NHSRCL
National High Speed Rail Corporation Ltd.

Mumbai-Ahmedabad Bullet Train Project
Bharat ka Garv

INDIA'S FIRST BULLET TRAIN PROJECT

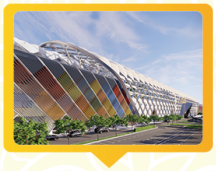
A JOURNEY INTO THE FUTURE

India's First Bullet Train Project - the **Mumbai - Ahmedabad High Speed Rail corridor**, spanning across 508 kilometres, will offer fast connectivity between Maharashtra and Gujarat states in western India.

After starting from Bandra Kurla Complex (BKC) area in Maharashtra, the high-speed train running at a speed of 320 km/h will revolutionise intercity travel in the region and will integrate the economies of Mumbai, Vapi, Surat, Anand-Nadiad, Vadodara & Amdavad. It would provide high speed rail connectivity to industrial towns of Boisar, Bharuch & Ankleshwar and upcoming Vadhvan Port (through Boisar Station). It will have stops at 10 cities in between namely Thane, Virar, Boisar, Vapi, Bilimora, Surat, Bharuch, Vadodara, Anand-Nadiad, Amdavad and will terminate at Sabarmati.

The entire journey will be completed in about 2 hours 7 minutes with limited stops (at Surat, Vadodara and Amdavad), which is substantially less than the time taken by conventional trains or road journeys.

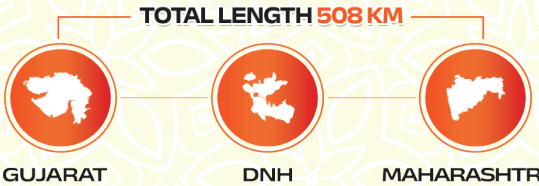
MUMBAI-AHMEDABAD BULLET TRAIN PROJECT



12 Stations
(8 Gujarat,
4 Maharashtra)

J-Slab
Track System

High Speed Rail
Multi Modal Hub,
Sabarmati



3 Rolling Stock
Depots

8 Maintenance
Centres

HSR Training Institute
in Vadodara

National High-Speed Rail Corporation Limited (NHSRCL) implementing this project was incorporated on 12th February 2016 under the Companies Act, 2013 with an object to finance, construct, maintain and manage the High Speed Rail Corridor in India. The Company has been modelled as 'Special Purpose Vehicle' in the joint sector with equity participation by Central Government through Ministry of Railways and two State Governments viz. Government of Gujarat and Government of Maharashtra.

The estimated cost of the project is INR 1,08,000 crore (USD 17 billion) excluding taxes and being executed with Official Development Assistance (ODA) Loan assistance from Japan International Cooperation Agency (JICA).

About 81% of the total cost of the project will be funded by the Government of Japan through JICA. The remaining project cost will be funded by Government of India. According to the equity structure of the Special Purpose Vehicle, 50% is held by the Government of India (GoI), through the Ministry of Railways, and 25% each by the Government of Maharashtra and the Government of Gujarat.

The majority of approved funding for the Mumbai-Ahmedabad Bullet Train project is from the Japan International Cooperation Agency (JICA) through an ODA loan. The tenure of the loan is 50 years with a moratorium of 15 years.

The Project

100% land has been acquired for the project. Out of 1390 hectares earmarked for the corridor, 430 hectares is in Maharashtra and another 960 hectares is in Gujarat and Union Territory of Dadra and Nagar Haveli.

About 90% of the alignment is elevated and is being constructed mainly using the Full Span Launching Method (FSLM). This unique construction method, is being used for the first time in the country. India is one of the few countries in the world to use and master this technique.

FSLM is 10 times faster than the conventional segmental construction technique used for viaduct construction.

28 steel bridges of spans varying between 60 metres and 130 + 100 metres (continuous) have been planned along the length of the corridor spanning over National and State Highways, Irrigation Canals, River and Railway tracks etc.

