

Shruti Pandit

Rajesh Kumar Jaiswal believes in leading by example. He is aware of every detail of every project that MahaRail is involved in. All figures are at his fingertips. After completing several projects in record time, he is now focusing on making Maharashtra an accident-free state by eliminating railway crossing gates and replacing them with Road Over Bridges, Road Under Bridges, and subways. Jaiswal shared his thoughts and plans with *The Free Press Journal* during an interaction.

Excerpts from an interview:

What challenges have been encountered so far during the construction of the Byculla Cable-Stayed Bridge, and what measures are being taken to overcome them?
The Byculla Cable-Stayed Bridge is being constructed adjacent to the existing century-old Byculla ROB, which has outlived its service life. By building the new structure first, MahaRail is ensuring that the heavy traffic flow on the Eastern Express Highway remains uninterrupted. Once the new bridge is operational, the old structure will be dismantled and another new bridge will be made. This iconic structure will provide a vital, weather-resilient link between East and West Byculla, ensuring a seamless commute for Mumbaikars. During the construction of the Bridge, the main challenge was the launching of 1500 MT of steel over the Central Vegetable Market, which could

not be shifted. The challenge was overcome by carrying out all erection works without any road traffic blockage in the market by using a Deck Erection Crane over the densely populated market area with the highest order of safe working.

What is the current state of Elphinstone double-decker bridge and how difficult is it to incorporate the new double-decker structure giving the old engineering of the earlier bridge?
Currently, the dismantling of the old Elphinstone ROB has been completed, and the foundation work for the new Elphinstone ROB is in progress. Additionally, all fabrication work for the double-decker structure has been completed. The most challenging aspect of the project is incorporating the new double-decker structure in place of the existing bridge, owing to severe space constraints for the assembly and launching of approximately 4,000 MT of structural steel. The work also involves crossing both the Central Railway (CR) and Western Railway (WR) lines simultaneously within a limited time frame, making it a highly complex engineering task.

The new ROB at Virar was completed in record time. What engineering techniques did you use to ensure timely completion?
A major highlight of the LC-41 ROB project is the successful execution of two Bow String Girder spans (LHS & RHS), designed in accordance with RDSO standards, within a record timeframe through meticulous planning and close

Planning ahead

Rajesh Kumar Jaiswal, MD, MahaRail, talks to The Free Press Journal about the state-of-the-art infrastructure plans across the state of Maharashtra



coordination with Railway authorities. The approximately 430-ton steel girders were launched over running railway lines with OHE (Overhead electrical) using advanced Push-Pull launching technology during approved traffic and power blocks under Railway supervision. Coordination with Western Railway ensured the timely availability of blocks and the smooth execution of these critical activities.

Another notable achievement was the completion of deck slab concreting for the entire 58 metre railway span in a single continuous pour within a record timeframe, without disrupting rail traffic,

thereby ensuring superior structural integrity and durability. Waterproofing of the deck was carried out prior to laying the wearing course to provide long-term protection.

The ROB incorporates RDSO-compliant safety features, including crash barriers, anti-climbing screens, protective fencing, proper drainage arrangements, road signage, and illumination systems. Constructed using high-quality materials and modern engineering practices, the ROB has improved connectivity, reduced traffic congestion, enhanced commuter safety, and facilitated the closure of Railway Level Crossing No. 41.

The work of Koradi Thermal Power Plant is a humungous task and a great opportunity at the same time. What is the plan of action with challenges like CW pipeline, pump houses etc. being the main tasks among other challenging things?
The Koradi Thermal Power Plant is a prestigious and strategically important project that will strengthen Maharashtra's energy infrastructure. We take pride in contributing to this landmark development. The project includes critical components such as the CW Pipeline, CW Pump Houses, deep foundations, underground utilities, and other major civil works, requiring advanced engineering expertise and meticulous planning. To ensure timely and quality execution, we have deployed experienced teams, robust project management systems, and continuous monitoring mechanisms. With our proven track record in delivering complex infrastructure projects, we are confident of executing the Koradi Thermal Power Plant Project to the highest standards of quality, safety, and efficiency, creating a benchmark in engineering excellence.

