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Enhancing Circular Economy

of End-of-Life Vehicles (ELVs) in India

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FOREWORD

India is moving along a path of development in which environmental protection and economic growth go hand in hand. National policies and programmes are steadily reaching every sector, encouraging efficient use of resources and reducing the burden of waste on society. Strengthening circular economy practices in the automotive sector will not only reduce environmental risks but also unlock new streams of growth, innovation, and employment. Efficient use of resources can open new avenues for green development and economic resilience.

In this journey, the management of End-of-Life Vehicles (ELVs) is of great importance. With the rapid growth of the transport sector, the number of vehicles reaching the end of their life is rising. If handled properly, these vehicles can become a source of raw materials and new opportunities. If neglected, they may lead to environmental and safety concerns.

Over the past few years, the Government of India has introduced various steps to build an organised system for vehicle scrapping and recycling. These efforts aim to support industry, protect the environment, and create better facilities for citizens.

This report, "*Enhancing Circular Economy of End-of-Life Vehicles in India.*" is a step in the same direction. It reviews the present situation, outlines the challenges, and provides recommendations for the future.

I extend my appreciation to Team Green Transition, Climate & Environment, GTC&E, NITI Aayog, and the knowledge partner, The Energy and Resources Institute (TERI), for their research, diligence, and insights in developing this report. It is expected to serve as a valuable resource for policymakers, industry stakeholders, and citizens in shaping a cleaner and more sustainable future for the country.

(Suman Bery)

Place- New Delhi
Dated- 20th January 2026

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MESSAGE

India's automotive sector is going through a major transformation and rapid growth. There are approximately 354 million vehicles on roads (as of 2022), and there is an estimated addition of nearly 20 million vehicles each year. The End-of-life Vehicles (ELVs) management will emerge as a critical challenge in this journey. The number of ELVs in India is expected to nearly double from 23 million in 2025 to 50 million by 2030. This highlights the need for strong policies to manage them properly. It is not only an environmental necessity but also an economic opportunity to use the recycled material and reduce the need for virgin material. It can also lead to significant job creation.

A well-designed ELV ecosystem will enable resource recovery, reduce environmental pollution, enhance road and passenger safety, and open new avenues for green jobs and innovation. There is an existing Extended Producer Responsibility (EPR) framework for ELVs. This provides the regulatory framework. However, there are implementation gaps which are preventing from realising the full potential.

The report ***"Enhancing Circular Economy of End-of-Life Vehicles in India"*** outlines systematic challenges and proposes actionable solutions. It is emphasis expansion of Automated Testing Stations (ATS), strengthening of Registered Vehicle Scrapping Facilities (RVSFs), and integrating the informal sector into formal systems to improve efficiency, safety and environmental responsibility. It also suggests reuse of spare parts, simplifying procedural issues and enhancing consumer awareness.

The recommendations provide a clear strategy for policymakers, state governments, and industry stakeholders to build a robust ELV ecosystem. The measures supported by regulatory reforms and fiscal interventions, will ensure a progressive transition towards sustainable vehicle lifecycle management to unlock significant economic value.

I appreciate the research work done by the working group on End-of-life Vehicles (ELVs) chaired by Maj Gen K Narayanan, PD (Security & Law) and the support provided by Green Transition Energy & Climate Change division under Dr. Anshu Bharadwaj, Programme Director. I hope this report ensures the expansion of the ELV recycling ecosystem.

15/1

Dated: 15th January, 2026

[B.V.R. Subrahmanyam]

स्वच्छ भारत
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Message

To the circular economy community, I quote Abraham Lincoln: "***The best way to predict the future is to create it***".

India is one of the fastest growing economies that stands as the third largest automobile market in the world. This growth reflects improved mobility but also brings pressing challenges like traffic congestion, road safety risks, air pollution, and the growing burden of vehicles reaching the end of their useful life. The management of End-of-life Vehicles (ELVs) is therefore essential for balancing the growth along with environmental and public health concerns.

Currently, most ELVs in India are dismantled through informal routes, often without regard for safety or the environment, unscientific disposal of spare parts, and loss of precious materials. An organised and environmentally sound ELV System is therefore critical to protect health and conserve natural resources.

The government of India has already taken initiatives and important steps, including evolving scrappage policy measures, introduction of registered vehicles scrapping facilities (RVSFs), strengthened enforcement and sanction mechanisms for unsafe dismantling. Despite this advancement, a deeper regulatory reform along with coordinated implementation framework is required to meet the scale of this issue.

The report ***"Enhancing Circular Economy of End-of-Life Vehicles in India"*** has tried to address above issues.

This report draws on the contributions of the NITI Aayog Team and our knowledge partner TERI. Their efforts and in-depth research have been instrumental in shaping the recommendations and roadmap for a sustainable ELV ecosystem in India.

(Maj Gen K Narayanan)

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We thank Shri BVR Subrahmanyam, CEO, NITI Aayog, for his guidance and valuable suggestions in the preparation of this report. We also thank the members of the Working Group on Circular Economy of End-of-life Vehicles (ELVs) for their active participation and constructive inputs. We thank our knowledge partner, The Energy and Resources Institute (TERI), along with the concerned ministries and all stakeholders for their support in finalising the report.

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REGISTERED VEHICLE
SCRAPPING FACILITY

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List of Abbreviations

Abbreviation	Description
ACMA	Automotive Component Manufacturers Association of India
ATS	Automated Testing Station
BEE	Bureau of Energy Efficiency
BS	Bharat Stage
CoD	Certificate of Deposit
CVS	Certificate of Vehicle Scrapping
CPCB	Central Pollution Control Board
ELV	End-of-Life Vehicle
EPR	Extended Producer Responsibility
IRDAI	Insurance Regulatory and Development Authority of India
MoEFCC	Ministry of Environment, Forests and Climate Change
MoF	Ministry of Finance
MHI	Ministry of Heavy Industries
MoMSME	Ministry of Micro, Small and Medium Enterprises
MoRTH	Ministry of Road Transport and Highways
OEM	Original Equipment Manufacturers
RVSF	Registered Vehicle Scrapping Facility
SIAM	Society of Indian Automobile Manufacturers
SPCB	State Pollution Control Board

Executive Summary

India's transition towards sustainable development requires a strategic focus on resource efficiency, environmental protection, and circular-economy practices across key sectors. One of the critical areas within this broader agenda is the responsible management of material-intensive products at the end of their lifecycle. As the country continues to witness rapid urbanisation and an expanding vehicular population, the need for structured interventions in the transportation and mobility sector becomes increasingly evident.

In this context, the management of End-of-Life Vehicles (ELVs) has emerged as a policy priority, requiring coordinated action to address environmental, economic, and logistical challenges. The growing volume of ELVs on Indian roads calls for the creation of a formalised, sustainable, and economically viable scrapping ecosystem. In recent years, several regulatory measures have been introduced at the central level, including the enforcement of fitness testing mandates, standardised scrapping protocols, and Extended Producer Responsibility (EPR) obligations, to promote responsible vehicle disposal.

Through extensive consultations with stakeholders and in-depth analysis of operational realities, four core challenges have been identified that hinder the development of a well-functioning ELV circular economy. These include the limited rollout of Automated Testing Stations (ATS) and Registered Vehicle Scrapping Facilities (RVSFs) infrastructure across states; weak financial viability of RVSFs; procedural bottlenecks in scrapping and de-registration processes; and insufficient consumer awareness.

In response, a range of policy recommendations have been proposed. India's vehicle scrappage ecosystem to be strengthened through a coordinated approach that focuses on rapid infrastructure rollout, sector formalization, procedural simplification, and enhanced circular-economy outcomes. ATS and RVSFs to be established on a time-bound basis. PSU-led models with private operations may be explored to ensure broader geographic coverage. Formalization of the informal scrappage sector to be undertaken in a phased manner, supported through platforms such as Udyam Assist and technical assistance under SASCI. A one-time waiver of legacy environmental liabilities may be considered to encourage compliance by small dismantlers. To enhance financial viability and material recovery, the spare parts trade linked to ELVs should be formalized, EPR norms strengthened through higher mandated recovery rates, and uniform Certificate of Deposit (CoD) concessions adopted across States and UTs. Transparency in value realization to be improved by upgrading the V-Scrap portal with a robust scrap price discovery mechanism.

Procedural reforms to ensure that vehicle de-registration occurs only upon submission of a valid CoD, supported by Aadhaar-based ownership transfer and automated penalty accrual. These reforms to be complemented by a continued public awareness, including targeted outreach campaigns, VAHAN-based alerts to vehicle owners nearing ELV status, and clear dissemination of authorized ATS and RVSF information on government portals. Collectively, these measures will improve compliance, environmental outcomes, and ease of participation for stakeholders, ensuring effective implementation of the National Vehicle Scrappage Policy.

1. Introduction

India's ongoing industrial development and rapid pace of urbanization have given rise to growing concerns around sustainable waste management and responsible resource utilization. As one of the fastest-growing economies, India is currently positioned as the third-largest automobile market in the world[1], witnessing the addition of over 20 million vehicles to its road network every year. This increasing vehicle population directly contributes to the growing volume of End-of-Life Vehicles (ELVs) across the country. As per estimates[2], India had approximately 10 million ELVs in circulation in 2020. The cumulative number of ELVs is expected to increase to nearly 23 million by the end of 2025 and is projected to reach close to 50 million by 2030, underscoring the urgent need for a robust policy and regulatory framework for the sustainable management of ELVs (Figure 1).

