

Vande Bharat Express in Jammu and Kashmir

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What's in today's article?

- **Why in News?**
- **About the Vande Bharat Express**
- **The Vande Bharat Express in Jammu and Kashmir (History, Challenges, Safety and Security, Benefits)**

Why in News?

- According to the Union Railway Ministry, a Vande Bharat Express will run between Jammu and Kashmir soon as the work on the 272-km Udhampur-Srinagar-Baramulla Railway Line (USBRL) is completed.

About the Vande Bharat Express:

- Formerly known as **Train 18**, it is an **electric multiple-unit, low cost, semi-high-speed** train designed by Research Designs & Standards Organisation (**RDSO**), manufactured by the **Integral Coach Factory** (ICF, Chennai) and operated by **Indian Railways**.
 - The cost of a 16-coach Vande Bharat train is about ₹115 crore, while the cost of 8-coach (Mini) train is about ₹70 crore.
- The train has achieved a **maximum speed of 180 km/h** (110 mph) and went into service on 15 February 2019 (New Delhi- Kanpur-Allahabad-Varanasi route).
 - The latest (12 April, 2023) and 15th Vande Bharat Express train will ply between Jaipur and Delhi Cantt railway station.
- It was made with **low-cost maintenance and operational optimisation in mind**.



THE NEW VANDE BHARAT EXPRESS

India's second indigenously built engine-less train will ply between Delhi and Katra

Key Features



Engine-less
self-propelled
train



All air-conditioned
chair car service; 16
coaches



**Stone-pelting
protection** on
windows



CCTV surveillance;
GPS based information
system; WiFi

Vande Bharat VS Shatabdi



130 kmph Speed
of Shatabdi Express

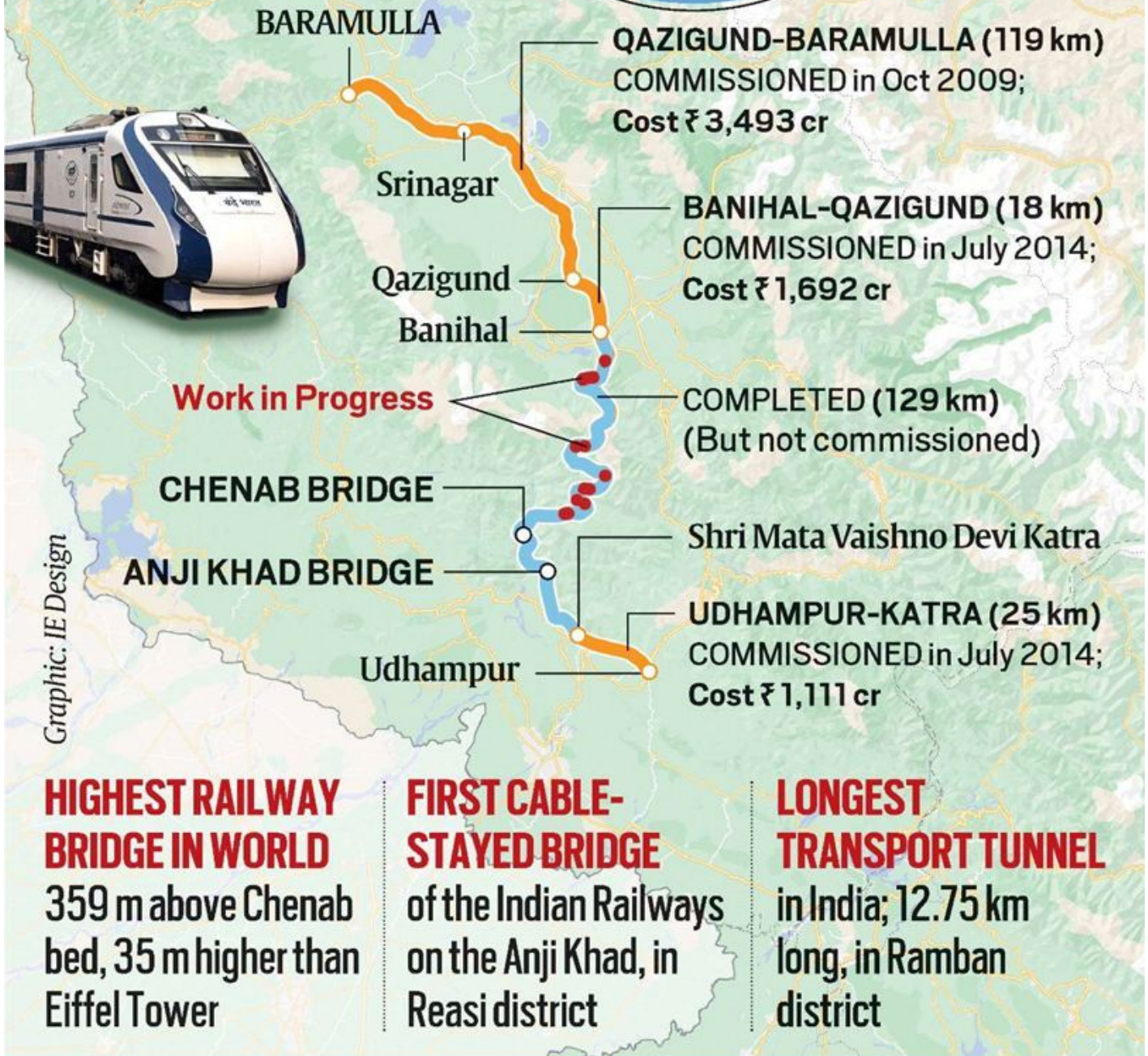
160 kmph Potential
speed of Vande Bharat