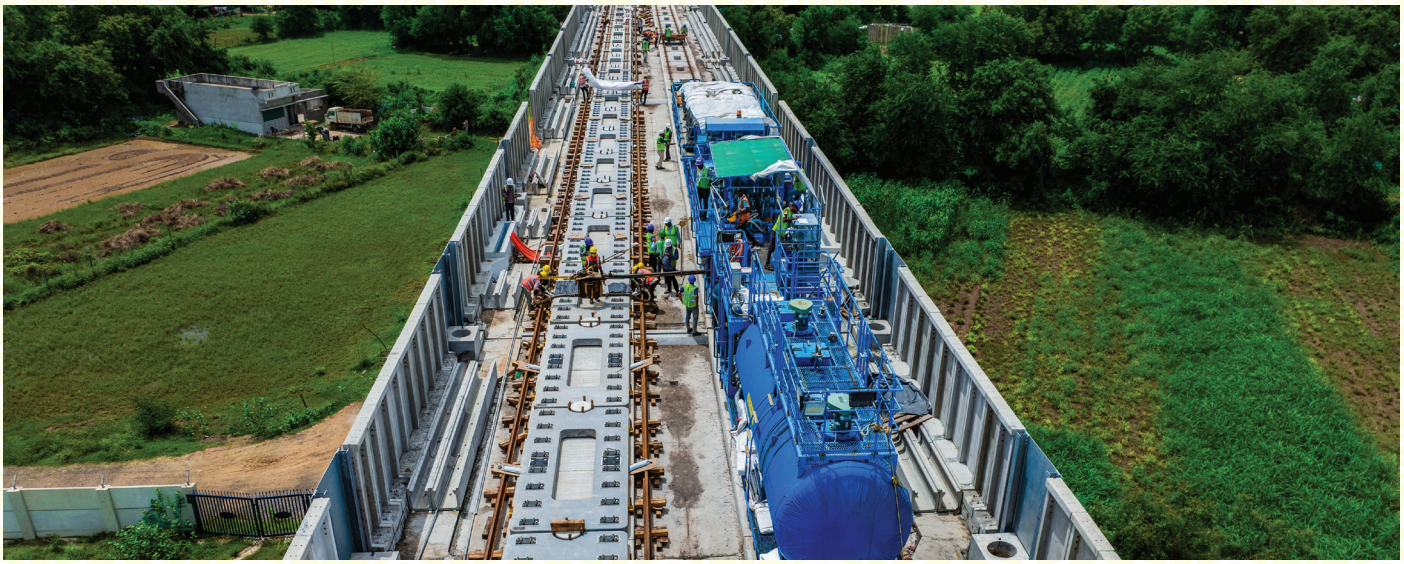
*230 m long **'Make in India'** Steel Bridge over Delhi-Mumbai National Expressway near Vadodara*

In addition, 25 bridges are being constructed on rivers as part of the alignment, of which 21 bridges are located in the state of Gujarat and 4 bridges in the state of Maharashtra.

Bridge on Daman Ganga River, Valsad District

The MAHSR corridor will include 8 mountain tunnels, which will be constructed using the New Austrian Tunneling Method (NATM). Seven of these tunnels are located in the Palghar district of Maharashtra, while one is situated in the Valsad district of Gujarat.

Noise barriers are being installed on the either side of the viaduct, to reduce the noise which will be generated during the operations.



India's First Undersea Rail Tunnel

The alignment features a 21 km long tunnel, including India's first 7 km long undersea tunnel under Thane Creek. This tunnel will be constructed using a combination of two tunneling methods – New Austrian Tunneling Method (NATM) to carve out 5 km of the tunnel and the remaining 16 km through Tunnel Boring Machines (TBM).

A single tube of 13.1 m diameter will carry both the tracks in the tunnel. A cutter head of 13.6 m diameter which is the largest for any railways project in India, is being used for the Tunnel Boring Machines.

Bullet Train Stations - A Gateway to the Future

The design of each of the 12 stations on the MAHSR line will reflect the spirit of the city it is located in. This will bring about an instant connection with the local populace, and promote a sense of ownership of the high-speed rail system. The stations are being designed with contemporary architectural facade and state-of-the-art modern finishes.

Under Construction Surat Bullet Train Station

For a seamless travel experience, the stations on the alignment will be developed as transport hubs through integration with other modes such as metro, buses, taxis and autos for better, faster and hassle-free connectivity to and from the station. Such interface will reduce travel time, enhance accessibility and promote the use of public transportation, thereby decreasing congestion and emissions in our cities.

In order to enhance accessibility & convenience of commuters and to promote economic activities around the station, the surrounding areas are planned to be developed in accordance with the policies of TOD (Transit Oriented Development). The areas around stations at Sabarmati & Surat in Gujarat and Virar & Thane in Maharashtra have also been shortlisted by the respective state authorities for preparation of Station Area Development schemes.

