

THE LOGISTICS LEDGER

Where consulting meets implementation in end-to-end logistics

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forvis mazars



PORTS & MARITIME SECTOR

Cabinet approves revised Captive Port Policy, with concession extensions of up to 30 years without fresh tenders

News brief

- The Union Cabinet approved a revised Captive Port Policy on 1 August 2026. It replaces the 2016 policy governing waterfront land allocation to Port Dependent Industries (PDIs) at major ports.
- Major port authorities can now extend existing concession agreements by up to 30 years without a fresh tender. Renewal terms will be set at whichever is higher: the prevailing market rate or the indexed revenue under the current agreement.
- Existing captive users can build new berths, jetties, terminals, or Single Buoy Moorings (SBMs) to expand capacity. Pricing for these expansions will be determined through competitive bidding, with the existing concessionaire retaining the Right of First Refusal (RoFR) to match the highest bid and retain the project.
- A new berth or terminal built as part of an expansion will not receive a fresh 30-year concession. Its concession period will be capped at the remaining tenure of the operator's existing concession. For example, an operator with 10 years left on its existing concession will receive only 10 years on the new berth. This prevents operators from using an expansion as a backdoor to reset their contract clock.
- For the first time, government departments, statutory bodies, Public Sector Undertakings (PSUs), and government-controlled joint ventures can be allotted waterfront land directly, without competitive bidding.
- This applies to sectors such as petroleum, fertilisers, coal, steel, and food, at the notified floor price.
- Captive operators can change their cargo profile after a prescribed lock-in period, or immediately if required by a change in law. The government expects the reforms to raise cargo throughput, improve the utilisation of waterfront assets and create employment across major ports.



How we see it

Why it matters

- The reform targets captive users, including industrial plants in fertilisers, steel, petroleum, and coal sectors that run dedicated Public-Private Partnership (PPP) port facilities for their own raw material movement, and not all port PPP contracts. The investment-certainty benefit is therefore concentrated in these raw-material-dependent sectors rather than the port sector as a whole.
- Removing the fresh-tender requirement for renewals addresses a long-standing investor concern, but only partially. Captive operators previously faced renewal uncertainty at contract end; now that uncertainty is resolved for up to 30 years. However, large raw-material industries, such as steel and fertiliser plants, often operate assets with 40–50 year lifespans. A 30-year concession may still fall short of this horizon, meaning the tenure mismatch could re-emerge when industries plan capacity beyond the new concession period.
- The revised policy introduces a standalone cargo-profile provision alongside the tenure and expansion reforms. This allows a captive operator to change the mix of raw materials handled at its facility after the lock-in period, or immediately where required by a change in law. This provision relates to the captive user's own business and does not extend to handling third-party or merchant cargo at the facility.

What could go right

- The RoFR mechanism gives existing concessionaires a strong incentive to keep investing at their current site. This could accelerate brownfield capacity additions by reducing the risk of losing access to the facility through a competing bid.
- Cargo-profile flexibility reduces asset-stranding risk over a 30-year horizon. A facility built for one commodity is less likely to become stranded if demand for that specific trade declines.
- Direct waterfront access for government entities could fast-track strategic public-sector projects. PSU refineries and fertiliser plants, for instance, could avoid the delays of a lengthy tender process.

Key risks to watch

- Extending concessions without fresh tenders reduces price discovery for renewals. While revenue may be protected via the market-rate/indexed-revenue floor, port authorities forgo the chance to solicit potentially higher bids from new entrants. In addition, clarity on determining the market rate is imperative to protect public exchequer's interest.
- As flagged above, tying a new berth's concession period to the remaining tenure of the existing facility could discourage late-cycle capex. A facility built when only a few years remain on the underlying concession may not generate adequate payback for the investor.
- Direct land allocation to government entities and the joint ventures, even at notified floor prices, could raise transparency questions and may allow for backdoor entries. This risk grows if safeguards and eligibility criteria are not applied consistently across all major ports.
- The employment and throughput gains cited by the government are expectations rather than outcomes supported by defined targets or timelines.