The Vande Bharat Express in Jammu and Kashmir:

THE TRAIN TO KASHMIR

KATRA-QAZIGUND SECTION

ESTIMATED COST
₹21,653 cr



38 TUNNELS with combined length 119 km

927 BRIDGES with combined length 13 km

Image Caption: Vande Bharat Express in Jammu and Kashmir

History of the project:

- **The first railway line** in the former princely state of Jammu and Kashmir was built by the British in **1897** over a distance of 40-45 km between Jammu and Sialkot in the plains.
- After Partition, **Sialkot went to Pakistan**, and Jammu was disconnected from the rail network of India.
- **Until the inauguration of the Pathankot-Jammu line in 1975**, the railway station nearest to Jammu and Kashmir was Pathankot in Punjab.
- In **1983**, work began on a railway line between Jammu and Udhampur. The project was completed in 2004 and has 20 major tunnels, and 158 bridges.
- With work underway on the Jammu-Udhampur line, the government approved (1995) the extension of the line from Udhampur to Srinagar, and then Baramulla – **USBRL project** – at an estimated cost of Rs 2,500 crore.
- The project was declared (2002) as a **national project** on account of its being among the most challenging works undertaken by the Indian Railways after Independence, with the project cost now ballooned to **over Rs 35,000 crore**.

Challenges and innovations:

- **The Himalayas are young** and the **geologically unstable** Shivalik Hills and Pir Panjal mountains lie in the **seismically most active Zones IV and V**.
- The terrain, which sees **heavy snow** in winter, presents serious challenges in the construction of **bridges and tunnels**.
- In view of the challenges in the construction, engineers of the Railways devised a novel **Himalayan Tunneling Method (HTM)**.
- Under this, **horseshoe-shaped tunnels were constructed** instead of the usual D-shaped ones.
- The site comes down in a **curve** giving strength to the structure where the soil above it is loose.
- The broad gauge railway line will have **0.5-1% ruling gradient, avoiding the need for bank engines** in a mountainous region.
- The trains will be powered by **diesel locomotives for now**, but there is a provision for electrification in the future.
- Trains can run at speeds up to **100 km/h** for the entire length of the journey.

Safety and security:

- All the major bridges, tunnels, and railway stations will be illuminated and have **CCTV** cameras.
- The track and tunnels have been designed to require **as little maintenance as possible**.

Development benefits:

- It will **bring down the travel time** between Srinagar and Jammu to between three and three-and-a-half hours from the five to six hours that it takes by road currently.
 - It will **provide a reliable and cost-effective all-weather alternative** to the Jammu-Srinagar national highway that is frequently shut down by **landslides**.
 - It will **facilitate hassle-free transport of goods** such as apples, dry fruits, pashmina shawls, handicrafts etc., to other parts of the country in the shortest possible time and at lesser cost.
 - **Four cargo terminals will be built** between Banihal and Baramulla, land has been identified for three of these terminals.
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Q1) What is the Research Designs & Standards Organisation (RDSO)?

It is the R&D organisation (1957, Lucknow) under the Ministry of Railways, which functions as a technical adviser and consultant to the Railway Board, the Zonal Railways, etc., in respect of design and standardisation of railway equipment, etc.

Q2) What are MEMU trains?

On Indian Railways, the Mainline Electric Multiple Unit (MEMUs) are electric multiple unit (EMU) trains that serve short and medium-distance routes in India, as compared to normal EMU trains that connect urban and suburban areas.

Source: [Tracking the train to Kashmir: How the Vande Bharat is set to transform commute in the Valley](#)

Source: <https://vajiramandravi.com/current-affairs/vande-bharat-express-in-jammu-and-kashmir/>

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