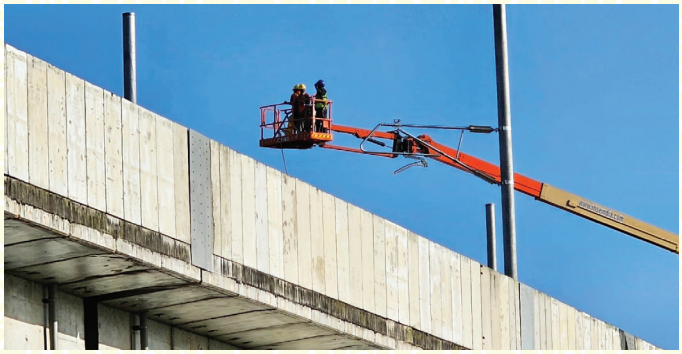
To achieve seamless integration of various transport modes, a multi-modal transit terminal has been constructed connecting Sabarmati Bullet Train station in Gujarat with various modes of transport like Metro, BRTS, Railways etc.

Electrifying Progress for a Faster Tomorrow

The electrification work on the corridor has begun with the installation of steel masts on the viaduct in between Surat- Bilimora Bullet Train stations in Gujarat.

Over 20,000 masts, ranging from 9.5 to 14.5 meters in height are to be installed along the corridor. These masts will support the Overhead Equipment (OHE) system, including overhead wires, earthing systems, fittings, and associated accessories, forming the complete 2x25 kV overhead traction system for the MAHSR corridor suitable to run Bullet Train. The OHE cantilevers based on Japanese Shinkansen system are being installed along the viaduct. A network of Traction Substation (TSS) and Distribution Substation (DSS) for power supply transmission line are under construction along the MAHSR alignment.

Promoting Make in India policy, these OHE masts conforming to Japanese standard design and specifications are manufactured in India and would support the overhead traction system for high-speed trains.



Installation of OHE cantilevers on Viaduct

Laying the Rails of the Future

The J-Slab track system of ballastless track based on the Japanese Shinkansen track technology is being used for the project. This is for the first time, the J-slab ballastless track system is being used in India.

The entire process of track installation is mechanized with cutting edge machinery especially designed and manufactured as per Japanese specifications. The fleet of machines such as Rail Feeder Car, Track Slab Laying Car, CAM Laying Car and Flash Butt Welding Machine, will be used for track construction work. Dedicated Track Construction Bases (TCB) are setup to facilitate track construction including handling of rails, track slabs, machines and equipment on the ground and viaduct. To understand the methodology of Shinkansen track construction works, extensive training and certification courses are being organised for the Indian engineers, work leaders and technicians on various subjects in the relevant fields by Japanese experts.

Comfortable & Safe Ride

The trains for this corridor are state-of-the-art trainsets with consideration of comfort and reliability. The trains are being designed to suit Indian environmental conditions. Three Rolling Stock depots at Sabarmati and Surat in Gujarat and Thane in Maharashtra are under construction.

To meet the energy requirements, 12 traction substations, 2 depot traction substations and 16 distribution substations are being built along the corridor.

SAFETY SYSTEMS
in Bullet Train Project

- Rail Temperature Monitoring
- Early Earthquake Detection
- Wind Speed Monitoring
- Rainfall Monitoring System

Bullet Train Project for a Brighter Future

Bullet Train project is stimulating economic growth by creating jobs during construction and operation, while also attracting investment and revitalising areas around stations. By improving mobility and connectivity, Bullet Train will shorten travel time between cities, enhancing worker productivity and fostering business collaboration.

It also facilitates connectivity between smaller cities without airport infrastructure such as Vapi, Boisar, Bharuch, Anand & Nadiad to major urban centers like Amdavad, Mumbai, Surat and Vadodara contributing to more balanced regional growth. The project resonates with the PM GatiShakti initiative of transforming India's infrastructure and connectivity to build a ***Viksit Bharat, Saksham Bharat & Sashakt Bharat.***

SHAPING THE FUTURE
of Viksit Bharat

- Stimulates economy
- Increases mobility
- Direct and indirect employment opportunities
- Saves businesses, people's time & money
- Catalyst for the next real-estate boom
- Promotes tourism
- Boost to 'Make in India'
- Paves the path for creation of completely new industries

Published By
Public Relations Department
National High Speed Rail Corporation Limited (NHSRCL)
5th to 7th Floors, Tower D, World Trade Centre, Nauroji Nagar, New Delhi-110029
Tel: 011-26700000/01 | **Web:** www.nhsrcl.in

Follow us on:

Scan for more info

April 2026