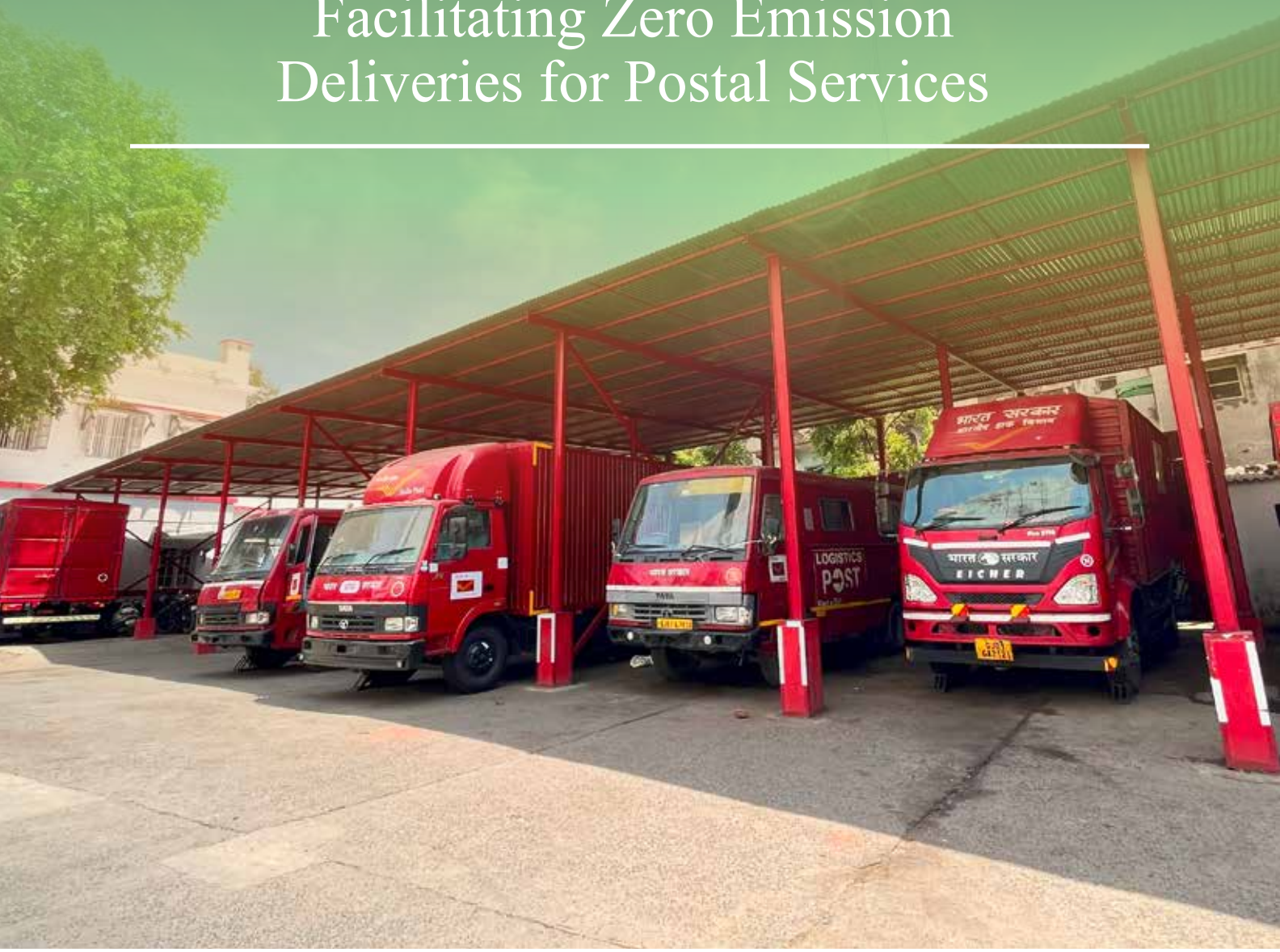
POLICY BRIEF

Facilitating Zero Emission Deliveries for Postal Services



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MESSAGES

01 The total cost of ownership (TCO) for electric vehicles was found to be comparatively lower in the selected cities when compared to their current internal combustion engine (ICE) vehicles counterparts due to lower operating costs and reduced maintenance costs

02 For certain EV models with higher payload, a significant cost component includes battery replacement. Despite the higher upfront costs and an essential battery replacement cost associated with EVs, it has been observed in all three categories of vehicles that, over a 10-year lifespan, EVs tend to generate higher net savings when compared to ICE vehicles

03 Aiming 100% EV purchases for new vehicles in six cities have the potential to save around 1 million litres of diesel annually

04 100% electrification by 2030 will save 78% and 36% of tailpipe and net emissions, respectively from the operations

05 As several suitable EV models for light and medium vehicles are already available in the Indian market, therefore, these EV categories should be the focus to begin with

06 Solar panels or solar powered EV charging stations could be installed to bring down potential emissions from the grid and to achieve 100% renewable-based energy solutions

07 Every electric vehicle procured for postal operations should feature a green logo, proudly signifying its dedication to zero-emission deliveries

SUGGESTIONS

Policy and Targets

i. Measure the current emissions and potential emission savings
ii. Set targets towards achieving net-zero emissions delivery/fully electric fleet/ percentage reduction of carbon emissions aligning with national goals/targets

Finance

i. Align financial budgets for procuring zero-emission vehicles and charging infrastructure
ii. Develop carbon trading mechanisms

Pilots and Implementation

i. Conduct and monitor pilot implementation of EVs to assess viability
ii. Develop charging infrastructure/renewable energy-based charging infrastructure and installation of rapid/top-up charging stations

01

Background

The transport sector is heavily reliant on fossil fuels, which contribute significantly to global greenhouse gas (GHG) emissions and are increasing at an alarming rate. The transport sector annually accounts for approximately 13% of the total emissions in India, of which 90% is attributed from road transport. The transport demand in India is heavily dependent on road sector—for both passenger and freight movement. The road freight movement in India, with a 70% share in total freight movement, is dominated by diesel vehicles accounting for 77% of total diesel consumption and 95% of the total freight GHG emissions. Therefore, it is imperative to investigate and identify a suitable strategy for the transition to clean technology vehicles.

India's updated Nationally Determined Contributions (NDCs) aim to cut down the emission intensity of GDP by 45% below 2005 levels by 2030, highlighting a strong commitment to sustainability. In November 2022, India submitted its Long-Term Low Emission Development Strategy to the UNFCCC, emphasizing the development of an integrated, efficient, inclusive low-carbon transport system, with a notable focus on electrification across various modes, signaling a push towards zero-emission freight vehicles.

In line with India's NDC target, many government and private organizations have come up with company/operation-specific targets to contribute to India's journey towards low carbon development. Many postal and parcel delivery organizations, nationally and internationally, have set targets to decarbonize their fleet or to include higher share of electric vehicles (EVs) in their fleet by a definite year. In line with India's net zero commitments, the largest postal network in the world—the Department of Post (DoP), India has the potential to reduce its emissions from mail delivery operations.

02

International Efforts

In line with respective national emission reduction targets, national postal networks have increased awareness for electric mobility for road freight transport, along with investments in electric charging and related grid infrastructure to ensure emission reduction in postal deliveries. The national postal services have set targets for carbon-neutral deliveries or transitioning their fleets to electric vehicles aligning with their respective countries' emission reduction targets as shown in Figure 1. Further international postal services are also establishing objectives to procure zero-emission vehicles. To mirror the efforts, the postal services are actively using metrics such as CO_2 emissions per shipment weight or per revenue.

