CONSTRUCTION FEDERATION OF INDIA

NEWSLETTER

CONSTRUCTION INFRASTRUCTURE UPDATES

Monday, April 07, 2025

^ Top

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'New Pamban Bridge': India's First Vertical Lift Railway Sea Bridge — All About It

Swarajya,
April 07, 2025

India has unveiled its first vertical lift sea railway bridge today (6 April), with Prime Minister Narendra Modi inaugurating the New Pamban Bridge in Tamil Nadu.

The date aligns with Ram Navami, adding symbolic significance to what is being hailed as a landmark in India's infrastructure story.

The bridge, connecting Rameshwaram with mainland, carries a deep cultural significance. According to the Ramayana, the construction of Ram Setu was initiated from Dhanushkodi near Rameswaram.

A Century-Old Legacy Gets a Modern Successor

The New Pamban Bridge spans 2.07 kilometres over the Palk Strait, connecting Rameswaram Island to the Indian mainland.

It replaces the original Pamban Bridge, built in 1914 by British engineers, which featured a Scherzer Rolling Lift span and played a vital role in ferrying pilgrims and goods across the narrow channel.

However, over time, the aging bridge struggled to keep up with modern traffic volumes and deteriorated due to the corrosive marine environment.

From Sanction to Reality: India's First Vertical Lift Railway Sea Bridge

In 2019, the Government of India approved the construction of a next-generation replacement.

The result is a state-of-the-art vertical lift bridge developed by Rail Vikas Nigam Limited (RVNL), a Navratna public sector undertaking under the Ministry of Railways.

The bridge combines historical continuity with modern engineering, aiming to boost regional connectivity, accommodate future rail needs, and ensure maritime safety.

Engineering Marvel With a 72.5-Metre Lift Span

At the core of its innovation is a 72.5-metre lift span that can be raised by up to 17 metres, allowing ships to pass safely underneath.

This vertical lift mechanism makes the bridge the first of its kind in India and aligns it with international standards for sea-rail integration.

The structure is built three metres higher than the older bridge, ensuring better clearance for vessels even when the span is not lifted.

Built to Last Over a Century

The substructure has been designed to support two railway tracks, although initially it will carry only one.

Materials used in construction include stainless steel reinforcements, high-grade protective paints, fully welded joints, and a special polysiloxane coating to withstand marine corrosion.

Together, these features are expected to give the bridge a lifespan of over 100 years, with minimal maintenance requirements.

Overcoming Marine Forces With Indigenous Innovation

Constructing the New Pamban Bridge came with significant challenges.

The Palk Strait's strong currents, low shore draft, fishing activity, and proximity to shipping lanes made conventional bridge-building techniques unfeasible.

Engineers adopted a method called the 'Auto Launching Method based on Relationship Principle', devised by Suntech Construction Engineering Consultants and validated by IIT Madras.

This method allowed pier-to-pier launching of the lift span despite site constraints.

Precision Assembly and Seamless Launching

Segments were fabricated off-site, trucked to Pamban, and assembled on a temporary platform using Electric Overhead Traveling Cranes.

Welding was done in specialised huts, and joints were inspected using Phased Array Ultrasonic Testing.

After full assembly, the 448-metre lift span was gradually launched in 90 controlled movements using custom launching girders, guide rollers, hydraulic jacks, and counterweights to ensure precise alignment over a curved trajectory.

1,400 Tons of Fabrication Completed With Zero Injuries

Construction involved over 1,400 tons of fabrication, 99 girder launches, and extensive work on track laying and electrification—much of it carried out directly at sea.

Despite the hazardous conditions, not a single injury was reported during the entire project.

Complex Tower Assembly and Lift Mechanism Integration

Erection of the lift towers was equally intricate. Tower segments were shipped by barge and lifted into place by marine cranes.

A machine room measuring over 21 metres in length and weighing around 100 tons was installed at the top to house the lifting mechanism.