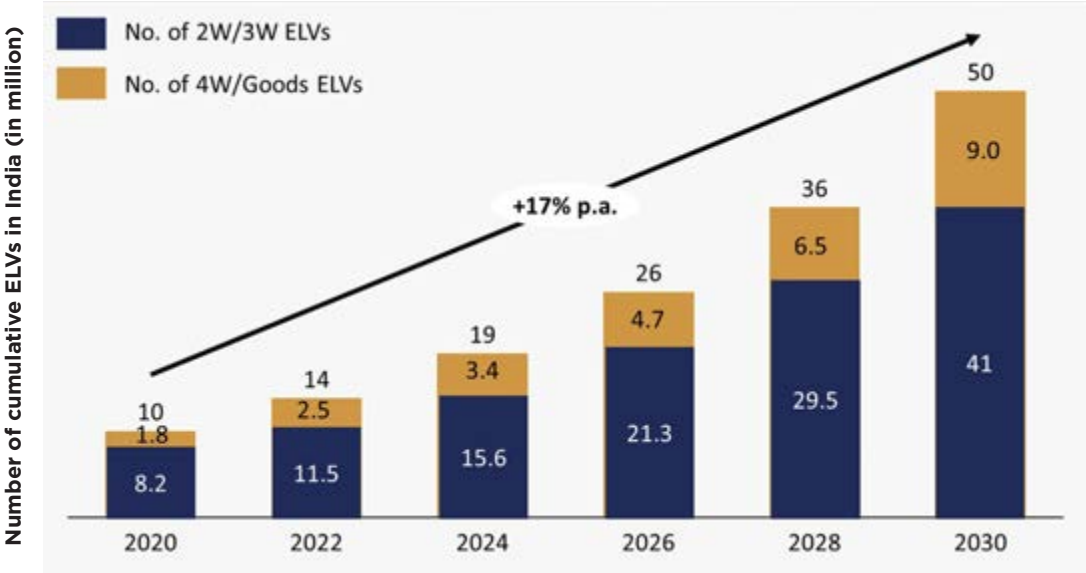


Figure 1: Projected ELV stock in India

The growing volume of ELVs poses multidimensional challenges regarding road safety and serious environmental concerns while both using and scrapping them. The old and unfit vehicles raise road safety issues, as they become increasingly difficult to operate and control and therefore must be declared end of life based on robust testing. Emissions from older vehicles are significantly more polluting, up to eight times more in the case of BS-I vehicle as compared to BS-VI emission standard vehicle and therefore there is a strong case to replace them with less polluting BS-VI or electric vehicles (EV) (Box 1.1)[3].

[1] SIAM (2024) Annual Report 2023-24 https://www.siam.in/uploads/filemanager/SIAMAnnualReport2023-24.pdf

[2] SIAM (2023) Context Paper: ELV Recycling - Status of Circular Economy in India https://www.siam.in/uploads/filemanager/377ChakriytaContextPaper.pdf

[3] Sources – 1) CPCB (2017) Vehicular Exhaust, https://cpcb.nic.in/vehicular-exhaust/

2) Spinny (2025) Bharat Stage Emission Norms: BS-I, BS-II, BS-III, BS-IV, BS-VI Explained https://www.spinny.com/blog/bharat-stage-emission-norms-bs-i-bs-ii-bs-iii-bs-iv-bs-vi-explained/

Box 1.1 – Bharat Stage Emission Standards (BSES)

India's Bharat Stage emission standards are a set of progressively stringent vehicular emission regulations implemented by the Ministry of Road Transport and Highways (MoRTH) and enforced by the Central Pollution Control Board (CPCB). These standards regulate the permissible limits of air pollutants such as nitrogen oxides (NO_x), carbon monoxide (CO), hydrocarbons (HC), and particulate matter (PM) emitted by internal combustion engine vehicles.

Table 1: Comparison of various BS norms

Norm	Year of Nationwide Rollout	Fuel Type	CO (Carbon Monoxide)	HC (Hydrocarbons)	NOx (Nitrogen Oxides)	PM (Particulate Matter)	Notes
BS-I	2000	Petrol	2.72	0.20	0.15	Not Regulated	PM not regulated for petrol
		Diesel	2.72	-	0.97	0.14	
BS-II	2005	Petrol	2.2	0.20	0.15	Not Regulated	Minor tightening
		Diesel	1.0	-	0.7	0.08	
BS-III	2010	Petrol	1.0	0.10	0.08	Not Regulated	
		Diesel	0.64	-	0.50	0.05	
BS-IV	2017	Petrol	1.0	0.10	0.08	Not Regulated	Same as BS-III for petrol
		Diesel	0.50	-	0.25	0.025	~50% cut from BS-III
BS-VI	2020	Petrol	1.0	0.10	0.06	0.0045	PM now regulated for petrol
		Diesel	0.50	-	0.08	0.0045	Huge NOx & PM drop

Source: CPCB, Spinny

The transition from BS-IV to BS-VI norms (skipping BS-V), implemented nationwide from April 1, 2020, represented a critical leap in India's commitment to reducing vehicular emissions. BS-VI standards introduced advanced after-treatment technologies such as diesel particulate filters (DPF), selective catalytic reduction (SCR), and onboard diagnostic systems, along with a significant reduction in sulphur content in fuels.

Importantly, **while pre-BS VI vehicles may appear to be visually well-maintained and emit little visible smoke, empirical evidence indicates that their actual pollutant load per kilometre is substantially higher compared to BS-VI compliant vehicles**.

However, the environmental challenges of scrapping an ELV are also significant due to lack of formal vehicle scrapping facilities which have all the environmental safeguards.

The economic potential of ELV processing is also important as ELVs hold considerable value as a resource. It is estimated that around 98 million tonnes of steel is likely to be recovered from vehicles manufactured between 2005 and 2023, which may serve as a major source of secondary steel for the country (Figure 2), saving 43 million metric tonnes of CO2 equivalent.

Figure 2: Steel recovery from vehicles

Ministry of Road Transport and Highways (MoRTH) has led the initiatives in this regard by starting the Voluntary Vehicle-Fleet Modernisation Program in 2021. The ministry has worked to create a scientific basis to test the fitness of the vehicles through Automated Testing Stations (ATS) rather than just the years of usage. Once a vehicle reaches end of life, MoRTH has also enabled creation of Registered Vehicle Scrapping Facilities (RVSF) to dispose the ELV in an environmentally sound manner while also recovering the maximum possible economic value from it.

Despite the efforts in the right direction, the current ELV scrapping landscape in India continues to face several challenges in developing a well-functioning scrapping ecosystem. Key issues include limited availability of ATS, non-existent and underutilized RVSFs, complex procedural requirements for deregistration and low public awareness.

These challenges are further aggravated by the widespread presence of an unregulated informal scrapping sector, which operates at lower costs and offers attractive bids to vehicle owners seeking to dispose their ELV.

This report outlines the major bottlenecks in the existing scrapping system and provides actionable recommendations aimed at strengthening the ELV value chain, promoting environmentally sound practices, and advancing the circular economy framework for vehicles in the country.

2. End-of Life Vehicle Management in India

2.1 Definition of ELV in India

End-of-Life Vehicles refer to vehicles that are no longer deemed roadworthy or legally eligible for use under applicable regulatory provisions. As per the *Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021, such* vehicles include:

2.1.1 Those that are no longer validly registered;

2.1.2 Have been declared unfit by an authorised Automated Fitness Centre or Road Transport Officer;

2.1.3 Have had their registration cancelled either under Chapter IV ("Registration of Motor Vehicles") of the Motor Vehicles Act, 1988 or through an order issued by a competent Court of Law;

2.1.4 Additionally, vehicles that are voluntarily declared as waste by their legitimate registered owner, owing to reasons specified in the rules.

Further, according to orders dated 26.11.2014 and 07.04.2015 passed by the Honourable National Green Tribunal and upheld by an order of the Honourable Supreme Court of India dated 29.10.2018, petrol vehicles over 15 years old and diesel vehicles over 10 years old are not allowed to ply on the roads of the National Capital Region of Delhi. These judicial orders are enforced by the Government of the National Capital Territory of Delhi (GNCTD) and Commission for Air Quality Management (CAQM). As on August 2025, the above orders are under judicial review by the Honourable Supreme Court itself after the Government of Delhi approached the court for a fitness-based criteria rather than an age-based criteria to declare an ELV.

2.2 Risks and Challenges of Informal Recycling

When a vehicle reaches the end of its useful life from the consumer's perspective, it becomes essential to ensure its responsible disposal in an environmentally sound manner. Informal scrapping may have adverse environmental effects as described in Box 2.1.1. Further the benefits of the formal environmentally sound vehicle scrapping are provided in Box 2.1.2.

Box 2.1.1 – Environmental and Safety Risks of Informal ELV Scrapping

- Release of hazardous fluids such as fuel, coolant, and brake oil into soil and water systems.
- Uncontrolled disposal of batteries, resulting in heavy metal contamination.
- Improper dismantling of airbags and refrigerants, leading to emission of toxic gases like CFCs.
- Fire and explosion risks due to crude processing or storage of fuel residues.
- Unsafe working conditions for laborers; exposure to toxic substances.
- Illegal dumping of automobile shredder residue (ASR), including plastics, foams, and glass, into landfills.

Box 2.1.2 - Benefits of Formal, Environmentally Sound Vehicle Scrapping

- Proper handling and safe disposal of all hazardous components and fluids.
- High recovery rates of valuable materials—steel, non-ferrous metals, plastics—through scientific recycling.
- Reduction of soil, air, and water pollution through compliance with environmental regulations.
- Traceability and documentation through Certificates of Deposit (CoD), supporting legal compliance and incentives.
- Creation of formal sector employment and improved workplace safety.
- Contribution to national resource efficiency and circular economy targets.

The process flow of scrapping an ELV is illustrated in Figure 3. It involves multiple steps with specific challenges under the existing regulatory and operational ecosystem.