[1] Scope 1 Emissions: Direct emissions from owned or controlled sources.

Scope 2 Emissions: Indirect emissions from the generation of purchased energy.

Scope 3 Emissions: All indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

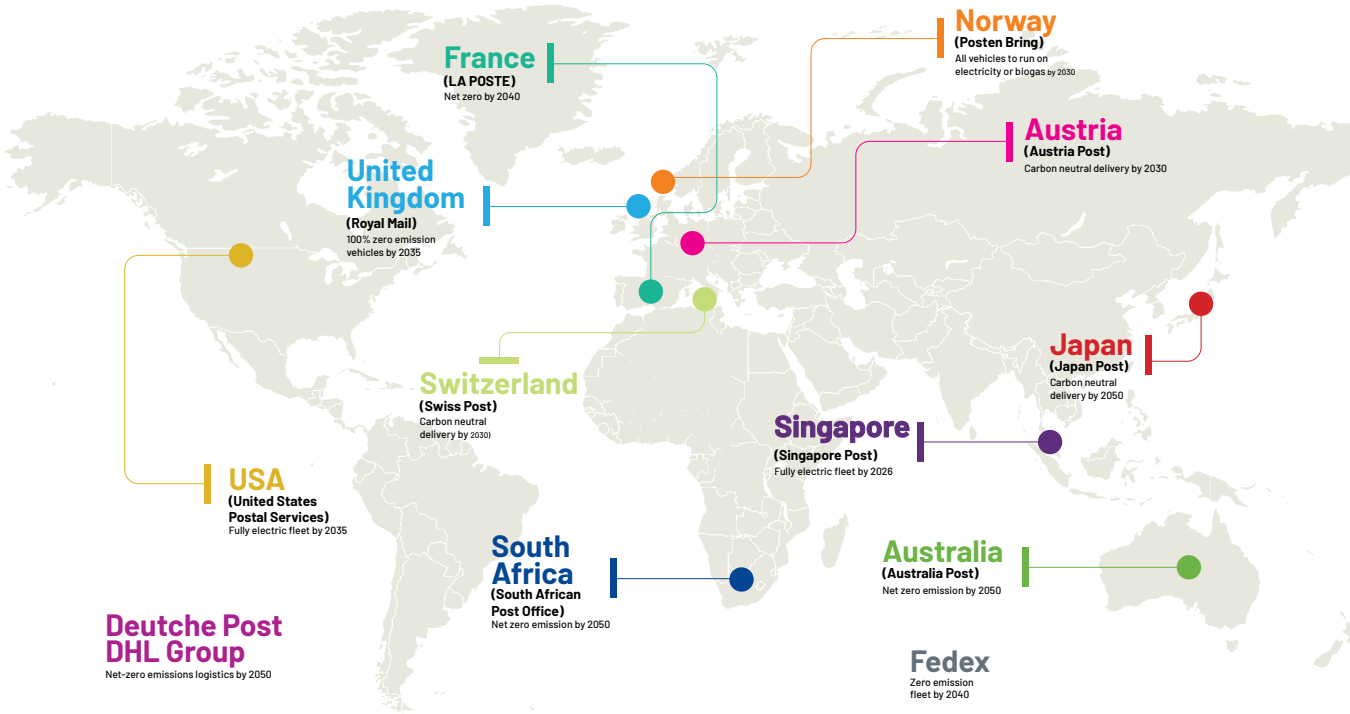


Figure 1: Globally EV-related targets set by postal services.
Source: TERI

EVs are increasingly recognized as a crucial solution to mitigate pollution, prompting postal organizations to conduct pilot projects by Brazil Post and Swiss Post to assess their feasibility and suitability. Establishing a robust charging infrastructure network is paramount. Investments are being directed towards cleaner transitions through renewable sources, such as solar rooftop installations on postal buildings initiated by Australia Post and Japan Post. French Post, DHL, and FedEx have allocated financial budgets aligned for EV procurement and charging infrastructure to drive overall fleet decarbonization. Carbon credit and offsetting measures are also being embraced to neutralize unavoidable carbon emissions from postal operations. Similarly, Indian postal services should embark on such pilot initiatives to assess EV technology compatibility and kickstart the transition to low-carbon operations.

03

Mail Motor Service Operations in India

As a part of the Ministry of Communications and Information Technology, Government of India (GoI), India Post plays a pivotal role in enabling post and parcel deliveries across the country. With about 1.6 lakh Post Offices (PO), India Post has one of the largest postal networks and fleet of vehicles in the world. The postal network in India consists of 23 postal circles, with a widespread network of branch post offices, sub-post offices, and head post offices, with each PO catering to 8,415 citizens in the country compared to 9,908 citizens in the US and 6,309 citizens in Australia.

MMS Units in India

103

MMS Units (17 units with full-fledged workshops)

Pan-India Fleet

1,414 Mail Motor Vehicle

+

428 Inspection Vans/ Staff Cars

230 CNG vehicles

Progress in FY 2023-24

₹18 cr allotted for procuring new vehicles

156 vehicles procured*

*Data sourced from Annual Report, DoP (2023-24)

Figure 2: Overview of MMS, DoP

With an aim to facilitate efficient conveyance of mail and to optimize mid-mile haulage, Mail Motor Service (MMS) was introduced in 1944. Figure 3 shows the flow of operations of MMS. Since then, MMS facilitates the conveyance of mail bags between PO, rail mail service (RMS) offices, transit mail offices (TMO), air mail sorting offices, seaports, conveyance of cash, pickup and delivery of speed/bulk mail, etc. The MMS network in India is divided into 103 MMS units spread across the country to facilitate the designated services.

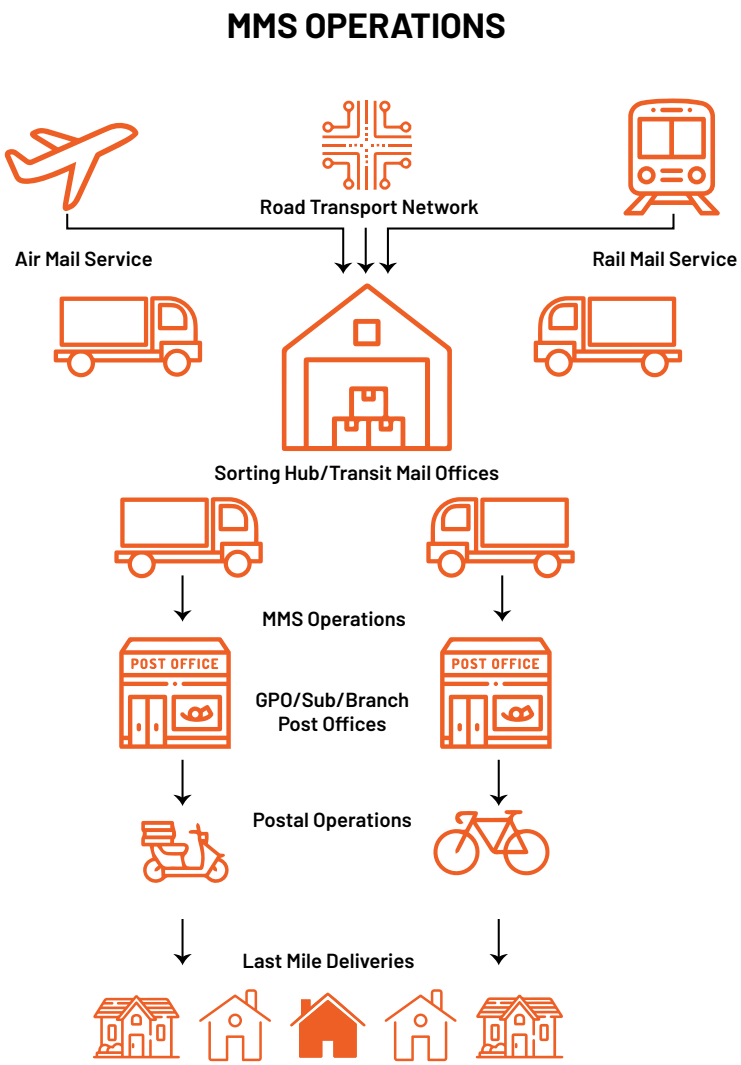


Figure 3: Flow of operations of MMS

[2] Details available at <https://www.indiapost.gov.in/VAS/DOP_PDFFiles/annual_report_2023_english.pdf>

