



NAHEV

National Highways for Electric Vehicles



UPCOMING
5500 KM eHighway
in India 

ABOUT NHEV

NHEV is an E-highway pilot project based on the Public-Private Partnership (PPP) Model from the Ease of Doing Business. The 1st phase of the pilot has been implemented on the Jaipur-Delhi-Agra highways covering 500km. Going forward the pilot will be scaled up to 5000 km across India. The pilot includes setting up charging infrastructure, car-bus fleet, roadside assistance for EVs along with theft-proof geofenced highways. The first two prototype stations of NHEV are commissioned in Gurugram with 100 EV chargers as India's Largest Charging station with 75 AC and 25 DC Chargers. Ease of Doing Business proposed easing the charging infra-setup with compliance reduction.

Ministry of Power clarified in 2020 that no license is needed for setting up petrol-pump-like EV charging stations. Prime Minister's clarion call of NetZero and this fundamental REFORM brought EoDB in E-Mobility to bring down major bottlenecks and boost the techno-commercial speed of adoption. On 27th September 2022, the miniature concept model for the 3rd generation of EV charging stations with the provision for Hydrogen was revealed by Shri Nitin Gadkari, the Honorable Minister of Road Transport and Highways. NHEV has successfully held Tech-Trial II from Delhi-Jaipur and the first part of the final report was released in March 2023.



THIRD GENERATION CHARGING STATION

The introduction of Third-Generation Charging Stations through the NHEV pilot will prove to be a game-changer. These stations will have no option for traditional fuels like diesel and petrol.

With hydrogen vending capabilities and robust charging infrastructure for EV cars, buses, 2-wheelers and 3-wheelers, these stations are certainly the stations of the future.

Detailing

01

The setup, detailing, and even micro-detailing of a petrol pump is clearly defined in the public domain, but standard norms and other relevant details for setting up a charging station were yet unknown and confusing.

Financing

02

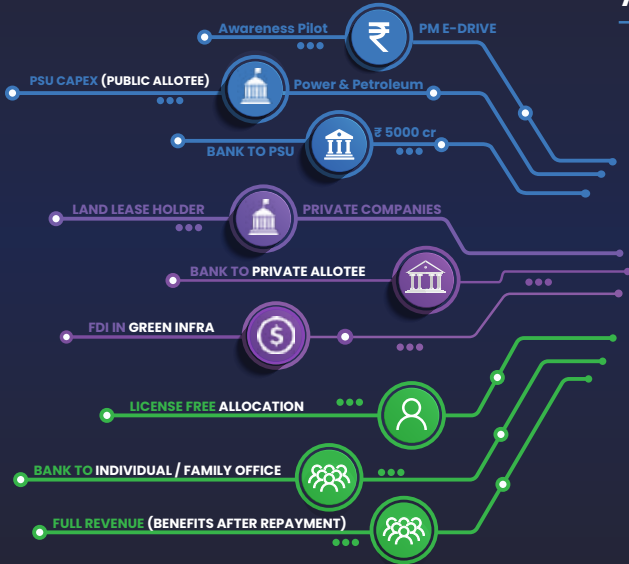
There was ample financial support for the notion and dialogues, but at an individual level, financing was a struggle.

Earning

03

Everyone knew infrastructural investment is a high CapEx business and the CapEx recovery periods of projects like Petrol pumps or metro were defined and calculated, but the breakeven for setting up of charging stations was unknown leaving the investors confused.

ASSET ALLOCATION



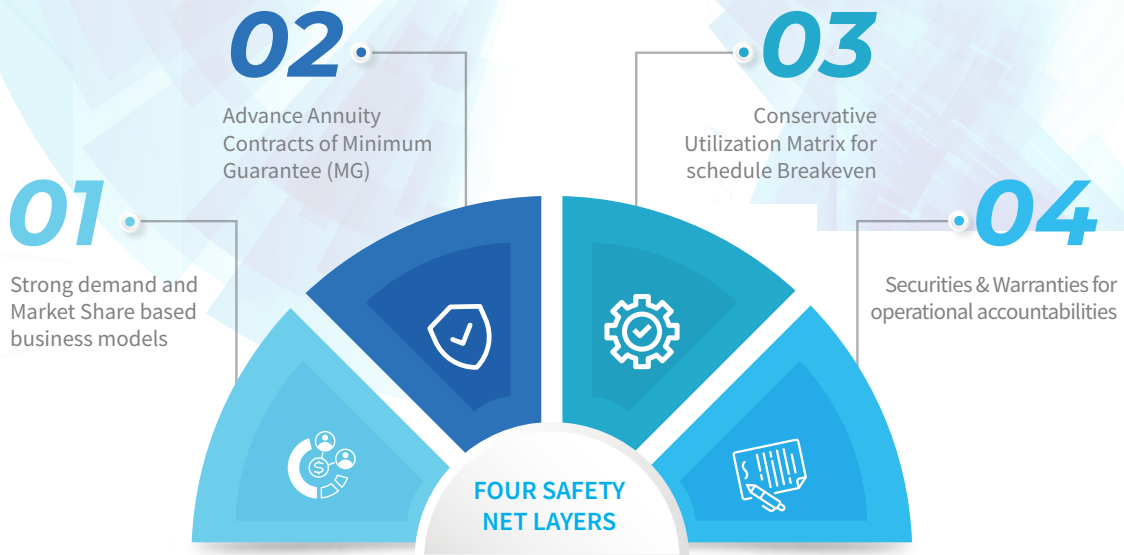
Financial Option of AHM on PPP

- PUBLIC
- PRIVATE
- PEOPLE



MULTI-LAYERED INVESTMENT SAFETY INDEX

Investment funds on NHEV Highway upgradation are utilized under Annuity Hybrid E-Mobility (AHM) model. They are protected with 4 layers of safety nets and 3 optional financing processes to ensure the allocation of each utility, asset and station.





NHEV started its Tech-Trial Run I on 25th Nov 2020 from Delhi to Agra via Yamuna Expressway, where components of all 4 major Ease of Doing Business deliveries were showcased to bring EVs on highways.



30-Min
Backup for EVs
on E-highways

30%
Lesser Priced
EVs in NHEV



30 % CapEx
Utilization of
Charging Infra

3-year
Breakeven
of Entire
Ecosystem



Tech-Trial Run II from Delhi-Jaipur, conducted from Sep 2022 to Dec 2022, highlighted the major points of Technical Investigation of E-Mobility. These major takeaways make EV adoption easier and boost user confidence on National Highways and Expressways.



01 Seat
Fare

₹1000 v/s ₹1500

₹4000 v/s ₹12000

01 Day
EV Fare



01 KM
Upgradation
Cost

₹1 Crore v/s ₹22 Crore

4500 MT
01 EV CO₂
Emissions
Cut



TECH TRIAL RUN

CHENNAI - TRICHY

TECH TRIAL RUN III

CHENNAI - TRICHY

332 KM

09
SEPTEMBER
2024



CHENNAI



TRICHY

TECHTRIAL RUN III OUTCOMES

WHAT DID WE TEST?

- 1 Ton / Kilometer**
Diesel Vs Electric Vs LNG cost
- Total Cost of Ownership**
10 EV Buses & ZET Truck fleet
- Breakeven Period of**
1 EV Bus/Truck as per utilisation
- E-Highway Freight Infra**
Per KM Upgradation cost for ZET vehicle

WHY DID WE TEST?

