

GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS  
**RAJYA SABHA**  
**STARRED QUESTION NO. 163**  
**ANSWERED ON 13.02.2026**

**ROADMAP TO IMPROVE AVERAGE SPEED OF TRAINS**

\*163 SHRI VIVEK K. TANKHA:

Will the Minister of RAILWAYS be pleased to state:

- (a) despite network expansion, electrification and substantial capital investment, the reasons for most Indian passenger and express trains continue to operate at low average speeds, often well below global and even regional benchmarks;
- (b) the key constraints—track quality, signalling systems, congestion or mixed freight- passenger traffic—that prevent achieving an average speed of at least 120 km/h on major routes;
- (c) the number of routes that currently meet the technical standards required for such speeds; and
- (d) the time-bound roadmap prepared by Government to upgrade infrastructure, rationalise timetables and decongest corridors to significantly improve average train speeds across the network?

**ANSWER**

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

(SHRI ASHWINI VAISHNAW)

(a) to (d): A Statement is laid on the Table of the House.

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**STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (d) OF STARRED QUESTION NO.163 BY SHRI VIVEK K. TANKHA ANSWERED IN RAJYA SABHA ON 13.02.2026 REGARDING ROADMAP TO IMPROVE AVERAGE SPEED OF TRAINS**

(a) to (d) Upgradation and improvement of railway tracks and signalling on Indian Railways to increase the speed potential have been carried out in a big way during last 11 years. Improvement of track infrastructure is a continuous and ongoing process over Indian Railways. The following measures are being taken by Indian Railways to upgrade railway tracks, signalling etc.:

- 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. Use of advanced Phased Array technology of testing of rail and welds.
- x. Deployment of Integrated Track Monitoring Systems (ITMS) and Oscillation Monitoring System (OMS) for comprehensive health assessment to ascertain optimal maintenance requirements.
- xi. 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.
- xii. Electrical/Electronic Interlocking Systems with centralized operation of points and signals in place of old mechanical signalling have been provided at 6660 stations as on 31.12.2025.
- xiii. Interlocking of Level Crossing Gates (LC) has been provided at 10097 Level Crossing Gates upto 31.12.2025 for enhancing safety at LC Gate.
- xiv. 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 6142 Block Sections up to 31.12.2025.

- xv. Automatic Block Signalling (ABS) that enhances line capacity within existing track infrastructure has been provided at 6625 Route km upto 31.12.2025.
- xvi. Indian Railways has also gone for implementation of indigenously developed Automatic Train Protection (ATP) system which required safety certification of highest order. Kavach has also been adopted as a National AT system in July 2020. 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) & Ahmedabad - Vadodara - Virar section (432 Rkm) and on the Delhi - Howrah route on Gaya - Saramatan (93 Rkm) and Bardhaman - Howrah section (105 Rkm).
- xvii. Complete Track Circuiting of stations to enhance safety by verification of track occupancy by electrical means has been provided at 6,665 stations up to 31.12.2025.
- xviii. All unmanned level crossings (UMLCs) on Broad Gauge (BG) route have been eliminated by January 2019.

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 2013-14 vis-a-vis 2025-26 are as under:

Sectional Speed (kmph)	2013-14		2025-26 (up to Jan'26)	
	Track Km	%	Track Km	%
<b>130 &amp; above</b>	5,036	6.3	23,477	22.2
<b>110 - 130</b>	26,409	33.3	61,711	58.4
<b>&lt; 110</b>	47,897	60.4	20,484	19.4
<b>Total</b>	79,342	100	1,05,672	100

On Indian Railways, the average speed of the train services is dependent inter alia on the Maximum Permissible Speed (MPS) of the sections, track structure, geometry along the route including gradients and curves, topographical conditions, number of stoppages enroute, line capacity utilisation of sections, maintenance works in the section etc. Accordingly, the train services have been charted at the Maximum Permissible Speed of the respective sections over which the trains are being operated. Further, speeding-up of train services is an on-going process on Indian Railways.

The details of the 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	2014-25 Vs. 2004-14
<b>Technological Improvements</b>				
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 Nos.	288 times
5.	Thick Web Switches (Nos.)	Nil	28,301 Nos.	
<b>Better Maintenance Practices</b>				
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
<b>Better Infrastructure and Rolling Stock</b>				
1.	New Track KM added (Track Km)	14,985 Km	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: 8,948	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

To improve capacity of existing network, several capacity enhancement/ augmentation survey/ works have been sanctioned by railways. These works include multi-tracking, rail flyovers, by pass lines, yard remodelling works 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.

Zone-wise/year-wise details of all Railway projects are made available in public domain on Indian Railway's website.

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)

During last 3 years (2022-23, 2023-24, 2024-25) and current Financial Year 2025-26, 973 no. Surveys (291 New line, 13 Gauge Conversion and 669 Doubling) of total length 66,639 Km have been sanctioned across Indian Railways.

Sanction of any railway project depends upon many parameters/ factors which include the following:

- Anticipated traffic projections and remunerativeness of the proposed route
- First and last mile connectivity provided by the project
- Connection of missing links and providing additional route
- Augmentation of congested/saturated lines
- Demands raised by State Governments/Central Ministries/Public representatives,
- Railway's operational requirements
- Socio-economic considerations
- Overall availability of funds

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