[3] As per 2023. Data retrieved from: <https://www.census.gov/popclock/> and <https://facts.usps.com/size-and-scope/>

[4] As per 2023. Data retrieved from: <https://www.abs.gov.au/statistics/people/population/population-clock-pyramid> and <https://auspost.com.au/about-us/news-media/fast-facts-about-australia-post>

Current Fleet

A detailed study was undertaken to understand the MMS operations of six cities (Ahmedabad, Chennai, Delhi, Hyderabad, Kolkata, and Mumbai) to gather information related to their fleet characteristics, quantity of mails handled, manpower details (drivers and mail guards), and data related to fleet maintenance.

The study comprised both primary and secondary analysis. The data collection process involved gathering extensive datasets from the MMS of six cities. Following the data collection phase, a rigorous and in-depth analysis was undertaken, delving into the details of the collected information. The process is aimed at extracting meaningful insights, trends, and patterns. To enrich the analytical framework, perspectives and opinions were taken from various stakeholders, including industry experts, MMS managers, and senior officials associated with India Post.

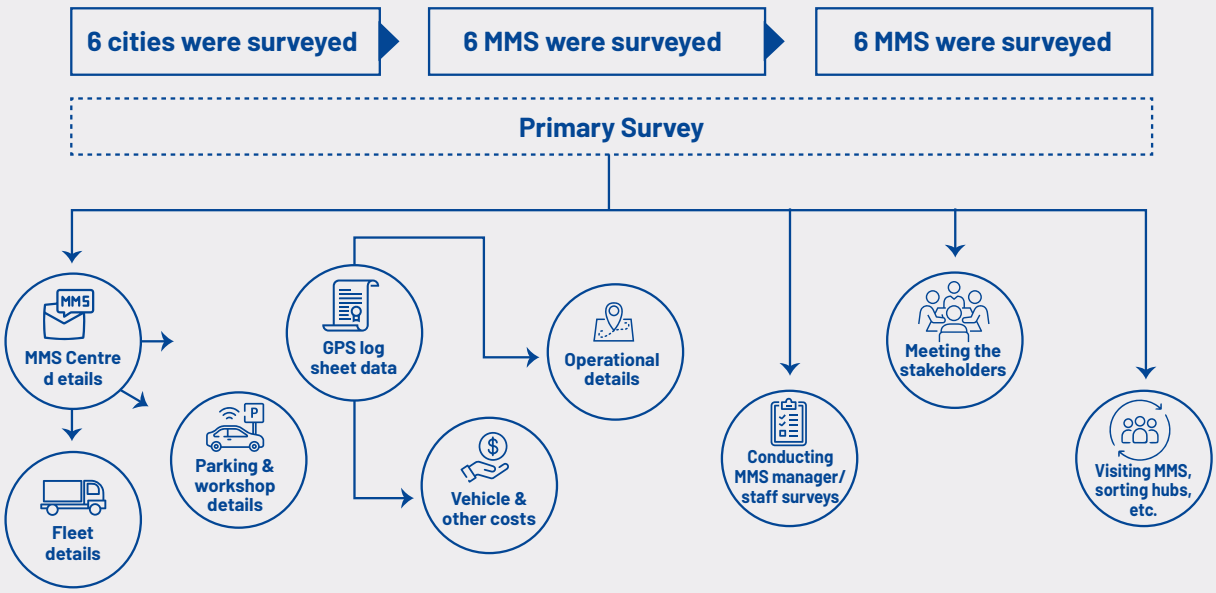


Figure 4: Primary Survey

The primary survey focused on acquiring insights regarding the trip characteristics of the vehicles under study, offering a granular understanding of their usage patterns and operational dynamics. This structured and detailed approach ensured that the study summarized a comprehensive range of information, highlighting various facets of MMS vehicle operations and contributing to a detailed understanding of the landscape within the selected cities.

Primary Surveys

MMS CENTRE DETAILS

MMS Centre Survey

- Location of the MMS center
- Total area under MMS unit (including area for parking and loading/ unloading)
- Operational timings
- Inflow/outflow of vehicles per day
- Workshop space
  Fleet size

Operational details

- Total area of operation
- No. of post offices/ sorting/transit hubs, etc.
- Average loading and shipment size
  Average trips per day
- No. of distribution points
- Peak/off-peak hours/ days/season

Parking details

- Availability of designated parking area

FLEET SURVEY

Fleet details

- Vehicle Specifications (age, type, model, fuel, loading capacity)
- Ownership (owned/ hired/leased
- Days of operation
- Average trip length
- Vehicle mileage (kmpl)
- Frequency of fuel refill
- Monthly fuel consumed

Vehicle cost survey

- Capital cost
- Registration cost
- Insurance cost
- Maintenance cost
- Fuel cost per month
- Toll charges
- Parking charges, etc.
- Miscellaneous cost

GPS DATA COLLECTION

- GPS log sheet for MMS schedules
- Distance travelled
  Operational time
- Vehicle registration details

EV AWARENESS SURVEY

- Willingness to shift to EVS
- Any EV-related initiative
- Key concerns/ issues for EV adoption
- Feedback for possible transition and roadmap

The DoP has nearly 2,000 vehicles for MMS operations, including staff and inspection vehicles. A study was conducted on 871 of these vehicles across six cities. A detailed fleet profiling was carried out to understand the operational characteristics of these vehicles, which are as follows:

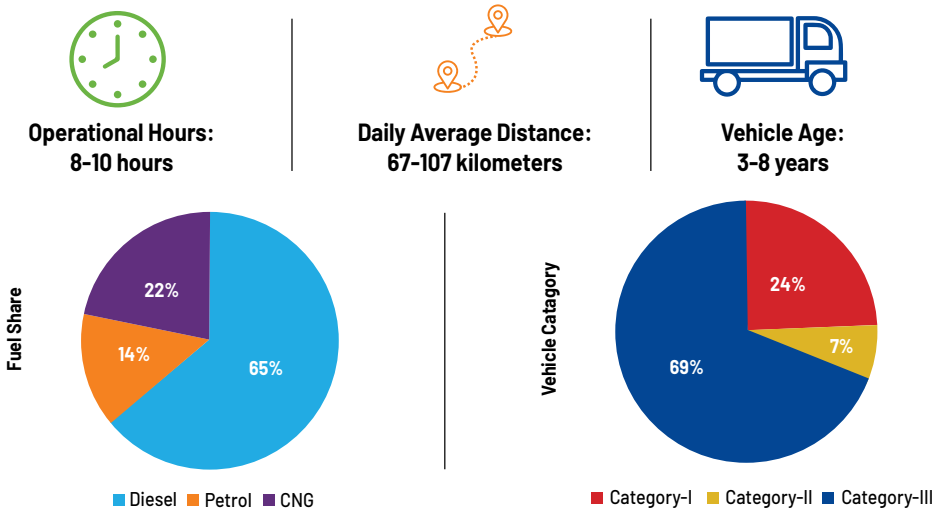


Figure 5: Operational characteristics of currently in-use ICE vehicles

- Category-I: Vehicles with payload up to 1 tonne
- Category-II: Vehicles with payload capacities between 1 and 2 tonnes
- Category-III: Vehicles with payload capacities greater than 2 tonnes, up to 5 tonnes

Table 1 provides a comprehensive overview of the city-wise fleet characteristics across six cities: Ahmedabad, Chennai, Delhi, Hyderabad, Kolkata, and Mumbai. The table includes key metrics such as the number of owned and hired/leased vehicles, the total fleet size, the average daily distance travelled by the fleet, the distribution of fleet age, and the fuel composition. This data helps to understand the operational dynamics, age characteristics and fuel dependency of the current fleets for MMS operations in these cities.

