



Transport & E-Mobility Resilience, Innovation & Sustainability

West Bengal

RESILIENCE, INNOVATION
& SUSTAINABILITY:
**WEST BENGAL
TRANSPORT & E-MOBILITY
SECTOR**



Table of Contents

Overview of BGS

Advantage of West Bengal: The Land of Opportunities

Industrial Infrastructure

Sector Overview: Transport

Policy Framework, Schemes and Projects

Investment and Employment Opportunities

Investible Projects

Success Stories



Overview of BGBS

West Bengal has been rapidly transforming itself into an economic powerhouse. With a combination of strategic geographical advantages, proactive government policies, skilled human resources, and a vibrant business environment, West Bengal has emerged as a key player in India's economic growth story.

It is among the leading exporters with 12% of the country's leather and 10% of iron & steel exports. MSMEs form the vital base of the industrial pyramid and West Bengal has the country's second-highest number of MSMEs (about 90 lakh units) which accounts for 14% of India's MSMEs.

The flagship projects in the state:

- Jangal Sundari Karmnagari Industrial Township is being setup over 4,000 acres in Purulia. Mining operations at Deocha-Pachami-Dewanganj- Harinsigha, the second largest coal block in the world is expected to start soon.
- Ready-to-Invest Industrial Infrastructure with 200+ Industrial Parks/ Estates spread over an area of around 10,000 acres.
- A 200-acre IT and Electronics Park (Silicon Valley) is being set up at Rajarhat.
- Three Industrial Growth Corridors are being developed at: Dankuni- Raghunathpur; Dankuni-Kalyani; Dankuni-Haldia to augment the pace of industrialization in Bengal.
- The state has two large container and bulk handling ports at Kolkata and Haldia and a new deep-sea port is coming up at Tajpur.

Bengal Global Business Summit (BGBS) is the flagship summit of the Government of West Bengal. The summit envisions bringing together corporate leaders, business delegations, entrepreneurs, academia, and think tanks from around the globe with the purpose of making strategic and business alliances as well as learning about the industrial ecosystem and business-friendly initiatives of the state.

The 7th Bengal Global Business Summit will have Plenary Sessions, Parallel Global Conferences, Sectoral sessions for focus sectors, Country sessions with partner countries, B2Bs, and B2Gs meetings to expand networks and meet potential partners.

Focus Sectors:

- Transport & Mobility
- Manufacturing Industries
- Energy
- Agriculture and Allied
- International Trade & Logistics
- Tourism
- Health, Health Infrastructure, and Health Education
- Knowledge Economy including IT & ITeS
- Education
- Blue Economy
- Creative Economy and Film Industry
- Inclusive Economy

The 7th edition of the Bengal Global Business Summit is scheduled on November 21-22, 2023 in Kolkata



Advantage of West Bengal: The Land of Opportunities

Advantage Bengal:

- A stable government; a visionary, dynamic, and pro-development leadership
- Peaceful, harmonious, inclusive, and cosmopolitan society. Cultural Capital of India
- Among the top States on the scale of Ease of Doing Business (EoDB). Recognised as the best State for EoDB in the Skoch Governance Report 2021.
- Abundance of industrial excellence and skilled HR - ideal to fill the gap in value chain of manufacturing.
- Zero tolerance to strikes: No industrial strikes/lockouts in the State in the last decade.
- Cost of doing business among the lowest - ease of doing business among the best.
- Robust infrastructure - Excellent rail and road network. 24X7 availability of quality power, gas, water supply and telecom (all towns and villages of the state have mobile connectivity).
- International borders with Bangladesh, Nepal and Bhutan. Easy accessibility with booming hubs of Asia, such as Singapore, Thailand and Malaysia.
- Robust export ecosystem.
- Gateway to South-East Asia and North-East India: other mineral-rich states like Chhattisgarh, Jharkhand, Bihar and Odisha in the neighbourhood.
- Hub of a thriving consumer base, covering neighbouring states and countries (0.3 billion)
- Abundant natural and agri resources - Third largest in India in mineral production; Highest/one of the highest producers in agriculture & horticulture (paddy, vegetables, fruits, jute), fisheries and animal husbandry (highest cattle population in the country)
- Among the largest producers of tea; Land of the famous Darjeeling Tea
- 21 products of the State have GI tags.
- IIT, IIM, ISI, IEST, Calcutta University and Jadavpur University and other I-class Educational institutions.
- Advanced health care - major corporate hospitals; state-of-art government hospitals
- International companies and domestic industrial leaders in the State.
- Excellent urban and social infrastructure; home to many multinationals and corporates. 36 foreign high commissions/consulates in the State.
- Home to top companies from a wide range of sectors, including iron and steel, tea, leather, jute, FMCG, metals and minerals, cement, textiles and apparel, logistics, chemicals, rubber, gems and jewelry, pharma, plastics, IT, and petro-products.
- Huge tourism potential - hills, forests, tea gardens, river cruises, sea beaches, heritage-cultural circuits (British Council has quantified the economy of Durga Puja [a UNESCO's intangible cultural heritage] at Rs 32,377 crore (US\$4.25 bill))

Industrial Infrastructure

Plug-N-Play Infrastructure Available for Investment

Industrial Infrastructure	<ul style="list-style-type: none">➤ Numerous Industrial Centers and Industrial Parks both Industry Specific and multi-product➤ More than 200 Industrial Parks/Estate/Growth Centers already exist or are coming up➤ Exclusive Center exists for Electronics, Export Processing and Software Technology
CNG	<ul style="list-style-type: none">➤ Haldia➤ Kolkata➤ Asansol-Durgapur➤ Kharagpur , Howrah➤ Siliguri
Ready Industrial Infrastructure	<ul style="list-style-type: none">➤ 200+Industrial Parks/Estates➤ 20,000 Acres of Industrial Land➤ 6 Textile Parks

State Online Single Window Mechanism for Investors:

The Government of West Bengal, through Shilpasathi under WBIDC, has implemented the online Single Window System which enables investors to fastrack their application process by submitting of Common Application Form without any physical touchpoint. The online services provided though this SWS platform has been mandated through defined timeline.

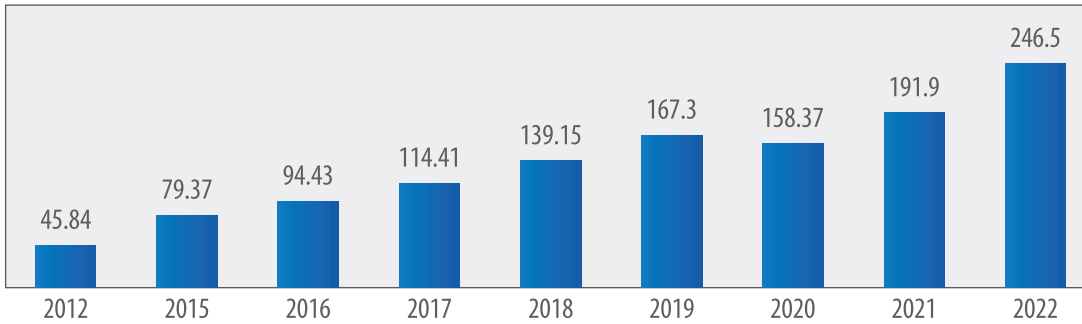


Sector Overview: Transport

E-Mobility Global Electronic Vehicle Market

The global electric vehicle market grew from \$45.84 billion in 2012 to \$246.5 billion in 2022 at a compound annual growth rate (CAGR) of 18.32%. The market is then expected to grow at a CAGR of 23.45% from 2022 to reach \$2026.5 billion in 2032.

Global Electric Vehicle Market, Historic Market Size, 2012-2022, \$ Billion

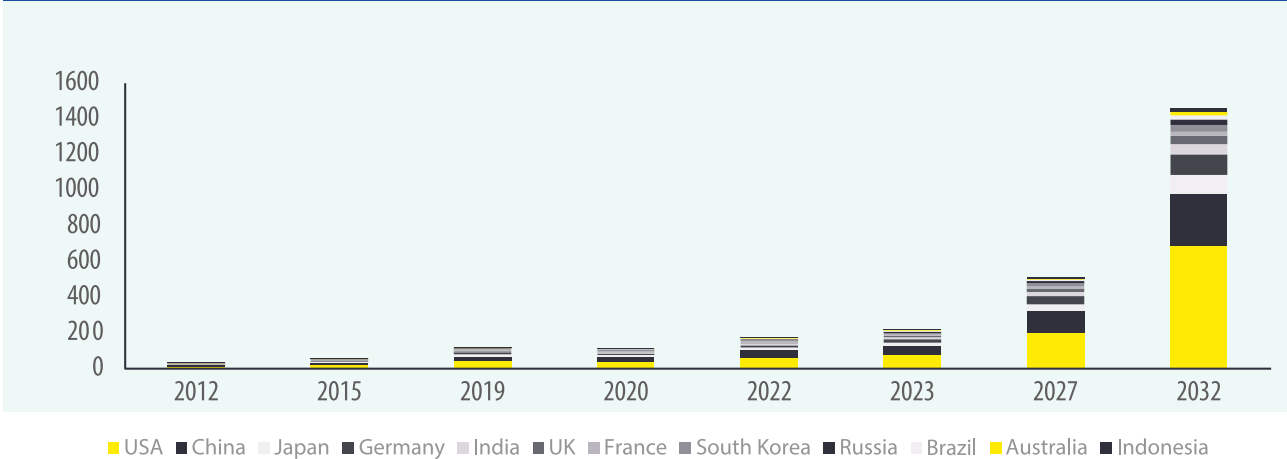


Major Trends in EV Segments:

EV Segment	Trends
Batter Electric Vehicle	<ul style="list-style-type: none">➤ Largest segment in the global electric vehicle market.➤ This market grew from \$28.22 billion in 2012 to \$162.83 billion in 2022 at a CAGR of 19.16%.➤ The market is then expected to grow at a CAGR of 24.34% from 2022 to reach \$1438.37 billion in 2032.
Plug-In Hybrid Electric Vehicle	<ul style="list-style-type: none">➤ Second largest segment in the global electric vehicle market.➤ This market grew from \$12.16 billion in 2012 to \$60.39 billion in 2022 at a CAGR of 17.38%.➤ The market is then expected to grow at a CAGR of 22.12% from 2022 to reach \$445.32 billion in 2032.
Fuel Cell Electric Vehicle	<ul style="list-style-type: none">➤ Fuel Cell Electric Vehicle is the smallest segment in the global electric vehicle market.➤ This market grew from \$5.46 billion in 2012 to \$23.28 billion in 2022 at a CAGR of 15.61%.➤ The market is then expected to grow at a CAGR of 19.89% from 2022 to reach \$142.81 billion in 2032.

