needs of passengers, Indian Railways (IR), operates various types of regular time-tabled trains e.g. Suburban, short distance Passenger trains, long distance/Mail/Express/ Superfast trains with different composition catering to different segments of passengers. To provide additional accommodation to travelling passengers, IR operates Special train services during festivals, holidays, etc. and also augments the load of trains, both on permanent and temporary basis, to meet the additional demand. These are on-going processes. To provide greater accommodation for the passengers using General and non-AC Sleeper Coaches, the extant policy regarding composition of Mail/Express trains, provide for 12 (Twelve) General class & Sleeper class non- AC coaches and 08 (eight) AC-Coaches, in a train of 22 coaches. Of the total number of Coaches being presently utilised for running of train services, two-third are non-AC, and one-third are AC variants.

As a part of modernisation, IR have inducted modern LHB (Linke Hofmann Busch) coaches which are very safe and fitted with various safety equipment to enhance safety of travelling passengers and have higher speed potential and comfortable journey. Further, Vande Bharat services with modern technology are also equipped with advanced technology, safety features and higher speeds have been introduced on the IR network for safety and comfortable journey of travelling passengers.

Further, Amrit Bharat services, which have modern State-of the Art technology and are equipped with advanced features like Semi-Permanent couplers for jerk free travel, horizontal sliding windows, foldable snack table and bottle holders, mobile holders etc., have also been introduced. These services, which are fully non-AC trains, presently comprising 12 Sleeper Class Coaches and 8 General Class coaches, are providing high quality services to the passengers. Indian Railways have also planned to manufacture 10,000 Non-AC coaches which includes General and Sleeper class coaches.

Safety is accorded the highest priority on Indian Railways. The various safety measures taken to enhance safety in train operations are as under:-

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

Year	Expenditure (in ₹ crores)
2022-23	87,336
2023-24	98,414 (RE)
2024-25	1,08,795 (BE)

2. Electrical/Electronic Interlocking Systems with centralized operation of points and signals have been provided at 6,589 stations up to 30.06.2024 to eliminate accident due to human failure.
3. Interlocking of Level Crossing (LC) Gates has been provided at 11,048 level Crossing Gates up to 30.06.2024 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 6,609 stations up to 30.06.2024.
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 has so far been deployed on 1465 Route km and 144 locomotives (including Electric Multiple Unit rakes) on South Central Railway. Kavach is provided progressively in phased manner.
6. 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 6079 Block Sections upto 30.06.2024.
7. A project for provision of Long Term Evolution (LTE) based Mobile Train Radio Communication system has been approved for 34,803 Rkms over Indian Railways.
8. The project for provision of Tunnel Communication has been taken up in various zonal Railways.
9. Emergency talk-back system and Emergency Alarm Systems have been provided in Vande Bharat Train sets.
10. CCTVs have been provided in all Vande Bharat Express coaches. Till date more than 9572 coaches are equipped with CCTV.
11. 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.
12. System of disconnection and reconnection for S&T equipment as per protocol has been re-emphasized.
13. All locomotives are equipped with Vigilance Control Devices (VCD) to improve alertness of Loco Pilots.
14. 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.