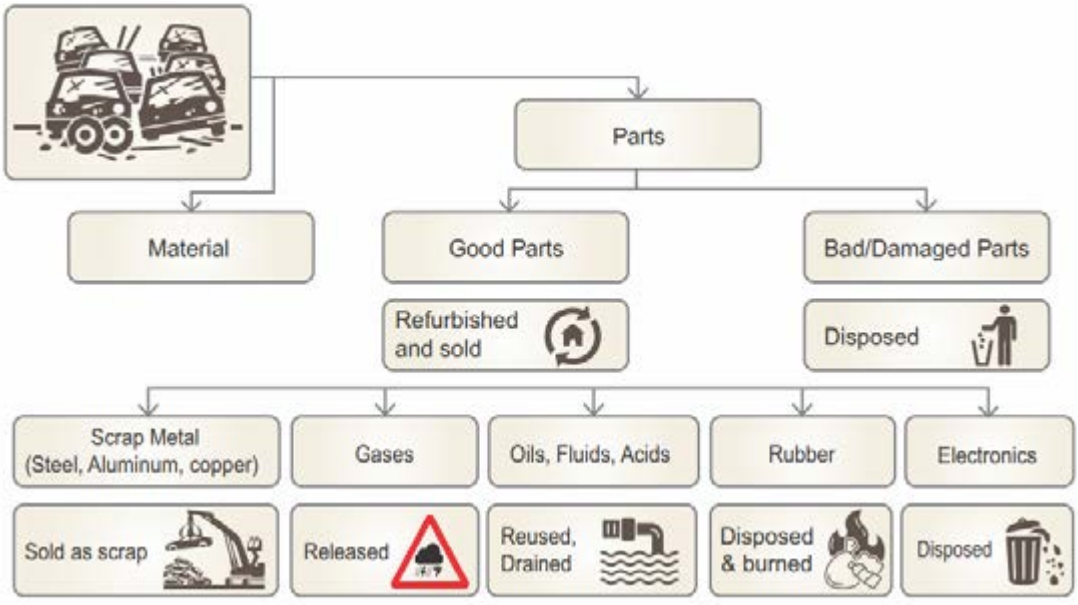


Figure 3: Informal disposal of an ELV

(Source: SIAM (2023) Context Paper: ELV Recycling - Status of Circular Economy in India)

2.3 Consumer Journey of Vehicle Scrapping in India

The consumer journey related to vehicle scrapping typically progresses through several key stages, including awareness, information seeking, evaluation of options, and ultimately, decision-making. Each stage plays a critical role in shaping the consumer's approach to the sustainable disposal of end-of-life vehicles. This is summarised in Figure 4.

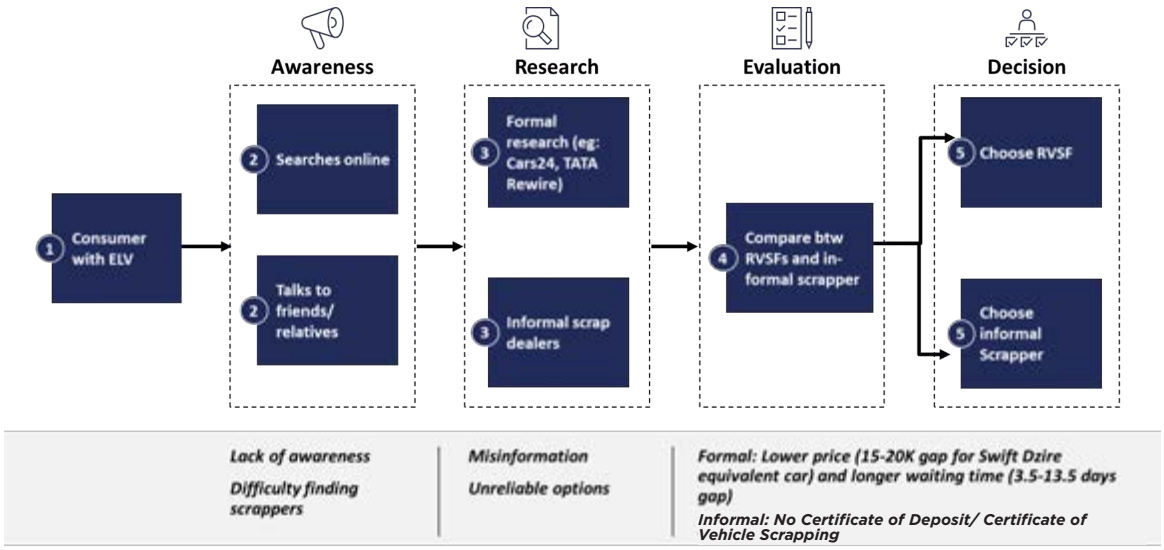


Figure 4: Consumer Journey of ELV Disposal

2.3.1 Awareness

The first step in the vehicle scrapping process is awareness about the scrapping ecosystem. At this stage, consumers need to be informed about available options for lawful disposal of their ELVs. In most cases, consumers either rely on internet searches or consult friends and family who have previously scrapped a vehicle, or local car repair shops. However, visibility of formal scrapping facilities, particularly Registered Vehicle Scrapping Facilities (RVSFs), is limited online. As a result, reliable information regarding formal options is not easily accessible to the consumer.

2.3.2 Research

To search for ELV disposal options, a user may browse vehicle resale platforms such as True Value, Spinny, Cars24, CarDekho, OLX etc., or visit the websites of authorised RVSFs like Tata ReWire, Mahindra CERO, Maruti Suzuki Toyotsu India Pvt Ltd, etc. Alternatively, some consumers may approach local informal vehicle scrappers. The research stage is often marked by the presence of misinformation about price and lack of clarity of process, which tends to divert consumers towards unregulated and informal channels.

2.3.3 Evaluation

In this phase, consumers assess the trade-offs between formal and informal scrapping options. The decision is often influenced by financial and operational considerations. For instance, informal scrappers tend to offer a higher price—ranging between ₹15,000 to ₹20,000 more for a mid-range vehicle such as the Suzuki Swift Dzire—compared to formal entities. Additionally, the service lead time at RVSFs may be longer by 4-14 days, further discouraging consumers. However, unlike authorized scrapping facilities, informal scrappers do not issue vital documents like the Certificate of Deposit (CoD), effectively excluding vehicle owners from government incentives and hindering de-registration.

2.3.4 Decision

Based on the insights gained from the earlier stages, consumers make a final choice between formal RVSFs and informal scrapping dealers. This decision is often driven by price considerations and convenience of service.

This consumer journey highlights the need for targeted awareness initiatives to educate citizens about the environmental, legal, and long-term benefits of formal scrapping. Despite the structured and compliant process offered by RVSFs, consumers often opt for informal channels due to better immediate financial returns, and faster and hassle-free service. Addressing these behavioural and informational gaps is essential to enhance the uptake of formal vehicle scrapping systems.

3. Regulatory Landscape for End-of-Life Vehicles

3.1 Rules notified by MoRTH for ELV Management

The regulatory framework governing ELVs in India is primarily shaped by a set of key rules and notifications issued by Ministry of Road Transport and Highways (MoRTH) and Ministry of Environment, Forests and Climate Change (MoEFCC). These rules define the procedures, standards, and responsibilities across the ELV ecosystem — from vehicle fitness testing and scrapping operations to environmental compliance and producer responsibility.

A summary of rules notified by the MoRTH, the nodal ministry for vehicle scrapping, since announcing the Voluntary Vehicle Modernisation Program (V-VMP) are listed below.

Table 2: List of various rules notified by MoRTH on vehicle scrapping

Title	Gazette Notification	Brief Description
Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021		
Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021	GSR 653(E); 23 Sep 2021	• Defines RVSF and outlines powers, duties, and eligibility conditions. • Specifies procedure for registration, validity, and renewal for RVSF. • Covers scrapping procedure, issuance of CoD & CVS, and requirements for scrapping yard and collection centre. • Mandates audits, certifications, and digital record maintenance, and provides mechanism for appeal.
Amendment Rules, 2022	GSR 695(E); 13 Sep 2022	• RVSF registration validity increased to 15 years, with renewals every 10 years thereafter. • CoD now valid for 2 years to claim incentives on new vehicle purchases. • Land lease allowed in place of ownership; new self-declaration requirements for safety and environmental compliance. • Application processing capped at 60 days; revised CoD format introduced.
Amendment Rules, 2024	GSR 212(E); 15 Mar 2024	• The entity shall obtain Consent to Establish from the SPCB for setting up RVSF. • CoD shall be electronically tradeable with no incentives for government or impounded vehicles. • Authorisation validity is extended from two to three years. • RVSF shall ensure audits for compliance and mass flow tracking.

Title	Gazette Notification	Brief Description
(Twenty First Amendment) Rules, 2021 [Chapter XI – Recognition, Regulation and Control of Automated Testing Stations]	GSR 652(E); 23 Sep 2021	• Lays down the guidelines for recognition and regulation of Automated Testing Stations (ATS). • Specify use of automated equipment for conducting fitness tests of vehicles. • Specify issuance of Certificates of Fitness. • Eligibility and infrastructure required to set up ATS.
(Twenty Third Amendment) Rules, 2021	GSR 714 (E); 04 Oct 2021	• Provides for waiver of fee for issue of certificate of registration submission of CoD. • Revision of fee for renewal of registration, fitness test and certificate.