- To build 100% stakeholders' confidence
- To reduce 14% logistics cost to 9%
- To reduce oil import bills by 30%
- 5% deployment of zero emission transportation for decarbonisation of surface transportation

WHAT WAS UNDER TECH TRIAL?

- Electric Trucks, LNG Trucks, E-Buses, E-Cars & SUVs, e2W & e3W
- Electric Vehicle Supply Equipment (EVSE) Charging infra
- ZET & EV Tracking and Connected CPOs Networks
- Regional Demand and Commercial Utilization Volume

WHY SHOULD YOU TEST-RUN THEM?

- Commercial Viability, Profitability
- Technical Competence & Precision
- Operational Know-How Descriptions
- Deployment & Real-State Acquisition

WHAT IS THERE FOR YOU TO TAP FROM TTR III?

- Immediate Deployable Pilots (IDP) for governments
- Immediate purchase order on Cap-Ex for industry
- Cheaper & cleaner alternatives for the logistics sector
- ESG & clean transport for the industry to leasing ZET

WHAT DID WE GET FROM TECH TRIAL RUN III?

- 6 IDR - Immediate Deployable Routes - Values & Volume
- 500 Cr. Disbursement from 5000 Cr. Climate Financing
- All 4 Technical Testing Parameters for IDR

WHO ALL PARTICIPATED WITH US?

- OEM / Manufacturers
- Owner / Investors
- Fleet Operators
- Infra Operators
- Users with demand
- Financiers with credit outlays

WHAT DEPLOYMENT DID TTR III BRING?

- Electric Trucks
- ZET Loaders & Vehicles
- Electric Buses
- Intercity & Intracity Electric SUV Fleets

1360 KM Overview



PROTOTYPE STATIONS INAUGURATION

Gurgaon Sector-52



NHEV (National Highways for Electric Vehicles) inaugurated its first and India's largest Prototype Electric Vehicle (EV) charging station Model situated in Sector 52, Gurgaon, Haryana on 28th January 2022.

This charging station has been installed and operated by Alektrify. This EV charging station gets 100 charging points for four-wheelers, of which 72 units are AC slow chargers while 24 units are DC fast chargers.



AC Chargers



Charging Points



DC Chargers

Gurgaon Sector-86

NHEV (National Highways for Electric Vehicles) inaugurated its second Prototype Electric Vehicle (EV) charging station Model situated in Sector 86, Gurgaon, Haryana on 3rd March 2022.

This charging station has been installed and operated by Alektrify. This EV charging station gets 100 charging points for four-wheelers, of which 75 units are AC slow chargers while 25 units are DC fast chargers.



AC Chargers



Charging Points



DC Chargers

RECORD
72%
UTILIZATION

Commissioned Prototype
RECORDED HIGHEST
NATIONAL AVERAGE
With 100 Chargers & 576 EVs

MAXIMUM
36
MONTHS

Commissioned Prototype
REACHING ITS BREAK EVEN
NATIONAL AVERAGE RECORDS
With 75 AC & 25 DC FAST CHARGERS

MINIATURE EV CHARGING STATION CONCEPT MODEL REVEALED

Shri Nitin Gadkari, Hon'ble Minister of Road Transport & Highways revealed the miniature of NHEV Third Generation Charging Station



NHEV, a commercial pilot, initially aimed for Agra-Delhi-Jaipur routes to be opened as India's first 500 km E-Highway under this commercial pilot. On 27th September 2022, Shri Nitin Gadkari, Hon'ble Minister of Road Transport & Highways, inaugurated the miniature model of the NHEV 3rd Green Fuel Charging Stations. His appreciation towards the pilot fueled the scale-up of the pilot tenfold up to 5,000 kms. By the end of 2023, NHEV committed itself to equally increase procurement and capabilities up to tenfold as it entered the expansion phase.

| | | | | | | | | |
|----|---|--|----|-----------------------------|--|----|--------------------------|--|
| 01 | Sensor Gate | | 10 | Bank & ATM | | 20 | Tyre and Air Pressure | |
| 02 | AD Board (Annuity) | | 11 | Conference Room | | 21 | Cold Chain Cargo Storage | |
| 03 | Entry Boom Barrier (EV) | | 12 | EV Showroom 2W & 3W | | 22 | 2W & 3W Parking | |
| 04 | Utility Support & Server Room (AI-ML Algorithm) | | 13 | Battery Swapping Area | | 23 | Solar Panels (Rooftop) | |
| 05 | Compact Substation | | 14 | Hydrogen Tank (Dispensing) | | 24 | Smart Parking Management | |
| 06 | Car Swapping (Relay) | | 15 | Green Area (Kids Play Area) | | 25 | Air Toilets | |
| 07 | Food Court & Lounge | | 16 | Parking Lane | | 26 | Baby Feeding Area | |
| 08 | Battery Swapping Unit | | 17 | Fast Charging Points | | 27 | Salon & Spa | |
| 09 | Road Side Assistance | | 18 | Slow Charging Points | | 28 | Banquet Hall | |
| | | | 19 | Staff Utility Area | | | | |

BLENDED CLIMATE FINANCING



JANUARY 2023



NHEV E-highway Prototype Report draft tabled on 10th January 2023 at the 5th NHEV Working Group Meeting at New Delhi.

This was followed by a high-level interaction with the NITI Aayog for pricing revisions, citing low EV fares in the NHEV ecosystem.



FEBRUARY 2023

MARCH 2023



NHEV E-highway Prototype Report Released on 24th March 2023 at the Festival of Manufacturing by ET Edge at New Delhi.

 **HDFC BANK**



**Ease of
Doing
Business**

**REFORM
PERFORM
TRANSFORM**

For

NHEV
National Highways for Electric Vehicles



MOU SIGNING CEREMONY

On 31st August 2023, HDFC Bank and Ease of Doing Business came together for National Highways for Electric Vehicles to structure a credit outlay of ₹3,672 Crores for the upgradation of 5,500 KM of National Highways and expressways into E-Highways nationwide and revolutionise the Indian E-Mobility ecosystem.

Upcoming 5,500 KM E-Highways in India

COMMERCIAL TAKEAWAYS

Station Allocation on PPP Model

| PUBLIC | PRIVATE | PEOPLE |
|--------------------------------------|---|---------------------------------------|
| 1. FAME – II 2. PSU CapEx PSU CSR | 1. Bank to PSU 2. Bank to Private Sector 3. FDI in Corporate Sector | 1. Individual CapEx 2. Group CapEx |

Annuity Hybrid E-Mobility (AHM) Financial Model

Annuity Hybrid E-Mobility (AHM) is the financial model inspired by the Hybrid Annuity Model (HAM) having the capability to upgrade any highway or expressway into an E-highway within 90 days. AHM means procurement from on-boarded partners and suppliers for CapEx to earn OpEx for breakeven in 36 months.

NHEV: A GEM for E-Mobility

To be onboarded with the NHEV marketplace is like being onboarded by Amazon. AHM promotes higher-quality products & services and avoids curtailing a better-quality emerging technology due to cost constraints.

Beta Version E-Highway

NHEV has prototyped a beta version of global E-Highways in India on Relay Model Resilience where the responsibility of providing Mobility as a Service (MaaS) as the ticket/trip booked by the user is shared by the Fleet operator or the Highway operator and not burdened on the shoulders of the User or Driver.