Could you explain the details and challenges involved in gauge conversion of any railway line?
Gauge conversion involves changing the distance between railway tracks (e.g., from Metre Gauge to Broad Gauge). However, it is far more complex than simply replacing tracks, as it requires comprehensive upgrades to the entire railway infrastructure. Key challenges include modifying track alignment, strengthening or reconstructing bridges and other structures, redesigning stations and yards, upgrading signalling and telecommunication systems, adjusting electrification infrastructure, and aligning rolling stock and maintenance facilities with the new gauge for a speed of 160 kmph. The complexity of gauge conversion lies in maintaining rail connectivity during construction, acquiring land for alignment improvements, upgrading aging infrastructure, managing significant project costs, and ensuring safety through extensive testing and CRS certification before commissioning.

What are the projects planned across Maharashtra in the coming years, and how is MahaRail driving its vision of making it a railway fatak-free state?
MahaRail is advancing Maharashtra's vision of becoming a "Railway Fatak Free" state by replacing railway level crossings with Road Over Bridges (ROBs), Road Under Bridges (RUBs), and subways. MahaRail had been entrusted with the execution of 145 ROB, RUBs, and FOBs across Maharashtra's railway network. The MahaRail has maintained a strong pace of infrastructure delivery, successfully completing and commissioning 47 major projects across multiple districts, including Nagpur, Chandrapur, Jalgaon, Amravati, Dhule, Wardha, Nashik, Mumbai, Thane, Satara, Sangli, Kolhapur, Hingoli, and Gondia. Several additional projects are lined up for inauguration soon. These completed projects have already contributed to significant improvements in road safety, reduced travel times, and enhanced mobility for both citizens and freight movement along key transport corridors. As part of its long-term vision, MahaRail has identified 131 railway level crossings across Maharashtra with Train Vehicle Units (TVU) exceeding 10,000 for phased elimination through the construction of ROB, RUBs, and subways. Of these, MahaRail has received approval for 65 ROB, RUB, and subway projects in the first phase of its ambitious mission to make Maharashtra a "Railway Fatak Free" state. This approval represents a major acceleration in implementation and underscores the Maharashtra Government's commitment to enhancing road safety, reducing traffic congestion, and ensuring the seamless movement of passengers and goods across the state's growing transport network. During a comprehensive statewide survey conducted in six months, MahaRail identified 80 locations across Maharashtra where there are no railway level crossings, but where the construction of ROB, RUB, and FOBs are necessary to improve road connectivity and decongest existing traffic corridors. These proposed interventions will help bridge gaps in the road network, facilitate smoother movement across railway lines, generate fuel savings, and enhance overall mobility for commuters and freight traffic.

Guided by the vision of Hon'ble CM Devendra Fadnavis, MahaRail is committed to building a safer, more connected, and future-ready Maharashtra. Through the elimination of railway level crossings and the development of modern infrastructure, we are strengthening road safety, improving mobility, reducing congestion, and creating seamless connectivity that will support the state's sustainable growth and economic development for years to come.
— Rajesh Kumar Jaiswal, MD, MahaRail

FOR A SAFER AND BETTER CONNECTED MAHARASHTRA

Abhishek Pathak

While Mumbai's iconic bridge projects often dominate headlines, Maharashtra Rail Infrastructure Development Corporation (MahaRail) has been quietly transforming transportation across the length and breadth of the state. Beyond the skyline of India's financial capital, the corporation has been implementing a comprehensive programme of Road Over Bridges (ROBs), Road Under Bridges (RUBs), Limited Height Subways (LHS) and railway infrastructure projects that are reshaping mobility in both urban and rural Maharashtra.

At the heart of this transformation lies a simple yet powerful objective—to eliminate railway level crossings that have, for decades, been responsible for traffic congestion, delays and accidents. By separating road and rail traffic through modern engineering solutions, MahaRail is creating safer, faster and more efficient transport networks that benefit millions of commuters, businesses and industries.

