

NEWSLETTER





CONSTRUCTION INFRASTRUCTURE UPDATES

MONDAY, DECEMBER 01, 2025

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Science behind Ram Temple: How engineers built the temple to withstand 1,000 years
The Financial Express,
December 1, 2025

Engineers faced a significant challenge while designing the temple's foundation due to the proximity of the Saryu River.



In order to ensure longevity, the construction avoids the use of iron or steel as they could corrode and weaken over time. (IANS)

A structure designed to endure for a millennium is not built overnight. In Ayodhya, the newly completed Ram Temple stands as a symbol of meticulous engineering, craftsmanship and modern scientific planning.

According to an Indian Express report, more than 4,000 workers and artisans worked continuously over the last five years to build the temple. These workers were guided by experts from premier institutions including CBRI Roorkee and the Indian Institutes of Technology (Madras, Delhi, Mumbai, Guwahati), alongside the Indian Institute of Astrophysics. The goal was to ensure the temple remains resilient to time, weather and natural disasters for centuries to come.

Temple made to outlast generations

The Ram Temple's imposing presence is hard to miss. Standing 161 feet high, 235 feet wide and 360 feet long, the three-storey structure has been crafted in the 5th-century Nagara style of temple architecture, the IE report stated. In order to ensure longevity, the construction avoids the use of iron or steel as they could corrode and weaken over time.

Instead, the temple is entirely built using Bansi Paharpur sandstone sourced from Rajasthan, renowned for its strength and consistent natural hue. Every detail has been future-proofed, including the protective nets installed to keep birds and monkeys away. These grills are made of titanium, about 12.5 tonnes of it, procured from the defence public sector enterprise Mishra Dhatu Nigam Ltd. A total of 31 titanium nets have been crafted to blend durability with aesthetic appeal.

Inside the temple, the ground floor features around 160 intricately carved pillars depicting Hindu deities and houses the Garbha Grah. In the sanctum sanctorum, the idol of Ram Lalla, sculpted in black Krishna Shila granite from Mysuru, was installed following the consecration ceremony held in January 2024.

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Out of 47 doors across the temple, 14 gold-plated doors are found on this floor. On the first level, the Ram Darbar showcases idols of Ram in his royal form, along with Sita, Lakshman and Hanuman, all sculpted from Makrana marble. The architectural layout includes five mandaps — Nritya, Rang, Gudh, Kirtan and Prarthana — built to facilitate distinct religious and cultural rituals.

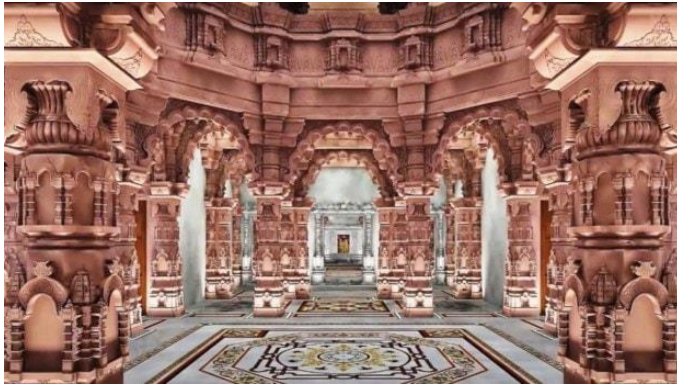


Image: Shri Ram Janmabhoomi Teerth Kshetra

Grand complex beyond the sanctum

Beyond the sanctum, the temple complex includes a massive double-storey parkota, extending 750 metres with a thickness of 14 feet. The lower level houses six smaller temples dedicated to Surya, Shiva, Ganesha, Hanuman, Bhagwati and Mata Annapurna, as well as administrative offices of the temple trust.

The upper level serves as a Parikrama Marg, designed to enable seamless movement of large numbers of pilgrims. Additionally, the complex includes the Sapta Mandir dedicated to the seven sages — Vashishtha, Vishwamitra, Valmiki, Agastya, Nishad Raj, Ahalya and Shabri.