EV

Industry divided over lifting 60 kg cap for low-speed electric two-wheelers

News brief

- The Ministry of Road Transport and Highways (MoRTH) proposed amendments to the Central Motor Vehicles Rules, 1989, through draft rules notified on 21 August 2026. These cover low-speed electric two-wheelers currently exempt from Vahan registration and driving licences.
- Three changes to the registration-exemption criteria are proposed: raise the motor power threshold from 250W to 600W, retain the 25 kmph speed ceiling and remove the 60 kg unladen-weight condition entirely.
- Many electric two-wheelers used by gig workers fall under this low-speed, exempt category. This means a large segment of these vehicles currently operates outside standard registration and licensing requirements.
- The industry is divided. Yulu opposes removing the weight ceiling, warning a 600W motor could be tampered with to exceed the 25 kmph speed limit. Bounce co-founder Vivekananda Hallakere argues the 60 kg cap itself compromises safety, because manufacturers must sacrifice chassis strength, suspension and braking performance to remain within the limit.



How we see it

Why it matters

- This is a trade-off between two different safety concerns, rather than a simple pro/anti-regulation debate. Under the current norms, the exempt category tops out at 250W, 60 kg and 25 kmph, well below the 1,000W+ motors and mandatory type-approval testing required for registered e-scooters. Raising the ceiling to 600W moves these vehicles roughly halfway to a regular e-scooter's power while keeping them exempt from that registration, insurance and testing requirements.
- Yulu and Bounce both operate shared e-two-wheeler fleets in the exempt bracket, which gig delivery riders use for hours of daily duty. The disagreement is therefore not abstract: Yulu is concerned that a more powerful motor could encourage tampering in an unregistered category, while Bounce believes the current weight cap forces manufacturers to compromise on brakes and chassis strength. Whichever approach MoRTH adopts, the safety risks ultimately affect the same riders.
- The exemption category was designed for genuinely low-powered, low-risk vehicles. Doubling the motor power without introducing registration or additional oversight creates a mismatch, leaving faster vehicles under the same light-touch rules intended for slower ones. This creates a challenge for regulators, who lose visibility into a higher-speed vehicle category, and for riders, who carry the safety risk with no compliance framework to fall back on.

What could go right

- If the weight cap is removed, manufacturers gain room to build stronger frames, better suspension, and improved braking. They no longer need to trade safety for compliance with an arbitrary weight limit.
- A higher power threshold could improve real-world usability for gig workers, who put these vehicles through heavy daily use. However, this works only if speed is enforced through software or hardware locks rather than relying on the weight cap as a safety proxy.
- If gig platforms and delivery fleets adopt the higher-power vehicles before individual retail buyers, a fleet-first rollout could give MoRTH a smaller and more easily monitored group on which to test tamper resistance before the rule is applied across the wider market.

Key risks to watch

- A 600W motor is more than double the current 250W limit. If enforcement of the 25 kmph speed cap is weak, tampering to unlock higher speeds becomes both easier to profit from and easier to hide within a still-unregistered category.
- Removing the weight ceiling without other safeguards could let motorcycle-like vehicles operate without registration, insurance, or licensing. This would undermine the basic accountability framework intended for very low-risk vehicles.
- Both the old (250W/60 kg) and new (600W/no weight cap) specifications would remain legally exempt once the rule is finalised. For Original Equipment Manufacturers (OEMs), this makes the issue less about compliance and more about demand: whether riders and fleets value the extra power enough to justify designing and stocking the higher-spec version, given Yulu and Bounce cannot agree on how safely it can be deployed. The near-term uncertainty is narrower; the rule remains a draft, so OEMs do not yet know its final form.





RAILWAYS

Indian Railways crosses 150 Gati Shakti Cargo Terminals (GCT) in September 2026, expanding rail-linked freight network

News brief

- Indian Railways has expanded its GCT network to 150 commissioned terminals nationwide in September 2026.
- As of August 2026, 142 GCTs had been commissioned with an estimated handling capacity of 224 million tonnes per annum (MTPA) and had handled 146 MT of freight during FY26. The GCT policy has mobilised approximately ₹10,000 crore of private investment.

How we see it

Why it matters

- **Expands rail's addressable catchment:** GCTs add rail-linked cargo-handling points alongside the existing goods-shed and private-siding network. Their locations are determined based on industry demand, cargo potential, railway infrastructure and the logistics potential of the surrounding area. This can provide rail access closer to production and consumption centres.
- **Facilitates aggregation and multimodal handling:** Additional GCTs increase the possibility of freight consolidation from multiple origins or shippers and increase interface between rail and road or other modes. This is particularly relevant for fragmented cargo flows where direct rail access from individual production units may not be viable.