Merit, Productivity and Performance based Procurement

NHEV has a robust takeaway for its first-mover participants and stakeholders to list themselves on the E-Marketplace and participate in the speedy qualification of repeated procurements on the basis of merit, and productivity in performance.

Mobility as a Service (MaaS)

MaaS is an evidence-based policy takeaway from NHEV that embarked on changing trends in people's behaviour and approach towards their transportation needs. NHEV fits E-Mobility in users' needs and pockets as well by making EVs available without drivers for intercity usage in multiple cities to make multiple trips and customised usages

People's Ownership of Station in PPP Model

NHEV and its PPP Model (AHM) have made it feasible for the first time for an individual to own a petrol pump like charging station without being dependent on any controlled licence like a petrol pump. An indented individual may invoke his/her own or partner's land on the highway for the Charging Station to obtain credit for CapEx he requires to finance station structure and equipment.



TECHNICAL TAKEAWAYS

Anti-theft Ecosystem

NHEV will be able to create an Anti-Theft system for EVs through the synchronization of three key players:

The EV | The Battery | The Charger

Battery-as-a-Subscription (BaaS)

Battery-as-a-Subscription(BaaS) model is the first of its kind that is tested under the NHEV Pilot. The battery and the vehicle are sold separately which reduces the CapEx for fleet operators and owners by 30-40%.

Relay Model Resilience

The Relay Model is piloted by taking inspiration from the operations of Metro trains. Whenever a fleet car arrives at any of the stations, it is swapped with a fully charged car. The customer now gets a fully charged car to continue the journey whereas the swapped car is put in for charging to continue the same relay process.

Battery Recycling Lifecycle

Overall competence developed by NHEV through technical prototyping of such models allows a battery to be tracked, sold, used, monitored, leased, insured and financed from day 1 of its manufacturing till repaired, refurbished, reused and recycled back without getting lost or buried in our environment unknowingly.

Vehicle-to-Grid (V2G)

Vehicle-to-Grid (V2G) is a technology enabling energy stored in a vehicle to flow back to the grid. This helps stabilise the electricity grid, thereby making solar and wind scalable.

Largest H₂ Vending Network

Hydrogen Dispensers at the 3rd Generation Charging Station facilitate multiple features:

High flow in short filling times | Low noise refueling | Pressure stages between 35 MPa to 25 MPa | Special Data interface for communication between vehicles and fuelling dispensers | Coding for pressure stage and gas type | User's convenience and safety through integrated swivel joints and nozzles with suitable breakaway couplings.

5,500 KM Expansion Overview

830 KM

SUCCESSFUL PILOTS

Currently operating Electric Cars, SUV's & Buses

272 KM





DELHI - JAIPUR

225 KM

DELHI - AGRA

CHENNAI - TRICHY

332 KM

-  Cities
-  Pilot Highways (Operational)
-  E-Highways (Passenger & Freight)
-  Freight Highway Routes

-  5200 Electric Cars & SUVs
-  520 Electric Buses
-  1000 Electric Trucks
-  528 RSA Vehicles
-  5280 Electric 2W
-  5280 Electric 3W

-  14 States
-  27 Cities
-  26 E-Highways
-  270 Stations
-  28 Depot Hubs
-  28 Control Rooms

Upcoming 5,500 KM E-Highway in India

830 KM SUCCESSFUL PILOTS

Currently operating Electric Cars, SUVs, Buses & Trucks

DELHI – AGRA

225 KM

DELHI – JAIPUR

272 KM

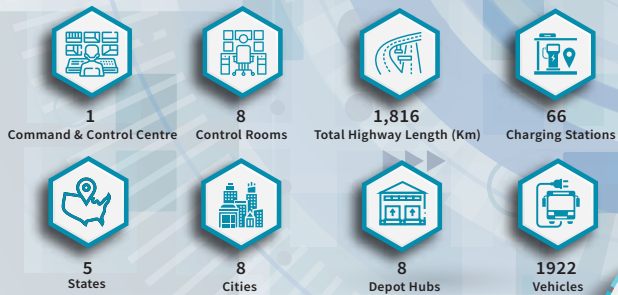
CHENNAI – TRICHY

332 KM

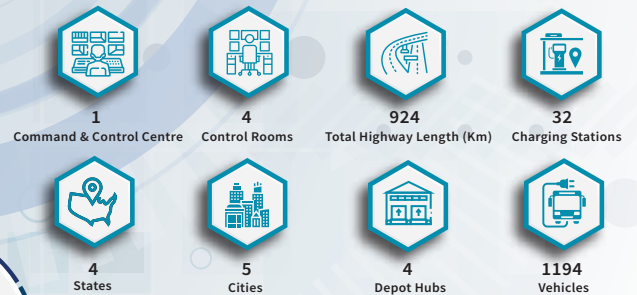
5000KM EXPANSION OVERVIEW

| | | | | | | | | |
|----|-------------------------|----------|----|-----------------------------|----------|----|-------------------------|----------|
| 01 | Dehi – Jaipur | (272 KM) | 02 | Jaipur – Udaipur | (396 KM) | 03 | Udaipur–Ahmedabad | (257 KM) |
| 04 | Ahmedabad – Vadodara | (111 KM) | 05 | Vadodara – Surat | (150 KM) | 06 | Surat – Mumbai | (283 KM) |
| 07 | Mumbai – Pune | (148 KM) | 08 | Pune – Goa | (444 KM) | 09 | Goa – Bangaluru | (558 KM) |
| 10 | Bengaluru - Chennai | (328 KM) | 11 | Chennai – Trichy | (332 KM) | 12 | Trichy – Madurai | (125 KM) |
| 13 | Krishnagiri – Madurai | (350 KM) | 14 | Madurai–Kanyakumari | (245 KM) | 15 | Coimbatore – Ulundrapet | (301 KM) |
| 16 | Chennai – Visakhapatnam | (797 KM) | 17 | Visakhapatnam - Bhubaneswar | (442 KM) | 18 | Balasure - Bhubaneswar | (196 KM) |
| 19 | Kolkata – Balasure | (247 KM) | 20 | Dhanbad – Kolkata | (272 KM) | 21 | Varanasi – Bodhgaya | (255 KM) |
| 22 | Prayagraj – Varanasi | (131 KM) | 23 | Lucknow – Prayagraj | (201 KM) | 24 | Agra – Lucknow | (336 KM) |
| 25 | Delhi – Agra | (225 KM) | 26 | Chennai – Vijayawada | (453 KM) | | | |