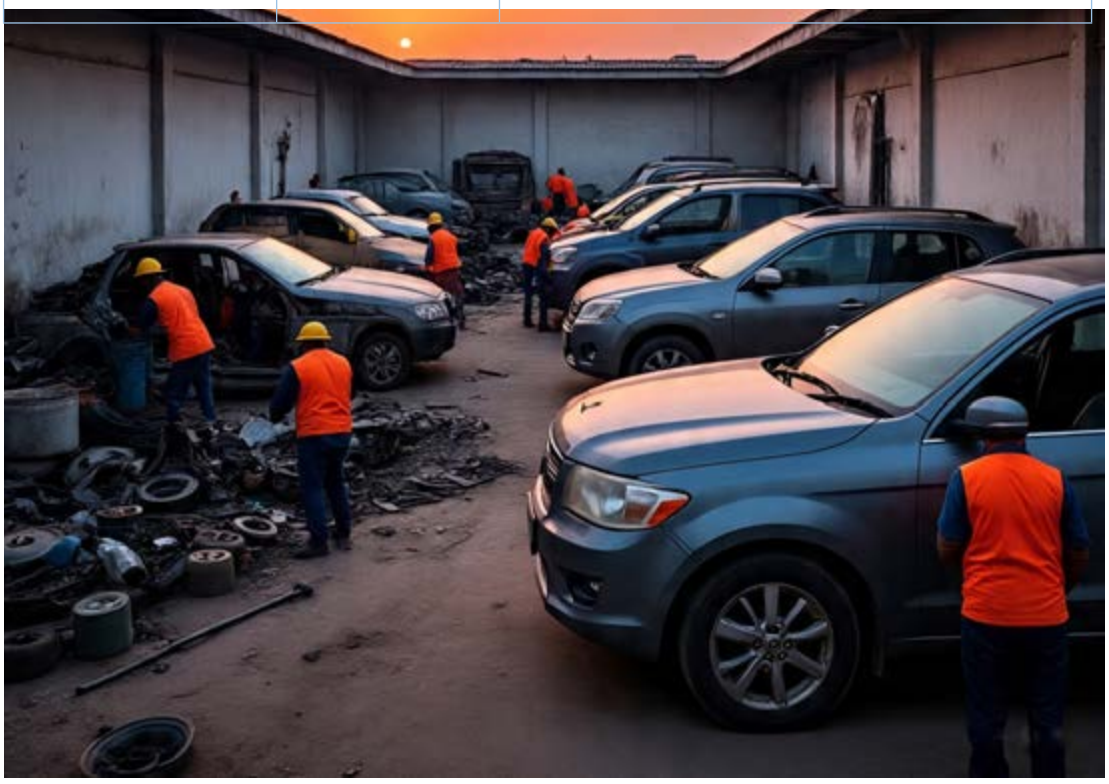
(Twenty Fourth Amendment) Rules, 2021	GSR 720(E); 05 Oct 2021	• Provides for concession in the motor vehicle tax:
		  ◦ upto 25%, in case of non-transport vehicles.
		  ◦ upto 15%, in case of transport vehicles.
		• for a vehicle registered against submission of CoD.

(Eighth Amendment) Rules, 2022	GSR 272(E); 05 Apr 2022	• Provides for mandatory fitness of motor vehicles only through ATS as under –
		  ◦ For Heavy Goods Vehicles/Heavy Passenger Motor Vehicles with effect from 01 Apr 2023 onwards.
		  ◦ For Medium Goods Vehicles/Medium Passenger Motor Vehicles and Light Motor Vehicles (Transport) with effect from 01 Jun 2024 onwards.

(Seventeenth Amendment) Rules, 2022	GSR 797(E); 31 Oct 2022	• Provides for a single-window electronic portal for ATS registration applications, uploads, and payments. • Establishes 10-year validity and renewal period for registration certificates. • Mandates six-monthly inspection and calibration of ATS with reporting on the government portal. • Vehicle failing mandatory parameters shall be declared Unfit, with provision for re-test within 30 days. • If the vehicle fails critical tests again or is not re-tested within the prescribed period, it shall be declared as ELV.
(First Amendment) Rules, 2023	GSR 29(E); 16 Jan 2023	• Provides that Registration Certificate for government-owned vehicles shall not be renewed after the lapse of fifteen years.

Title	Gazette Notification	Brief Description
(Fifth Amendment) Rules, 2023	GSR 663(E); 12 Sep 2023	• Prescribes fitness validity as two years for transport vehicles up to eight years old, and one year for vehicles older than eight years. • Mandates that fitness of heavy, medium, and light motor vehicles shall be conducted exclusively through ATS effective from 01 Oct 2024. • Where ATSs are operational within a registering authority's jurisdiction, fitness of all transport vehicles shall be carried out only through them.
(Seventh Amendment) Rules, 2024	GSR 195(E); 14 Mar 2024	• A vehicle which fails to undergo fitness test within 180 days from the due date or expiry of certificate of fitness shall be declared as ELV. • The declaration shall be recorded in the VAHAN database by the respective registering authority. • The declaration shall not be applicable to specialized and exempted vehicle categories as notified by the Central Government.

(First Amendment) Rules, 2025	GSR 200(E); 26 Mar 2025	• 50% concession on MV tax, against CoD for:
		  ◦ All transport and non-transport vehicles which are manufactured as per BS-I norms and earlier Mass Emission Standard norms.
		  ◦ All medium and heavy goods and passenger motor vehicles which are manufactured as per BS-II norms.



Box 3.1 Certificate of Deposit

CERTIFICATE OF DEPOSIT

Certificate no : [redacted]

We, [redacted] certify that Vehicle Registration No [redacted] with Year of first registration as **-2025** has been accepted at our Facility vide our Inward No [redacted] dated **2025-07-01 09:56** for Treatment in accordance with these rules for the Disposal of Vehicles and the agreed consideration has been paid to the owner vide our Payment Voucher No **hello291099** Dated **27-06-2025**

Vehicle Details:

Maker : Tata Motors Ltd	Model : TATA NEXON XZ 1.2 RTN BS4
Vehicle Category/Class : LMV/Motor Car(LMV)	Vehicle Type : Non - Transport
Fuel type : PETROL(E20)	Cubic capacity: 1198.00
Seating capacity(in all) : 5	Year of manufacturing (YYYY) : 2024
Unladen weight(kgs): 1221	Number of cylinders: 3
Registered gross vehicle weight(kgs) : 1631	Wheelbase (mm) : 2498
Norms : BHARAT STAGE VI	

The owner of this certificate is entitled to claim the following benefits on purchase of one new vehicle. These benefits can be availed only once.

1. Registration fee waiver as per Rule 81 of CMVR, 1989
2. Concession on motor vehicle tax as prescribed in the state of purchase of new vehicle
3. Auto OEM discount as per the discretion of auto OEM dealers

We further certify, that on completion of Treatment, the National Register (VAHAN Database) and the competent authority would be intimated for updating records.

This certificate is in the name of : [redacted] **and is valid till 30-06-2028**

Date of Issuance : 2025-07-01 09:56 **RVSF NO :** [redacted]
State/UT of scrapping : UTTAR PRADESH

Disclaimer: This certificate needs to be validated at the time of utilization

Trading Information
You can also trade this certificate by following these 4 basic steps.

1. Click on Trade or Go to Trading Portal
2. Quote Your Price to Sell
3. Buyer Quotes Purchase Price
4. Owner Allocates and Buyer Confirms

Figure 5: Certificate of Deposit issued by RVSF
(Source: VAHAN V-Scrap Portal User Manual)

The Certificate of Deposit (CoD) is the certificate issued by the RVSF to recognise the transfer of ownership of the vehicle from the registered owner to the Registered Scrapper for further treatment as per the Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021 issued by MoRTH. The CoD is a necessary and sufficient document for the owner to avail incentives and benefits for purchase of a new vehicle.

MoRTH has also launched a Government e-Marketplace (GeM) e-auction portal recently for auction of Govt. vehicles for scrapping at RVSFs where so far 35,000 vehicles (as per MoRTH data from 01.04.2025 to 30.09.2025) have been auctioned for scrapping by Central Government departments and ministries.

3.2 Norms for Fitness Testing of Transport and Non-Transport Vehicles

The government provisions related to fitness testing, as prescribed under the guidelines issued by MoRTH, for various categories of vehicles are outlined in Table 3 below. MoRTH has notified 01 Apr 2025 to be the cut-off date for mandatory testing of transport vehicles at ATSs.

Table 3: Norms for Fitness Testing of Transport and Non-Transport Vehicles

(Source: MoRTH)

Vehicle Category	Testing Frequency
Transport vehicles	Undergo fitness test every 2 years for first 8 years and annually thereafter
Non-Transport vehicles	Valid fitness certificate is necessary for renewal of registration after 15 years. Renewal is valid for every 5 years

Furthermore, under the Central Motor Vehicles (Fifth Amendment) Rules, 2023, it is mandatory for transport vehicles to undergo fitness testing exclusively through Automated Testing Stations (ATS) where such facilities are available within the jurisdiction of the registering authority. Consequently, mandatory access to Regional Transport Offices (RTOs) for fitness testing has been revoked in districts where ATSs are operational—covering 101 RTOs across 87 districts in 14 States and Union Territories.

3.3 Guidelines on Provisions for End of Life Vehicles, June 2021 (AIS-129)

These standards, developed by the Automotive Industry Standards Committee under MoRTH, provides the regulatory and procedural framework for establishing and operating Registered Vehicle Scrapping Facilities (RVSFs). It applies to all vehicle categories and clearly defines the roles of owners, scrappers, and authorities.

The standard outlines eligibility criteria, registration and documentation requirements, and mandates environmentally sound practices for scrapping ELVs. It details the full scrapping process—from depollution and dismantling to disposal—while prescribing technical and environmental infrastructure, including hazardous waste management, drainage, and de-risking equipment. AIS-129 prohibits reuse of critical safety and emission components, ensures compliance through CPCB guidelines, and mandates third-party audits and reporting for safe, transparent, and accountable ELV processing.

3.4 Guidelines for Environmentally Sound Facilities for Handling and Scrapping of End-of- Life Vehicles by CPCB

To support India's transition to a circular economy and ensure sustainable ELV management, the CPCB issued revised guidelines in March 2023 (earlier guidelines having been published in 2016 and 2019) for the environmentally sound handling,

dismantling, depollution, and recycling of ELVs. These guidelines align with the *Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021,* and harmonise with the *Steel Scrap Recycling Policy and AIS-129* standards. The document outlines detailed procedural, environmental, and infrastructural requirements for setting up and operating RVSFs, with emphasis on regulatory compliance, safe handling of hazardous materials, and traceable processing of scrap through formal channels.

The guidelines adopt a step-by-step approach, covering ELV collection, depollution, dismantling, shredding, waste segregation, and final disposal. It highlights the importance of controlling pollution from hazardous substances such as oils, coolants, batteries, airbags, refrigerants, and ASR (Automobile Shredder Residue), and mandates their management under various Waste Management Rules under the Environment (Protection) Act, 1986. Furthermore, the guidelines call for robust environmental, health, and safety (EHS) protocols, infrastructure standards for facilities, and mechanisms for traceability through digital platforms.