Transforming connectivity

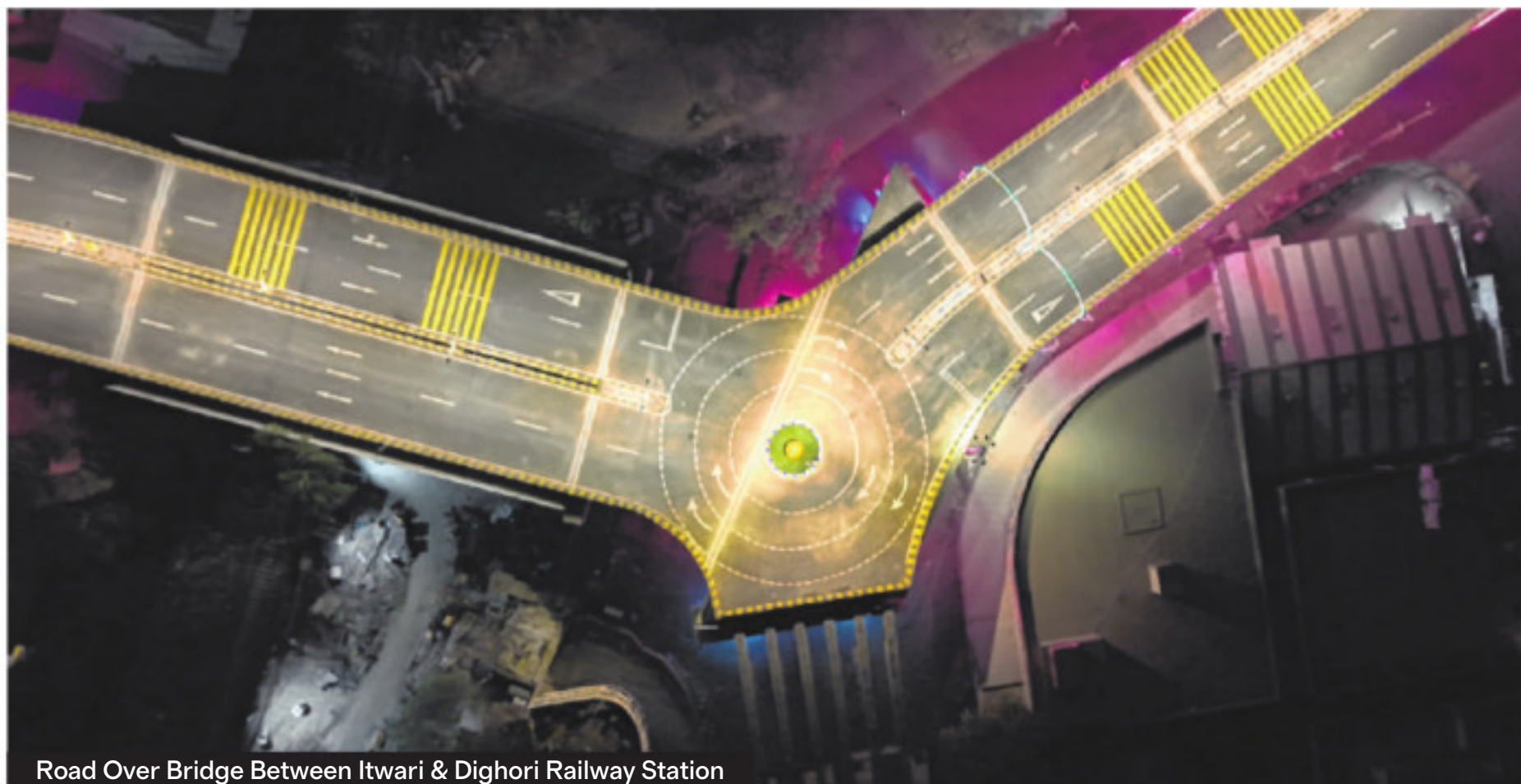
MahaRail's work extends well beyond metropolitan centres. Over the past few years, the corporation has successfully completed 56 infrastructure projects spread across districts such as Nagpur, Chandrapur, Sangli, Jalgaon, Wardha, Washim, Dhule, Hingoli, Parbhani, Nashik, Satara, Bhandara, Akola, Buldhana and Mumbai.