NORTH ZONE



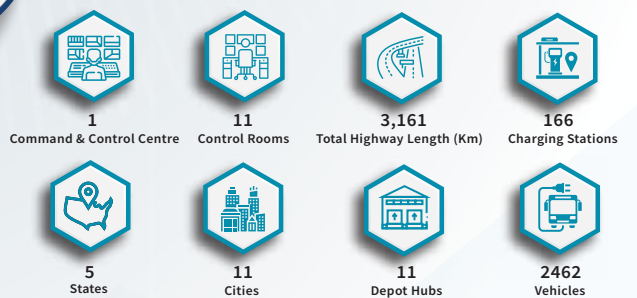
EAST ZONE



WEST ZONE



SOUTH ZONE



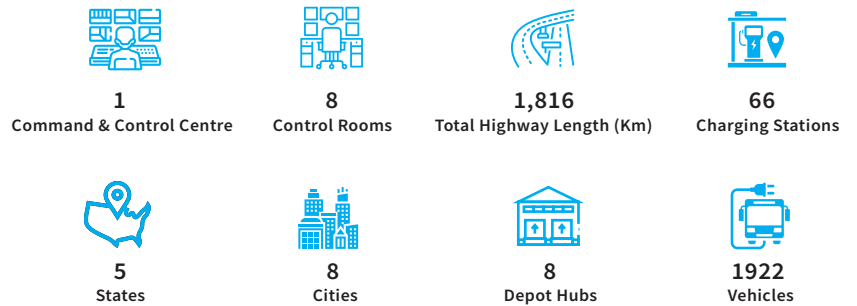
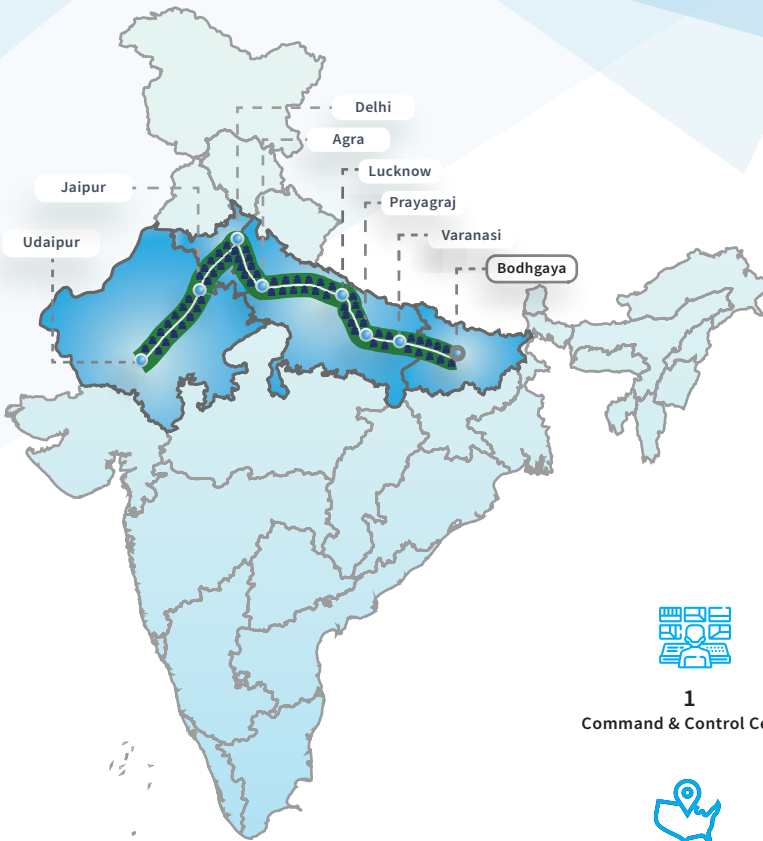
5,500
TOTAL KILOMETRES OF
E-HIGHWAYS

The total cost of the overall project for the Upgradation of National Highways and Expressways into 26 E-Highways nationwide will be approximately ₹5,500 Crores' where infra is ₹3,672 Crores.

ROLLOUT

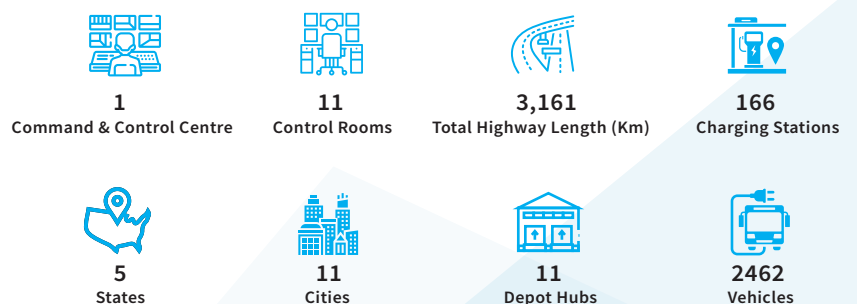
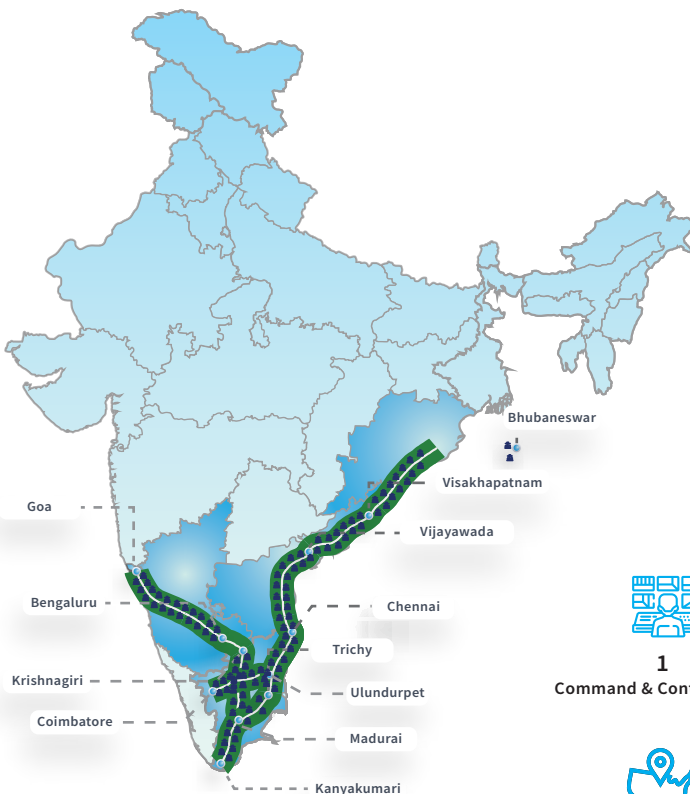
NORTH ZONE ROLLOUT