3.5 Environment Protection (End-of-Life Vehicles) Rules, 2025, Ministry of Environment, Forest and Climate Change (MoEFCC)

Environment Protection (End-of-Life Vehicles) Rules introduce Extended Producer Responsibility (EPR) obligations for the automobile sector. These obligations are defined across different categories of vehicles, for different compliance periods as based on their average life — 15 years for transport vehicles and 20 years for non-transport vehicles. The EPR targets (Table 4) are linked to the proportion of steel content used in the manufacturing of new vehicles for a particular compliance period.

Table 4: EPR Target as per Environment Protection (End-of-Life Vehicles) Rules, 2025

Compliance Period	EPR Target (% of steel used)
2025-2030	8%
2030-2035	13%
2035-2040 (and 2040 onwards)	18%

For instance, the EPR target set for the year 2025-2026 would require the purchase of EPR certificates for a minimum of 8% steel used in vehicles manufactured in 2005-2006 (Non-Transport) or 2010-2011 (Transport).

3.6 Scheme for Special Assistance to States for Capital Investment (SASCI), Ministry of Finance

This assistance provided under the SASCI is aimed at increasing the pace of V-VMP implementation (Box 3.2). Incentives worth Rs 2,000 crore was extended to State Governments (on achieving V-VMP milestones in January-March 2023) under Department of Expenditure's (DoE) Scheme for Special Assistance to States for Capital Expenditure for 2022- 23. This was extended for the period of 2023-24 and further for the period of 2024-25 under the revamped Scheme for Special Assistance to States for Capital Investment (SASCI). Seeing the relative success in adoption of vehicle testing and scrapping infrastructure in multiple states, DoE has further decided to continue this scheme for FY 26.

Box 3.2 Voluntary Vehicle Modernisation Program (VVMP)

Launched in August 2021 by MoRTH, the Voluntary Vehicle Fleet Modernisation Programme (VVMP) aims to phase out unfit and polluting vehicles through a structured ecosystem of ATS and RVSFs. Under the policy, private vehicles older than 20 years and commercial vehicles over 15 years must undergo mandatory automated fitness testing; failure to meet standards results in de-registration and scrapping at authorized facilities. To incentivize voluntary scrapping, the policy offers a composite incentive package: scrap value, automaker discounts; waiver of registration fees; and state-level motor vehicle tax rebates (up to 25% for non-transport vehicles and 15% for transport vehicles). The program is designed to foster India's transition to circular economy-based automotive recycling.

The SASCI, as approved by the DoE, disburses funds to state governments to incentivise scrapping of State Government vehicles which are older than 15 years; and to financially support waiver of liabilities on old vehicles, providing tax concessions to individuals for scrapping of old vehicles and setting up of ATS. The funds released under SASCI to various states are listed in Table 5.

Table 5:State-wise Fund Disbursement by DoE for SASCI

State	Funds as approved by DoE (in INR Cr.)		
	January 2023 – March 2023 (Scheme for Special Assistance for Capital Expenditure 2022-23)	April 2023 – March 2024 (SASCI 2023-24)	April 2024 – March 2025 (SASCI 2024-25)
Andhra Pradesh	-	11.50	The Budget release details are yet to be made available.
Assam	12.6	52.40	
Bihar	-	60.7	
Chhattisgarh	-	68.6	
Goa	-	3.5	
Gujarat	-	152.5	
Haryana	-	50	
Himachal Pradesh	-	25	
Jharkhand	-	6.7	
Karnataka	-	116.82	
Kerala	-	80.4	
Madhya Pradesh	75	25	
Maharashtra	38.5	32.3	
Mizoram	-	3.5	
Odisha	75	13.5	
Punjab	-	62.6	
Rajasthan	-	70.8	
Uttarakhand	-	33.3	
Uttar Pradesh	150	71.1	
Total	**351**	**940**	**841**

Source: MoRTH (2024) Annual Report 2023-24 and MoRTH data shared as on 11.06.2025

Government of India also modified the General Financial Rules (GFR) to mandatorily scrap Government vehicles older than 15 years and only to be sent to formal scrapping centres.

The details of the subsidy amount provided to states under the scheme for setting up ATS for the FY 2024-25 are presented in the Table 6 below:

Table 6: Current Subsidy for ATS setup given in Scheme for Special Assistance to States for Capital Investment (As per data from MoRTH provided in September 2024)

Region	District Category	Subsidy per ATS (in INR Cr.)
All States (Except North-Eastern States)	Regular	3
	Priority	3.6
North-Eastern States	Regular	4.5
	Priority	5.4
250 priority districts identified based on fitness testing load		

Box 3.3 Understanding global good practices linked to ELV management

Table 7: Global good practices around legislation linked to ELV management

Country	Legislation	Mechanism	Key Learnings
India	Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules (2021)	**Consumer -** No mandatory fee at purchase or disposal. Pays nothing to scrap formally. **OEM –** Bears certain portion of the cost and needs to meet targets under the newly-introduced EPR. **Recycler -** RVSFs must invest in compliant infrastructure but suffer from low ELV inflow and poor margins.	• Economic viability is necessary for a successful RVSF setup. • Sale of spare parts form a significant portion of informal recyclers' profits. • Consumer awareness is a key driver for scrapping alongside incentives.
EU	EU Directive 2000/53/EC on ELVs (2000)	**Consumer** - Pays nothing at ELV stage; return to authorised centres is free. **OEM** - Bears full cost under EPR. Designs vehicles for easier recycling. **Recycler** - Paid through dismantling/scrap resale; must meet environmental standards.	• EPR ensures OEM accountability throughout vehicle lifecycle. • Consumer incentivised to scrap formally with zero cost. • Design-for-recycling is enforced.
Japan	Law for the Recycling of ELVs (2005)	**Consumer** - Pays a mandatory recycling fee upfront while purchasing vehicle. **OEM** - Must manage recycling of airbags, CFCs, and ASR using collected funds. **Recycler** - Operates under government-approved framework; costs reimbursed from fund.	• Cost recovery is built-in and predictable. • Avoids informal disposal through prepaid system. • OEMs held accountable for specific high-risk components.
South Korea	Act for Resource Recycling of Electrical and Electronic Equipment and Vehicles (2008)	**Consumer** - No direct recycling fee; delivers vehicle to collection centre. **OEM** - Shares responsibility (EPR-inspired); must meet recovery quotas. **Recycler** - Also shares cost; must report data quarterly; regulated handling of ASR.	• Shared responsibility distributes burden across value chain. • Strong reporting and compliance mechanisms. • Hybrid of EU regulation and Japan's accountability.
USA	No national level ELV regulation exists	**Consumer** - May receive payment from recycler depending on vehicle condition. **OEM** - No legal obligation; cost is not directly borne. **Recycler** - Bears cost but offsets via resale of parts and scrap metal.	• Market-driven model works when scrap has high resale value. • Lacks enforcement and formal infrastructure. • Environmental compliance ensured through strict laws for disposal of hazardous materials, e.g. oil, batteries, refrigerants.

Box 3.3 Understanding global good practices linked to ELV management (contd.)

An RVSF in India[1]

Informal Vehicle Scrapping in India[2]

Vehicle Recycling Plant in Japan[3]

Junk Car recycling in USA[4]

Car Scrap plant in South Korea[5]

Vehicle Scrapping facility in EU[6]

[1] The New Indian Express https://www.newindianexpress.com/
[2] Factly https://factly.in/review-what-is-the-vehicle-scrapping-policy-all-about/
[3] Keiaisha Co., Ltd https://www.keiaisha.co.jp/en/service/recycle/
[4] Bonnie's Car Crushers http://www.bonniescarcrushers.com/
[5] YouTube, Amazing Korean Junkyard. Massive Scrap Car Process https://i.ytimg.com/vi/Nhf7fLZugZ4/
[6] Recycling Today https://www.recyclingtoday.com/news/

There has been a gradual increase in the ATS and RVSF infrastructure in the country. The incentives for scrapping, transmitted through the CoD as issued by RVSF when an ELV is brought in for scrapping and used for providing up to 25% concession on motor vehicle tax on registration, are intended to induce the consumer to scrap their ELVs in RVSFs, and consequently there has been an increase in vehicles reaching RVSFs for scrapping.

4. Required ATS's for ELV Management

4.1 Overview of Current Automated Testing Stations (ATS) Infrastructure

Central Motor Vehicles (Twenty First Amendment) Rules, 2021, defines an "Automated Testing Station" as any automated testing facility, authorised by the State Government, where vehicle fitness testing may be conducted through automated vehicle testing equipment. The infrastructure requirements for an ATS specify that any facility used for vehicle fitness testing must have a minimum per lane area of 500 square meters for two-wheeler or three-wheeler vehicles, and 1500 square meters for Light, Medium, or Heavy Motor Vehicles. This area must include appropriate space for administrative blocks such as a reception or information centre, waiting area, IT server room and workstation. The Rules also mandate that adequate provision must be made for parking and free movement of vehicles brought for testing. Cybersecurity certifications are required for the Information Technology systems to ensure secure access to the VAHAN database. Additionally, facilities must provide sufficient space for installing essential utilities. Test lanes are to be equipped with proper ventilation and a fume extraction system.

Figure 6: Infrastructure in an ATS

Source: Rabi Thankappan (2023), Automated Testing Station, Ahmedabad.

4.2 Geographical Distribution and Growth of ATS

As per the data available from MoRTH in Sep 2025, there are currently 156 operational ATS across 16 States and Union Territories but concentrated in few states like Gujarat, Andhra Pradesh, Madhya Pradesh and Uttar Pradesh (Figure 7).