Image: IANS

Engineering an immovable foundation

Engineers faced a significant challenge while designing the temple's foundation due to the proximity of the Saryu River. Geological studies during excavation detected traces of water in the soil, requiring a multi-layered structural protection plan.

The foundation reaches a depth of 14 metres and is filled with 1.32 lakh cubic metres of roller-compacted concrete. On top of this sits a 1.5-metre-high high-strength raft to ensure stability. Above that, a 6.5-metre granite plinth made from about 24,000 stones forms the base for the temple.

This layered design acts as a barrier against moisture, seismic movement and potential flooding.

How much did it cost?

Sri Ram Janmabhoomi Teerth Kshetra Trust's construction committee chairman Nripendra Mishra told the Indian Express that of the Rs 3,000 crore received in donations initially, Rs 1,800 crore has been spent on the temple so far.

The project is said to have benefited from mass public contributions, from large donors to families donating small amounts across India.

Mishra further said that the main temple structure is complete, while landscaping, the boundary wall and an auditorium are expected to be finished by the end of 2026.

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Delhi–Dehradun Expressway Starts Trial Operations On Phase 1: Akshardham–Geeta Colony–Shastri Park–Khekra Route Now Accessible

Swarajya,
December 1, 2025



Expressway (Representative image)

The long-anticipated Delhi–Saharanpur–Dehradun Motorway, popularly known as the Delhi–Dehradun Expressway, has officially entered the trial run stage, marking a major step toward its public opening.

Once fully operational, the expressway is expected to slash the Delhi–Dehradun journey from the current 6–6.5 hours to around 2–2.5 hours, offering a faster and more seamless travel experience.

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Though an official inauguration has not yet been scheduled, sections of the road, particularly near Geeta Colony have been opened for trial runs. Barriers have been removed and vehicular movement permitted, signalling that the launch for public use is drawing near.

The expressway is designed as a six-lane access-controlled motorway, with provisions for widening to eight lanes as traffic increases. It features modern infrastructure, including multiple interchanges, service lanes, underpasses, and overbridges.

Spanning roughly 210 km, the corridor originates near Delhi's Akshardham Metro Station and links directly to the Delhi–Meerut Expressway. It travels through Baghpat, Baraut, Shamli, and Saharanpur in Uttar Pradesh before culminating in Uttarakhand's capital, Dehradun.

The project, whose foundation stone was laid by Prime Minister Narendra Modi on 4 December 2021, is being built at an estimated cost of Rs 11,868.6 crore to Rs 13,000 crore.

Construction is being carried out in four phases. The first stretch from Akshardham to Baghpat has been ready for months and was even used informally during Delhi's flooding in September.

The second phase between Baghpat and Saharanpur is nearly finished, while the third is in its final stages. The fourth phase, involving tunnels and elevated structures near Dehradun, is currently undergoing safety checks and finishing work.

Authorities estimate the expressway will be open to the public by February 2026. The Prime Minister's Office has instructed that the launch take place only after all four phases are fully complete and operational, ensuring a seamless highway experience from end to end.

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Major Relief For South Pune: Construction To Begin On Swargate–Katraj Metro Extension Next Week

PTI,
December 1, 2025

MahaMetro is set to begin construction on the Swargate–Katraj underground metro extension next week, after issuing the work order to ITD Cementation India, the Hindustan Times reported.

Officials said the contractor will start mobilising machinery shortly, with physical work expected to commence following the administrative clearance from the State Election Commission, which allowed work to proceed during the election period.

“At present, the company has completed survey and design work. Physical work on the Swargate–Katraj extension will begin next week,” said Atul Gadgil, director (Works), MahaMetro.

The long-delayed metro extension, aimed at easing traffic congestion and reducing pollution in south Pune, was first inaugurated by Prime Minister Narendra Modi with a groundbreaking ceremony on 29 September 2024.

The project was later revised to include two additional stations, Bibwewadi and Balajinagar, following demands from residents and public representatives.