India is the 5th largest Electric Vehicle Market with a market size of \$9.04 Billion in the year 2022 and is expected to have a market size of \$56.74 in the year 2032.

Global Electric Vehicle Market, Split By Country, Historic And Forecast Market Size 2012-2032F, \$ Billion



Sources: [Market Data Sources](#), [TBRC Estimates](#), [TBRC Analysis](#)

India Electric Sector Overview (Source: Invest India)

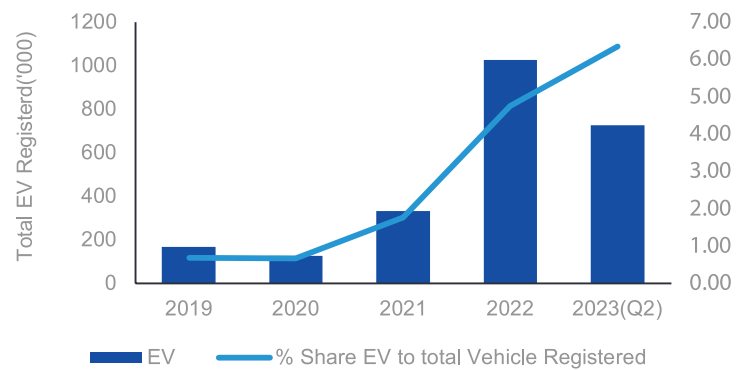
- India is the world’s third largest in Automobile market. The Automobile industry produced a total of 22.93 Mn vehicles including Passenger Vehicles, Commercial Vehicles, Three Wheelers, Two-wheelers, and Quadricycles in April 2021 to March 2022.
- India holds a strong position in the international heavy vehicles arena as it is the largest tractor manufacturer, second-largest bus manufacturer, and third-largest heavy truck manufacturer in the world.
- Automobile contributes nearly 6% to India’s GDP and 35% of the manufacturing GDP.
- The EV market is expected to grow at CAGR of 49% between 2022-2030 and is expected to hit 10 Mn-unit annual sales by 2030. The EV industry will create 50 Mn direct and indirect jobs by 2030.
- A market size of \$50 Bn for the financing of EVs in 2030 has been identified—about 80% of the current size of India’s retail vehicle finance industry, worth \$60 Bn today.
- Passenger vehicles posted the highest-ever sales at 25,04,084 units in FY 2022-23 as of November 2022. The industry is expected to post a growth of 16% in FY23.
- India’s Automotive Industry is worth more than \$222 Bn and contributes 8% of the country’s total export and accounts for 7.1% of India's GDP and is set to become the 3rd largest in the world by 2030



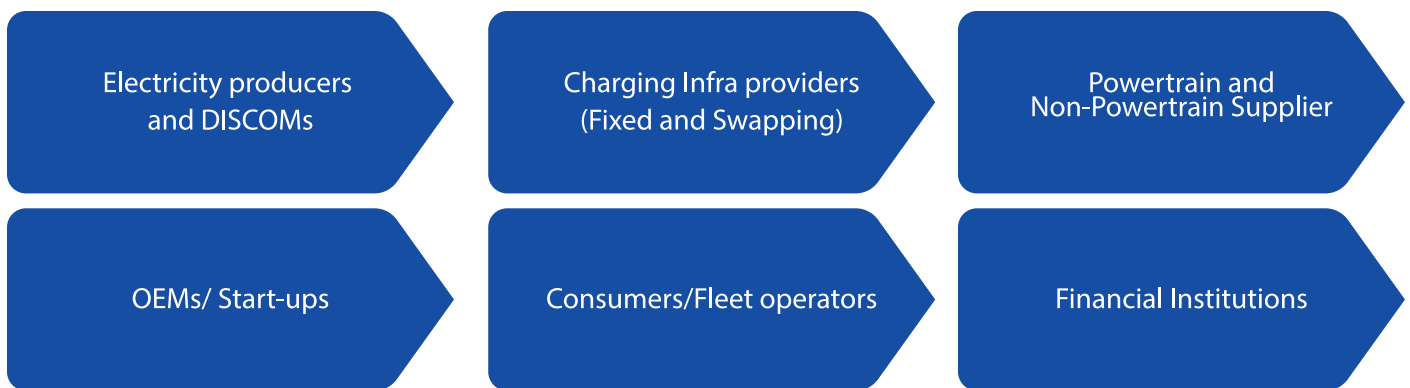
As on July 2023, the total no. of EVs registered in India was **27,04,882**

Till July 2023, **7,25,990** No. of EV has been registered for FY 2023 with 6.35% of the share to total vehicle for this year.

Year-wise EV registered from CY19 to CY23(Q2) in India



Major Stakeholders in the EV Ecosystem



Government/Policy Makers (MoP, MHI, MoRTH etc.)

EV components OEM landscape

India is the fifth largest market for the automotive industry, and it has a great presence of OEMs in the conventional vehicle segment through no. of companies dealing with Auto-Ancillary components. Conventional automobiles are an assembly of more than 2000 different components whereas the OEM in EV component can broadly be categorized into

- EV component manufacturer
- Battery manufacturer

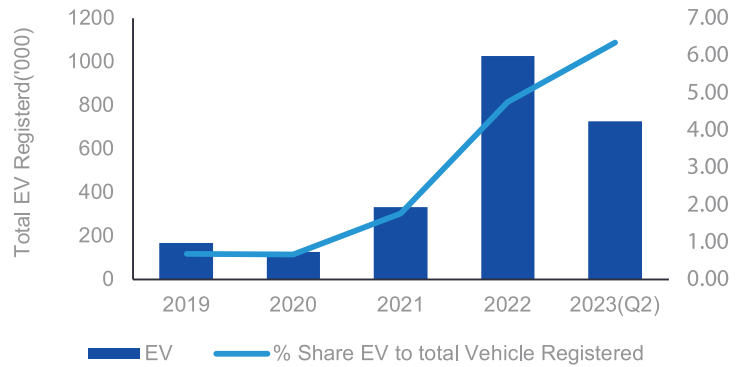


As on July 2023, the total no. of EVs registered in West Bengal was **66,850**.

Till July 2023, **9322** No. of total EV has been registered for current year in the State.

Major Stakeholders in the EV Ecosystem

Year-wise EV registered from CY19 to CY23(Q2) in India



- West Bengal's automobile market grew at a CAGR of nearly 11% during 2011- 2015 and is projected to further grow at a CAGR of 14.8% during 2016- 2021, owing to rising investments and growth in demand from exports.
- In between 2021 and 2023, Electric vehicles in West Bengal increased 41% as per VAHAN portal.
- In Phase-I of the FAME-I, West Bengal already procured 80 nos. pure e-buses, highest in India. The EV City Casebook & Policy Guide 2021 issued by the International Energy Agency – the Paris-based intergovernmental organization, states that Kolkata with its EV bus fleet of 80 (4.7% of its total fleet) stands 3rd in terms of percentage penetration of e-buses in Asia.
- In Phase-II of FAME-I, the state has requisitioned 50 buses and 16 from the fleet are already running in addition to the 80 buses.
- West Bengal Transport Corporation (WBTC) won the biggest allotment of e-buses for West Bengal of 1180 buses (22% share) under FAME-II through the world's largest tender for e-buses procurement, as described by PIB press release dated 26 April, 2022. Tender was floated by Convergence Energy Services Ltd (CESL) for 9 Indian cities. Transport Department with CESL is set to operate these buses, pending a court judgement.
- WBTC with BGCL has set up its first CNG dispensing station at its Kasba depot in 2022 in pursuance of a cleaner fuel to ply the government bus fleet. The SBSTC has set up 2 more CNG stations in Arambag and Durgapur. These apart, WBTC is coming up with 3 CNG pumping stations in Howrah, Tollygunge and Barasat and NBSTC will start a station shortly at Ultadanga.
- As per Press Information Bureau report – March'23, there are 189 nos. operational Public EV charging stations in West Bengal, out of which 40 nos. are along the National Highways. 849 nos. EV charging stations are planned along the highway network with one station every 25km on four-lane highways and one within a 3 Sq.km area.
- The automotive industry here in West Bengal is dominated by Original Equipment Manufacturers (OEMs)
- Easy access to raw materials such as iron and steel in the area serves as an added advantage to the growth of the automotive and auto components industry in the state
- The presence and growth of automobile manufacturing in a state would support to cater the need for OEM manufacturing in the EV Sector.

Charging Infrastructure:

- The Government of West Bengal has already identified 51 Location points for EV Charging Stations and Letter of Award has been given to Companies
- Another 53 locations for EV Charging Stations are being planned in the next phase
- A Mobile Application will be launched soon by the Government which will have all the information about the location of all charging stations
- The Government plans to install Charging Stations in every 25 Km on National Highways, State Highways, and other Important Roads.