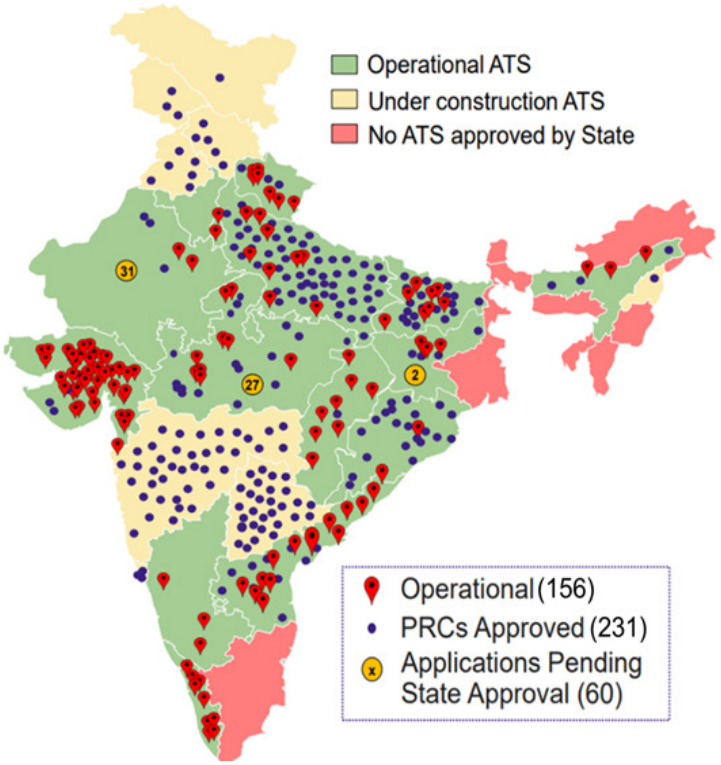


Figure 7: Geographical Distribution of ATS as on 01.09.25

(Source: MoRTH)

Since FY 2023, there has been a rapid growth in the number of ATS set up every year (Figure 8), and with the total ATS in the country expected to cumulatively be close to the 250-mark as 114 ATS are expected to be set up in the next FY.

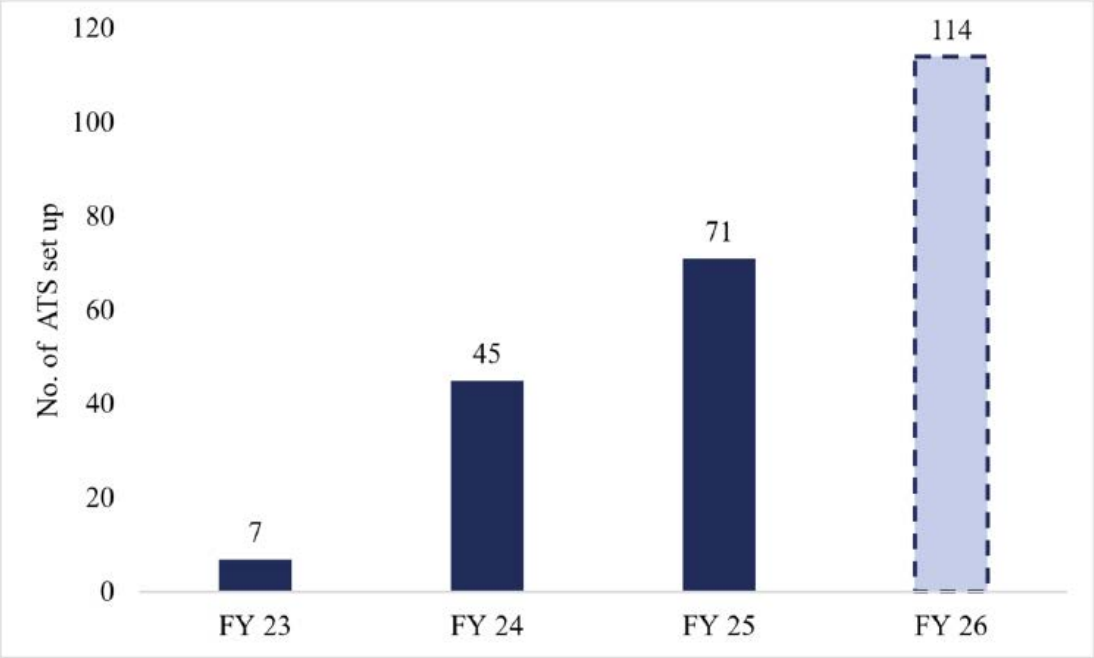


Figure 8: ATS setup in each FY

(Source: MoRTH)

Box 4.1: Microeconomic Analysis of an ATS

This analysis considers the capital and operational expenditure required for establishing a two-lane ATS, designed to handle the testing of up to 100 vehicles per day, operating for approximately 300 days in a year. The average capital cost for the establishment of an ATS is reported to come out to around INR 10 Cr. For revenue estimation, an average testing fee is assumed based on the fee structure applicable to the vehicle categories with the highest testing share—primarily Light, Medium, and Heavy Motor Vehicles. Based on this approach, the financial assessment indicates that an ATS is a viable business model, with operational ATS units reporting revenue figures that are broadly consistent with these estimates.

Table 6: Cost and Revenue for an ATS

Header	Value (Units)
Capital Cost per ATS (including cost of land)	10 Cr.
Operating cost per vehicle	INR 400
Yearly Capacity of a single ATS	30,000 vehicles
Yearly operating cost	1.2Cr.
Average testing fee per vehicle	INR 1,000
Yearly revenue for ATS	3 Cr.

4.3 ATS Infrastructure Requirement Analysis

An analysis was conducted using vehicle registration data from the VAHAN portal[4], along with the fitness testing standards for transport and non-transport vehicles prescribed by the MoRTH. The fitness testing standards along with an assumed loss factor is used to estimate the number of vehicles likely to come in for testing. The estimate suggests a likely shortfall[5] in the availability of adequate infrastructure to meet the requirements under the mandated fitness testing regime, considering each ATS has the capacity to test 30,000 vehicles per annum. This infrastructure gap is illustrated in Figure 9.

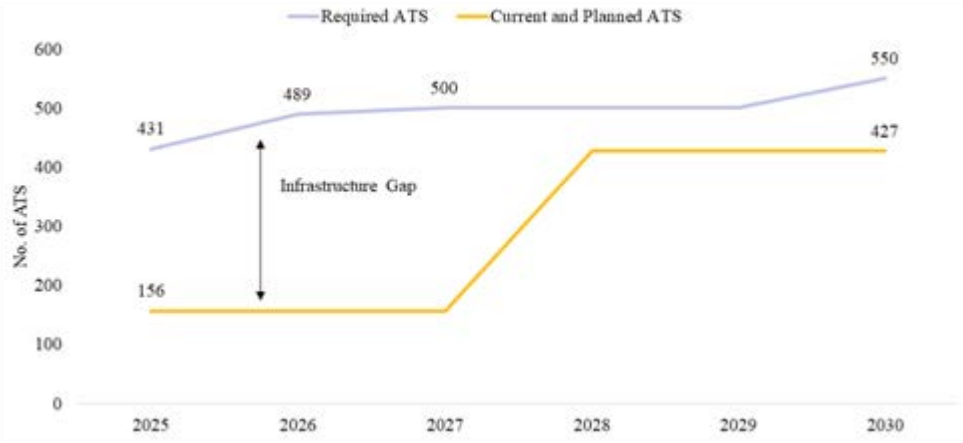


Figure 9: ATS Infrastructure Gap

[4]Data on vehicle registration by year, state/UT/National and year as provided on VAHAN SEWA dashboard (https://vahan.parivahan.gov.in/vahan4dashboard/vahan/view/reportview.xhtml)

[5]The visual representation on number of vehicles to be tested against testing capacity is provided in Annexure B

Based on the methodology used in the analysis and state-wise vehicle registration data from the VAHAN portal, the estimated requirement of ATS has been calculated for each State and Union Territory[6]. As of now, the total projected requirement for the coming years stands at 500 ATS till 2027, indicating a shortfall of 344 facilities when compared to the existing infrastructure.

4.4 Various Business Models to Establish an ATS

Currently, ATS are established by State Governments through four distinct models. These different models are briefly explained:

4.4.1 Privately owned and operated enterprise

Individual private entities—such as auto service firms, diagnostic centres, or dealerships—can establish, own, and operate ATS facilities under the regulatory framework. These centres must be self-financed, meet all technical, environmental, and digital integration standards, and obtain certification from the State Transport Authority. Full financial and operational responsibility lies with the operator, and approval is subject to land ownership/lease compliance and digital integration norms. This model is being followed in Gujarat currently.

4.4.2 Setup by State, operations outsourced to a private vendor

In this model, the State Government sets up the ATS infrastructure—typically using public land or funding—while day-to-day operations are outsourced to a private vendor selected through competitive bidding. A service-level agreement governs performance, digital compliance, and reporting. The operator is compensated through user charges or a revenue-sharing arrangement. Odisha has used this model.

4.4.3 Privately set up, the state selects concessionaire through bidding

Bids are invited from eligible private concessionaires to set up ATS at designated locations, evaluated on technical and financial criteria to ensure quality and viability. Selected concessionaires are granted exclusive operational rights for a fixed term, typically 5–10 years. While the state may facilitate regulatory and land approvals, the infrastructure is entirely financed and operated by the concessionaire, who must comply with state directives on test protocols, fee structures, and digital integration. E.g. - Punjab

4.4.4 Set up and operated through a Public-Private-Partnership (PPP) model

This Public-Private Partnership (PPP) model invites private entities to invest, build, and operate ATSs over the long term, with the government acting as facilitator and regulator. Operators—often capped in number—are responsible for the full project lifecycle, using self-financed facilities on owned or leased land, and must comply with inspection and data-sharing protocols. E.g. – Followed by most of the States for ATS setup.

Among these, the private ownership model has demonstrated the highest level of success. In Gujarat (which follows this model), 56 ATS have been set up under this model, generating a cumulative revenue of INR 109 crore (Figure 10). Notably, the top-performing ATS in the state earns approximately INR 6 crore annually.

[6] Full table of ATS required all States and UTs provided in Annexure C respectively.