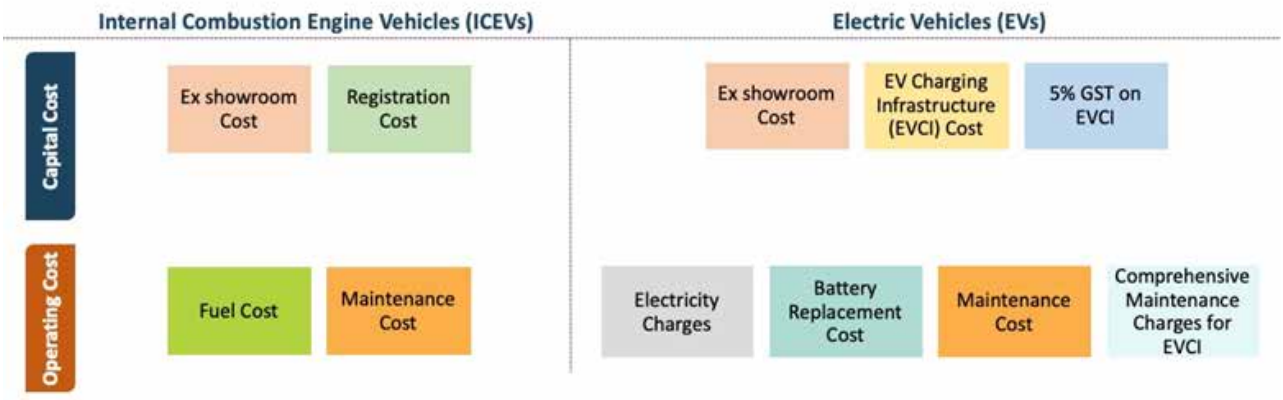
Table 1: City-wise fleet overview

City	Number of Vehicles			Average daily distance (km)	Fleet Age (%)			Fuel Share (%)		
	Owned	Hired/ Leased	Total		0–6 years	6–10 years	>10 years	Diesel	Petrol	CNG
Ahmedabad	54	0	54	108	61%	19%	20%	70	21	9
Chennai	117	3	120	78	73%	13%	13%	87	9	4
Delhi	162	42	204	74	65%	33%	1%	9	14	77
Hyderabad	78	15	93	82	70%	26%	3%	74	23	3
Kolkata	157	0	157	67	41%	13%	46%	98	2	0
Mumbai	233	0	233	106	37%	47%	15%	47	17	36

04

Comparing Cost of Operations: Conventional Vehicles vs Electric Vehicles

The total cost of ownership (TCO) of a vehicle is a comprehensive financial assessment that goes beyond the initial purchase price and considers all expenses associated with owning and operating a vehicle over its entire lifespan. TCO includes factors such as capital cost, fuel costs, maintenance and repair expenses, insurance premiums, etc. While the upfront cost may be a significant factor, the TCO provides a more accurate representation of the overall financial impact. TCO analysis enables consumers to select a vehicle that aligns with their financial capacity and preferences.



The key difference between the TCO analysis for ICE vehicles and EVs in this study is that the upfront cost for EVs includes the expense of charging infrastructure (EVCI) and a 5% GST. Additionally, the operating costs account for battery replacement in the 6th year and comprehensive maintenance of the EVCI. Electricity serves as the equivalent of fuel for EVs, and currently, EVs are exempt from registration fees.

Vehicles Considered for TCO Calculations

The vehicles currently in MMS operations range from 0.5 tonne to 12 tonnes payload category. However, aligning with the current EV market in India during the study, replacement of vehicles up to 5 tonne payload was considered. Based on the payload capacity, vehicles were classified into three categories:

- Category-I: Vehicles with payload up to 1 tonne
- Category-II: Vehicles with payload capacities between 1 and 2 tonnes
- Category-III: Vehicles with payload capacities greater than 2 tonnes, up to 5 tonnes

TCO Calculations: Results and Inferences

To determine the TCO of existing vehicles (ICEVs) and proposed EV models, certain assumptions were made based on the primary survey conducted. The average daily trip length ranges between 67 km and 107 km, based on which further calculations were made. Fuel (diesel, petrol and CNG) prices for ICE vehicles were projected, based on the past five-year monthly average trend for each city. For EVs, the TCO calculations were done considering the average daily run of available ICEVs in each category were considered for TCO calculations.

The following Figures 6-11 to illustrate a detailed comparison between currently operated internal combustion engine (ICE) vehicles for MMS operations vs some equivalent electric vehicle (EV) models currently available in India. This comparison focuses on the average Total Cost of Operations (TCO) in Rs/km. The data covers six cities, giving a clear picture of how costs differ depending on the vehicle type and location. These graphs aim to highlight the cost differences and average savings that EVs can offer compared to conventional fuel-based vehicles in MMS operations.