Ports and Coastal Shipping and Inland Water Transport

Global Water Transport Market:

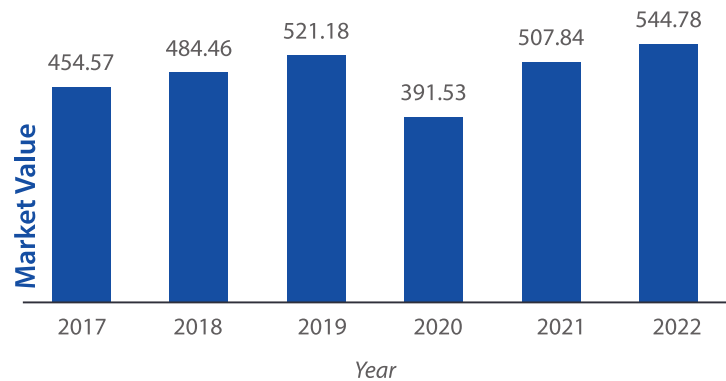
Global water transport market was worth \$544.7 billion in 2022. it was the sixth largest segment within the transport services market accounting for 7.5%.

In terms of per capita consumption, the market was \$69.8 and in terms of global GDP, the market was 0.51%.

Asia Pacific was the largest region in the water transport market in 2022, accounting for \$236.02 billion or 43.32% of the global water transport market.

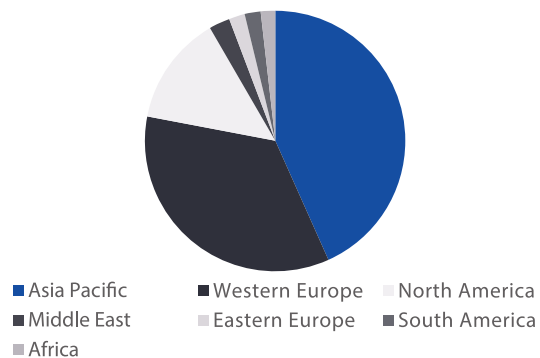
In the Water Transport Market, India is the 5th largest country in the Asia Pacific Region accounting for a 5.5% Share with a total revenue of \$12.97 Billion.

Global Water Transport Market, Historic Market Size, 2017-2022, \$ Billion



Sources: Market Data Sources, TBRC Estimates, TBRC Analysis

Global Water Transport Market, Split By Region, 2022, \$ Billion Market Value-\$544.78 Billion



India Shipping Industry:

(<https://shipmin.gov.in/publication/annual-reports> , <https://shipmin.gov.in/>)

The shipping industry has particularly benefitted due to a combination of growth in international trade and the removal of trade barriers and restrictions.

- Around 95 percent of India's trade by volume and 70 percent of India's trade by value is conducted through maritime transport.



- India is one of the top 20 countries in the world with a large number merchant fleet of total capacity 13 million-gallon tonnes.
- India has 12 major ports and approximately 200 non-major ports administered by Central and State Governments respectively.
- As per the studies conducted under the Sagarmala Programme, it is expected that by 2025, cargo traffic at Indian ports will be approximately 2500 MMTPA while the current cargo handling capacity of Indian ports is only 1500 MMTPA
- Cargo traffic at India's 12 major ports during April-November, 2022-23, increased by 8.7 to 506.54 million tonnes from 466.16 million tonnes of cargo handled during April-November, 2021-22.
- The Overseas cargo handled at Major Ports increased by 9.4% from 357.35 million tonnes during April-November, 2021-22 to 390.79 million tonnes handled during April-November, 2022-23.
- The Coastal Cargo handled at the Major port also increased by 6.4% from 108.81 million tonnes during April-November, 2021-22 to 115.75 million tonnes handled during April-November, 2022-23
- Cargo handled at India's major ports during November 2022 is 60.53 million tonnes showing an increase of 1.8% as compared to the corresponding period of the previous year
- SMP Haldia and SMP Kolkata handled 6.6% and 2.3% share of total cargo respectively during November 2022

Projects Under Sagarmala Initiatives:

Port Modernization & New Port Development	<ul style="list-style-type: none"> ➤ Under Project Unnati, global benchmarks were adopted to improve the efficiency and productivity KPIs for 12 major ports. ➤ Around 116 initiatives were identified across 12 major ports to unlock more than 100 MTPA capacity through efficiency improvement. ➤ Out of which, 93 initiatives have been implemented to unlock more than 80 MTPA capacity
Capacity Expansion of existing Major Ports	<ul style="list-style-type: none"> ➤ For all the 12 major ports, master plans have been finalized.
Port Connectivity Enhancement	<p>More than 235 connectivity projects at an estimated investment of more than Rs. 2.35 Lac Crore have been identified. This includes the following types of Projects.</p> <ul style="list-style-type: none"> ➤ National waterways prioritized for development in the first phase ➤ Connectivity to Dedicated freight corridors ➤ Last-mile rail and road connectivity projects ➤ Major rail connectivity projects ➤ Freight friendly Expressway projects connecting the major ports ➤ Development of Multi-Modal Logistics Parks ➤ POL Pipelines

(<https://sagarmala.gov.in/projects/projects-funded-under-sagarmala>) (<https://sagarmala.gov.in/>)



Inland Water Transport

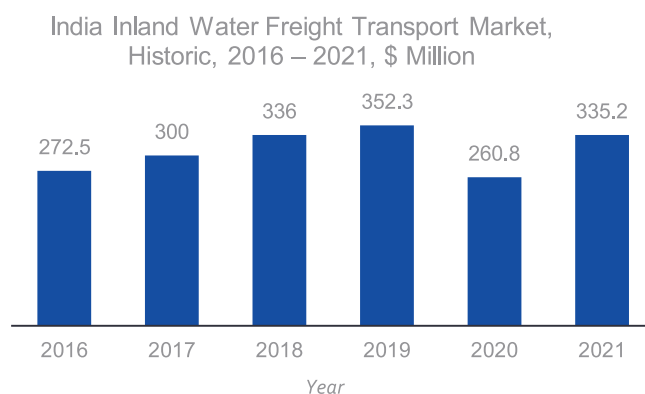
Global Market Size

The global inland water freight transport market was valued at \$15,882.4 million in 2021. The market accounted for 0.02% of the global GDP. In terms of per capita consumption, the market accounted for \$2.05. Developing regions such as Asia-Pacific, the Middle East and Africa, are fast-growing markets.

The market is expected to grow from \$15,882.4 million in 2021 to \$19,428.0 million in 2026 at a compound annual growth rate (CAGR) of 4.1%. The market is expected to grow to \$22,684.5 million in 2031 at a compound annual growth rate (CAGR) of 3.1%.

India Market Size and Growth

India was the sixth largest region in the inland water freight transport market and was worth \$335.2 million in 2021. The market accounted for 0.01% of the region's GDP. In terms of per capita consumption, the market accounted for \$0.24, \$1.81 lower than the global average. The inland water freight transport market in India is supported by the presence of a large population and high industrial activity. The market is also expected to be supported by government initiatives. The market is also supported by increasing demand from healthcare, automobile, and other industries.



The India inland water freight transport market grew from \$272.5 million in 2016 to \$335.2 million in 2021 at a compound annual growth rate (CAGR) of 4.2%.

The India inland water freight transport market is expected to grow from \$335.2 million in 2021 to \$520.2 million in 2026 at a compound annual growth rate (CAGR) of 9.2%.

The market is expected to grow to \$714.2 million in 2031 at a compound annual growth rate (CAGR) of 6.5%.

Inland Waterway Sector in India

- Alternative mode of transportation with lower transportation cost (30% than railways and 60% than road) as per Maritime Vision 2030
- A major boost to IWT Sector has been provided by the Government of India through the enactment of the National Waterways Act, 2016 (No.17 of 2016) dated 26 March 2016 which came into force w.e.f 12 April 2016.
- With the enactment of the National Waterways Act, 2016, the total number of national waterways is now 111 (including 05 waterways declared through earlier Acts). 111 National Waterways cover a total length of 20375 Km. spread across 24 States in the country. National Waterways of India are well in line to become the lifeline of the country.

- In addition to cargo movement, National Waterways can provide a convenient function in related activities such as carriage of vehicles (in Roll-on-Roll-off mode of cross-ferry) and Tourism including stay and entertainment.

Cargo Movement on National Waterways

- There has been an exponential growth in traffic on NWS
- Total traffic on waterways was 83.62MMT in 2020-21 which was increased to 108.79 in 2021-22, registering a growth of 30% over the previous year
- In 2022-23 cargo movement on NWS from the period April to December was 91.6 in comparison to the same period 2021-22 was 76.65 MMT showing a growth of 19.5%.

West Bengal- Maritime & Inland Waterway Overview

(<https://wb.gov.in/business-maritime-industry.aspx>)

- West Bengal is one of the 13 maritime states and union territories in India with a waterfront of 950 kilometres. It is richly endowed with natural maritime advantages, navigable and potentially navigable waterways including NW1 and 15 other NWS. It lies on important national & international trade routes to China, Bangladesh, Singapore, New Zealand, Australia, Indonesia, Malaysia, etc. and other Coastal states. The state acts as a gateway to East & North-East, and serves as a port of entry to land locked states of Central & Northern India and Nepal and Bhutan, its neighbouring countries.

The State has the following Ports

- Existing Ports: Kolkata & Haldia
- Upcoming Ports:
 - Deep sea port at Tajpur
 - Major deep seaport at Sagar Island
 - New port with shipbuilding facility at Kulpi

Projects In West Bengal Under Sagarmala Initiatives for Port Modernisation and Capacity Expansion

- Port Master Plan project (Kolkata port & Haldia) with the project cost of Rs 1150 Cr has been finalized for capacity addition.
- A total of 15 operation efficiency improvement initiatives were identified for Kolkata and Haldia port, out of which 9 have been completed

The port has twin dock systems viz. Kolkata dock System (KDS) on the eastern bank and Haldia Dock Complex (HDC) on the western bank of river Hooghly. Kolkata Port handled 47.09 Million Tonnes (MT) of traffic in 2019-20 (up to December 2019). While KDS handled traffic of 13.34 MT. HDC handled 33.76 MT. The port has 52 berths (KDS – 35 including 6 Oil Jetties and HDC – 17 including 3 Jetties) handling various types of cargo including containers with an effective rated capacity of 82.57 MTPA.