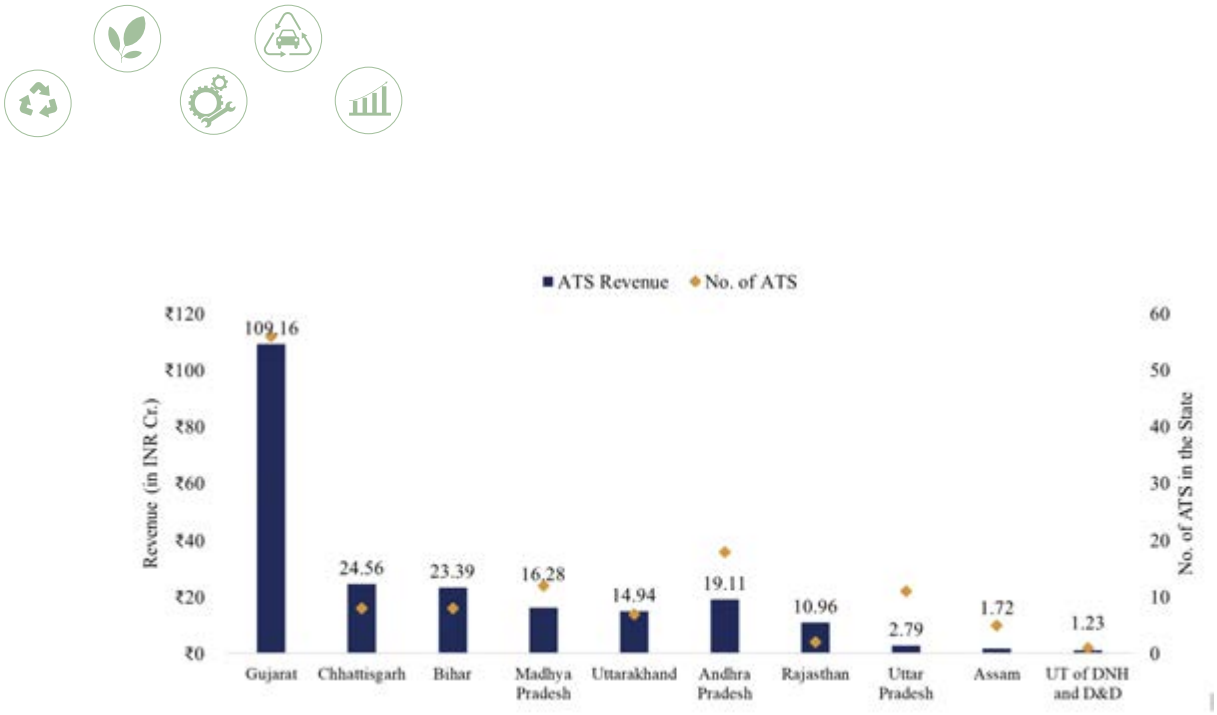


Figure 10: State-wise ATS Revenue

(Source - MoRTH (AFMS)) as on 01.09.2025)

4.5 Key Challenges and Proposed Solutions

The development of a formal vehicle fitness testing ecosystem to support the circular economy of ELVs through ATS faces the following major challenges:

4.5.1 Limited creation of ATS infrastructure across the country

The rollout of ATS infrastructure critical to supporting the formal ELV ecosystem remains limited in scale and penetration. While pilot initiatives and early adoption are evident in a few progressive states, the pace of infrastructure development has been slow and uneven. This limited uptake has relegated the infrastructure to a narrow geographic and functional footprint.

4.5.2 Regional imbalance in existing infrastructure

Even where such infrastructure has been established, there exists a significant regional skew in its distribution. Most of the operational facilities are concentrated in a handful of states, leading to pronounced disparities in access to vehicle fitness testing infrastructure across the country. Several large states, particularly in eastern and North-Eastern India, currently have negligible or no operational facilities, resulting in limited reach and low testing numbers. This regional imbalance not only undermines the objective of creating a uniform national framework for ELV management, but also impedes the identification of ELVs currently on-road which need to be scrapped.

4.5.3 Improper issuance of fitness certificates

Instances have emerged in some states where ATS are operating without requisite infrastructure, issuing fitness certificates without conducting proper tests—often in the absence of the vehicle—through intermediaries. Such practices not only bypass mandated testing protocols but also impose unofficial premiums on consumers beyond MoRTH-notified fees. If unchecked, such issues pose a serious risk to road safety and undermines the integrity of the ELV recycling ecosystem. Addressing

this challenge requires stringent auditing, regulatory oversight, and enforcement, alongside the continued expansion of credible, accessible ATS infrastructure to curb any malpractices.

Key Action Points

MoRTH in association with the States may undertake the following:

1) May utilise SASCI funds to adopt a privately-owned vehicle testing facility model, particularly in regions where the market potential and ELV volume can support such investments.
2) In states or union territories with limited vehicle population and no existing scrapping ecosystem — such as Ladakh, Sikkim or Arunachal Pradesh — it is suggested that government-owned infrastructure must be developed for ATS.
3) ATS may be set up and operated in a district as per a particular business model on the basis of the following classification with regards to vehicle density.

Table 7: Vehicle Density and ATS viability

Vehicle Density of District	Recommended Mode of Setup and Operation of ATS
<10,000	Government owned and operated
10,000-18,000	Public-Private-Partnership mode
> 18,000	Commercially viable, privately owned

4) A goal of 1 ATS per district may be adopted for setting up an ATS infrastructure that is sufficient to account for required testing of vehicles.
5) State Transport Departments shall conduct audits and monitor established ATS operations and close down those ATS which are found to be violating laid down rules and procedures.

5. Infrastructure Requirements and Other Aspects of RVSFs

5.1 Overview of Current Registered Vehicle Scrapping Facilities (RVSF) Infrastructure

The Motor Vehicles *(Registration and Functions of Vehicle Scrapping Facility)* Rules, 2021 defines "Registered Vehicle Scrapping Facility" means any establishment which holds a Registration for Vehicle Scrapping issued under these rules for carrying out dismantling and scrapping operations. As per the *Guidelines for Environmentally Sound Facilities for Handling and Scrapping of End-of- Life Vehicles (ELVs), (Revised),* 2023, RVSFs are required to meet comprehensive infrastructure standards to ensure safe, environmentally sound, and efficient scrapping operations. Each facility may be equipped with a shredder or baler for vehicle dismantling and have a designated area for parking, depollution, dismantling, segregation, baling/shredding, and scrap storage. ELVs must be parked on non-permeable surfaces such as asphalt, concrete, or epoxy-coated flooring with adequate drainage. Facilities must use certified depolluting equipment to prevent leakage during the draining of fuels, fluids, and gases, and employ certified de-risking equipment for the safe neutralisation and removal of airbags, pre-tensioners, and other safety components. Dedicated areas must be provided for storing segregated scrap and reusable spares.

Figure 11: Infrastructure in an RVSF setup

(Source: Urban Acres7)

5.2 Geographical Distribution and Infrastructure Growth of RVSFs

5.2.1 Geographical Distribution and Setup

At present, a large number of RVSFs are largely located in northern states such as Haryana and Uttar Pradesh, while the remaining are spread in limited numbers across other parts of the country. A possible reason is the proximity of the RVSFs to the NCR, which has stringent restrictions regarding the plying of vehicles over

[7]https://urbanacres.in/tata-motors-opens-vehicle-scrapping-unit-in-kolkata/

10/15 years of age, making it a source of potential feedstock. According to the latest data available from MoRTH, as on 1 Sep 2025 there are currently 117 operational RVSFs functioning across 21 States and Union Territories, with a total of 178 RVSFs approved (including those operational) (Figure 12).

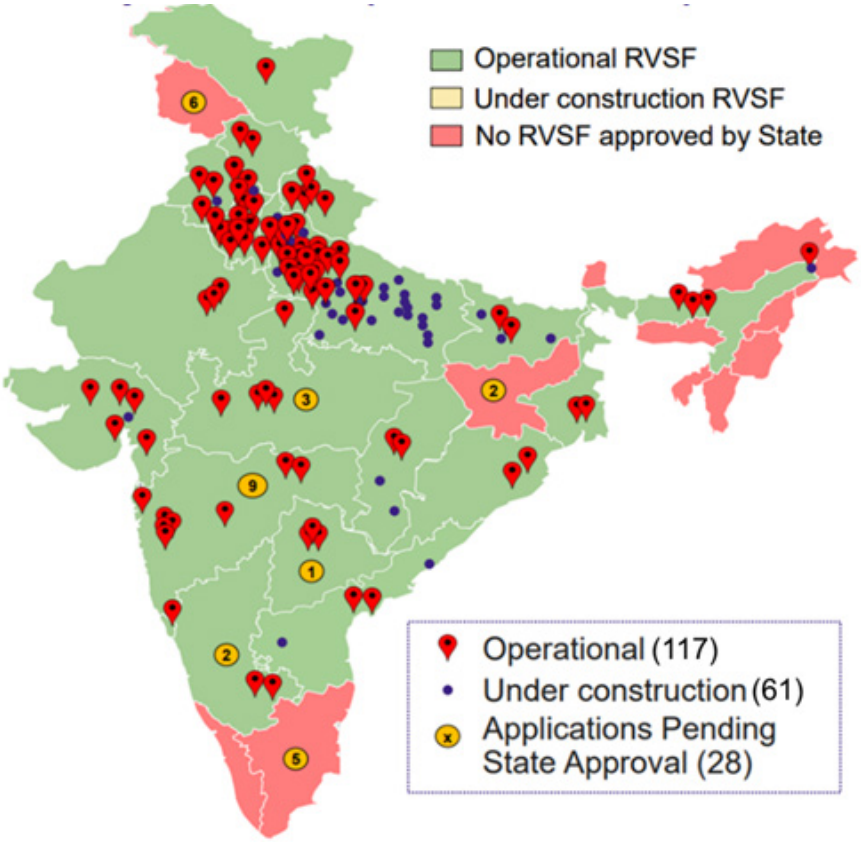


Figure 12: Geographical Distribution of RVSFs as on 01.09.25

(Source: MoRTH)

Since FY 2023, there has been a marked increase in the number of RVSFs being set up every year, and the trend is expected to continue, helping to push new operational RVSFs set up around the 50-mark by next financial year (Figure 13).