What could go right

- **Higher rail volumes:** If GCTs are in high-potential freight catchments and achieve sufficient cargo aggregation, additional terminals can convert road-originated freight into rail movements and increase Indian Railways' non-bulk freight base.
- **Better utilisation of Dedicated Freight Corridor (DFC) capacity:** The expanded terminal network could provide additional origins and destinations for freight moving over the Eastern and Western DFCs, particularly for port-to-hinterland flows. For example, GCTs along the Western DFC can facilitate the movement of containers between JNPT/Mundra Port and inland markets in North India, improving last-mile connectivity and supporting higher DFC utilisation.
- **Shorter road legs:** Locating terminals within major production clusters can reduce first-mile road movement before freight enters the rail network. For example, the Rafaleshwar GCT near Morbi was developed to serve the region's ceramic industry and has been estimated to shift 15,000 TEUs per month of ceramic cargo from road to rail, demonstrating the potential to reduce road dependence at the origin.

Key risks to watch

- **Network capacity and local access constraints:** Additional terminal capacity needs to be matched by adequate wagons, locomotives and train paths, while approach roads, storage, loading equipment and other first- and last-mile infrastructure must also support terminal operations. Constraints across either the rail network or local access infrastructure could limit the conversion of available terminal capacity into end-to-end freight volumes.
- **Terminal under-utilisation:** The 142 GCTs operational by August 2026 had an estimated annual capacity of 224 MTPA against 146 MT of freight handled during FY26, representing an indicative throughput-to-capacity ratio of ~65%. This means availability of spare capacities. Further additions could affect the viability of the existing GCTs serving the same catchment area. The effect of the new terminals may vary from location to location, making careful planning important.





TECHNOLOGY

Jawaharlal Nehru Port Authority's (JNPA) Digital Twin: moving from monitoring port operations to simulating them

News brief

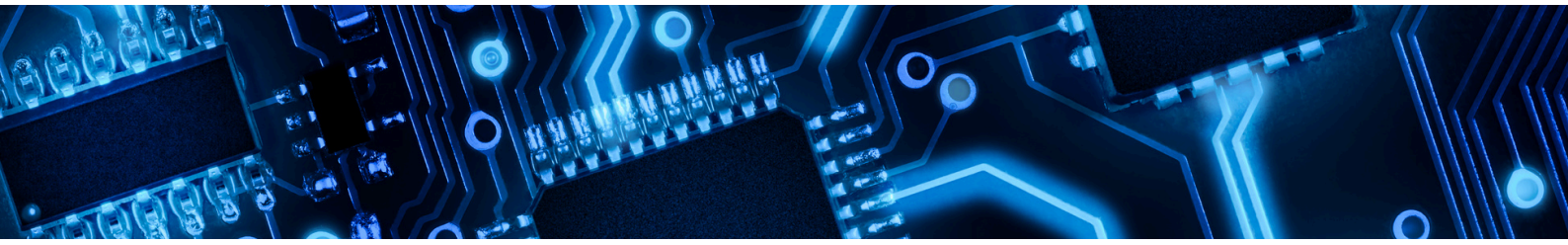
- Jawaharlal Nehru Port Authority (JNPA) has awarded SoftTech Engineers a ₹92.95 crore project to develop and operate an Artificial Intelligence/Machine Learning-enabled Digital Twin and 24×7 Command & Control Centre with full operationalisation targeted by February 2028.
- The system will cover JNPA's approximately 34 sq. km. port area, including seaside, landside and road-traffic operations.
- The seaside component is intended to support vessel turnaround and just-in-time arrivals.
- The landside component will integrate data from five terminal operators, customs and rail to support cargo and container movement.
- The road component will provide end-to-end vehicle tracking and target shorter gate queues and reduced congestion on approach roads.
- The project is designed to support JNPA's planned expansion towards 10 million TEUs by 2027.

How we see it

JNPA's container throughput increased from 5.13 million TEUs in FY2018–19 to 8.17 million TEUs in FY2025–26. This represented a 59% growth over seven years at a compound annual growth rate (CAGR) of nearly 6.9%. At this scale, a constraint in one part of the port can affect other activities. For example, a delay in vessel operations can affect berth availability, yard activity, and subsequent truck movements. This makes understanding the interaction between activities increasingly important as volumes grow.

The Digital Twin could allow JNPA to test these interactions under different operating conditions before implementing changes in the physical port. For example, the port could assess how a higher number of vessel arrivals may affect terminal and road capacity.