Inland Waterway Development Projects being implemented under Sagarmala Initiatives as on 30th Sep 2019
(Source: <https://sagarmala.gov.in/>)

Project Name	Theme	Total Cost (Rs. Cr)	Implementing agency	Project Status
Develop NW1 -from Allahabad to Haldia on Ganges - Jal Marg Vikas Project -JMVP	Port Connectivity	5,369	IWAI	Under Implementation
Rail connectivity to inland waterway terminals Sahibganj and Haldia	Port	500	IWAI	DPR under preparation
Develop NW-86 - Rupnarayan River	Port Connectivity	24	IWAI	Under Implementation
Develop NW-97 - Sunderbans waterways	Port Connectivity	18.1	IWAI	Under Implementation

Presence of National Waterways in West Bengal

(Source:<https://transport.wb.gov.in/transport-services/ferry-services/waterways-in-west-bengal/>)

- Presence of 16 No. of NWs in the State
- The total Length of the National waterways in West Bengal is 2293 Km
- Percentage Share of NWs of West Bengal in India is 15.81

1. NW-1 - Allahabad to Haldia (2039 Km)
2. NW-2 - Ganga (1465 Km)
3. NW-3 - Ganga (1465 Km)
4. NW-4 - Ganga (1465 Km)
5. NW-5 - Ganga (1465 Km)
6. NW-6 - Ganga (1465 Km)
7. NW-7 - Ganga (1465 Km)
8. NW-8 - Ganga (1465 Km)
9. NW-9 - Ganga (1465 Km)
10. NW-10 - Ganga (1465 Km)
11. NW-11 - Ganga (1465 Km)
12. NW-12 - Ganga (1465 Km)
13. NW-13 - Ganga (1465 Km)
14. NW-14 - Ganga (1465 Km)
15. NW-15 - Ganga (1465 Km)
16. NW-16 - Ganga (1465 Km)



Cargo Movement:

- During FY 2017-18 about 1.60 lakh tons of imported Coal (upto July, 2017) has been transported successfully by M/s Jindal ITF Ltd. using the barges of 1500 – 2000 tons capacity.
- Moreover, about 30 lakh tons cargo comprising of fly ash, food grains & general cargo moved between India and Bangladesh through National Waterway - 1 and Indo-Bangladesh Protocol Route under Inland Water Transit & Trade.
- In addition, the trial movement of 240 tons of bagged cement from Kolaghat located on river Rupnarayan (NW-87) to Bhagalpur on river Ganga (NW-1) and 300 tons of bagged fly ash from Kahalgaon (NW-1) to Kolaghat of M/s Dalmia Bharat Cements has been done by IWAI's shallow draft cargo vessel MV VV Giri under consultancy services for plan and implementation support for commercialization of NW-1.



Development of Tourism:

- Inland tourist vessels – RV Bengal Ganga, Ganga Voyager-I and Ganga Voyager-II of M/s Heritage River Cruise Pvt. Ltd., ABN Rajmahal & ABN Sukapha of M/s Assam Bengal Navigation Co. Pvt. Ltd. are plying on NW-1 in the State of West Bengal, Jharkhand, Bihar and Uttar Pradesh since many years on an increasing trend.
- The movements of these tourist vessels with foreign tourists were continued during 2017-18 and completed their commercial trips successfully as per schedule.
- One hundred seven (107) no. to & fro voyages between Kolkata to Hazardwari/ Farakka & six (06) no. to & fro voyages between Kolkata to Bateswarsthan/ Munger/ Patna have been performed by these tourist vessels.

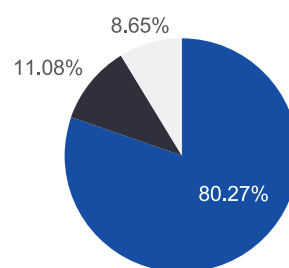
Air Transport

The Global Air Transport Market:

(Sources: Market Data Sources, TBRC Estimates, TBRC Analysis)

- The global air transport market was worth \$714.6 billion in 2022. It was the third largest segment within the transport services market accounting for 9.9%. In terms of per capita consumption, the market was \$91.6 and in terms of global GDP, the market was 0.67%. Air transport was the third largest segment within the transport services market accounting for 9.9% preceded and followed by truck transport at 25.5% and warehousing and storage at 9.1% respectively.
- The global air transport market grew from \$784.51 billion in 2017 to \$714.61 billion in 2022 at a compound annual growth rate (CAGR) of -1.85%.

Global Air Transport Market, Split By Segment, 2022, \$ Billion



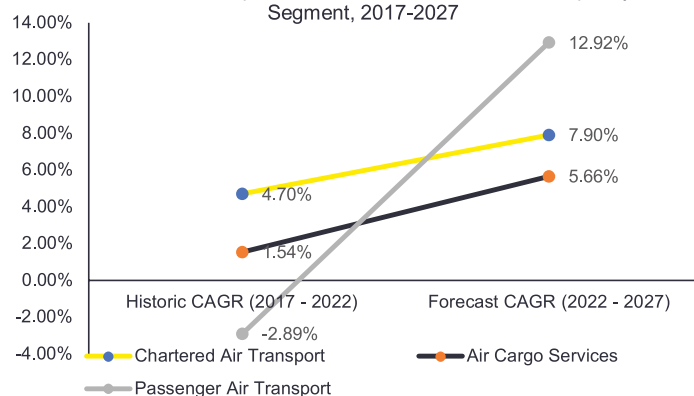
■ Passenger Air Transport ■ Chartered Air Transport
■ Air Cargo Services

Air Transport Market Segmentation

Passenger Air Transport was the largest segment in the air transport market at 80.27% of the market worth about \$573.64 billion.

Chartered Air Transport was the second largest segment in the air transport market at 11.08% of the market worth about \$79.19 billion.

Global Air Transport Market, Historic And Forecast, Split By Segment, 2017-2027

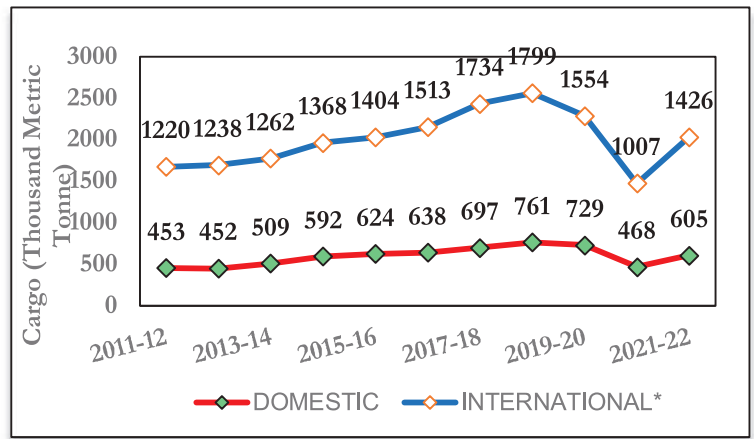


Air Cargo Services was the smallest segment in the air transport market at 8.65% of the market worth about \$61.78 billion.

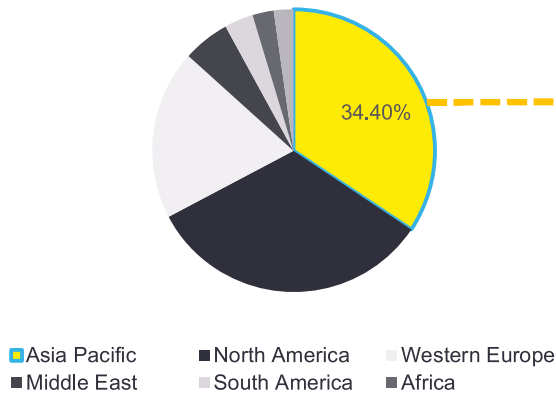
Passenger Air Transport had the smallest CAGR of -2.89% during 2017-2022 and is expected to grow at a CAGR of 12.92% during 2022-2027.

Global Air Transport by Region:

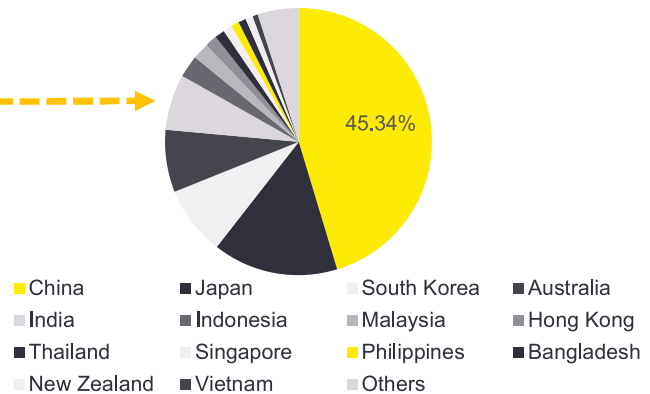
➤ Asia Pacific was the largest region in the air transport market in 2022, accounting for \$245.84 billion or 34.40% of the global air transport market.



Global Air Transport Market, Split By Region, 2022, \$ Billion



Asia Pacific Air Transport Market, Split By Country, 2022, \$ Billion



- India is in the 5th position with revenue of \$ 16.67 billion, contributing 6.78% of the Country's Share in this region.
- India's air transport market had a CAGR of -0.96% during 2017-2022 and is expected to grow at a CAGR of 17.46% during 2022-2027.

