GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS

RAJYA SABHA
UNSTARRED QUESTION NO. 2999
ANSWERED ON 20.12.2024

PASSENGER SAFETY IN TRAINS AND AT RAILWAY STATIONS

2999   SHRI JOSE K. MANI

Will the Minister of RAILWAYS be pleased to state:

(a)   the manner in which Government is ensuring passenger safety and security in trains and at railway stations;

(b)   the status of implementing advanced signalling systems and anti-collision devices across railway network; and

(c)   whether there are plans to deploy more security personnel and surveillance systems, especially on vulnerable routes?

ANSWER

MINISTER OF RAILWAYS, INFORMATION & BROADCASTING AND

ELECTRONICS & INFORMATION TECHNOLOGY

(SHRI ASHWINI VAISHNAW)

(a) to (c): 'Police' and 'Public Order' are State subjects under the Seventh Schedule to the Constitution of India and, as such, State Governments are responsible for prevention, detection, registration and investigation of crime and maintaining law and order etc. on Railways through their law enforcement agencies viz. Government Railway Police (GRP)/District Police. However, Railway Protection Force (RPF) supplements the efforts of GRP/District Police to provide better protection and security of passenger area and passengers and for matters connected therewith.

The following steps are being taken by the Railways in coordination with GRP/Local Police for safety and security of passengers in trains and at stations:-

1.   On vulnerable and identified routes/sections, trains are escorted by Railway Protection Force in addition to trains escorted by Government Railway Police of different States daily.

2.   For immediate assistance passengers can make complaint on Rail Madad Portal directly or through Helpline Number 139 (integrated with Emergency Response Support System(ERSS) No.112).

3. Railways are in regular touch with passengers through various social media platforms viz. twitter, facebook, etc. to enhance security of passengers and to address their security concern.

4. Frequent announcements are made through Public Address System to educate passengers to take precautions against theft, snatching, drugging etc.

5. Under 'Meri Saheli' initiative, focused attention has been provided for safety and security of lady passengers travelling alone by long distance trains for their entire journey i.e. from originating station to destination station.

6. Zonal railways have been instructed for deployment of proper combined strength of male & female RPF/RPSF personnel in train escort parties, to the extent possible.

7. State Level Security Committee of Railways (SLSCR) have been constituted for all State/Union Territories under the Chairmanship of respective Director General of Police/Commissioner of States/Union Territories for regular monitoring and review of security arrangements of the Railways.

Safety is accorded highest priority on Indian Railways. The various safety measures taken to enhance safety in train operation 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.)	BE 2024-25
Maintenance of Permanent Way & Works	9,172	18,115	20,322	21,386
Maintenance of Motive Power and Rolling Stock	14,796	27,086	30,864	31,494
Maintenance of Machines	5,406	9,828	10,772	11,864
Road Safety LCs and ROBs/ RUBs	1,986	5,347	6,662	9,980
Track Renewals	4,985	16,326	17,850	17,652
Bridge Works	390	1,050	1,907	2,137
Signal & Telecom Works	905	2,456	3,751	4,647
Workshops Incl. PUs and Misc. expenditure on Safety	1,823	7,119	9,523	9,615
Total	**39,463**	**87,327**	**1,01,651**	**1,08,776**

2. Electrical/Electronic Interlocking Systems with centralized operation of points and signals have been provided at 6,608 stations up to 31.10.2024 to eliminate accident due to human failure.

3. Interlocking of Level Crossing (LC) Gates has been provided at 11,053 level Crossing Gates up to 31.10.2024 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 6,619 stations up to 31.10.2024.

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 is provided progressively in phased manner. Kavach has already been deployed on 1548 RKm on South Central Railway and North Central Railway. Presently, work is in progress on Delhi-Mumbai and Delhi-Howrah corridors (approximately 3000 Route Km). Track side works on these routes have been completed on about 1081 RKm(705RKm on Delhi-Mumbai section and 376 RKm on Delhi-Howrah section). 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 to the 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 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.)	47,038	1,09,577	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 (LC+ROB+RUB)	8,825	41,957	4.75 Times
	Bridge Rehabilitation			
1.	Expenditure on Bridge Rehabilitation (Rs. in Cr.)	3,924	8,255	2.10 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

S N	Item	2004-05 to 2013-14	2014-15 to 2023-24	2014-24 Vs. 2004-14
	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	

The status of implementation of Kavach is as under:

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 train 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 KavachVer 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 on1465RKm on south central Railway, 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.

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 yard, 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. Progress of Key items comprising Kavach system on Indian Railways upto Nov' 2024 is as under:

SN.	Items	Progress
i	Laying of Optical Fibre Cable	5133 Km
ii	Installation of Telecom Towers	540 Nos.
iii	Provision of Kavach at Stations	523 Nos.
iv	Provision of Kavach in Loco	707 Locos
v	Installation of Track side equipment	3434Rkm

10. 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.

   (b) Bids for track side Works of Kavach for approximately 15000 RKm have been invited. It covers all GQ, GD, HDN and Identified sections of Indian Railways.

11. Currently, 3 OEMs are approved for supply of Kavach System. To increase capacity and scale of I implementation, trials and approval of more OEMs are at different stages.

12. Specialized training programme on Kavach are being conducted at centralized training institutes of Indian Railways to impart training to all concerned officials. By now more than 9000 technicians, operators and engineers have been trained on Kavach technology. Courses have been designed in collaboration with IRISET.

Further the deployment of RPF staff in trains is decided based on the vulnerability of the concerned trains/sections, timing, location of the area, threat perception of the hinterland, analysis of past crime of data among others. However, the deployment of RPF staff is assessed regularly and as per existing strength, optimum deployment is made in trains/at stations for prevention of crime in Railways in coordination with GRP. Therefore, the deployment of RPF personnel is dynamic and keeps changing from time to time. Surveillance is kept through CCTV cameras provided in Coaches and at Railway Stations for enhanced security of passengers.

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