



India's widest tunnel that is part of the Mumbai-Nagpur Samruddhi Mahamarg that was opened fully on Thursday. Deepak Joshi

Samruddhi's defining feat is India's widest 8-km twin tunnel through Western Ghats

SIDDHANT KONDISKAR
IGATPURI, JUNE 5

AN IMPORTANT element of the Samruddhi Mahamarg, whose final stretch was formally inaugurated on Thursday, is an 8-kilometre-long twin tunnel, the widest and fourth longest road tunnel in India, constructed by boring through tonnes of solid rock in the Western Ghats.

Commuters currently using the Mumbai-Nashik Expressway must navigate the winding roads of Kasara Ghat. The stretch from Kasara to Igatpuri, covering 19 km, typically takes around 30 minutes, with vehicles climbing steep slopes through sharp bends.

The new twin tunnels, however, eliminates this strenuous journey. This twin-tube road tunnel, 8 kilometres in length and 17.61 metres in width, is the widest road tunnel in the country and the fourth longest by length. It reaches a height of 9.12 metres and allows traffic to bypass the steep Kasara Ghat, reducing travel time between Kasara and Igatpuri to just eight minutes.

According to MSRDC officials, the tunnel was constructed using the New Austrian Tunneling Method (NATM), which involved excavation through solid rock.

Despite challenges posed by the COVID-19 pandemic and lockdowns between March 2020 and May 2021, the tunnelling work was completed within two years in October 2023.

Along with the tunnel, 17 valley type that span 10.56 km, 21.12 km for both lanes, were also built. The longest among them is 2.28 km, which is located just after the Igatpuri tunnel

ends towards the Mumbai side. To make these viaducts, engineers needed to construct piers up to 84 metres high, all this with the persistent challenges of hard rock formations in the valley and adverse weather conditions.

The construction in narrow and windy valleys under monsoon conditions added safety issues for workmen, which was an additional responsibility for the MSRDC and other stakeholders. "Excavations 40 metres deep were needed in many places and the high wind velocities made working on higher levels extremely risky. But by exacting engineering and severe safety guidelines, the constructions were finished on time," a senior MSRDC official told The Indian Express.

K Mallikharjuna Rao, business unit head, Hydro and Underground at Afcons Infrastructure Ltd, who carried out the work on the tunnel and viaduct for package 14 of the greenfield expressway said, "We faced unprecedented rainfall that took a toll on our tunnel construction as well as impeded our efforts at Viaduct-II. Due to heavy showers and dense fog, visibility remained an issue. However, we used the best safety practices to enable a safe work environment."

Apart from the engineering marvel, the last phase has three new interchanges at Igatpuri, Khutghar and Anand facilitating regional connectivity for passenger as well as freight traffic. The opening of this section now makes the entire 701 km Samruddhi Mahamarg corridor open for public, putting Nagpur and Mumbai on an eight hour driving distance from each other.

From start to finish: E-way timeline

AUG 2015: Concept of e-way from Mumbai to Nagpur is proposed by Devendra Fadnis shortly after he becomes chief minister of Maharashtra. He announces decision to construct the Nagpur-Mumbai Super Communication Expressway in the Legislative Assembly on August 31, 2015.

MAY 2017: A public company named Nagpur Mumbai Super Communication Expressway Limited is formed, with the Maharashtra State Road Development Corporation (MSRDC) helming the project as the nodal agency.

JUN 2018-JAN 2019: Contract is awarded for all 16 packages by MSRDC to 13 contractors with road construction commencing.

DEC 2022: Prime Minister Narendra Modi inaugurates the Phase - I of Mumbai-Nagpur Hindu Hrudaysamrat Balasaheb Thackeray Samruddhi expressway in Nagpur which will be covering a distance of 520 km, connecting Nagpur and Shirdi in Ahmednagar.

MAY 2023: The second 80-km phase from Shirdi (Kokamthan) to Bharvir



Chief Minister Devendra Fadnis and Deputy CM Eknath Shinde take a ride on the expressway. Deepak Joshi

HIGHLIGHTS OF THE MAHAMARG

E-WAY LENGTH
701 kilometres
connecting Nagpur to Mumbai

■ Districts e-way cuts through: Nagpur, Wardha, Amravati, Washim, Buldhana, Jalna, Chhatrapati Sambhajinagar, Ahilyanagar, Nashik and Thane

392 Villages connected by e-way
24,255 acre approx. Land required for project

TOTAL PROJECT COST
55,000 cr when initially proposed, increased to ₹ 61,000 cr on completion

Interchange (Nashik district) was inaugurated

MARCH 2024: The third 25-km phase between Bharvir Interchange to Igatpuri is opened for traffic.

JUNE 2025: The final 76-

km-long stretch of the Samruddhi Mahamarg, making the entire 701-km Mumbai-Nagpur corridor fully functional and bringing down the travel time between the two cities to 8 hours from around 18 hours.