Budget ₹1,698 Cr



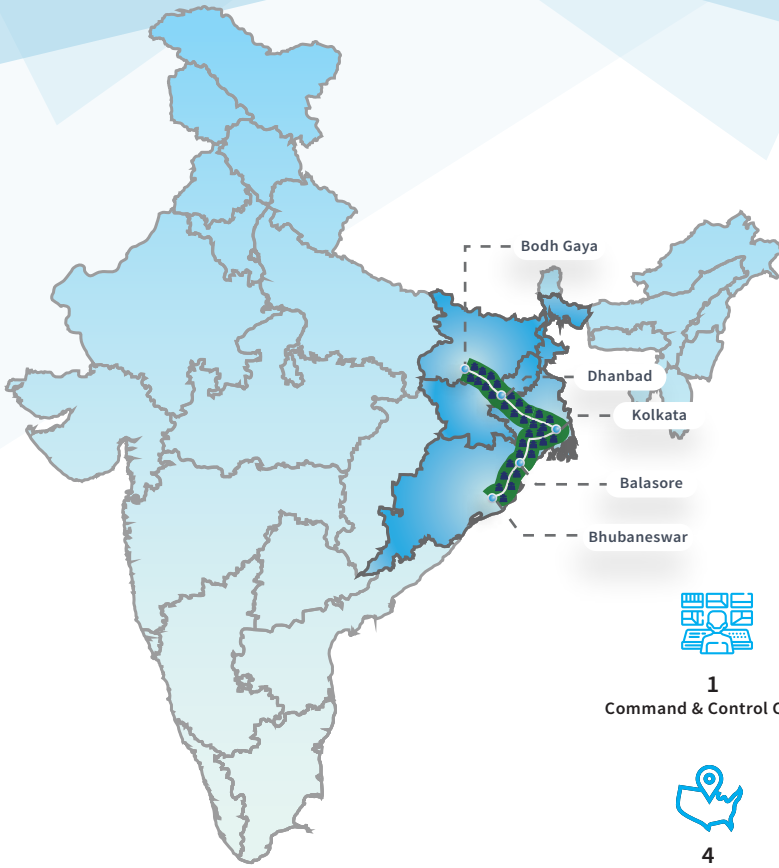
SOUTH ZONE ROLLOUT

Budget ₹ 2,966 Cr



EAST ZONE ROLLOUT

Budget ₹ 830 Cr



1
Command & Control Centre



4
Control Rooms



924
Total Highway Length (Km)



32
Charging Stations



4
States



5
Cities



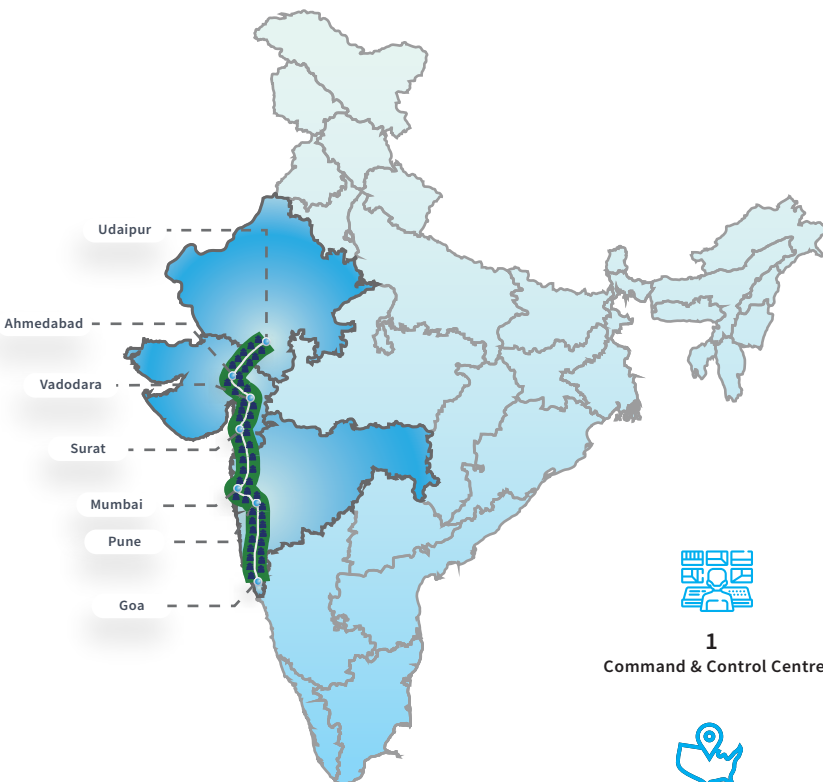
4
Depot Hubs



1194
Vehicles

WEST ZONE ROLLOUT

Budget ₹ 1280 Cr



1
Command & Control Centre



5
Control Rooms



1,401
Total Highway Length (Km)



50
Charging Stations



4
States



7
Cities



5
Depot Hubs



1670
Vehicles

AUTOCAR professional Essential reading for the Automotive industry

NHEV Acquires 4.7-Acre Site in Tirunelveli to Develop 3G EV Charging Station on Kanyakumari — Madurai Highway

NHEV secures a 4.7-acre site in Tirunelveli to set up its second 3G EV charging station on the Kanyakumari—Madurai corridor, supporting ongoing infrastructure development under the South Zone rollout plan.



The National Highways for Electric Vehicles (NHEV) has acquired a 4.7-acre site from the National Highways Authority of India (NHAI) in Tirunelveli, Tamil Nadu. The site will be used to establish a 3G electric vehicle (EV) charging station along the Kanyakumari—Madurai highway corridor. This will be the second charging station on this route and the first to be developed under the NHEV South Zone rollout.

Sudha Mishra
www.autocar.in

According to Abhijeet Sinha, Project Director of NHEV, multiple locations have been identified for 3G charging stations in the southern states following the Chennai—Trichy third national toll involving electric and LNG vehicles such as trucks and buses. He noted that there was considerable interest in providing land for these charging stations, which are similar in scale to petrol pumps. NHEV evaluated

applications from individuals and private firms offering land and also considered sites made available through public channels like the National Highways Logistics Management Limited (NHLML). Sites from both private and public sources will be used to build the upcoming charging stations.

NHEV's partners, Tata Steel Next-Gen and IITRA Charging, visited the Tirunelveli site and have begun work on construction planning, surveys, and cost estimations. Over 20 members of the NHEV team are expected to visit the site in the coming weeks. Sinha stated that the 3G charging stations are being developed using a hybrid Public-Private Partnership (PPP) model called AHM4 (Annually Hybrid E-Mobility). This model facilitates participation from public sector undertakings (PSUs) under the Power and Petroleum Ministries, as well as private entities and individuals, allowing broader ownership than was previously possible with traditional petrol pumps due to licensing regulations.

R. Harish Babu, Managing Director of Manca Autohub, who leased the site to NHEV, mentioned that the land is now open to NHEV partners for construction surveys, soil testing, and cost assessments to determine the station's final value. A drone-based mapping of the area has already been completed. The

NHEV Director also visited a public toilet facility under construction at the site. This project is part of NHEV's 2,500 km national charging network rollout, which was initiated after recommendations from the Estimate Committee of the 12th Lok Sabha. As part of the 2022-23 Union Budget, the Finance Ministry included this initiative in its infrastructure pipeline under Bharatmala and Sagarmala schemes. The site is to complete the network by 2027, ahead of the initial 2026 target. Once construction and electrification surveys are completed, pricing for each station will be finalized, and operations and revenue responsibilities will be allocated to public, private, or individual owners.

The Tirunelveli site is located on NHEV's 888 km right-of-way, following the Chennai—Trichy toll run conducted in September 2024 using electric trucks from Ashok Leyland and LNG trucks from Blue Energy Motors. This site will serve as the second 3G EV charging station on the Kanyakumari—Madurai route.

The location of the first station on this route is expected to be announced soon as part of the broader NHEV South Zone rollout, which includes Tamil Nadu, Andhra Pradesh, Telangana, Karnataka, Goa, and Puducherry. Given the proximity to ports and freight corridors, NHEV also plans to develop the Tirunelveli site into a hub for truck and logistics vehicle charging.

Business Standard

NHEV eyeing east and west corridors for expansion, says Abhijeet Sinha

A pilot programme under the government's Ease of Doing Business initiative, e-highways will feature public charging stations every 50 km.



National Highways for Electric Vehicles

NHEV has been tasked to transform 2,500 kilometres of national corridors—23 highways on the Bharatmala and Sagarmala routes—into e-highways by 2027.

The National Highway for Electric Vehicles (NHEV), a central government-promoted pilot for building electric highways (e-highways), is looking to upgrade 2,505 kilometres (km) of highways in the Eastern and Western corridors. NHEV Project Director Abhijeet Sinha said in an interview with Business Standard.

