

All about the world's tallest rail bridge over Chenab

This bridge, which will provide vital rail link to the Kashmir valley, will be inaugurated by the PM today

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Why is the Chenab Bridge unique?

This bridge has a lot of unique features. First, it is billed as the highest railway arch bridge in the world. It stands 359 metres above the Chenab river and is 1,315 metres in length and has a 467-metre arch. To give a perspective, it is 35 metres higher than the Eiffel Tower in Paris.

The Chenab Bridge is a vital link in the ambitious 272-km Udhampur-Srinagar-Baramulla Rail Link (USBRL) railway project.

This project will link Jammu and Kashmir with the rest of the country through rail.

Prime Minister Narendra Modi will inaugurate the Chenab Bridge on June 6 and flag off Vande Bharat trains between Katra and Srinagar.

Who designed it, what did it cost?

The Chenab Bridge has been built by the Indian Railways at a cost of ₹1,400 crore. The bridge's construction was overseen by the Konkan Railway Corporation. The construction *per se* was done by a joint venture between Afcons Infrastructure,

South Korea's Ultra Construction & Engineering Company and VSL India.

The viaducts and foundation were designed by Finland's WSP Group and the arch was designed by Germany-based Leonhardt Andra and Partners.

The foundation protection was designed by Indian Institute of Science, Bangalore. IIT-Delhi and IIT-Roorkee did the seismic analysis, while IIT-Delhi did the slope analysis.

Defence Research and Development Organisation (DRDO) aided in making the bridge blast-proof.

Around 30,000 tonnes of steel was used for the bridge's construction. SAIL supplied the steel and Mageba, a Swiss company, supplied spherical stopper bearings.

The bridge has a lifespan of 120 years and is designed to handle trains running at 100 km per hour.

How long did it take to construct?

The inauguration of the Chenab Bridge marks the culmination of the USBRL project, which was sanctioned in 1994-95. The initial project cost was put at ₹37,012 crore and it was completed at ₹43,780 crore.

The Chenab Bridge itself was approved in 2003, so it took 22 years to complete, due to the tough and



CHENAB BRIDGE. Engineering marvel on

challenging terrain, topographical constraints and political climate.

Is it critical from a national security perspective?

This bridge is critical from the national security perspective as it will help in transporting security personnel and material to the border areas during times of conflict. This bridge is a vital link that will help the security forces prevent cross-border attacks from happening in the Kashmir valley.

Jammu and Kashmir also borders China on the northern side, a country with which India has had a long-standing border dispute.

How will it help the economy of Kashmir?

The Chenab Bridge is expected to give a huge boost to the economy of J&K. By integrating this region through rail with the rest of the country, this bridge will enable movement of goods by rail. It will also give easier market access to local businesses, especially to markets in central and southern India. Greater economic integration with the rest of the country will also lead to more business opportunities for J&K businesses.

It will particularly benefit the horticulture industry of J&K, especially apple growers who earlier had to rely on road transport to send their produce out of J&K. Speaking to *businessline*, Qazi Touseef, spokesperson for the Kashmir Economic Alliance (KEA), said, "We have been waiting for the completion of this project for many years. It will certainly give a boost to our businesses."

Greater rail connectivity through the Chenab Bridge will also give a boost to the tourist industry with greater inflow of tourists from other parts of India. Tourism plays a vital role in the local economy.

Freight traffic through rail is also expected to increase, improving logistics and trade in the region.