Each of these projects addresses a common challenge faced by communities across the state—the disruption caused by railway level crossings. Every passing train brings road traffic to a standstill, often for several minutes, resulting in long queues, wasted fuel and considerable inconvenience. As railway traffic has increased over the years, these delays have become more frequent, affecting commuters as well as commercial transport.

By replacing these crossings with Road Over Bridges and Road Under Bridges, MahaRail has ensured uninterrupted movement of vehicles while simultaneously improving railway operations. The result is a transport network where road users and trains can move independently, without interfering with each other's schedules.

Improving everyday life

The impact of these projects is perhaps most visible in smaller towns and semi-urban regions where railway crossings have long served as major bottlenecks. School buses transporting children, ambulances responding to emergencies, public transport buses, delivery vehicles and private commuters no longer have to wait for railway gates to open. Precious minutes that were once lost at crossings are now saved every day, making journeys more predictable and reducing travel-related stress. For farmers, the benefits are equally significant. Maharashtra's agricultural economy depends heavily on timely transportation of fruits, vegetables, grains and other produce to nearby markets and processing centres. Delays at railway crossings often affected the freshness of perishable goods and increased transportation costs. The new bridge infrastructure enables uninterrupted



Road Over Bridge Between Itwari & Dighori Railway Station

movement, helping farmers reach markets more efficiently. Industrial regions too have witnessed tangible gains. Manufacturing units and logistics companies depend on reliable transportation schedules to move raw materials and finished products. Improved road connectivity reduces delays, enhances supply chain efficiency and supports industrial productivity.

Enhancing safety

Safety remains one of the most compelling reasons behind the state's railway crossing elimination programme. Many of the railway crossings being replaced today were established decades ago, when train frequencies and vehicle numbers were significantly lower. Rapid urbanisation and economic growth have dramatically increased both rail and road traffic, making these crossings increasingly vulnerable to accidents involving vehicles, pedestrians and two-wheelers. Every railway crossing eliminated substantially reduces the possibility of collisions between trains and road users. It also discourages risky behaviour such as attempting to cross tracks after warning signals have been activated—a common cause of accidents at unmanned or busy crossings. The benefits extend beyond



Subway LC-95 between Kherwadi and Odha Railway Station

road users. Train operations also become safer and more efficient as locomotives no longer need to account for disruptions caused by congested crossings. Emergency services, including ambulances, fire engines and disaster response vehicles, can maintain uninterrupted routes, ensuring quicker response times during critical situations.

Work on the Titwala Road Over Bridge in the Mumbai Metropolitan Region is nearing completion. The project includes deck slab construction, approach roads and a Limited Height Subway to facilitate uninterrupted movement along the heavily used Kalyan-Kasara suburban railway corridor. This will ensure safety of the commuters.

Strengthening Vidarbha

While bridges remain a major focus, MahaRail is simultaneously undertaking one of Maharashtra's most significant railway infrastructure projects—the 166-kilometre Nagpur (Itwari)-Nagbhir Gauge Conversion Project. Estimated to cost approximately 2,380 crore, this flagship initiative is far more than a conventional gauge conversion exercise. It represents a comprehensive railway modernisation programme involving the laying of new railway tracks, construction of bridges, station redevelopment and extensive civil engineering works throughout the corridor.

The Itwari-Umred section has been prioritised to accelerate progress, with the entire project targeted for completion by 2027. The strategic importance of this railway corridor cannot be overstated.

Vidarbha is among India's leading coal-producing regions, supplying fuel to power plants and industries across the country. Once completed, the upgraded railway line will significantly improve freight movement, enabling faster transportation of coal and other industrial commodities.