India Air Transport Sector:

Air Passenger Traffic:

Air Passenger Traffic in India, both domestic and international witnessed growth in the year 2021-22 compared to the previous year

Domestic passenger traffic registered a compound annual growth rate (CAGR) of 3.3% during the period 2011-12 to 2021-22 while international passenger traffic grew at -5.7% (CAGR) during the same period.



Cargo Traffic:

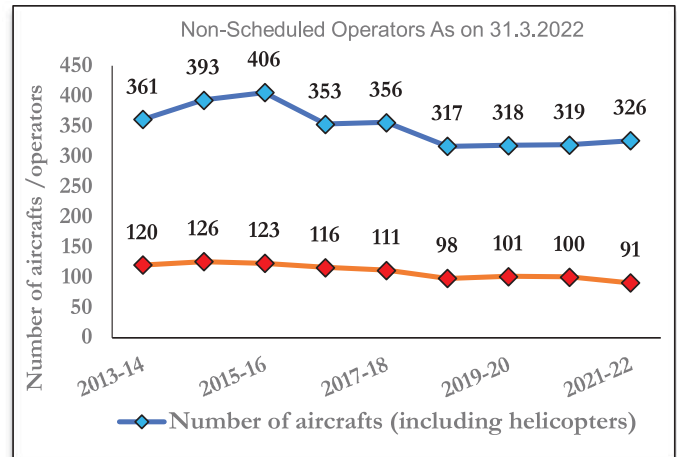
Domestic cargo traffic registered a growth of 2.9% (CAGR) over the period from 2011-12 to 2021-22 while international cargo traffic grew at 1.6% (CAGR) during the same period.

Non-Scheduled Operator:

Out of the total 61 NSOP domestic (aircraft) operators, the top 15 operators accounted for more than 62 % of the total number of domestic flights operated in the year 2021-22

Out of the total 61 non-scheduled international (aircraft) operators, top 15 operators accounted for almost 87% of the total number of international flights operated in the year 2021-22

**International Cargo figures include Freight only.*



Source: Directorate of Air Transport- I/ HANDBOOK OF CIVIL AVIATION STATISTICS (2021-22)
<https://www.dgca.gov.in/digigov-portal/?page=4252/4205/sericename>

India Aviation Industry Snapshot (<https://www.investindia.gov.in/sector/aviation>)

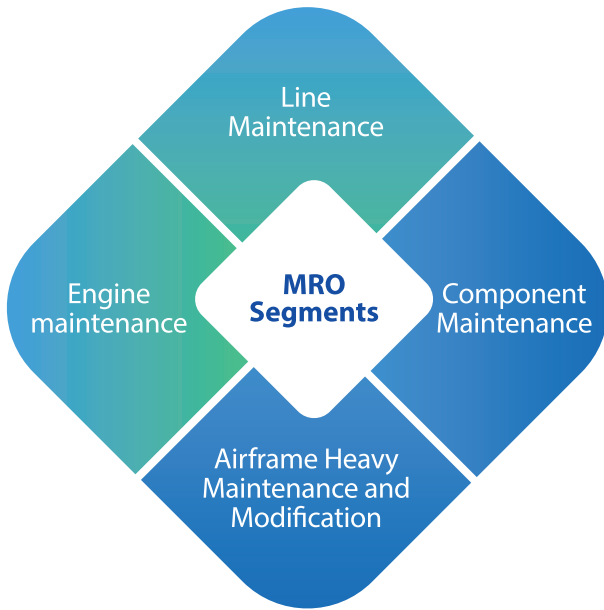
- Currently, the country has 131 operational airports including 29 international, 92 domestic, and 10 custom airports. To meet the growing demand for air travel in India, it has become imperative to increase the capacity of airport infrastructure.
- To augment the airport infrastructure the government aims to develop 100 airports by 2024 (under the UDAN Scheme) and expects to invest \$1.83 bn in the development of airport infrastructure by 2026.
- Till date, 74 airports have been developed. More than 2.15 lakh UDAN flights have been operated and over 1.1 crore passengers have availed the benefits in UDAN flights so far.
- The projected upsurge in air travel in India would require more aircraft usage, further igniting the demand for Maintenance, Repair & Overhaul (MRO) services. The Indian Civil Aviation MRO market, at present, stands at around \$900 mn and is anticipated to grow to \$4.33 bn by 2025 increasing at a CAGR of about 14-15%. Unmanned aerial vehicles, also known as drones have been welcomed across industries. The Indian drone industry is expected to have a total turnover of up to US\$ 1.8 billion by 2026

The Indian MRO (Maintenance Repair and Overhaul) Industry:

Source: MRO_Report-FINAL.pdf (niti.gov.in)



The MRO Segments:



Key Players in the Indian MRO Market

- Air India Engineering Services Ltd.
- Deccan Charters Ltd.
- Air Works India (Engineering) Pvt. Ltd.
- Indamer Aviation Pvt. Ltd.
- Max MRO Pvt. Ltd.
- Bird ExecuJet
- Taj Air
- GMR Aero Technic Ltd.

Region	Competencies (MRO Segments)
Bengaluru	<ul style="list-style-type: none">➤ Airframe➤ Component
Chennai	<ul style="list-style-type: none">➤ Airframe➤ Component
Kolkata	<ul style="list-style-type: none">➤ Component (with emphasis on propeller overhaul and repair)
Delhi	<ul style="list-style-type: none">➤ Airframe➤ Component➤ Engine

Airport Infrastructure in West Bengal: (<https://transport.wb.gov.in/infrastructure/airports>)

Airport/Airstrips	No	Name of the Airport
International Airport	2	Netaji Subhas Chandra Bose International Airport
Airstrips/airfields	4	Bagdogra Maldah Balurghat Purulia Salboni
New Operationalised Airport	2	Durgapur-Andal Cooch Behar

- The Netaji Subhas Chandra Bose International Airport at Kolkata, serves as a gateway to the neighbouring states in Eastern and North-Eastern India and now has a modern integrated terminal at par with the best in India
- Another major airport of West Bengal is located in the northern part of the State, at Bagdogra in the Darjeeling district. The airport provides connectivity to the North-Eastern States as well as to the neighboring Himalayan countries.
- A new greenfield airport has come up at Durgapur-Andal at a cost of INR 600.57 crore which has been jointly implemented by Singapore-based Changi Airports International and Bengal Aerotropolis Projects Ltd. (BAPL) with Govt. support. There are 2 Airlines already operating and at least four more are coming up with the service.

Air Traffic Movements

Airports	Aircraft Movements (In Numbers) - 2021-22	Passengers (In Numbers) - 2021-22
Kolkata	99865	11036108
Bagdogra	16250	1980049
Durgapur	1926	249975
Cooch Behar	2	7
Total	118043	13266139

Source: <https://tn.data.gov.in/resource/airport-wise-flights-and-passenger-traffic-handled-west-bengal-airports-during-2021-22>



Surface Transport

The revenue earned by entities by providing services to move people, goods, and materials through Air Transport, Surface Transport (Road and Rail), Maritime Transport through Sea Ports, and Inland Waterways and Pipelines. The transport Services market also comprises revenue earned by entities involved in the operation of warehousing and storage facilities.

Road Transport and Highways

Road Transport and Highways a critical infrastructure for the economic development of a country, impacting the pattern, pace, and structure of development.

The capacity of National Highways in terms of handling traffic (passenger and goods) needs to keep pace with economic growth. India has the second largest road network in the world of about 63.32 lakh km. This comprises National Highways, Expressways, State Highways, Major District Roads, Other District Roads and Village Roads as under:

Road Type	Length
National Highways	1,44,955 km
State Highways	1,67,079 km
Other Roads	60,19,757 km
Total Length	63,31,791 km

Source: Annual Report 2022-23, Ministry of Road Transport and Highways New Delhi, Government of India

The sectoral investment in Transport earlier was made by the Government. However, in order to encourage private sector participation, the Ministry has laid down comprehensive policy guidelines for private sector participation in the development of Transport Corridors.

The National Highways have a total length of 1,44,955 km, which in totality serve as the arterial network of the country. The development of National Highways is the responsibility of the Government of India. The Government of India had launched major initiatives to upgrade and strengthen National Highways through various phases of the National Highways Development Project (NHDP) and is taking the initiative forward through the umbrella program of Bharatmala Scheme Phase-I and other schemes and projects.

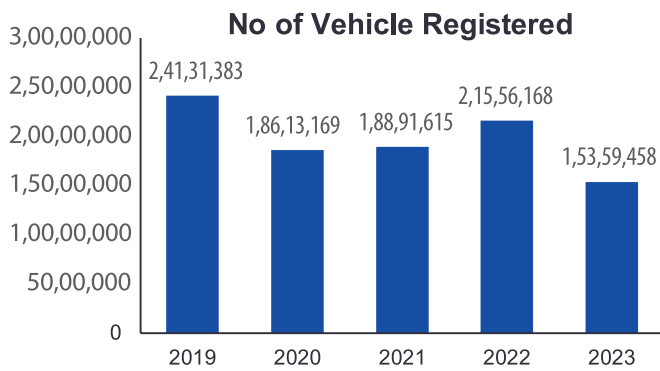
Under the Bharatmala Scheme (Phase-I), the following components/Schemes are being implemented and as of 31.12 2022, the total length 8033 KM has been completed.