The significance of the project therefore lies in moving from monitoring current conditions to testing the potential impact of operational changes before they are implemented. Similar Digital Twin initiatives at ports such as Singapore and Rotterdam use simulation to test operational and investment scenarios. However, quantified evidence of port-wide benefits remains limited, with data quality, interoperability and model validation among the key risks.



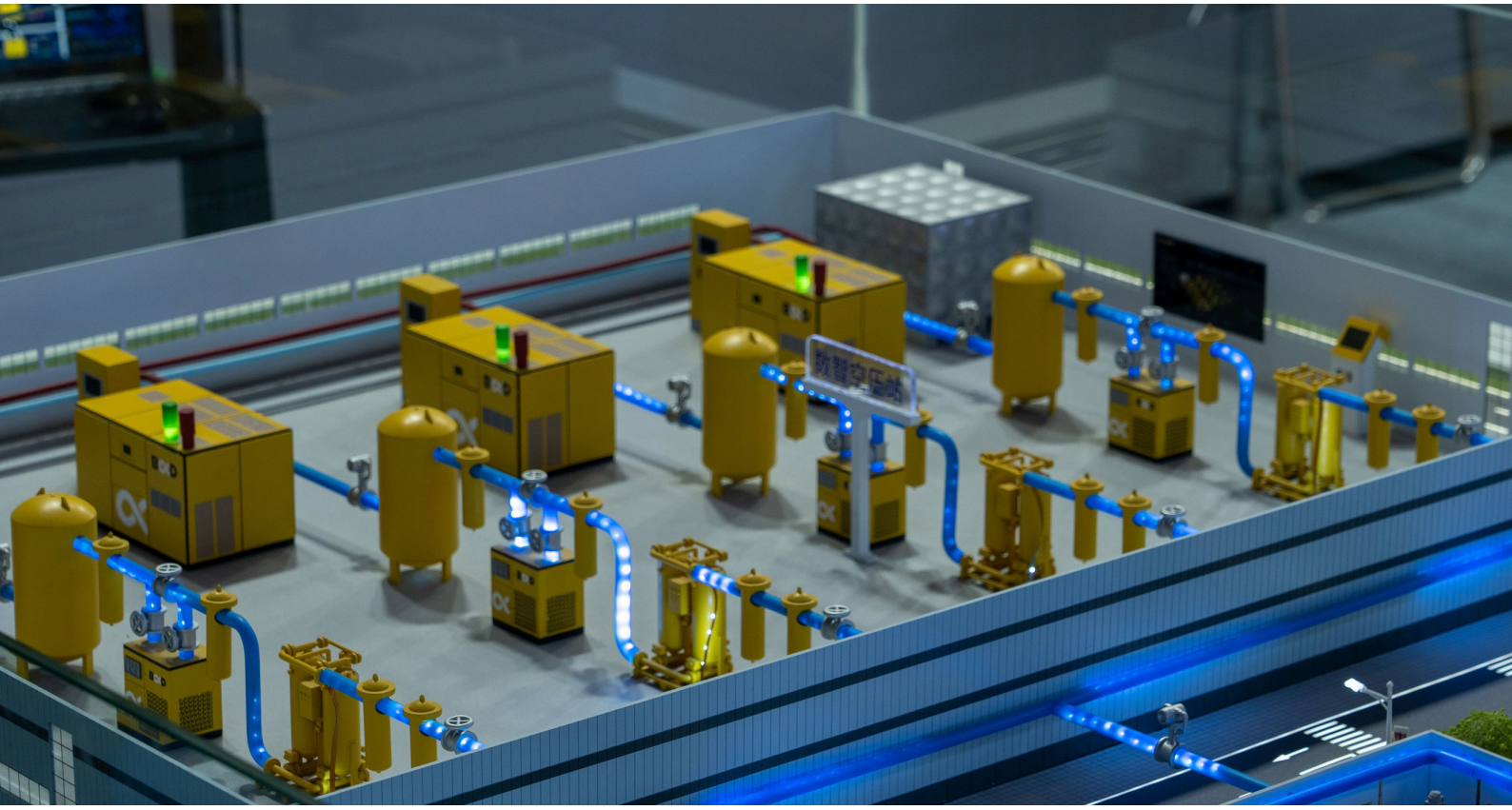
How we see it

Why it matters

- The project could change how JNPA would evaluate future capacity requirements. Instead of considering additional berth, yard, or gate capacity independently, the port could assess how each investment affects the wider port operating chain.
- The project could support more targeted capital allocation as JNPA moves towards 10 million TEUs. Analysis of operating constraints could help determine whether additional infrastructure is required or whether existing assets can be used more efficiently.

