

## Maglev Trains Proposed By Mumbai Rail Vikas Corp For 55 Km CSMT - Panvel Elevated Rail Corridor

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A Maglev train in China.(Su Yang/VCG/Getty Images)

The Mumbai Rail Vikas Corporation (MRVC) has proposed an ambitious project to operate the proposed Chhatrapati Shivaji Maharaj Terminus (CSMT)-Panvel elevated fast corridor using Maglev technology on a public-private partnership (PPP) model, *The Hindu* reported.

MVRC has written to Maharashtra government and Railway Board seeking an in-principle approval for the project that envisages a 55-km-long elevated line connecting CSMT-Panvel with a spur to the

under construction Navi Mumbai International Airport (NMIA). Under the proposal, the train's speed will be capped at 200 km per hour and will be able to complete the entire distance in 35 minutes.

**SwissRapide AG**, a worldwide pioneer and competence centre for the planning, construction and operation of Maglev (magnetic levitation) rail systems and projects, has reportedly expressed interest in executing the project at a cost of nearly ₹13,347 crore.

Swiss firm has reportedly proposed to run an eight-coach train with a carrying capacity of 2,872 passengers with a headway of three minutes on the main corridor and 8.6 minutes for the NMIA spur.

SwissRapide Express offers financing for its Maglev project under what it describes as Private Investment for Public Infrastructure (PI2) Model. While the project will be completely financed by private investment, the government will require to fund for land acquisition and utility shifting, which will be borne on a 50:50 cost-sharing basis between the State government and the Ministry of Railways. By undertaking the construction and operations, the Swiss firm expects the life-cycle costs of the project to be optimised.

In September last year, representatives of SwissRapide AG, Lasane Infra Ltd. and Aravandrud Capital met with the Chairman & Managing Director as well as further senior members of MRVC to initiate discussion on the Maglev Metro line in Mumbai. The talks included the finalisation and submission of the Detailed Project Report for the Line, which will connect the downtown area of the city with the new Navi Mumbai International Airport currently under construction including a number of intermediate stops.

Developed as early as 1940s by British engineer Eric Laithwaite, Maglev (magnetic levitation technology) has so far not gained traction as a mainstream transportation technology. Maglev is **form of transportation** that suspends, guides and propels vehicles via electromagnetic force. This High-Tech method can be significantly faster than wheeled mass transit systems, potentially reaching velocities comparable to turboprop and jet aircraft (550 to 700 km/h) in regular service. The electromagnets that power the train consume much lesser energy than an aircraft.

Currently few Maglev trains are **operational**. In Japan, the Linimo line, which uses electromagnetic levitation technology, serves a local community in the Aichi Prefecture, near Nagoya. In Shanghai, maglev train runs from Pudong International airport to the outskirts of the city.

Japan is currently building a new maglev line, the Chuo Shinkansen, which broke speed records by travelling at 603km/h on a test track near Mount Fuji. In China, a new middle-to-low speed maglev called Line S1 is under construction in Beijing and is expected to begin operating soon.

In 2008, Maharashtra government had proposed six high-speed magnetic levitation (Maglev) train routes for the city.

The six routes include new proposed airport at Panvel to Khopoli (30 km), to Alibag (60 km), to Santacruz airport (45 km), and Santacruz airport to Nariman Point (18 km), to Goregaon (15 km) and to Kalyan (50 km).

A German company Vossing was assigned the responsibility of submitting a feasibility report but the project was a non-starter.

MRVC had proposed to build CSMT-Panvel elevated corridor at an estimated cost of Rs 10,870 crore as part of Mumbai Urban Transport Project 3A but did not get the Cabinet nod last year considering the expensive nature of the project. It was instead directed to consider executing the project through PPP model while taking ridership into account.