- Economic Corridors
- Inter Corridors & Feeder Roads
- National Corridor Efficiency Improvement
- Border & International Road Connectivity
- Coastal & Port Connectivity Roads
- Expressways

Component / Scheme	Total Length (in km)	Length Completed up to 31.03.2022 (in km)	Length Completed (up to 31.03.2022) to 31.12.2022 (in km)	Total Length Completed up to 31.12.2022 (in km)
A. Bharatmala Pariyojana Phase-I				
Economic Corridor	6,800	2,167	960	3,127
Inter Corridors & Feeder Roads	6,000	193	000	1,293
National Corridor Efficiency Improvement	3,000	1,282	130	1,412
Border & International Road Connectivity	3,000	1,134	70	1,204
Coastal & Port Connectivity Roads	3,000	49	31	80
Expressways	600	421	100	521
Subtotal	24,000	6,154	1,070	7,224
Balance road network under NHDP	10,000	2,200	900	3,100
Grand Total	34,000	8,354	2,070	10,324

Source: Annual Report 2022-23, Ministry of Road Transport and Highways, New Delhi, Government of India



Registered Vehicle in India

- The total vehicle registered as of 07.09.2023 is 35,03,75,272
- The vehicle registration data shows that there has been a negative growth of ~23% in Year 2020 over 2019.
- A surge of ~14% growth in the year 2022 over 2021

Road Type	Length
National Highways	3579.2 km
State Highways	3641.6 km
Other Roads (MDR+ODR)	10753.5 km
Village Road (VR)	4498 KM
Total Length	22472 KM

Road Transport and Highways in West Bengal

Existing Road Network:

- The State provides a good Road network covering a length of nearly 22472 KM including all the National Highways.
- The presence of 33 NHs in the State covers a total length of 3579 KM

Major Upcoming Projects in the next 3 Years by NHAI In West Bengal:

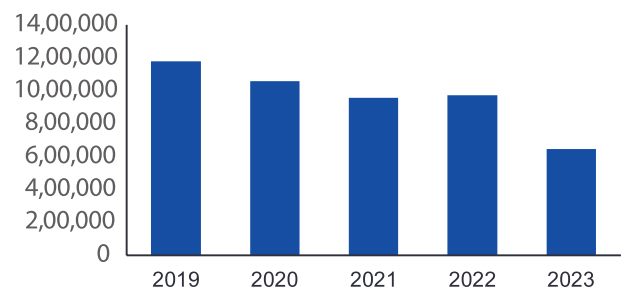
SL.No.	Name of the Project Corridor	Length (km)	Approx Cost (Rs. in crore)
1	4 laning of Kharagpur-Moregram section of NH 116B	231	12050
2	4 laning of Joka-Namkhana section of NH 117	90	3066
3	6 lane Raxaul-Haldia Expressway	269	13500
4	6 lane Kolkata-Varanasi Expressway	234	13000

Source: <https://pwd.wb.gov.in/wings?id=8b830a08-4f5f-44e0-a46f-c4983d5e9682>

Registered Vehicle in West Bengal

- The total number of vehicles registered in West Bengal as of 07.09.2023 is 1,53,75,201
- The vehicle registration data shows that there has been a negative growth of ~10% in two consecutive years i.e Year 2020 and 2021.
- Year 2022 witnessed a growth of ~2% over 2021.
- 71,194 electric vehicles (17,544 two-wheelers, 47,345 three-wheelers, 122 buses, 2,611 goods carriages, and rest others) have been registered so far (13,644 in 2023, up to 30th September) in West Bengal.

No of Vehicle Registered in West Bengal in Last 5 Years



Transport Infrastructure

Bus Depots & Terminals

Bus Depots & Terminals	Locations
Calcutta State Transport Corporation	<ul style="list-style-type: none">➤ Nilgunj, Belghoria, Paikpara, Manicktala, Saltlake, Kasba, Garia, Lake, Taratala, Thakurpukur and Howrah➤ One central workshop in CSTC located at Belgharia
West Bengal Transport Corporation	<ul style="list-style-type: none">➤ Tollygunj, Khidirpur, Kalighat, Gariahat, Park Circus, Rajabazar, Ultadanga, Belgachia, Barasat, Habra and Joka
West Bengal Surface Transport Corporation	<ul style="list-style-type: none">➤ Howrah, Saltlake and Sector-V
North Bengal State Transport Corporation	<ul style="list-style-type: none">➤ Coochbihar, Alipurduar, Mathabhanga, Dinhata, Toofangunj, Siliguri, Jalpaiguri,, Mainaguri, Malbazar, Darjeeling, Kalingpong, Islampur, Behrampur, Suri, Ranaghat and Ultadanga➤ Central Workshop is located at Coochbihar➤ Other workshops located at Coochbihar, Siliguri, Raigunj and Beharampur
South Bengal State Transport Corporation	<ul style="list-style-type: none">➤ Durgapur, Asansole, Burdwan, Arambag, Kalna, Bankura, Purulia, Belghoria, Howrah, Haldia, Digh, Midnapur and Falta➤ Central Workshop is located at Durgapur and Belghoria

Tram Depots

- 25 Nos of Tram Depots within the KMA Area

Logistic Development

- The State has been in the process of implementing 5 Multi Modal Logistics Park with an investment potential of Rs 8500 Cr
- These logistic Park would leverage the existing connectivity, immediate Hinterland and logistic ecosystem
- These logistic Parks are conceptualised to be operated at Tajpur, Dankuni, Siliguri, Durgapur and Malda covering the entire spread of the State.



Policy Framework, Schemes and Projects

This section covers the policy framework, schemes ,Ongoing and Upcoming Projects and online services under Ease of Doing Business (EoDB) pertaining to sub-sectors under Transport and Mobility that are formulated for both the National and State level.

Schemes/Policy Framework	Available Policies	Schemes/Programme
E-Mobility	West Bengal Electric Vehicle Policy 2021	Production Linked Incentive (PLI) scheme (2021) for Automobile and Auto component industry by Ministry of Heavy Industries, Gol PLI Scheme for National Programme on Advanced Chemistry Cell (ACC) Battery Storage by Ministry of Heavy Industries, Gol
Ports and Coastal Shipping and Inland water Transport	National Logistics Policy 2022 Ship Building Financial Assistance Policy (2016-2026)	Sagarmala Programme Coastal Berth Scheme Sagarmala Innovation and Start-up Policy (Draft)
Surface Mobility	National Logistics Policy 2022 Registered Vehicle Scrapping Facility (RVSF)	
Air Transport		Regional Connectivity Scheme“UDAN”(Scheme for 10 years) PLI scheme for drones and drone components

Key Sectoral Policies: Electric Vehicle

West Bengal Electric Vehicle Policy 2021 by Department of Power, Government of West Bengal

- Promote usage of EVs to enable transition to environmentally friendly cities
- Enable investment into charging/battery swapping infrastructure, hydrogen generation and fuelling station development
- Promote innovation through grants and venture funds to research organisation, incubators and start-ups working on next generation battery technology, fuel cell technologies, EV power trains and EV Electronics
- Target to be the best State in Electric Mobility penetration by 2030
- Target to have 1 lakh public and Semi-Public Charging Stations during the policy implementation



Production Linked Incentive (PLI) Scheme for Automobile and Auto components by Ministry of Heavy Industries, Government of India

- Launched in 2021 by Ministry of Heavy Industries, Government of India with budgetary outlay of ₹25,938 crore for incentives
- The scheme offers financial incentives to boost domestic manufacturing of Advanced Automotive Technology products and attract investments in the automotive manufacturing value chain.
- The Scheme has two components namely, Champion OEM Incentive Scheme & Component Champion Incentive Scheme.

Production Linked Incentive Scheme on Advanced Chemistry Cell (ACC) by Ministry of Heavy Industries, Government of India

- Launched in 2021 by Ministry of Heavy Industries, Government of India at a budgetary layout of INR 18,100 Cr over a 5-year period
- Aims to boost local manufacturing of advanced chemistry cell to bring down prices of batteries in the country, which will reduce the cost of electric vehicles

Key Sectoral Policies: Port, Coastal Shipping, and Inland Water Transport

(<https://www.makeinindia.com/sector/ports>)

Sagarmala Programme by the Ministry of Ports, Shipping and Waterways, Government of India

- Sagarmala Programme aims to change India's logistics sector performance, by unlocking the full potential of India's coastline and waterways. Various projects have been initiated under the Sagarmala project:
- Port Modernization
- Connectivity enhancement
- Port led Industrialization
- Coastal Community Development

Coastal Berth Scheme by the Ministry of Ports, Shipping and Waterways, Government of India

- The scheme aims to provide financial support to ports/state governments for the creation of infrastructure for the movement of cargo/passengers by sea or National Waterways. This scheme was integrated under the Sagarmala Programme

Major Port Authorities Bill, 2020 by the Ministry of Ports, Shipping and Waterways Government of India

- The bill was introduced in Lok Sabha in March 2020 with an aim to replace the Major Port Trusts Act, of 1963.
- The bill aims to decentralize decision-making and infuse professionalism in the governance of ports. It will also help bring transparency to the operations of various ports.



Recycling of Ships Act, 2019 by Directorate of General Shipping, Ministry of Ports, Shipping and Waterways, Government of India

- The Recycling of Ships Act, 2019 provides for the regulation of the recycling of ships by setting certain international standards and laying down the statutory mechanism for enforcement of such standards.

Merchant Shipping Bill by the Ministry of Ports, Shipping and Waterways, Government of India

- The envisioned advantages of the Merchant Shipping Bill, 2020 are promoting ease of doing business, embracing digital technology, and increasing tonnage and Vessel as a Tradable Asset.
- Ministry of Ports, Shipping and Waterways has circulated a draft of the Indian Ports Bill 2020 for public consultation which will repeal and replace the Indian Ports Act, 1908 (Act No. 15 of 1908).