Balanced by 315-ton counterweights on each side, this system ensures seamless and safe vertical movement of the lift span.

Joining the League of Global Landmark Bridges

Beyond engineering excellence, the bridge represents a broader vision—of India positioning itself among nations capable of executing complex infrastructure in harsh geographies.

While different in design, the New Pamban Bridge now shares symbolic space with globally celebrated bridges like the Golden Gate in the US, Tower Bridge in London, and the Øresund Bridge linking Denmark and Sweden.

Tradition Meets Technology

The completion of the bridge is not just a feat of civil engineering. It is a reaffirmation of India's ability to adapt tradition to modern needs while embracing technological progress. As trains pass over and ships glide under, the New Pamban Bridge will stand as a living monument to resilience, innovation, and the seamless interplay between land and sea.

Let me know if you'd like a second version with a sharper, more magazine-style editorial tone or something suited for digital publishing.

^ Top

Delhi Government Approves Major Road Infrastructure Projects To Ease Congestion And Boost Connectivity

Swarajya,
April 07, 2025

The Delhi government has approved the construction of a 5.5 km long elevated road in the Pushta Sonia Vihar area and announced a slew of related infrastructure initiatives, PTI reported.

The elevated corridor, with an estimated cost of Rs 500 crore, aims to improve connectivity in the trans-Yamuna region and offer major relief to daily commuters.

Chief Minister Rekha Gupta has given her nod to the project following a proposal by the Public Works Department (PWD), confirmed PWD Minister Parvesh Verma.

“The local MLA and Minister Kapil Mishra has been pushing for this project. Due to the presence of many trees in the area, we have decided to construct a flyover instead of a conventional road. After discussions with the chief minister, the project has been approved, and work will commence following deliberations with the Flood Department,” said Verma.

The elevated stretch will connect Nanaksar Gurudwara to Shani Mandir near the Uttar Pradesh border. The road is expected to significantly reduce congestion for the thousands who use this route daily.

Karawal Nagar MLA Kapil Mishra, who has long advocated for the project, underlined its importance, “The BJP government is working at a fast pace, and this project is a testament to that. This road has been a major issue for trans-Yamuna residents, and today, we have resolved it. Lakhs of people use this route daily.”

As part of broader infrastructure upgrades, Verma and Mishra inspected the Nanaksar Gurudwara Chowk area in Wazirabad to assess project feasibility and ongoing improvements.

In a parallel development, the Delhi government has also decided to build dedicated road corridors along both sides of the Sahibi river from Dhasa to Wasai Darapur to further improve traffic flow.

Additionally, four key PWD-managed road stretches will be handed over to the National Highways Authority of India (NHAI) for expansion and maintenance.

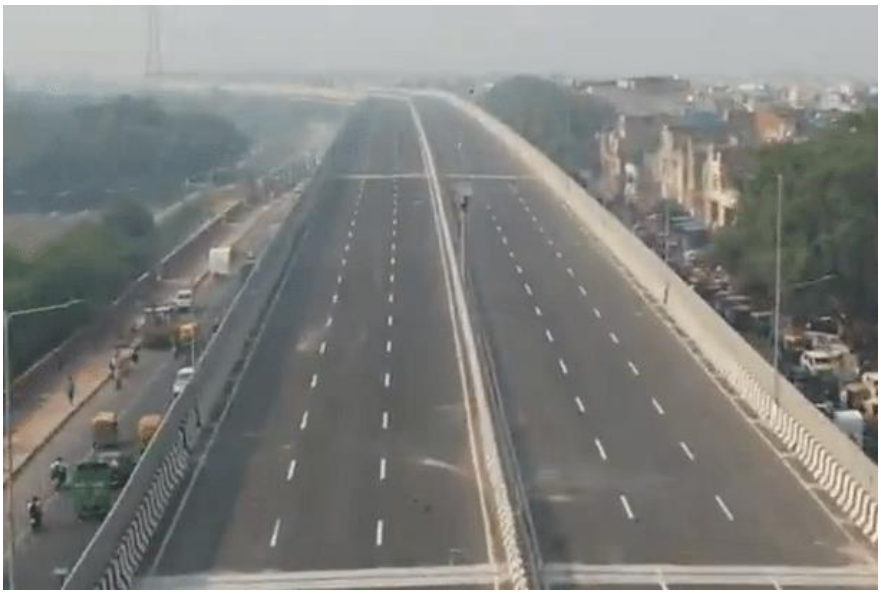
These include the Delhi-Rohtak road or NH-10 (13.2 km from Peeragarhi to Tikri border and 6.8 km from Peeragarhi to Zakhira), NH-2 or Mathura Road (7.5 km from Ali village to Ring Road, Ashram Junction), and an 8 km stretch of NH-148A (MG Road).