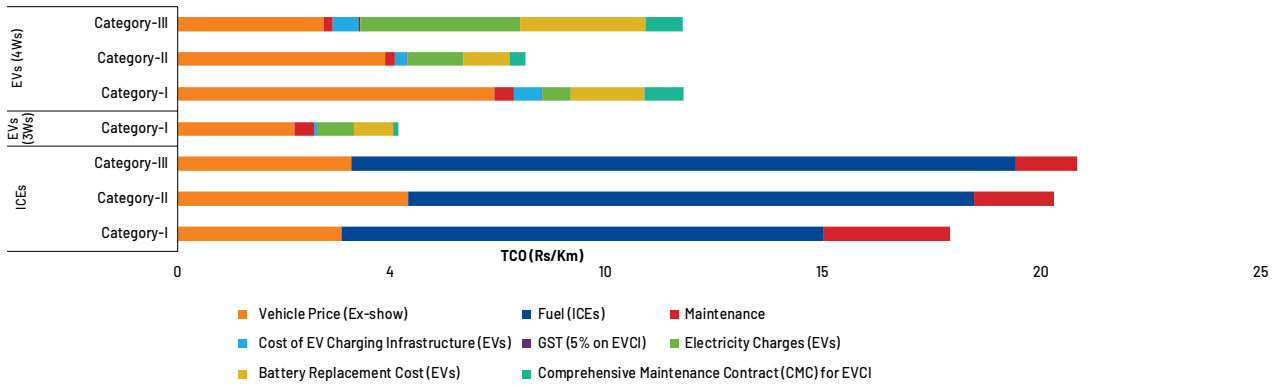


Figure 6: Category-wise average TCO (Rs/km) for ICEs vs EVs – Ahmedabad

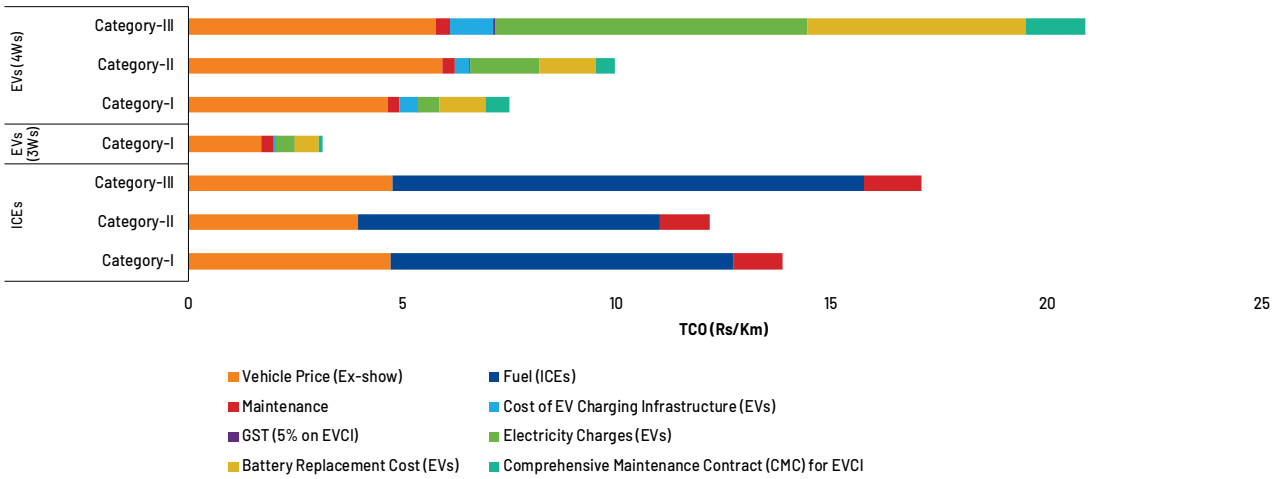


Figure 7: Category-wise average TCO (Rs/km) for ICEs vs EVs – Mumbai

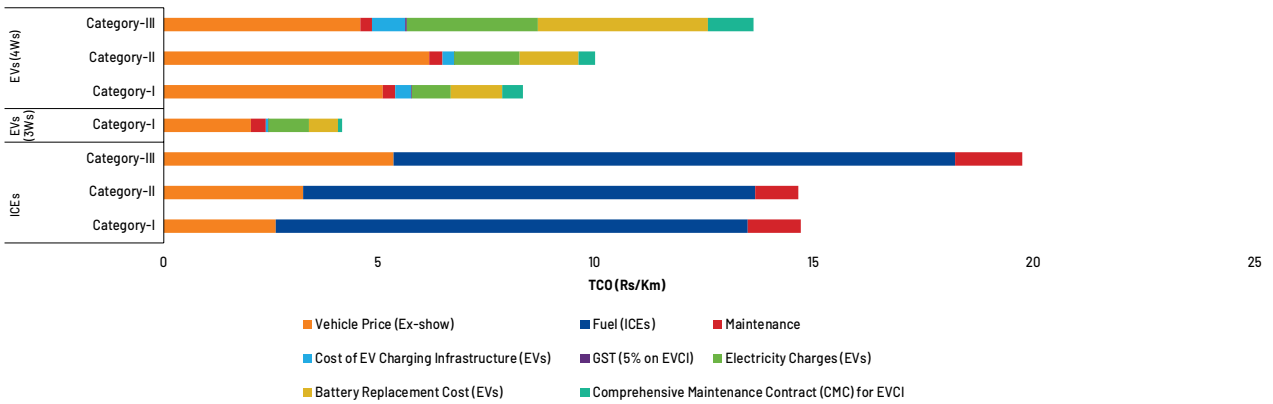


Figure 8: Category-wise average TCO (Rs/km) for ICEs vs EVs – Kolkata

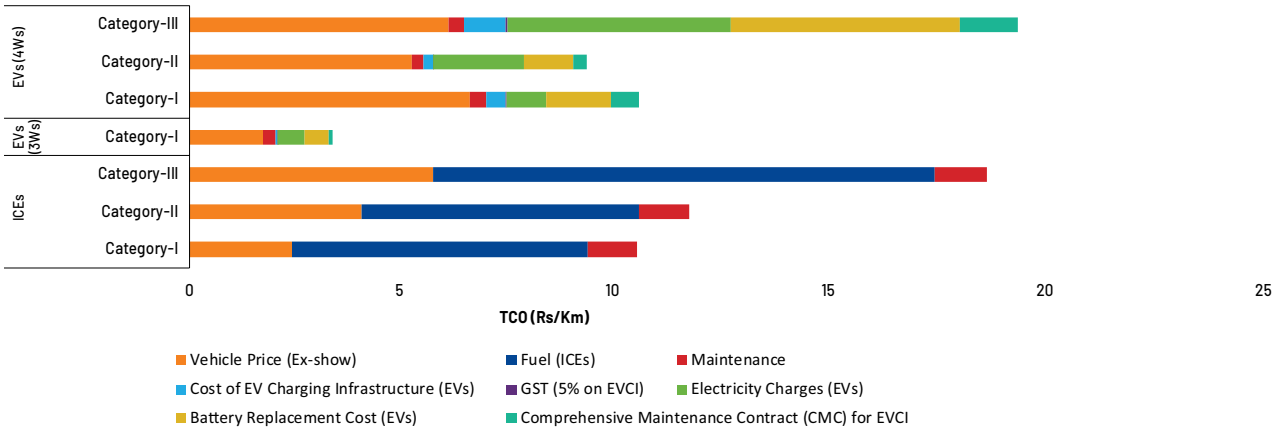


Figure 9: Category-wise average TCO (Rs/km) for ICEs vs EVs – Hyderabad

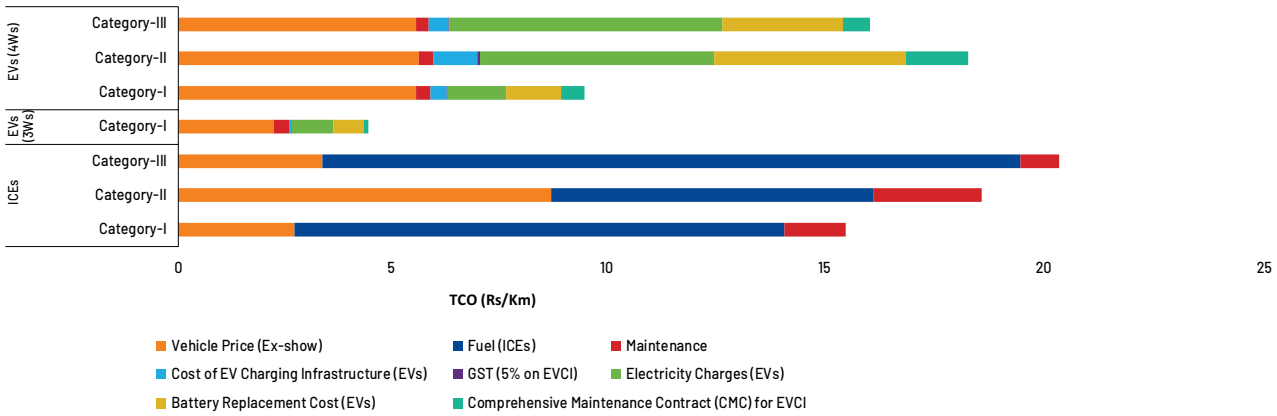


Figure 10: Category-wise Average TCO (Rs/km) for ICEs vs EVs – Chennai

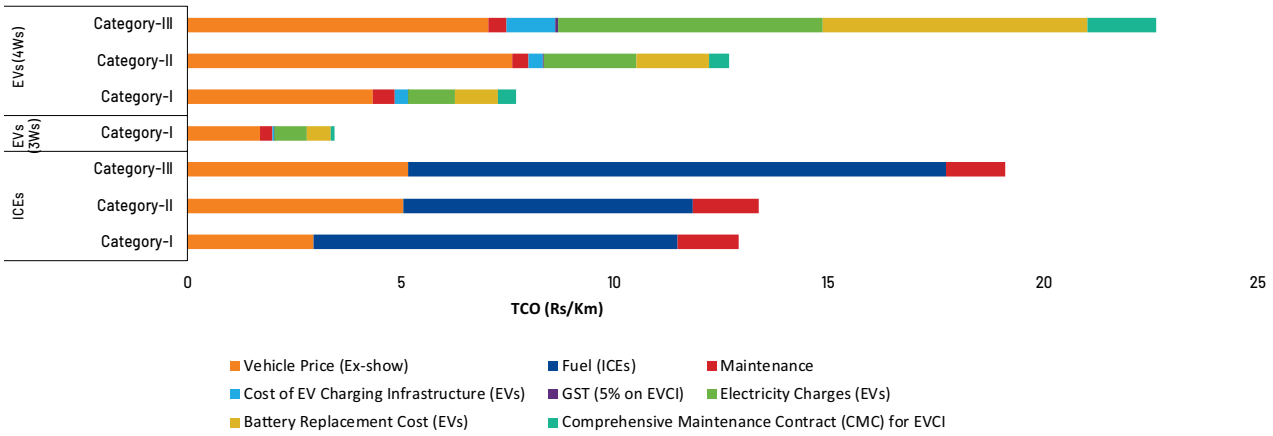


Figure 11: Category-wise average TCO (Rs/km) for ICEs vs EVs – Delhi

The total cost of ownership (TCO) for EVs was found to be comparatively lower in the selected cities when compared to their internal combustion engine (ICE) vehicles counterparts because of lower operating costs and reduced maintenance costs (since EVs have fewer moving parts and don't require oil changes, etc.). For certain EV models with higher payload, a significant cost component includes electricity charges and battery replacement, primarily due to their larger battery capacities.

These factors make up a substantial portion of the overall costs for these vehicles. The upfront capital cost constitutes a higher share in the overall TCO calculation, and in most cases, these are higher for electric vehicles compared to ICE vehicles. However, with the growing adoption and acceptance of electric light goods vehicles in India, the capital cost gap between electric vehicles and their ICE counterparts is narrowing faster and the former is becoming highly competitive, making it ideal choice for this segment in urban freight.