Subsidy support to Indian shipping companies by the Ministry of Ports, Shipping and Waterways, Government of India

- A scheme for the promotion of flagging merchant ships in India by providing INR 1624 crore over a period of five years as subsidy support to Indian shipping companies in global tenders has been approved by the Cabinet.
- The rate of subsidy support will be based on the age of the vessel

Ship Building Financial Assistance Policy (2016-2026) by the Ministry of Ports, Shipping and Waterways, Government of India

- Vessels for which the construction commences subsequent to the signing of valid contracts shall be eligible for grant of financial assistance. Vessels which are constructed and delivered within a period of three years from the date of the contract are eligible for availing financial assistance under the policy.
- For specialized vessels, the delivery period can be extended till six years. Financial assistance shall be @ 20% of the contract price, actual receipts, fair price (whichever is least) to Indian shipyards.
- Under the policy, the financial assistance extended would be reduced by 3% every three years.

Key Initiatives taken by State Government in the Maritime Sector

- The West Bengal Maritime Board Act implemented
- West Bengal Maritime Board constituted in October 2015 & made fully functional
- Sagarmala Steering Committee headed by the Honorable Chief Minister.
- Single window system to manage and clear all investments in the State



Key Sectoral Policies: Air Transport

PLI Scheme for Drone and Drone Components by Ministry of Civil Aviation, Government of India (<https://www.investindia.gov.in/sector/aviation>)

- The PLI scheme launched by the Government of India on 25 August 2021
- The total incentive of INR 120 crores and the total PLI per manufacturer is capped at INR 30 crores.
- The scheme has multiple features to help the industry as it is nearly double the combined turnover of all domestic drone manufacturers in FY 2020-21.
- For this scheme, the PLI rate is 20% of the value addition which is one of the highest among PLI schemes. With the implementation of the liberalised drone rules, Production-Linked Incentive (PLI) scheme and the drone import policy, it is estimated that the annual sales turnover of the Indian drone manufacturing industry may grow from approximately INR 60 crore in 2020-21 to approximately INR 900 crore by 2024-25.
- The PLI rate is kept constant at 20% for all three years, which is an exceptional treatment for the drone industry in the country. The Minimum value addition norm has been at 40% of net sales for drones and drone components instead of 50% which is another exceptional treatment for the industry.

Scheme Coverages

- Airframe, propulsion systems (engine and electric), power systems, batteries and associated components, launch, and recovery systems;
- Inertial Measurement Unit, Inertial Navigation System, flight control module, ground control station and associated components.
- Communications systems (radio frequency, transponders, satellite-based etc.)
- Cameras, sensors, spraying systems and related payload etc;
- 'Detect and Avoid' system, emergency recovery system, trackers etc. and other components critical for safety and security.

Source:<https://pib.gov.in/PressReleasePage.aspx?PRID=1755452>



Regional Connectivity Scheme – RCS UDAN

Various Concessions on RCS routes Under RCS UDAN Scheme

Government of India	State Government	Airport Operators
<ul style="list-style-type: none">➤ Excise Duty at a concessional rate of 2% is levied on Aviation Turbine Fuel purchased by Selected Airline Operators from RCS Airports➤ Selected Airline Operators have the freedom to enter into code-sharing arrangements with both domestic as well as international airlines.➤ Reimbursement of the GST component on airfares of RCS Seats sold in an RCS Flight at actuals from the RCF (for UDAN 1-3)	<ul style="list-style-type: none">➤ Reduced VAT on Aviation Turbine Fuel (ATF) at RCS Airports located within the state to 1% or less for a period of 10 years➤ Provision of minimum land, if required, free of cost and free from all encumbrances for development of RCS Airports along with provision of multi-modal hinterland connectivity (road, rail, metro, waterways, etc.) as required.➤ Provision of security and fire services free of cost at RCS Airports; iv. Provisions of electricity, water and other utility services at substantially concessional rates at RCS Airports;	<ul style="list-style-type: none">➤ No Landing Charges, Parking Charges on RCS Flights;➤ No levy of any Terminal Navigation Landing Charges (TNLC) on RCS Flights;➤ RNFC levied by AAI on a nominal basis @ 42.50% of Normal Rates for RCS Flights. Normal Rates refer to applicable rates specified by AAI without any discount or concessions;➤ Selected Airline Operators allowed self-ground handling for operations under the Scheme at all airports

Key Sectoral Policies: Surface Transport

Registered Vehicle Scrapping Facility (RVSF)

- The Voluntary Vehicle Scrapping application allows motor vehicle owners to phase out new/old and/ or unfit vehicles seamlessly. It helps to boost the automotive sector and also provides checks on vehicular pollution. The application also encourages the setting up of inspection and fitness centres and scrap yards to judge the condition of vehicles and then subsequently, scrap the vehicles. A Certificate of Vehicle Scrapping (CVS) is issued after the procedure of dismantling and disposing of the vehicle has been completed.
- Notification for appointing Registration Authority of RVSF has been issued by Transport Department. The Transport Directorate has invited applications for setting up of "Registered Vehicle Scrapping Facilities (RVSFs)" in the State, as per the Motor Vehicles (Registration and Function of Vehicle Scrapping Facility) Rules, 2021 issued by MoRTH. Finance Department has given concurrence to bring the RVSF units under the purview of "Banglashree" in May, 2023.



Initiatives and Policy Measures in the Surface Transport

- Improving public transport services in the State by increasing operational efficiency of State Transport Undertakings and encouraging private sector participation
- Development of transport infrastructure by constructing bus terminals, truck terminals, freight terminals, flyovers, construction of jetties and introduction of modern transport equipment's modern urban buses including AC Fleet etc.
- Reducing road accidents by promoting Safe Drive Save Life campaign and coordinate with all departments to reduce road accidents
- Encouraging private sector participation in development of transport infrastructure.
- Optimal utilization of surplus assets including land assets for monetization

Online Service available in the Transport Sector

The Transport Department, Government of West Bengal is providing 153 Online services including 102 services without any physical touchpoint. These services may be availed by log in to <http://www.parivahan.gov.in>. The services are provided in the broad categories: -

- Vehicle-related services (VAHAN) like Registration of Vehicle, Payment of Road Tax, Certificate of Fitness, Transfer of Ownership, Termination of Hypothecation, Change of Address, Vehicle Particulars etc.
- Permit related services (VAHAN) like issue of Offer letter, New Permit, Special Permit, National Permit, Duplicate Permit, Renewal of Permit, cancellation of Permit etc. and
- Driving License related services (SARATHI) like issue of Learner License, Driving License, Renewal of Driving License, Change of Address, Duplicate Driving License etc.

National Single Window System – NSWS

- As on date, a total of 47 online services are now being provided through the National Single Window System – NSWS
- All the approvals related to Application for Grant of Registration Certificate for Registered Vehicle Scrapping Facility and Application for Grant of Registration Certificate for Automated Testing Station (ATS) shall be applied through this portal.



Upcoming & Ongoing Projects in the Transport Sector

- SnapE (Private Investment - INR 2,825 crore): SnapE is a substantial private investment focused on providing eco-friendly e-Mobility options
- Ride-Sharing Services (Private Investment - INR 85 crore): The investment in ride-sharing services, such as Uber, further augments connectivity options for the public, making transportation more accessible and convenient.
- Registered Vehicle Scrapping Facilities (RVSF) (Private Investment - INR 10 crore per unit): The commitment to RVSF promotes environmentally friendly disposal of old vehicles, contributing to reduced pollution and improved air quality.
- West Bengal Inland Water Transport, Logistics, and Spatial Development Project (Public Investment - Funded by the World Bank - INR 1,242 crore approx.): This project aims to enhance inland water transportation, logistics, and spatial development. It is expected to boost trade and connectivity within the region, improving economic opportunities and transportation infrastructure.
- State Budget Projects (Public Investment - INR 7,400 crore): These projects encompass a diverse range of initiatives, including NG-E-Ferry, jetty construction, electronic traffic surveillance, and various transport infrastructure schemes. These investments collectively contribute to improving transportation services and infrastructure across the state.
- National Clean Air Program (Public Investment - INR 400 crore): This initiative focuses on combatting air pollution through investments in electric (EV) and compressed natural gas (CNG) vehicles and charging infrastructure, promoting cleaner and more sustainable transportation alternatives.
- Special Assistance to States for Capital Investment (Public Investment - INR 600 crore): This funding supports critical projects such as bridges, RO-RO services, jetties, interceptor vehicles, and diesel buses. These investments are aimed at enhancing transportation infrastructure and services, thereby improving connectivity and mobility for residents.

Special projects under Transport Department:

Segment	Project Details
EV	<ul style="list-style-type: none">➤ 150 e-buses are plying under STUs, 1180 E-buses are going to be procured under OPEX model➤ Work order has been issued for purchasing 18 EV to use as pool car
CNG	<ul style="list-style-type: none">➤ 30 CNG buses have been procured➤ Work Order for 180 (150 big and 30 midi) CNG buses have been issued in this year➤ STUs have issued Work Order for 80 BS-VI buses
Electric/Hybrid vessels	<ul style="list-style-type: none">➤ The State Govt. will introduce 15 electric/hybrid vessels under the World Bank project (6 AC vessels within Kolkata and 9 Non-AC vessels in the outskirts)



Investment and Employment Opportunities

Sector	Investment Opportunities
E-Mobility and EV	<ul style="list-style-type: none"> ➤ Installation of EV Charging Stations ➤ Battery Swapping Stations ➤ OEM and Component Manufacturing and Assembling
Ports and Coastal Shipping and Inland Waterways	<p>Major opportunities in the Maritime & Inland Waterway Sector</p> <ul style="list-style-type: none"> ➤ Ports: Upcoming major and minor ports/fishing harbours. ➤ Port led industrialization. ➤ Port led infrastructure development. ➤ Inland waterways. ➤ Development of coastal region/coastal community development. <p>Opportunities in Port-led Industrialization</p> <ul style="list-style-type: none"> ➤ Proposed New Refinery. ➤ Upcoming Chemical Park/ Plastic park/ Rubber park. ➤ New IOC Bottling Plant. ➤ New LNG Terminal for Greater Calcutta Gas Supply Corporation. ➤ Solar park in Sagar Island. ➤ Thermal power plant cluster in Purba Medinipur. ➤ Clusters -Cement/Fertilizer/Leather/Food Processing. <p>Opportunities in Port-Led Industrialization for Allied Industries</p> <ul style="list-style-type: none"> ➤ Shipbuilding, War-ship, Barge manufacturing, Jetty manufacturing. ➤ Ship repair, Ship breaking, Ship recycling, Jetty repair ➤ Offshore storage, Bunkering facilities, Drilling Platforms. ➤ Logistics parks, Multi-modal transport hub. ➤ Warehousing services, Container freight stations. ➤ Manufacturing of vessels for coastal/inland waterways <p>Opportunities in Inland Waterways</p> <ul style="list-style-type: none"> ➤ More scope to carry cargo along National Waterways from ports in Bay of Bengal to North India