Further steps include relocating a police outpost near Dhaula Kuan metro station and creating a dedicated slip road from NH-48 towards Naraina to ease congestion and improve access to IGI Airport and Delhi Cantonment.

“Our government is working relentlessly to make Delhi a modern, well-connected and congestion-free city, with infrastructure that meets global standards,” said Verma.
^ Top

Delhi-Dehradun Expressway: Mandola Land Dispute Has No Impact On Main Route, Clarifies MoRTH

The Economic Times,
April 07, 2025



The Ministry of Road Transport and Highways (MoRTH) has clarified that the land dispute at Mandola in Baghpat district does not affect the main stretch of the upcoming Delhi-Dehradun Expressway.

Addressing recent media reports, the Ministry stated that there is no hindrance to traffic on the expressway itself, and movement along the main corridor remains uninterrupted.

"In reference to the news item carried by some publications regarding private land/structure at Mandola, Bagpat causing hinderance in completion of the upcoming Delhi-Dehradun Expressway. This is to clarify that there is no hindrance on the main Expressway, and it remains unaffected," the ministry said in a statement.

"Two ramps on each side of the Expressway have been provided for entry and exit of the traffic. Out of the four, ramp number 2, 3 & 4 have been completed, and service roads have already been constructed," the ministry said.

According to the ministry, the issue pertains only to a small stretch of 90-meter of the service road adjacent to ramp number 5.

The disputed land parcel near Ramp-5 is currently under legal scrutiny, with the owner having filed a writ petition in the Allahabad High Court (Lucknow Bench).

"The owner of the land parcel on 'Ramp-5' has filed a writ petition in the Hon'ble High Court of Allahabad (Lucknow Bench) and the matter is pending before the Hon'ble Court," the ministry said.

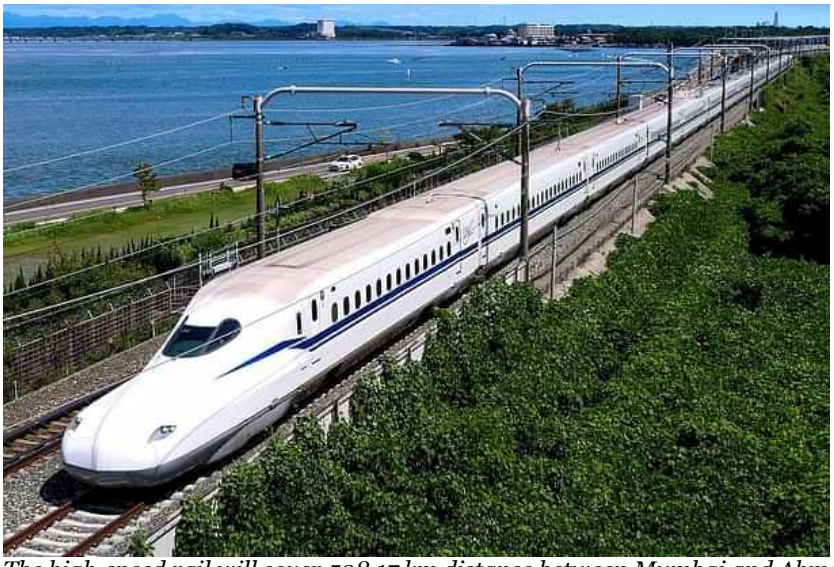
Asserting that there will be no effect of this hinderance on the traffic using the main expressway, the ministry said that only a small part of the service road will be hindered by the disputed land/structure.