The expansion plan involves 1,491 km in the West and 2,164 km in the East, targeting 15 highways. This rollout includes a fleet of 520 buses and trucks, 2,600 electric cars, 2,520 electric two-wheelers and three-wheelers, alongside 128 charging stations and 256 battery-swapping kiosks, said Sinha, who is also the national programme director for ease of doing business.

NHEV has been tasked with transforming 5,500 km of national corridors—23 highways on the Bharatmala and Sagarmala routes—into e-highways by 2027. The revised estimated expenditure for this initiative is around ₹6,618 crore, including ₹1,298 crore for the West and ₹1,528 crore for the East. NHEV has successfully run a technology pilot of 50 km on the Delhi-Agra, Delhi-Jaipur, and Chennai-Trichy corridors.

MEDIA BRIEF

SEPC appoints Abhijeet Sinha as Principal Adviser



Abhijeet Sinha, a technocrat with experience in economic and technology commercialisation since 2014, has been appointed Principal Adviser to the Services Export Promotion Council (SEPC) under the Ministry of Commerce and Industry, Government of India.

The appointment comes at a time when the government is taking rapid measures to address tariff challenges, including the launch of the Export Promotion Mission and a ₹25,000 crore support mission aimed at boosting services exports. The government has advised service exporters to overcome non-tariff barriers and explore new markets.

As Principal Adviser, Sinha will bring expertise in climate financing, green credits and circular economy, PPP models, and collaborations with

international agencies and policymakers to strengthen the SEPC Council.

He will also work on digital tools, market identification and branding of Indian services in the Export Promotion Mission, so that, by accelerating the mission mode for 'Viksit Bharat' goals, India's leading Services Export Promotion Council (SEPC) can be prepared to contribute to world-class service promotion programs across sectors of the economy in line with international expectations.

Sinha is known for preparing

strategic policy advice and blended climate finance instruments in the public sector such as Annuity Hybrid E-Mobility (AHEM) and Digital Health Annuity Model (DHAM).

These instruments use public provisions and institutional funds as seed capital under PPP models to attract private investments and reduce risks. His initiatives have already enabled up to ₹5,000 crore of private investments through large projects like National Highways for Electric Vehicles (NHEV).

Recognized for his expertise in evidence-based financial policymaking for capital-intensive projects, Sinha is also regarded for his reform-driven approach, accessibility, and focus on accountability and transparency in both private and public sector initiatives.

Auto Monitor

NHEV and TRANSVOLT join hands on World EV Day to deploy 1000 electric trucks



On September 2025, New Delhi: A historic fleet of 1,000 electric trucks, including 500 buses and trucks, 2,600 electric cars, 2,520 electric two-wheelers and three-wheelers, alongside 128 charging stations and 256 battery-swapping kiosks, will be deployed on the Chennai-Trichy toll route of the National Highway for Electric Vehicles (NHEV) on the 22nd anniversary of the PM Didiya E-Mobility Mission. The trucks, which are part of the NHEV fleet, will be used to transport goods and passengers on the Chennai-Trichy toll route.

According to the NHEV team, the trucks will be used to transport goods and passengers on the Chennai-Trichy toll route. The trucks will be used to transport goods and passengers on the Chennai-Trichy toll route.

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MEDIA & NEWS

THE HINDU

NHEV NEWS RECENTLY

Tech Trial Run III: Electric vehicles flagged off from Chennai to Trichy

30 Sept 2024, Chennai: As part of Tech Trial Run III, the National Highways for Electric Vehicles (NHEV) flagged off electric cars, buses, and freight vehicles from Chennai to Trichy, on the occasion of World EV Day. This is done in a bid to understand the cost of logistics, reduce it, and also upgrade the five highways in the State into e-highways.



These trials will give a competitive analysis of diesel, liquefied natural gas (LNG) and electric (EV) vehicles, the respective fuel consumption, and cost of logistics. This will be helpful for companies that want to lease or buy them, Abhijeet Sinha, Program Director, NHEV, said.

The trial run will have 300 buses and 200 trucks that will cover 1,500 km, and the buses will be on five

key routes— Chennai to Trichy, Trichy to Madurai, Coimbatore to Udhagamperai, Kolhanagudi to Madurai, and Madurai to Kanyakumari. The results of the trials will be out in a month.

On the charging infrastructure along the highways, he said, "We have installed temporary charging points for the trials. The results of the trials will tell us about the number of charging points required on

the highways."

The reason for conducting the trials is to understand the cost of logistics, reduce it, and also upgrade the five highways in the State into e-highways. This is done in a bid to understand the cost of logistics, reduce it, and also upgrade the five highways in the State into e-highways.

Abhijeet Sinha

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The Indian EXPRESS

How India can build 5,500 km of e-highways by 2027: National Highways for EV's Abhijeet Sinha explains

A pilot programme under the government's Ease of Doing Business initiative, e-highways will feature public charging stations every 50 km.



Twenty-three national highways totalling 5,500 km could be upgraded to e-highways for electric vehicles by 2027, provided states submit eligible public-private partnership (PPP) proposals to the Centre, Abhijeet Sinha, programme director at National Highways for Electric Vehicles (NHEV), told The Indian Express.

In her Budget speech this February, Union Finance Minister Nirmala Sitharaman had urged states to identify a three-year pipeline of infrastructure projects in PPP mode and seek support from the India Infrastructure Project Development Fund (IIPDF). Making a case for the development of e-highways under this model,

Sinha said: "The projects will be funded, land will be provided through the National Highways Authority of India (NHAI) for charging stations. What do states have to give? Just electricity and permissions. Like for registering electric fleet operators. It's a win-win situation for them. The only thing they have to do is respond to this national election call."

HT Auto DRIVE YOUR PASSION

NHEV NEWS RECENTLY

India's 1st ever miniature EV charging station for highway unveiled: NHEV

25 Sept 2022 - Delhi: Union minister for road transport and highways Nitin Gadkar has unveiled India's first-ever miniature NHEV (National Highways for EV) charging station, which will compete with the petrol pumps. A statement by the minister claims that this model has been conceptualised as a comprehensive, scalable, sustainable plan that can retrograde and replace the traditional petrol refuelling stations and provide amenities on the highways.



The miniature EV charging station comes as a scaled-down structure with a host of amenities.

As the MoRTH has planned to upgrade 5,500 km of national highways to e-highways through its pilot project, NHEV, this EV charging station could be crucial in amplifying the EV drive in the country.

A pilot project is currently conducting its consulting phase of the technical and commercial trial with buses and long-range electric SUVs on the Delhi-Jaipur stretch from 10th September 2022. This would add a 27% km stretch to the previously sanctioned 210 km trial run between

Delhi-Agra. In 2021 to accomplish technical trials of a total of 500 km across four states UP, Delhi, Haryana and Rajasthan in its pilot phase.

The miniature EV charging station comes as a scaled-down structure with its inside resembling a solar-powered air-conditioned super station. It has a charging station with an in-built food court lounge, ayurvedic wellness spa, eco-friendly

bins, toilets, ATM & bank outlets, conference areas, child & mother's room, two-wheeler EV showroom and Smart Side Assistance (SSA) facility, equipped with a battery swapping units for food e-mobility.

