

NHAI Guidelines to Strengthen Technology Integration and Sustainability in Development of High-Speed National Highway Corridors

New guidelines focus on better planning, modern technology, smoother tolling, improved drainage and greener corridors

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Taking significant step towards developing a world-class National Highway network, National Highways Authority of India (NHAI) has released comprehensive guidelines for the planning and design of High-Speed Access-Controlled National Highways, other than Expressways. The new guidelines are aimed at ensuring that the High-speed National Highways are better designed & planned, safer, greener and ready to meet the needs of future traffic. The guidelines will apply to all upcoming four and six-lane Greenfield and Brownfield High-Speed Access-Controlled National Highways.

Data-Driven Planning for Future Traffic

The guidelines lay emphasis on comprehensive traffic assessment and future demand planning. Traffic projections shall take into account existing and diverted traffic, along with expected growth in freight movement linked to economic and commercial activities. Toll data and other reliable sources will also be used to make traffic estimates more accurate.

Technology-Enabled Construction

Use of modern technology will be enhanced during the construction of High-speed National Highways to improve quality, accuracy and monitoring. The guidelines provide for the use of Automated and Intelligent Machine-aided Construction (AI-MC) technology for construction of embankments and highway pavements, in accordance with applicable Ministry of Road Transport and Highways (MoRTH) guidelines. Incorporation of these measures will facilitate technology-enabled construction, enabling better quality, consistency and monitoring during National Highway development. Also as envisioned by the Government of India, a shift will be made to install Multi Lane Free Flow (MLFF) system of tolling on High-speed corridors, provisions for implementation of MLFF shall be made accordingly.

Landscaping and Environmental Measures from Planning Stage

Landscaping and plantation will be incorporated as an integral part of project planning. Landscaping and plantations will be planned at suitable locations such as loop areas, below flyovers, medians and other suitable locations, keeping in view local climate, topography and environmental conditions. Drip irrigation systems will also be provided on National Highway medians, to ensure efficient use of water and easier maintenance of plantations.

Better Drainage and Water Management

Comprehensive drainage planning will form an integral part of the DPR process. The planning will identify where rainwater will be disposed and how water from the National Highway and surrounding areas will be safely managed. Water harvesting structures will also be provided in loop areas and other suitable locations, particularly with no natural outlet for rainwater.

Special arrangements will be made to manage water around underpasses flyovers depressed medians and other structures, helping to prevent water logging and damage to the National Highway infrastructure. Drainage plans will clearly identify water disposal points and provide suitable arrangements for managing rainwater from the high-speed National Highways and surrounding areas.

The guidelines will significantly contribute towards development of safer, more sustainable and future-ready High Speed National Highway corridors across the country.

GDH/DS

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