What could go right

- If the Digital Twin is validated against actual operating data, it could become a virtual testing environment for major port changes. JNPA could test proposed infrastructure layouts, traffic arrangements or terminal expansion plans before implementation.
- Over time, the model could support longer-term scenario planning, allowing JNPA to assess how different cargo growth scenarios could affect port operations and identify potential constraints earlier.
- This approach could provide a reference for other Indian ports where multiple terminals and transport modes need to be planned as a single operating system.



Key risks to watch

- If the Digital Twin does not accurately reflect actual port conditions, its simulations could produce misleading results and lead to incorrect operational or investment decisions. JNPA will therefore need to validate model outputs against actual vessel, yard, gate and traffic data, supported by mechanisms such as regular audits.
- The platform will depend on data from five terminal operators, customs and rail. Differences in data formats, update frequency or data quality could create gaps in the model and reduce the reliability of cross-port analysis.
- The platform will bring together data across critical port operations. A cyber incident or system outage could affect the availability of the command centre and the information used for operational decisions. The project's cyber-aware design will therefore need to be supported by strong access controls, monitoring and continuity arrangements.





LOGISTICS

Transforming India's freight: the case for zero-emission solutions beyond electric trucks

News brief

- About 3% of vehicles on Indian roads are medium and heavy-duty trucks. Almost all run on diesel and produce close to half of the country's road transport emissions. Road carries about 70% of India's freight and this is expected to grow.
- The industry's attention is on replacing diesel trucks with electric or hydrogen trucks. Ten priority highway corridors were identified in May 2025, followed by a target of 20 electrified routes by 2027. Electric truck guidelines were issued in July 2025.
- Replacing trucks is the slowest and most capital-intensive option. The transition can begin before this through three steps: driving fewer kilometres for the same freight, moving more freight by rail and water, and building the data-based system to measure progress. One logistics operator reports that, on its long-haul lanes using rail with road at each end, emissions are about one-fifth of those of a diesel truck for the whole journey, representing an 80% reduction.
- Measurement is the third step. A February 2026 whitepaper by Smart Freight Centre India, The Energy and Resources Institute (TERI) and the Indian Institute of Management (IIM) Bangalore proposes a national "Clean Freight Program" to measure, report and verify freight emissions. It remains a proposal and is not yet policy.



How we see it

Why it matters

- Electric trucks are not the only answer to freight emissions. India will move to electric trucks for long-haul freight, and the question is how quickly. Greater emissions reductions are possible before that transition, without introducing new vehicles.
- Measurement is also becoming a business requirement. Freight decisions have traditionally been based on cost and transit time, but emissions are now part of the discussion. Manufacturers and retailers must disclose Scope 3 emissions, which include emissions from their supply chain. Freight is a significant component of these emissions.
- Emissions per tonne-kilometre will become a factor in selecting logistics providers, along with price and reliability. A tonne-kilometre is one tonne of freight moved over one kilometre. Providers will be expected to provide audited numbers, rather than commitments. Companies that cannot measure their freight emissions will struggle to sell to customers that can.

What could go right

Three steps can begin today without new vehicles:

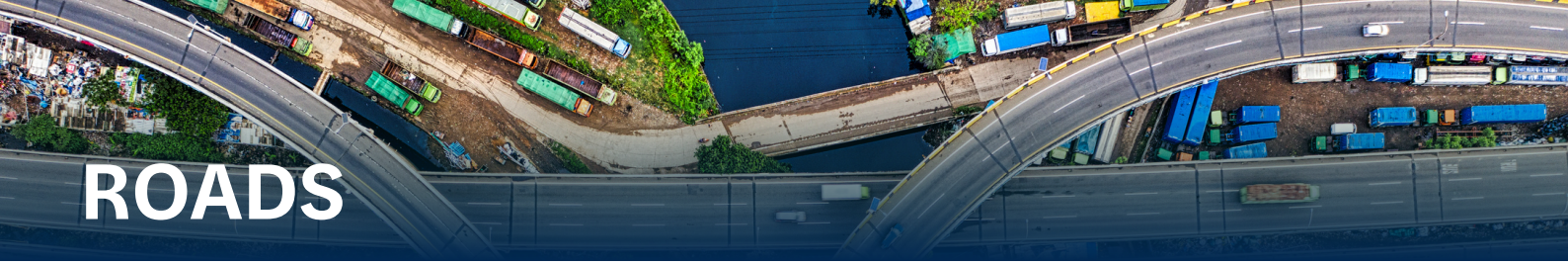
- **Reduce empty running:** Trucks often return empty after delivery. This is the largest avoidable inefficiency in Indian trucking, and one of the least measured. Few operators can quantify how much of their distance is travelled empty because return trips have not been systematically tracked. Small operators with fewer than six trucks account for most fleets and return loads have been matched through phone calls. Digital freight platforms match loads, plan routes across the network and give real-time visibility, reducing avoidable kilometres without new vehicles or charging infrastructure.
- **Move freight to rail and coastal shipping:** Dedicated Freight Corridors, which are rail lines built for freight, have made rail workable on the western and eastern routes. Coastal shipping is also becoming practical for several types of cargo previously assumed to require road transport. These modes are suited to planned, high-volume, long-distance freight, which is where most emissions arise. One operator reports 80% emissions cut on such lanes. For a manufacturer with regular interstate movements, the first question is which routes can move to rail rather than which fuel its carrier will use in 2035.
- **Measure freight emissions:** Methods to measure freight emissions already exist. India has lacked a national way to apply them. The proposed Clean Freight Program could address this gap by using India-specific emission factors and a digital platform to measure, report and verify emissions. This would also allow progress to be tracked.

These steps can also support the eventual transition to electric trucks. Fleet discipline is a precondition for electrification, not an alternative to it.

Key risks to watch

- If vehicle replacement is treated as the whole plan, action on the other steps is delayed. Replacing trucks is the slowest and most capital-intensive option, while the other steps can start immediately.
- Electric trucks cost much more to buy. The extra cost is recovered only over the kilometres they run. A poorly used electric truck is a worse investment than a well-used diesel truck.
- Rail and coastal shipping have limitations. They are suited to planned, high-volume freight that is not time sensitive, but are less suitable for short-cycle distribution, involving frequent deliveries over short distances.
- The Clean Freight Program remains a proposal. The whitepaper suggests the Bureau of Energy Efficiency, or the Department for Promotion of Industry and Internal Trade could run it. Its approach is expected to reach customers' vendor scorecards, which they use to rate suppliers, well before it becomes law. Providers may be asked for emissions numbers before any rule requires them.





ROADS

National Highway Authority of India (NHAI) plans AI and location-tracking upgrade for 1033 National Highway Helpline

News brief

- NHAI is planning a major technology upgrade of its 1033 National Highway Helpline, introducing artificial intelligence (AI), real-time location tracking and automated dispatch, while retaining human operators for critical decisions.
- The helpline, launched in 2018, runs 24×7 across more than 1.46 lakh km of national highways and handles around 15,000 calls a day, covering medical emergencies, breakdowns, ambulance & patrol dispatch, and FASTag & toll-plaza grievances. It is reachable by voice, SMS, WhatsApp, mobile app, web portal and email.
- The helpline will use voice AI that can understand and respond in multiple Indian languages, intended to help callers report incidents more easily in high-stress situations such as crashes or breakdowns.
- A key component is real-time location capture. Instead of relying on the caller's verbal description, the system will automatically identify their precise position on the highway network, and feed that into a dispatch platform that sends the nearest available ambulance, crane, tow truck or route patrol vehicle.
- The platform will also broadcast proactive alerts to highway users about accidents, obstructions or hazardous conditions ahead.



How we see it

Why it matters

- Emergency response on national highways currently exceeds the golden hour (first hour after a crash, when medical treatment is most likely to prevent death). A study of Indian national highways found that the total time to reach emergency care is close to 60 minutes or more, whether the crash is near a city or on a remote stretch, leaving almost no time for treatment within the hour that decides survival. The study's own conclusion is that technology-backed reform is needed to make highways "emergency rescuable". Nationally, only about 20% of crash victims reach medical care within the golden hour.
- National highways account for a disproportionate share of fatalities. National highways are 2.14% of India's roads but accounted for 36.6% of road deaths, 64,772 lives in 2024.
- A key bottleneck is the inability to establish the caller's location. The current system depends on an injured or panicked person describing where they are on a 1.46 lakh km network. Automatic location capture removes that step and NHAI's own framing of the upgrade, that the system will identify the caller's position "instead of relying solely on verbal descriptions," suggests this is where it sees the weakness.
- The upgrade is relevant to freight as well as passenger traffic. Trucks and lorries were involved in 13,659 accidents and 5,182 deaths on national highways in 2024. Freight runs long distances, often overnight and on remote stretches, which is exactly where help is furthest away. Commercial vehicles on national permits already carry tracking devices that report their location, as required under CMVR, 1989 (Central Motor Vehicle Rules) but the 1033 helpline does not use this data today.