Despite the higher upfront costs and an essential battery replacement cost associated with EVs, it has been observed in all three categories of vehicles that, over a 10-year lifespan, EVs tend to generate higher net savings when compared to conventional ICE vehicles which is evident from the below shared graphs. These savings arise from lower running costs, such as reduced fuel and maintenance expenses. Additionally, electric three-wheelers were also evaluated and suggested for their payload capacity and were found significantly more cost-effective in terms of capital and overall operational efficiencies.

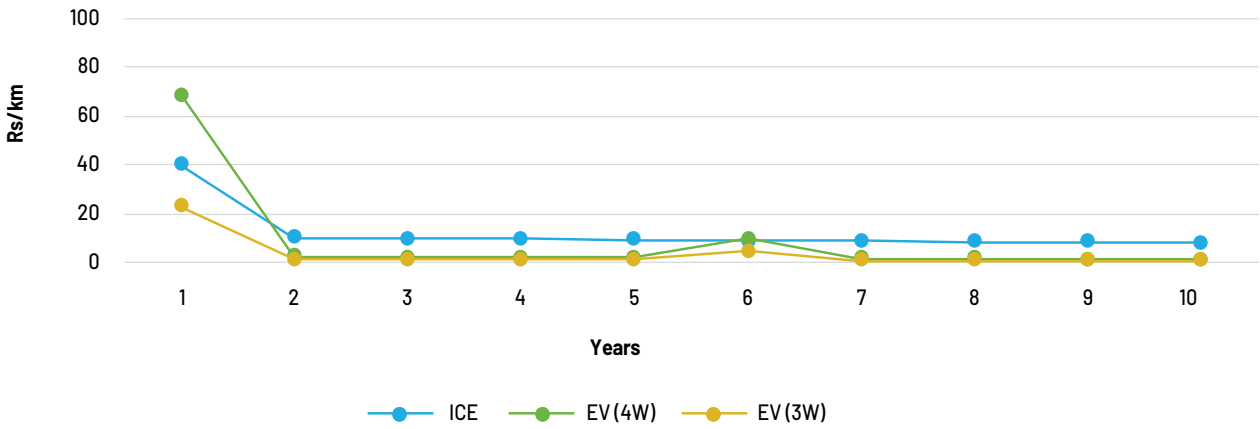


Figure 12: Average Yearly TCO for Category-I Vehicles

For Category-II vehicles, the cost trend follows a similar pattern over time. While the initial investment may be higher compared to conventional ICE vehicles, the overall cost-benefit analysis across the vehicle's lifespan reveals significant savings. The combination of lower operational costs and reduced long-term expenditure compensates for the higher upfront costs and battery replacement expenses, typically occurring in the 6th year.

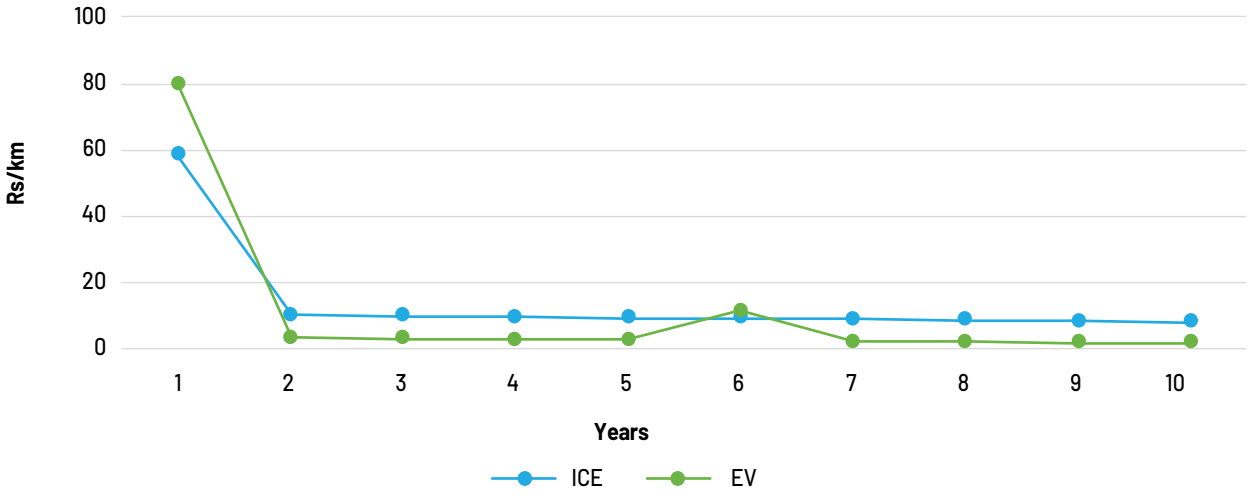


Figure 13: Average Yearly TCO for Category-II Vehicles

Interestingly, Category-III vehicles, despite their considerably higher initial costs and the significant expense of battery replacement around the 6th year, follow a similar long-term cost-benefit pattern as other EV categories. This is due to the overall reduction in operational costs, such as fuel and maintenance, which offset the larger upfront investment over the vehicle's lifespan. Currently, there is considerable debate surrounding this category in the Indian EV market, largely due to the limited availability of models and concerns about battery longevity and cost.