15. 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.
16. Modern track structure consisting of 60kg, 90 Ultimate Tensile Strength (UTS) rails, Prestressed Concrete Sleeper (PSC) Normal/Wide base sleepers with elastic fastening, fanshaped layout turnout on PSC sleepers, Steel Channel/H-beam Sleepers on girder bridges is used while carrying out primary track renewals.
17. Mechanisation of track laying activity through use of track machines like PQRS, TRT, T-28 etc to reduce human errors.
18. Maximizing supply of 130m/260m long rail panels for increasing progress of rail renewal and avoiding welding of joints, thereby improving safety.
19. Ultrasonic Flaw Detection (USFD) testing of rails to detect flaws and timely removal of defective rails.
20. Laying of longer rails, minimizing the use of Alumino Thermic Welding and adoption of better welding technology for rails i.e. Flash Butt Welding.
21. Monitoring of track geometry by OMS (Oscillation Monitoring System) and TRC (Track Recording Cars).
22. Patrolling of railway tracks to look out for weld/rail fractures.
23. The use of Thick Web Switches and Weldable CMS Crossing in turnout renewal works.
24. Inspections at regular intervals are carried out to monitor and educate staff for observance of safe practices.
25. 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.
26. Detailed instructions on issues related with safety of Track e.g. integrated block, corridor block, worksite safety, monsoon precautions etc. have been issued.
27. Preventive maintenance of railway assets (Coaches & Wagons) is undertaken to ensure safe train operations.
28. Replacement of conventional ICF design coaches with LHB design coaches is being done.
29. All unmanned level crossings (UMLCs) on Broad Gauge (BG) route have been eliminated by January 2019.
30. 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.

31. 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.
32. 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.
33. Regular counselling and training of staff is undertaken.
34. 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 undertaken by Railways are tabulated below:

SN	Item	2004-05 to 2013-14	2014-15 to 2023-24	2014-24 vs 2004- 14
	Track Maintenance			
1.	Expenditure on Track Renewal (Rs. in Cr.)	47,018	1,09,659	2.33 times
2.	Rail Renewal Primary (Track Km)	32,260	43,335	1.34 times
3.	Use of high-quality rails (60 Kg) (Km)	57,450	1,23,717	2.15 times
4.	Longer Rail Panels (260m) (Km)	9,917	68,233	6.88 times
5.	USFD (Ultra Sonic Flaw detection) Testing of Rails (Track km)	20,19,630	26,52,291	1.31 times
6.	USFD (Ultra Sonic Flaw detection) Testing of Welds (Nos.)	79,43,940	1,73,06,046	2.17 times
7.	New Track KM added (Track km)	14,985	31,180	2.08 times
8.	Weld failures (Nos.)	In 2013-14: 3699	In 2023-24: 481	87% reduction
9.	Rail fractures (Nos.)	In 2013-14: 2548	In 2023-24: 383	85% reduction
10	Thick Web Switches (Nos.)	Nil	21,127	

11	Track Machines (Nos.)	As on 31.03.14 = 748	As on 31.03.24 = 1,661	122% increase
Level Crossing Gate Elimination				
1.	Elimination of Unmanned Level Crossing Gates (Nos.)	As on 31.03.14: 8948	As on 31.03.24: Nil (All eliminated by 31.01.19)	100% reduction
2.	Elimination of Manned Level Crossing Gates (Nos.)	1,137	7,075	6.21 Times
3.	Road over Bridges (RoBs)/ Road under Bridges (RUBs) (Nos.)	4,148	11,945	2.88 Times
4.	Expenditure on LC Elimination	5,726	36,699	6.40 Times
Bridge Rehabilitation				
1.	Expenditure on Bridge Rehabilitation (Rs. in Cr.)	3,919	8,008	2 Times
Signalling Works				
1.	Electronic Interlocking (Stations)	837	2,964	3.52 times
2.	Automatic Block Signaling (Km)	1,486	2,497	1.67 times
3.	Fog Pass Safety Devices (Nos.)	As on 31.03.14: 90	As on 31.03.24: 19,742	219 times
Rolling Stock				
1.	Manufacture of LHB Coaches (Nos.)	2,337	36,933	15.80 times
2.	Provision of Fire and Smoke Detection System in AC coaches (Nos. of Coaches)	0	19,271	
3.	Provision of Fire Detection and Suppression System in Pantry and Power Cars (Nos. of Coaches)	0	2,991	
4.	Provision of Fire Extinguishers in Non –AC coaches (Nos. of Coaches)	0	66,840	
Budget allocation				
1	Gross Budgetary Support for Railway Investment (Rs. in Cr.)	1,56,739	8,25,967	5.3 times