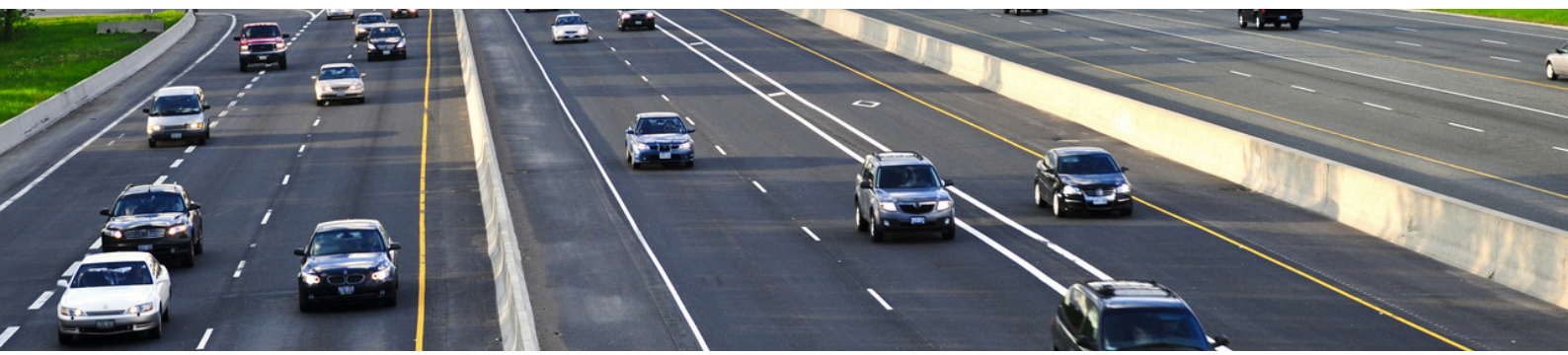


What could go right

- Improved emergency response has delivered measurable reductions in fatalities in India. On the Mumbai–Pune Expressway, the Zero Fatality Corridor halved crash deaths, with improved emergency care and better ambulance positioning among the reasons. Tamil Nadu cut accident deaths from 17,000 in 2016 to under 9,000 in 2023 through golden-hour triage (prioritising treatment by severity of injury within the first hour after a crash) and state-funded emergency care, and corridors in Karnataka and Kerala recorded fatality reductions of up to 54%. So, the helpline upgrade is a step in the direction of timely and better-quality emergency responses.
- Multilingual call handling could reduce communication barriers. Truck drivers on long-haul routes routinely cross several language regions. AI handling calls in multiple Indian languages could address a practical obstacle that affects freight more than local traffic.
- Proactive alerts could prevent secondary crashes. Warning approaching traffic about an obstruction ahead is different from responding to an incident after it occurs. For heavy vehicles, which require significantly longer stopping distances, advance warning is particularly important.

Key risks to watch

- Ambulance availability may limit the benefit of faster dispatch. India's ambulance coverage is as low as one vehicle per 80,000–100,000 people, against the World Health Organization (WHO) benchmark of one per 50,000. Smarter routing of a thin fleet improves matching, not availability.
- Mobile connectivity gaps may limit location capture. Automatic location capture depends on the mobile network and NHAI's own assessment found 424 locations covering about 1,750 km of national highways where mobile connectivity is unavailable, mostly on greenfield and remote stretches. Until those gaps are addressed, the upgrade's most useful feature may not work on the stretches where help is hardest to reach and that fix is the responsibility of the telecom regulator, not NHAI.
- The system assumes the victim can initiate a call. In a serious crash, the driver/ occupants may be trapped or unconscious. A system built around the victim calling and being located assumes a caller who can dial, which may not be the case, and which is why automatic crash detection is important.





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