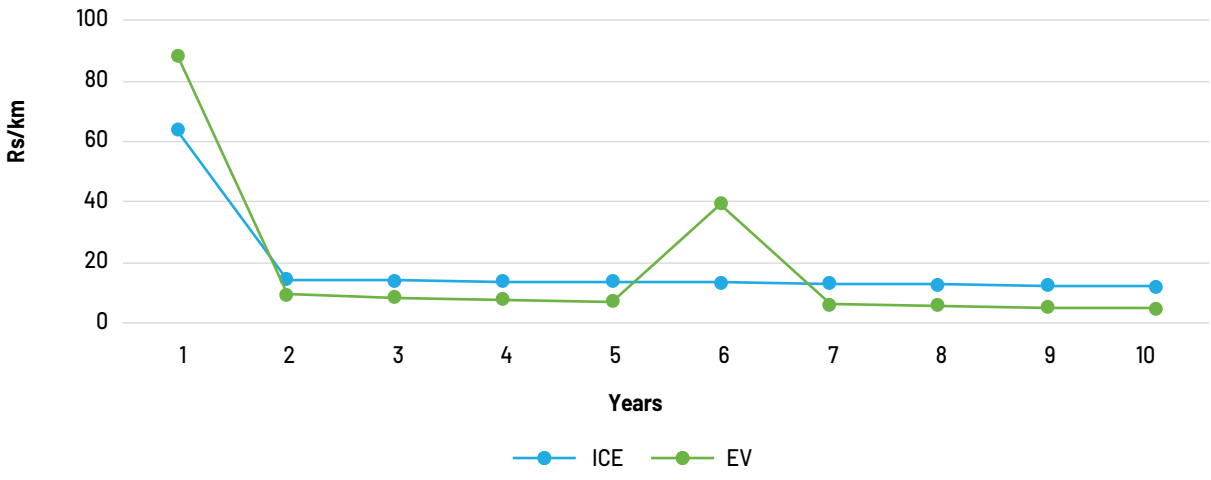


Figure 14: Average Yearly TCO for Category-III Vehicles

However, the market is poised for change as many original equipment manufacturers (OEMs) have announced plans to introduce new models in this segment. These upcoming launches are expected to enhance performance experience, becoming an increasingly attractive option for consumers and fleet operators, offering both long-term economic benefits and the potential to meet India's growing demand for sustainable transport solutions.

05

EV Roadmap- 2030

As discussed in the previous section, the TCO of EV operations for MMS operations is relatively less compared to conventional ICE vehicles. This section discusses potential transition scenarios for future MMS vehicles getting condemned from 2024–2030. This plan aims to assist the DoP to actively join the countrywide movement promoting low-carbon and sustainable transport practices. The roadmap looks closely at different aspects like MMS fleet details, campus infrastructure, policies, technology improvements, etc.

As per the age profile of current DoP vehicles, till 2030, a total of 548 vehicles expected to be condemned. Out of these, the share of Category-I, Category-II, and Category-III vehicle stands at 32%, 1% and 67%, respectively. Figure 16 shows the city-wise vehicles for condemnation. Further, to develop the EV transition plan, four different scenarios EV30, EV50, EV80, and EV100—for achieving 30%, 50%, 80%, and 100% EV purchases by 2030 are considered.

Each year vehicles are getting condemned or become obsolete. By 2030, 548 vehicles are expected to be condemned by the DoP. Instead of replacing these vehicles with ICE vehicles, the DoP may procure EVs to enable seamless transition to zero emission fleet and save on costs.

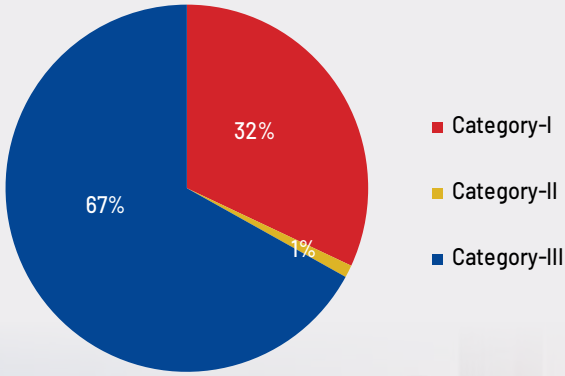


Figure 15: Vehicles going off-road: Category wise

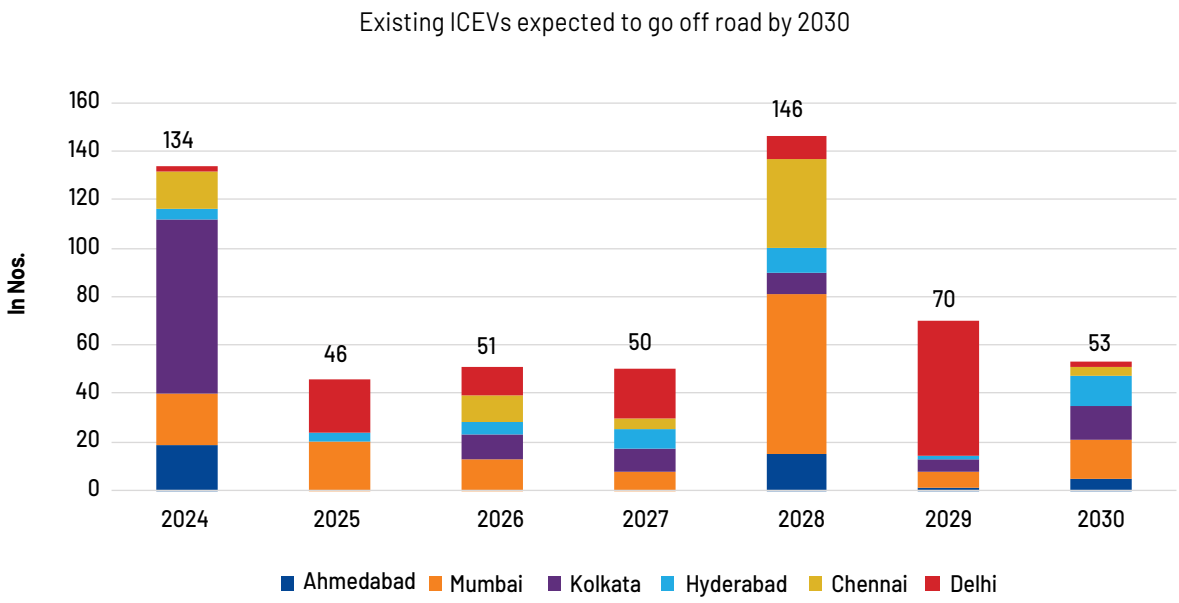


Figure 16: Vehicles going off-road: City wise

Economic Savings

As mentioned in the previous chart, out of 548 vehicles going off-road by 2030, 175, 6, and 355 vehicles fall under Category-I, Category-II, and Category-III, respectively.

Currently, the EV market for Category-I vehicles, i.e., up to 1 tonne payload, has nearly matured. As the technology is more or less stabilized, a greater number of vehicle models are available in the market, and as the required battery capacity is low, 100% transition to EVs for this category will result in saving about 47% of total cost involved over the lifespan of 10 years.

For Category-II and Category-III vehicles, relatively less vehicle models are available in the market. This also reflects the potential of advancements in vehicle technology to make it more viable. For the current EV counterparts available in the market, 100% transition in Category-II and Category-III vehicles will result in potential economic savings of about 11% to 13%.