Speaking about this project, Nitin Gadkar said that he has been talking about electric vehicles for the last three to four years, he also said that electricity is the fuel of the future. "Now

Devdiscourse Discourse on Development

Revolutionizing Roadways: NHEV's Bold Step into Electric Highways

The National Highways for Electric Vehicles is transforming highways into electric-friendly corridors by acquiring land in Tirunelveli for charging stations. This development is part of a nationwide 5,500 km rollout of the 3G charging network, focused on enhancing freight and passenger electric vehicle infrastructures across India.

The National Highways for Electric Vehicles (NHEV), a transformative pilot programme by the union government, is setting the stage for a sustainable future by developing Electric Highways. In a significant move, NHEV has acquired 4.7 acres of land in Tirunelveli to develop a 3G electric vehicle charging station, according to a company official.



This latest development is an integral part of the vast 5,500 km NHEV 3G charging network rollout scheduled across India. It comes after noteworthy recommendations from the Estimate Committee of the 17th Lok Sabha, indicating massive investments into electric vehicle infrastructure.

Strategically sited on the Kanyakumari - Madurai Highway corridor, the Tirunelveli site represents the second charging station on this route and the first envisioned within the NHEV South Zone deployment. The site is primed to be a hub for truck and logistics charging, amid ongoing technical trials.

FORTUNE INDIA

EV prices to come down by 10-15% with Budget measures: NHEV

Proposed reduction in customs duty on EVs and battery components expected to lower prices, says NHEV



Electric vehicle prices are likely to come down by 10-15% because of the impact of the provisions announced in Budget 2025-26 for the sector, according to the National Highways for Electric Vehicles (NHEV)—a government initiative to convert highways into e-highways.

The Budget announced a number of import duty cuts for both EVs and the

electronics sector, which are expected to boost the concerned industry. "India's recent reduction in customs duty on electric vehicles and battery components is expected to lower EV prices by approximately 10-15%," says Abhijeet Sinha, programme director, NHEV.

Sinha, however, is of the view that the prices of EVs need to be brought down significantly. He says that the government should aim to reduce prices of EVs by 50% "to equate them with diesel and petrol vehicles in the next two years. It should encourage swapping for which guidelines have been issued in January this year," he says.

NHEV is a pilot programme by the central government to upgrade highways into e-highways. An e-highway is a road that provides electricity to moving vehicles. It conducted technical trials on three pilot corridors: Delhi-Agra (Hindustan Expressways) in 2020; Delhi-Jaipur in 2022; and Chennai-Trichy in 2024. The Ministry of Power has proposed to convert a total of 12 national highways into e-highways.

"To the list of exempted capital goods, I propose to add 35 additional capital goods for EV battery manufacturing, and 28 additional capital goods for mobile phone battery manufacturing. This will boost domestic manufacture of lithium-ion batteries, both for mobile phones and electric vehicles," finance minister Nirmala Sitharaman had announced in the Budget.

Upcoming 5,500 KM E-Highways in India

MEDIA & NEWS

AUTOCAR professional Essential reading for the Automotive industry

Montra Electric Becomes First OEM to Partner with Government's NHEV Initiative

Marugappa Group subsidiary signs strategic agreement to deploy over 1,000 electric trucks across India, marking significant milestone in commercial vehicle electrification efforts.



Montra Electric (MECV) (Pvt. Ltd), a subsidiary of the Marugappa Group's TI Clean Mobility division, has entered into a strategic partnership with the Government of India's National Highway for Electric Vehicles (NHEV) initiative. The company becomes the first electric truck original equipment manufacturer (OEM) in India to collaborate with Ease of Doing Business (EDoB), the pilot agency for the NHEV program.

The partnership aims to accelerate the deployment of more than 1000 electric trucks across multiple sectors and routes throughout India. The collaboration is designed to make clear, freight transportation commercially viable at scale by creating frameworks for faster decision-making processes for fleet operators and end customers.

Under the agreement, Montra Electric (MECV) will work with EDoB to leverage blended climate financing and establish pre-approved

commercial terms for large-scale electric truck deployments. The partnership also includes collaboration with NHEV stakeholders in priority Corridor Commercial Vehicle (CCV) projects, ensuring seamless integration with future charging and energy station networks.

Live pilot programs are scheduled to begin on key highway corridors and high-volume freight routes as part of NHEV's Tech Trial II. These pilots will test electric trucks under real operating conditions, generate operational and commercial data, and provide a replicable model for other fleet operators across India.

Abhijeet Sinha, National Program Director of Ease of Doing Business & NHEV and Principal Advisor for SEPC to the Ministry of Commerce & Industry, stated that the collaboration will facilitate technical and commercial aspects for accelerated deployment. The partnership includes empowering the OEM in the Corridor Commercial Vehicle Protocol of the Indian Electric Highways and enabling an advanced Intelligent Transport Management System.

The agreement also facilitates access to the AHCM (Atmosphere Hybrid E-Mobility) blended climate financing instrument for funding the electric truck deployment program.

Jitendra Gupta, Managing Director of Montra Electric, emphasized that the partnership

represents a shift from intent to execution, aiming to lower adoption barriers and make electric trucking a practical and profitable choice for transporters and customers nationwide.

The collaboration aligns with the Government of India's broader vision to decarbonize freight transportation, reduce logistics costs, and strengthen the country's electric vehicle ecosystem.

Montra Electric operates under the Marugappa Group, a 125-year-old conglomerate with annual revenues of INR 30,575 crore. The company's electric vehicle portfolio includes India's first 50-ton electric truck trailer (EHTW), along with various commercial vehicles and the country's first electric tractor (E-2T).

The partnership represents a significant step in India's transition toward sustainable freight transportation and the broader adoption of electric commercial vehicles in the logistics sector.



Government's SEPC Names Abhijeet Sinha Principal Adviser Amid ₹25,000 Crore Export Support Mission

Mr Sinha will work to strengthen India's services export sector. He is a distinguished technocrat with over a decade of experience in economics and technology commercialization.



New Delhi: The Services Export Promotion Council (SEPC), under the Ministry of Commerce and Industry, Government of India has appointed Mr. Abhijeet Sinha as its new Principal Adviser. The appointment comes at a crucial time when the government is actively pushing initiatives to boost India's services exports and tackle non-tariff trade barriers.

Abhijeet Sinha, a distinguished technocrat with over a decade of experience in economic and technology commercialization, will play a pivotal role in advancing SEPC's mandate to promote Indian service exports globally. His appointment coincides with the government's launch of the Export Promotion Mission and a ₹25,000 crore support mission designed to bolster the sector.

As Principal Adviser, Sinha will also spearhead initiatives involving digital tools, market identification, and global branding for Indian services. His leadership aims to accelerate SEPC's contribution toward the government's Viksit Bharat vision by integrating innovation with export promotion strategies across various sectors.

Expertise in Climate Finance and Green Innovation

Sinha brings specialized knowledge in climate financing, green credits, and circular economy models, which are increasingly becoming important for sustainable export growth. His experience with public-private partnership (PPP) models and frameworks have facilitated private investments worth up to ₹5000 crore in projects like the National Highways for Electric Vehicles (NHEV), showcasing his ability to attract private capital to public sector initiatives.

Contributions to National Development Initiatives

With a background as the National Program Director of Ease of Doing Business, Sinha has been instrumental in promoting technological and economic advancements at grassroots levels. He has played key roles in initiatives aligned with Prime Minister Narendra Modi's vision, including the 'Tech-to-employment' vision, 'Viksit Bharat Mission', and the digitization of critical national registers.