"In order to maintain the traffic flow at the location, a temporary bypass arrangement has been made. Vehicles taking the service road and exiting from 'Ramp-5', will be able to take a diversion road through internal road of Mandola Vihar Yojna, ensuring free flow of traffic in this area," the ministry added.

^ Top

Mumbai-Ahmedabad Bullet Train: Kim Bridge Completed, 14 Of 21 River Bridges Now Ready In Gujarat

PTI,
April 07, 2025



The high-speed rail will cover 508.17 km distance between Mumbai and Ahmedabad. (Wikipedia)

Mumbai-Ahmedabad High-Speed Rail project, India's first Bullet Train project, achieved another milestone with the completion of the fourteenth out of 21 river bridges planned in Gujarat.

The bridge, built across the Kim River in Surat district, was completed on 15 March.

The 120-metre-long bridge is located between the Surat and Bharuch Bullet Train stations, approximately 30 km from each.

It consists of three full-span girders of 40 metres each, supported by four circular piers, each 4 metres in diameter.

The height of the piers ranges from 12 to 15 metres.

This section between Surat and Bharuch bullet train stations also includes major river bridges on the Tapi and Narmada, which are currently under construction.

With the Kim River bridge now complete, 14 river bridges on the Gujarat portion of the Mumbai-Ahmedabad High-Speed Rail corridor are ready.

The completed bridges are: Par (Valsad district), Purna (Navsari district), Mindhola (Navsari district), Ambika (Navsari district), Auranga (Valsad district), Venganiya (Navsari district), Mohar (Kheda district), Dhadhar (Vadodara district), Kolak (Valsad district), Vatrak (Kheda district), Kaveri (Navsari district), Kharera (Navsari district) and Meshwa (Kheda district)

Gujarat will have a total of 21 river bridges as part of the 508-km Bullet Train corridor, which continues to make steady progress toward completion.

^ Top

Odisha to Develop 15,000 km Road Network by 2028

Urban Acres,
April 07, 2025

The Odisha government has unveiled a comprehensive infrastructure development plan to construct 15,000 km of roads over the next three years, aiming to complete 6,500 km by the financial year 2025-26. With a projected investment of Rs 2 trillion, the initiative seeks to modernise the state's road network, improve connectivity, and support economic development. The

plan includes the development of both state and national highways, along with critical bridges that will enhance intra-state and inter-state transport links.

Key components of the initiative include the construction of six major road corridors, such as the Jharsuguda-Balasore, Nuapada-Astarang, and Berhampur-Jeypore routes. These will be upgraded to six-lane highways to address existing bottlenecks, streamline traffic, and facilitate the movement of good and people. The proposed infrastructure is expected to support regional development by enabling better access to education, healthcare, and trade opportunities, particularly in remote and underserved areas.

Among the flagship projects is the 287-km Greater Ring Road connecting Berhampur and Jeypore, estimated to cost Rs 90 billion, and the Jeypore-Rourkela road, which will be expanded into a six-lane highway at a cost of Rs 25 billion. To oversee these projects, the state government plans to establish the Odisha State Highways Authority through a dedicated bill, ensuring time-bound and efficient execution.

As Odisha grapples with rapid urbanisation, the expanded road network is expected to alleviate congestion in growing cities like Bhubaneswar and Cuttack, attract investment, and boost tourism. However, the environmental and social impact of such large-scale construction remains a concern, highlighting the importance of sustainable and inclusive development strategies moving forward.
^ Top