Fuel Savings

The decreased dependency on fossil fuels will result in reducing total emissions. The transition to EVs will eliminate the tailpipe emissions, and annually 4,829 tonnes of CO_2 addition will be avoided for 100% EV transition. Even for EV30, EV50, and EV80 scenarios, annual tank-to-wheel CO_2 emission savings of 1,461 tonnes, 2,415 tonnes, and 3,863 tonnes will be achieved, respectively.

Considering the emissions associated with electricity consumption, these savings are reduced by about 45% but introducing solar-powered charging stations will help to decrease the gap between well-to-wheel and tank-to-wheel emissions.

Table 2: EV Transition Roadmap – Summary

Scenario	EV30	EV50	EV80	EV100
Vehicle Replacement				
Category-I Vehicle	53	88	140	175
Category-II Vehicle	2	3	5	6
Category-III Vehicle	110	184	294	367
Total vehicles to be replaced by 2030	**164**	**274**	**438**	**548**
Total Cost Savings w.r.t ICE Vehicles				
Category-I Vehicle	47%			
Category-II Vehicle	11%			
Category-III Vehicle	13%			
Annual Fuel Savings				
Fuel savings (Diesel)	22%	40%	64%	80%
Fuel savings (Petrol)	11%	18%	29%	36%
Fuel savings (CNG)	26%	43%	69%	86%
Annual Emission Savings				
Tank-to-wheel emission savings	23%	39%	62%	78%
Well-to-wheel emission savings	11%	18%	29%	36%
Adopting Solar Energy-based Charging Infrastructure				
Annual Savings in Electricity Cost	39%	41%	41%	41%

Source: TERI

Policy Suggestions

Target Setting

- India is progressing towards sustainable and low emission development future, with aim to reach net-zero emissions by 2070. The target year of 2070 has nudged the country to devise guidelines, policies, and strategies to focus on achieving the mentioned goal.
- While the Department of Posts (DoP) is willing to contribute to the country's journey towards low carbon development, setting up of a target will help the DoP to devise effective strategies to lead to the low emission operations and deliveries for mails and parcels.
- As discussed in the international case studies, postal departments of many countries have already set up the decarbonization targets and have started shifting to low emission operations. Many private parcel service providers in India have also set up short- and medium-term targets for decarbonizing their operations.
- It is critical for India to set a specific target to achieve net-zero emissions for their MMS operations and/or to shift towards less emission intensive fuel like electric vehicles. The specific target will help the DoP to strategize their operations and purchase to facilitate seamless and less cost intensive transition for decarbonization.

Pilot Project

- To start with, the DoP may take up pilot studies in six cities, to understand the suitability of the new technology for the current operations.
- Adding to the recent purchase of EVs in Delhi circle for parcel operations, few more can be added and their feasibility and suitability for the operations may be checked before leveraging mass scale procurement of new technology.

Optimizing the Operations

- For many cities, it was observed that, majority of Category-III vehicles are not being utilized to their full capacity. Though the vehicles permit a payload of more than 5 tonnes, the average daily payload is less.
- In that case, the scope of replacing the ICE vehicles with payload more than 5 tonnes with Category-III EVs or even smaller EVs may be assessed.
- Each circle may have fewer numbers of heavy-duty vehicles, rest of relatively less payload. In addition to the cost savings, this may also save travel time as manoeuvering smaller vehicles is relatively easier and faster in cities.

Roadmap for Transition

- The transition to any new technology comes with a cost. But as DoP procures and condemns the vehicles on a yearly basis, the transition can be facilitated smoothly.
- In the previous section, TERI proposed 4 different transition scenarios, where the vehicle purchase against the condemned vehicles is shifted to EVs. As the TCO for EVs is relatively less than ICE vehicles, any shift to EV will result in cost savings.
- Annually 4,829 tonnes of tailpipe CO_2 emissions are avoided by achieving 100% electrification in six cities. Considering grid emissions, net emission savings come to about 2,248 tonnes CO_2 annually. For 100% electrification scenario, the DoP will save 78% and 36% of tailpipe and net emissions, respectively.
- However, TERI suggests opting for 100% EV replacement scenario. If the DoP opts for EV100, and mandates to procure only EVs after 2030, 100% MMS fleet will be electrified, contributing zero tailpipe emissions by 2040.
- As a number of suitable EV models for Category-I and Category-II are already available in the Indian market, therefore, these EV categories should be the focus.
- Aiming 100% EV purchases for new vehicles in six cities has the potential to save around 1 million litres of diesel annually, significantly reducing the operational costs as well as emissions.

Carbon Credits and Trading

- Currently, the Indian carbon market is in a nascent stage. However, the Bureau of Energy Efficiency (BEE) is actively working on developing robust carbon trading system in India to push the efforts towards zero emission development.
- Once the carbon trading policy is in place, the DoP may avail additional benefits by registering their carbon savings and availing carbon credits for the same.

Transition Models/Choices

- In this policy brief, TERI has only assessed the cost benefit analysis for procurement of EVs in place of ICE vehicles.
- Given the DoP already operated on lease model in some cities, they may further explore the opportunities for leasing/hiring an EV instead of procuring one.
- Leasing models may help DoP gain necessary trust in the EVs for initial years.
- The DoP may also opt for a leasing model for setting up charging infrastructure to bring down the capital investment.
- There are multiple EV-based city logistics service providers, who are servicing e-commerce companies for their clean and zero-emission transport requirement.
- There is also a need to look at inter-city operations of India Post and explore the possibility of electrification through ownership or lease models.

Conclusion

As per TERI estimates, the freight transport demand is projected to increase by 11 times and reach 32,370 billion tonne kilometres (btkm), resulting into 8 times higher emissions as compared to current emission levels, reaching 1,274 million tonnes of CO_2e by 2070. In the wake of the increasing externalities associated with climate change and rising pollution, it is high time for each government/non-governmental organization to lay down the action plan to curtail the emissions from their operations. Strategic and impact-oriented actions are imperative to curtail the rising emissions and help India in achieving NDC target.

Mail Motor Service operations contribute annually about 6,226 tonnes of CO_2 emissions in six cities and about 12 thousand tonnes from their entire operations. Integrating key-learnings from global best practices, the DoP may explore setting up targets to transition to EVs to bring down the emissions. Further, for its future procurement of MMS fleet, India Post may consider EVs as they seem to have better financial viability and environmental impacts over their lifespan (10 years). The rapid development in EV & battery technology and increasing production will further bring down the capital cost and provide the DoP with highly efficient vehicles in coming years. Considering the future developments, the DoP may commit to procure only EVs 2030 onwards. The DoP may also explore the opportunities of re-skilling their staff to operate EVs to their best capacity and ensure smooth operations.

In addition to the EV procurement, the DoP may utilize the available rooftop space to install solar panels, enabling transition to zero emission energy sources as well. The capital cost of installing solar panels will be recovered in about 4 years, eliminating total emissions from the vehicle operations.

The electrification of MMS fleet will not only serve as a proactive response to environmental challenges but will also position the DoP as a leader in adopting latest technologies for delivery services in every corner of the country.



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This document is based on a comprehensive study conducted for the Department of Post (DoP), Ministry of Communications by The Energy and Resources Institute (TERI). The study aimed at creating a roadmap for the electrification of the Mail Motor Service (MMS) fleet in six major Indian cities. While the insights and recommendations primarily focus on MMS operations in these cities, the document can also serve as a policy guide for large fleet owners, both in the public and private sectors.

Based upon the study recommendations, MMS-Delhi procured two EVs for their parcel deliveries operations

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