Scheduled for completion by 2029, the new corridor is expected to significantly benefit commuters from Katraj, Bibwewadi, Balajinagar, Sahakarnagar, Gultekdi, Dhankawadi, Market Yard, and surrounding areas.

It will also improve travel for passengers arriving from Satara, Sangli, and Kolhapur towards Swargate, providing faster connectivity and helping reduce congestion on key routes.

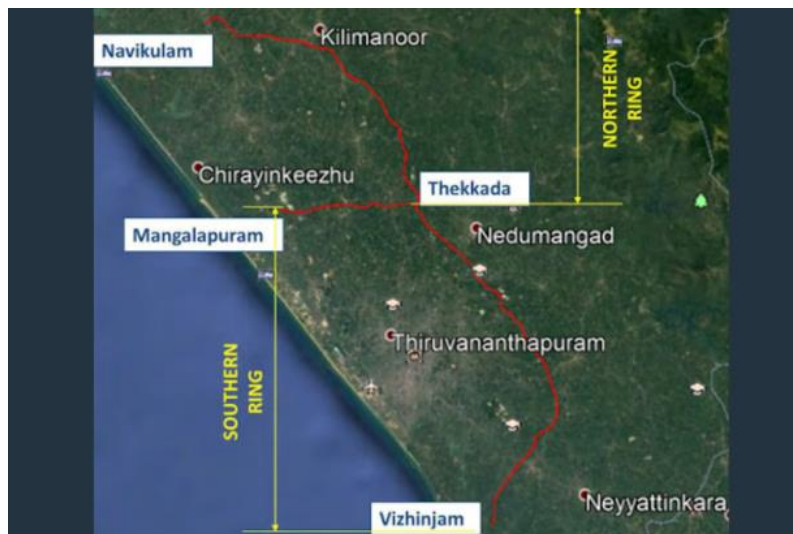
MahaMetro has completed survey and design phases, clearing the way for rapid on-ground implementation.

The project promises a modern, efficient transit option for Pune's southern suburbs while addressing long-standing traffic and pollution concerns in the region.

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Kerala's Outer Ring Road Project Secures Key Environmental Clearance Amid Rising Compensation Protests

Business Standard,
December 1, 2025



Thiruvananthapuram Outer Ring Road Project

Kerala's Outer Ring Road (ORR) project has taken a significant step forward after the State Level Expert Appraisal Committee (SEAC) formally granted environmental clearance, providing long-awaited momentum to a scheme stalled for years.

The decision follows a recent Supreme Court ruling permitting ex-post facto environmental approvals under specific conditions.

The New Indian Express reported that the minutes of the SEAC meeting will be placed before the State Environment Impact Assessment Authority (SEIAA) next month for final sign-off.

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Yet the project continues to face turbulence on the ground, as landowners who surrendered property for the 77 km highway have threatened to boycott the upcoming local body and assembly elections over non-payment of compensation.

Adding to complications, a group of landowners has approached the High Court, arguing that acquisition notices were issued without a detailed project report (DPR) or environmental clearance.

Although the validity of the original 3(a) acquisition notification formally expired this month, officials maintain it remains in effect, noting, "There is an active stay order and the government cannot cancel the 3(a) notification when there is an active stay order."

Around 6,500 landowners are yet to be compensated. Chandramohan Nair, convenor of their action council, said the government's delays had pushed families into severe financial distress.

"The government issued a 3D notification for around 11 villages and the land owners should be given compensation immediately. We will boycott the elections if they don't disburse the compensation immediately," he warned.

Meanwhile, the alignment revision intended to reduce extensive hill cutting is still in progress and is unlikely to be finalised before December 2025. PWD secretary K Biju said the DPR will take some time, delaying the release of compensation.

The ORR, now designated as NH 866, spans Navaikulam to Vizhinjam via Thekkada and covers 31 villages. The six-lane corridor, costing Rs 8,398.46 crore under a PPP model, has seen land acquisition costs climb from Rs 1,800 crore to nearly Rs 3,800 crore.

Under the land acquisition law, delayed payments carry 12 per cent annual interest, which both the state and the centre will eventually have to absorb.

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