In addition to freight, passengers travelling within the region will benefit from improved railway connectivity, better services and enhanced travel efficiency. The project is expected to stimulate economic activity, strengthen regional connectivity and support industrial growth throughout eastern Maharashtra.

Modern bridges for a growing Nagpur Nagpur, one of Maharashtra's fastest-growing cities, is also witnessing major bridge infrastructure development. Construction of the Ajni Cable-Stayed Road Over Bridge is progressing steadily. Designed to eliminate one of the city's busiest railway bottlenecks, the bridge will significantly improve traffic circulation once completed. Work on the pylon, deck and supporting structural elements is advancing, bringing the project closer to completion.

The bridge is expected to ease congestion across a critical transport corridor, benefiting daily commuters while improving connectivity between residential areas, commercial districts and industrial zones.

Towards level crossing-free Maharashtra

Perhaps the corporation's most ambitious initiative is the Railway Crossing Elimination Programme, which seeks to



Road Over Bridge Between Takari & Kirloskarwadi Railway Station



Subway at LC-117 between Bhilwadi-Nandre Railway Station

I sincerely congratulate MahaRail and its Managing Director, Rajesh Kumar Jaiswal, for completing these nine projects in record time and with excellent quality. I am very happy that I started this company, MahaRail, during my previous term as Chief Minister to execute state-related railway projects. It has done such good work that we have gradually been entrusting all critical projects to MahaRail. Today, it is even completing difficult projects in Mumbai ahead of schedule. Not only that, but MahaRail has also patented innovative technology like the 'Concrete Crash Barrier with Integrated Utility Duct.' Through MahaRail, our effort is to introduce new technology to complete work as quickly and cost-effectively as possible.
Devendra Fadnavis,
Chief Minister, Maharashtra State

gradually remove railway level crossings across Maharashtra. Recognising the long-term benefits of grade-separated transport infrastructure, the Maharashtra Government has already approved 65 new Road Over Bridges, Road Under Bridges and Limited Height Subways under the programme's first phase.

These projects will be implemented in stages across multiple districts, reflecting a strategic shift in infrastructure planning. Instead of responding to congestion after it becomes unmanageable, the state is proactively investing in permanent solutions that separate road and rail traffic.

This forward-looking approach is expected to deliver lasting improvements in safety, efficiency and urban mobility while supporting the state's rapidly expanding transportation network.

City infrastructure

Urban planners increasingly emphasise that infrastructure planning must anticipate future growth rather than merely respond to existing demand. Cities such as Mumbai, Nagpur, Nashik and Pune continue to witness rapid population growth, expanding residential developments and rising vehicle ownership. Without grade-

separated crossings, congestion around railway corridors would continue to intensify, affecting productivity, increasing pollution and reducing quality of life.

The Naigaon Road Over Bridge addresses the transportation needs of rapidly expanding suburban communities, where population growth has placed increasing pressure on existing road infrastructure.

Building the future

Viewed individually, each bridge solves a local transportation challenge. Collectively, however, they represent a far-reaching transformation of Maharashtra's transport ecosystem.

For commuters, the advantages are immediate and tangible—reduced travel time, smoother journeys and safer roads. Businesses benefit from improved logistics, greater supply chain reliability and lower transportation costs. Railways gain operational efficiency through uninterrupted train movement and enhanced safety.

Unlike metro rail networks or expressways, bridge projects rarely attract widespread public attention. Yet their impact is often felt every single day by millions of people who experience shorter commutes, fewer traffic bottlenecks and more reliable travel.

As Maharashtra continues investing in world-class infrastructure, these bridges are becoming critical links connecting cities, industrial corridors, ports, highways, railway stations and emerging urban centres.

With 56 projects already completed, several landmark bridges under construction in Mumbai and across the state, and another 65 projects approved under the Railway Crossing Elimination Programme, MahaRail is steadily reshaping the way Maharashtra moves.

The transformation may be gradual, but every completed bridge strengthens the state's transport network, improves public safety and enhances economic productivity. Together, these projects are laying the foundation for a Maharashtra that is not only faster and better connected, but also safer, more resilient and prepared for the demands of the future.