The Services Export Promotion Council (SEPC) was established in 2006 to foster India's services export potential. It facilitates trade intelligence, export development, and creates a favorable business environment for service exporters. SEPC's efforts have been crucial in enhancing India's global footprint in sectors such as IT, healthcare, tourism, and financial services.

Hindustan Times @100

Upgrades in store for India's highways for EV era

EV adoption is key to India's 2070 net zero goal, with road transport estimated to contribute 12% of all emissions

Updated on Aug 26, 2022 12:02 PM IST



The first set of NHEV's charging stations -- totalling eight with two each in the north, south, east, and west zones -- will be operational by March 2023.

Nearly 5,500 km of key national highway stretches connecting Delhi-Mumbai, Delhi-Kolkata, and Kolkata-Kanyakumari, are set to be upgraded into electric or e-highways under the National Highways for Electric Vehicles (NHEV), on a public-private partnership (PPP) model.

Abhijeet Sinha, programme director at NHEV, said that while the primary goal is to provide adequate charging infrastructure, the programme will offer auto-triggered roadside assistance for EVs within 30 minutes in case of a breakdown, clean toilets, and other airport-like amenities at intervals of every 20km on these highways.

PRESS TRUST OF INDIA

NHEV and TRANSHUT join hands on World EV Day to display 100 electric trucks

New Delhi: The National Highway for Electric Vehicles (NHEV) and TRANSHUT have joined hands on World EV Day to display 100 electric trucks. The initiative is a part of the NHEV's Tech Trial II, which aims to test electric trucks under real operating conditions and generate operational and commercial data. The trucks are being displayed at various locations across India, including the NHEV pilot project sites. The display is a significant milestone in the NHEV's efforts to promote electric trucks and accelerate their adoption in the commercial vehicle sector. The trucks are being displayed for a period of one week, from August 26 to September 1, 2022. The display is open to the public, and visitors are encouraged to visit the sites and see the trucks in action. The NHEV and TRANSHUT are committed to making electric trucks a viable and profitable choice for transporters and customers nationwide. The initiative is a part of the NHEV's broader vision to decarbonize freight transportation and strengthen the country's electric vehicle ecosystem. The display is a significant step in the NHEV's transition toward sustainable freight transportation and the broader adoption of electric commercial vehicles in the logistics sector.

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E-HIGHWAY



GERMANY

INDIA



TRIAL 1

10 KM Length, Location: A5 Federal Autobahn, Speed: 56 mph, Frankfurt Airport to Reinfeld junction / Lübeck interchange
Funding: **132 Cr** for motorway installation, Trial Run Cost: 138 Cr

225 KM Length, Speed: 100kmph, Yamuna Expressway
India Gate via Greater Noida Yamuna Exp to Agra
Funding: **Rs. 2 Cr** from NHEV Partners, Trial Run: 1 Cr

2020 **Electric Vehicle participated**
Compatibility: 5 Pantograph Scania Trucks
Trucks from Schanz, Meyer Logistics, Contargo & Merck

2021 **Electric Vehicle participated**
Compatible: NueGo Electric Bus (Greencell)
Cars - Sedan Fleet Vehicle from Blusmart Mobility

TRIAL 2

12 KM Length, Speed: 56 mph, Location: A5 federal Autobahn
From Zeppelinheim/Cargo City, Frankfurt to Darmstadt
Trial Run Cost: 90 Cr INR (EUR 2 Million per Kilometer)

272 KM Length, Speed: 100kmph, Location: Delhi- Jaipur (NH 48)
From India Gate to Albert Hall Museum, Jaipur, Rajasthan
Funding: **Rs. 4 Cr INR** from EoDB, Trial Run Cost: 7 Cr INR

2020 **Electric Vehicle participated**
Compatibility: 5 Scania R 450 hybrid trucks
OEM: Schanz, Meyer Logistics, Contargo, Merck & Knauf

2022 **Electric Vehicle participated**
Compatible: NueGo Electric Bus (Greencell)
Cars - SUV from Blusmart Mobility

TRIAL 3

3.4 KM
Location: B 462 Federal Highway, Funding: 253 Cr INR, Trial Cost: 75 Cr INR

332 KM Length
Speed: 100kmph, Location: Chennai to Trichy, Tamil Nadu
Funding: **Rs. 3.6 Cr INR**

2021 **Electric Vehicle Participated**
Mercedes-Benz Gen H2 of Daimler (FCEV) Amazon, Air Products, Wiedmann & Winz, Holcim, and VERVAEKE

2024 **Electric Vehicle Participated**
Compatible: NueGo Electric Bus (Greencell) Trucks - Ashok Leyland, Blue Energy Motors OEM - GreeLine LNG, Kia & Tata Motors Sedan

4000 km into E-Highways by 2030 **UPGRADATION** **5,500 km** into E-Highways by 2030

22 Cr INR / Km **COST** **1 Cr INR / Km**

Federal Government of Germany
Environment Ministry, Germany
Olaf Scholz, Federal Chancellor of Germany
Steffi Lemke, Environment Ministry, Germany
Robert Habeck, Economic Affairs & Climate Action
Federal Ministry for Transport and Digital Infrastructure
National Platform for the Future of Mobility (NPM), Germany

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Pratap Chandra Sarangi, MP, Govt. of India
V.K. Saraswat, NITI Aayog, Govt. of India
Suresh Prabhu, Minister of Commerce & Industry, Govt. of India
K.J. Alphons, Minister of State for Tourism, Govt. of India

Motorway is getting dismantled due to financial support discontinued from Schleswig - Holstein Ministry of Transport and lorries getting returned to manufacturer.

STATUS

Indian Ministry of Finance focus on PPP projects in Budget 2025 make NHEV prepone its 5,500 km E-highways upgradation target from 2027 to 2030.

Environment Ministry,
Government of Germany

FINANCED BY

On Annuity Hybrid E-Mobility (AHM) PPP Model

Overhead lines may be adversely affected by strong winds causing wires to swing resulting in short circuit
Storms can knock the power out with lightning strikes on the wires, stopping trucks following a power surge
During cold or frosty weather, ice may coat overhead lines, resulting in electrical arcing and power surges

CHALLENGES

Commercial Prototyping on 23 proposed E-Highway Routes
E-Vehicle Manufacturing & Deployment on BAAS Model
Uninterrupted Power supply & speedy connection from Grid
Federal cooperation on Annuity Hybrid E-Mobility (AHM)
State and Central Government collaboration to upgrade their National Highways into E-Highways on AHM Model

Ease of Doing Business

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REFORM PERFORM TRANSFORM

National Highways for Electric Vehicles (NHEV) is a pilot program adopted by Govt. of India; initially supported by the Ministry of Commerce & Industry, whereas TechTrials were non-commercially supported by the DST, Ministry of Science and Technology, to upgrade highways into E-Highways. It conducted TechTrials on three pilot corridors, namely Delhi-Agra (Yamuna Expressway, 2020), Delhi-Jaipur (NH48, 2022), and Chennai-Trichy (NH45, 2024), out of 12 National Corridors proposed by the Ministry of Power for electrification in its Guidelines and Standards dated 14.12.2018 to be converted into E-highways. NHEV is built and funded on a Hybrid PPP Model called Annuity Hybrid E-Mobility (AHEM) and is currently in expansion mode, covering 5,500 km of E-highways on Bharatmala and Sagarmala routes from Delhi to Kanyakumari via Mumbai and Kolkata corridors.

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