Sector	Investment Opportunities
Ports and Coastal Shipping and Inland Waterways	<ul style="list-style-type: none"> ➤ Movement of imported coal from the Bay of Bengal to thermal power plants located in the hinterlands ➤ Construction and development of IW Jetties through PPP mode in Kolkata on NW-1 ➤ Vessel and Barge Building and repairing facility for Envisaged Cargo Projection ➤ Upgrading of Indo-Bangladesh Inland Water Transit and Trade Protocol ➤ Operation and maintenance of the River Information system ➤ Other potential opportunities also exist in port-led infrastructure development like railway infrastructure, road networks, port-based urbanization, island development & coastal
Air Transport	<ul style="list-style-type: none"> ➤ Airport expansion and operation with the addition of new routes - Cooch Behar and Andal airports or starting flights from the new upcoming airports namely Hashimara and Kalaikunda under RCS-UDAN Scheme ➤ Kolkata has been one of the key regions for the MRO segments to cater to the growing market, particularly in the Component (with emphasis on propeller overhaul and repair). ➤ NSCB Aviation Private Limited (Kolkata) has been one of the major players, specializing in component MRO.
Surface Transport	<p>Focus areas for Private Investment in Surface Transport</p> <ul style="list-style-type: none"> ➤ Integrated urban/rural transport planning ➤ Transit Oriented Development ➤ Multimodal Transport planning with the introduction of carriers and sub-earners ➤ Low Carbon Public Transport ➤ Intelligent Transport Systems ➤ Green Infrastructure <p>Existing and upcoming opportunities</p> <ul style="list-style-type: none"> ➤ Setting up of Transport Hubs/Truck terminus in West Bengal



Sector	Investment Opportunities
Surface Transport	<ul style="list-style-type: none"> ➤ Commissioning and modernization of check posts on major State highways. ➤ Modernization of bus stands/terminuses in all the Sub-divisional HQs in the State ➤ Intensification of Road transport network throughout the State by induction of new inter-city road and water transport corridors connecting districts HQs with the Block HQs along with last-mile connectivity at villages ➤ Transport facilities in all the newly opened routes in the districts through liberalized process of issue of permit to the private operators. ➤ Introduction of green energy initiatives in districts. ➤ Equipping all the important traffic intersection points with modern traffic furniture/ equipment/ signals etc. in district HQs. ➤ Introduction of CNG-operated passenger transport vehicles in District towns

Employment opportunities through Private and Public Investment in Transport Sector:

Mode of Investment	Projects	Estimated Employment Opportunities
Employment through Private Investment	➤ SnapE cabs	➤ 3000 direct employment in addition to already employed 2500
	➤ Uber Shuttle	➤ Estimated 10,000 employment generation directly and indirectly together.
	➤ Registered Vehicle Scrapping Facilities (RVSF)	➤ Estimated 50 approx. per unit.
	➤ Vehicles like goods vehicles, buses, tractor/trailer, three-wheelers and contract carriages	
Public Investment	➤ West Bengal Inland Water Transport, Logistics and Spatial Development project (World Bank Project)	➤ Estimated direct and indirect employment is 4000 approx. in 80+ jetties.
	➤ Project under Gatishakti	➤ Estimated employment of 200 approx. in truck terminus
	➤ Special Assistance to States for Capital Investment	<ul style="list-style-type: none"> ➤ In 12 jetties employment of 600 approx. directly or indirectly ➤ In 80 buses employment of 200 approx.



Investible Projects

Sector	Investment Opportunities
E-Mobility and EV	<ul style="list-style-type: none"> ➤ Mobility - Manufacturing of E- Vehicles (2-wheeler, 3- wheeler, Buses and trucks), App cabs ➤ Infrastructure - charging infrastructure, battery swapping stations, and businesses built on traction battery ➤ Energy - electric vehicles can be charged from Renewable Energy sources, Virtual power plant, EV Charging System(Renewable Energy)
Ports and Coastal Shipping and Inland Waterways	<p>Ports and Coastal Shipping</p> <ul style="list-style-type: none"> ➤ Private investment to develop the existing port ➤ Ship repair, Ship breaking, Ship recycling, Jetty repair ➤ Manufacturing of vessels for coastal/inland waterways ➤ Warehousing services, Container freight stations. ➤ Offshore storage, Bunkering facilities, Drilling Platforms <p>Inland Water Transport</p> <ul style="list-style-type: none"> ➤ Development & modernization of all the major ferry ghats catering to more than 2500 passengers per day ➤ E ferry services ➤ Running jetties in PPP mode ➤ Barge manufacturing, Jetty manufacturing ➤ Operation and maintenance of River Information system ➤ Private operators of Luxury cruise vessels to connect places of tourism along the course of river Hooghly ➤ Private operation for logistics / goods carriage
Air Transport	<ul style="list-style-type: none"> ➤ Airport-centered logistics hubs, Agri-products/horticulture-floriculture/industrial goods ➤ Operation of private Airlines for better air connectivity with other important locations of the State and International.



Sector	Investment Opportunities
Surface Transport	<ul style="list-style-type: none"> ➤ Road safety electronic surveillance system on PPP mode ➤ Vehicle Location Tracking Device (VLTD) manufacturers and supplier ➤ Setting up of Registered Vehicle Scrapping Facility (RVSF) by private player ➤ Tram – Private investment in revival of tram ➤ Setting up of Transport Hubs/Truck terminus in West Bengal on PPP mode ➤ Infrastructure Development at Truck Terminal
Others	<ul style="list-style-type: none"> ➤ Private investment in ropeways and monorail. ➤ Logistics parks, Multi-modal transport hub ➤ Monetization of transport properties in augmenting transport infrastructure to facilitate freight and passenger movement

Success Stories

EC Wheels India Private Limited (A Subsidiary of Steelman Telecom Limited) was set up in 2022 to cater to support Environmentally friendly EV Vehicles for Public and Corporate transportation in Kolkata. Steelman Telecom Limited is a publicly listed company with a net worth over INR 200 Cr.

Snap-E Cabs (Brand owned by EC Wheels India Pvt Ltd) provides a reliable eco-friendly public electric transport service that allows people to travel safely, without any delays at an affordable price. You can depend on us. We are focused to embrace the change and getting ready for tomorrow. Our offerings include Point to Point Travel, Intra City Travel, Hourly rentals, Employee Transportation Services, Airport Services

Snap-E Cabs has rolled out charging infrastructure across Kolkata for EV Charging and will be adding more such facilities to augment EV Charging facility for captive and public requirement. Snap-E has embarked on the mission to decarbonize the City of Joy.

Since the commencement of operations, Snap-E have deployed over 400 EV Four Wheelers for Kolkata and have created infrastructure to support EV Charging for 500 EV Vehicles across Kolkata. We have also generated employment for over 2500 people. Snap-E have invested over INR 250 Crore towards creating an End-to-End EV Eco System for Kolkata.



Snap-E currently is working on expansion plan and have placed orders for 500 more EV four wheelers and signed contracts to create additional infrastructure to support EV Charging for additional 500 Vehicle. This would potentially generate an employment opportunity for an additional 3000 people in the state of West Bengal. This would lead to an additional investment of over INR 325 Crore into the EV Eco System for the State of West Bengal. They intend to complete the process before March 31st, 2024.

They are committed to cleaning Kolkata and offer a unique experience of Zero Pollution public transportation. Their plan for FY 24-25, FY 25-26 is to reach a Vehicle size of over 7000 for the city and already equivalent number of EV Charging Stations across the city at an overall investment of INR 2500 Crore.

EV Charging Stations already operational in Kolkata

Sl.No	Location	Current Status	AC Charger	DC Charger
1	NDiTA, Sector V	Operational	90	12
2	Rishi Tower, Rajarhat	Operational	25	4
3	Kidderpore - 1 Dr Satya Road	Operational	35	16
4	Kaikhali (O2)	Operational	40	20
5	IRC - Kidderpore (Beside ITC Factory)	Operational	143	28
6	Hyatt Regency	Operational	8	0
7	HIDCO, Rajarhat	Operational	54	26
8	Axis Mall, New Town	Operational	126	24
		Total	521	130



EV Charging Stations in pipeline to be commissioned

PROPOSED & UNDER CONSTRUCTION

Sl.No	Location	Current Status	AC Charger	DC Charger
1	HIDCO - Somponno, Alipore	Work in Progress	54	6
2	Cossipore North Kolkata	Work in Progress	120	24
3	Behala Thakurpukur	Work in Progress	200	40
4	Urbana - Ruby Kolkata	Work in Progress	250	50
5	Howrah Rly Station	Work in Progress	10	4
6	Kalyani Expressway - Birati	Contract Awaited	150	30
7	BBMP - Science City	Contract Awaited	130	26
8	Foreshore Road Howrah	Contract Awaited	120	24
		Total	1034	204

Charging Hub Infrastructure:







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Transport Department, Government of West Bengal

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Knowledge Partner



EY

**Building a better
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