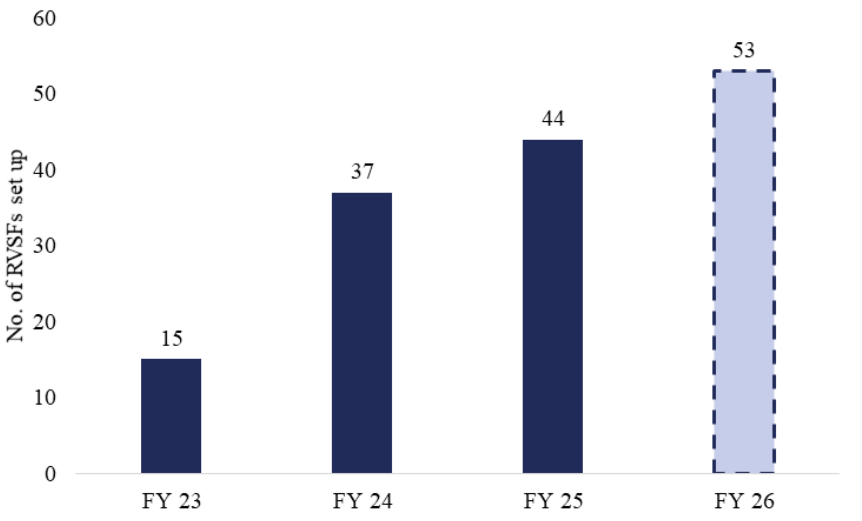


Figure 13: RVSF set up in each FY

(Source: MoRTH)

5.2.2 RVSF Infrastructure Requirement

Based on state-wise vehicle registration data from the VAHAN portal, the estimated requirement of RVSF has been calculated for each State and Union Territory[8] . As of now, the total projected requirement for 2027 stands at 227 RVSFs, indicating a shortfall of 49 facilities when compared to the existing infrastructure.

Box 5.1 Microeconomic Analysis of RVSF

This analysis presents an overview of the capital and operating costs, as well as revenue potential, for a Registered Vehicle Scrapping Facility (RVSF) with an annual processing capacity of 20,000 vehicles. The average capital cost for the establishment of an RVSF (with the cost of land and machinery for scrapping) is estimated to be around INR 14 Cr.

Assumptions:

1. Average ELV procurement cost: ₹25,000 per vehicle
2. Operational cost of scrapping: ₹6,500 per vehicle
3. Total variable cost: ₹31,500 per vehicle
4. Kerb weight of average vehicle: 1,500 kg
5. Steel content: 60% (≈ 900 kg or ~1 tonne)
6. Scrap steel market price: ₹35,000 per tonne

Based on these assumptions, the average revenue from scrap steel per vehicle is estimated at around ₹35,000. At 100% capacity utilisation, the RVSF model appears commercially viable with reasonable profit margins. However, current utilisation rates of RVSFs are reported to be below 20%, which significantly affects their financial viability.

Considering the above, and assuming an RVSF continues operating in the current Business-As-Usual (BAU) scenario, it can be expected to reach its break-even point in its tenth year of operation.

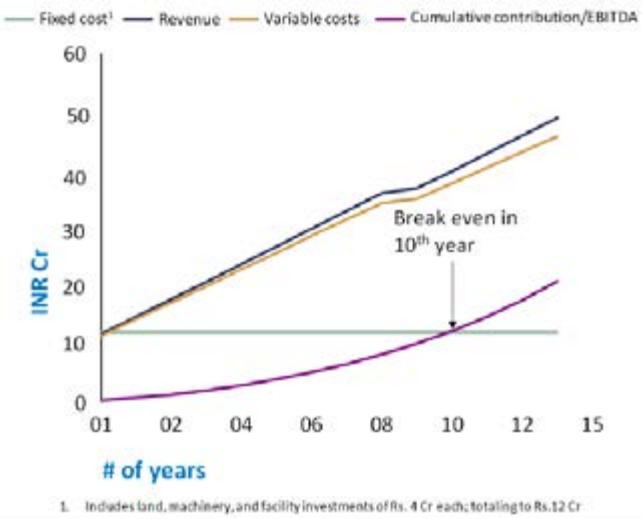


Figure 14: Break-even point for an RVSF

[8] Full table of RVSF required all States and UTs provided in Annexure E respectively.

5.3 Overview of Informal Vehicle Scrapping in India

Despite the push for formalisation under the Vehicle Scrapping Policy, India's ELV recycling landscape continues to be predominantly shaped by unregulated or informal sector operators. These entities account for a significant share of ELV processing due to a range of economic and structural advantages:

- Higher economic realisation for vehicle owners: Informal scrappers typically offer higher upfront scrap value by bypassing environmental compliance costs and taxes.
- Low transaction and access costs: Informal units are geographically dispersed, embedded in local economies, and easily accessible compared to formal RVSFs.
- Limited enforcement and awareness: The absence of mandatory de-registration and traceability for vehicles allows continued diversion toward informal channels.

The informal scrapping sector has historically served as the backbone of India's ELV ecosystem, offering widespread coverage across peri-urban and rural areas and generating employment for low-skilled labour. For decades, these operators have functioned as the primary handlers of ELVs, facilitating dismantling, material recovery, spare parts reuse, and feeding downstream scrap markets. Their continued contribution to the resource economy underscores the importance of recognising their role in the transition towards a circular and sustainable ELV framework.

A balanced approach to formalisation must focus on inclusion rather than penalties. Quick integration of informal operators into the formal ecosystem may be enabled through targeted measures such as capacity building, technical training, access to modern dismantling tools, and facilitation into OEM-linked RVSF networks. Simplified licensing, access to finance, and regulatory compliance support have been extended in an effort to ensure meaningful participation of this segment in the formal value chain.

Since the launch of the vehicle scrapping policy, MoRTH has engaged in investor promotion across 30 States and UTs. Of the 98 RVSFs currently operational, many RVSFs are those which have transitioned from the informal sector. These include small enterprises with limited turnover; entities affiliated with OEMs, dealerships, and service providers, as well as entrants from non-automotive sectors. MoRTH continues to onboard informal players through investor facilitation and MoUs to strengthen the formal ELV ecosystem.

Box 5.2 Informal ELV Scrapping in India

A ground survey conducted in May 2025 across 17 States and Union Territories, covering over 200 informal scrapping units, revealed that despite lower upfront pay-outs, RVSFs tend to deliver greater overall benefits to citizens in terms of safety, compliance, and environmental standards. Based on the survey, the informal sector is estimated to have an annual scrapping capacity of around 2–3 lakh ELVs, whereas RVSFs scrapped approximately 72,000 vehicles in FY 2024–25, accounting for nearly 25% of the informal sector's scale.

Figure 15 highlights 25 identified informal clusters engaged in end-of-life vehicle (ELV) handling and related activities across various regions of the country.

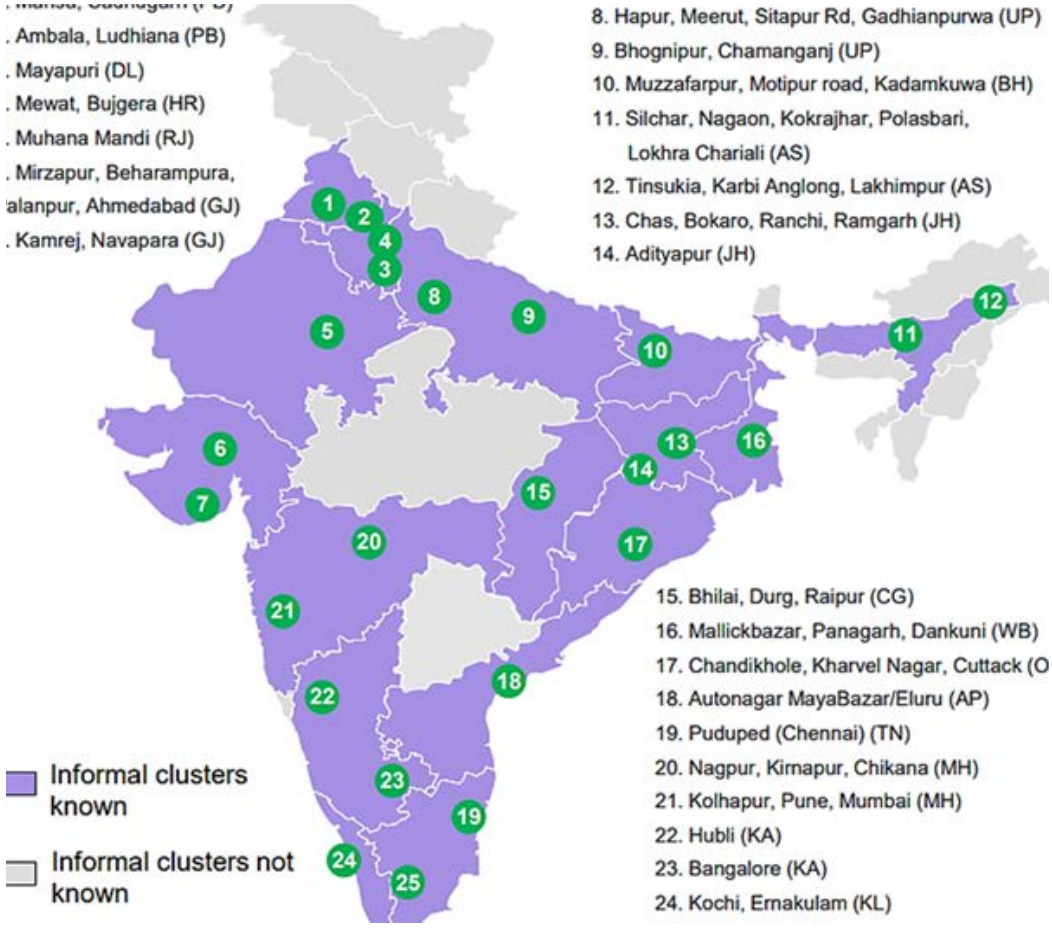


Figure 15: Current Informal Clusters for Vehicle Scrapping
(Source: MoRTH)

5.4 Bridging the Informal-Formal Price Gap

A significant price difference—estimated in the range of 60% to 65%—continues to exist between informal and formal ELV disposal channels. This gap significantly influences the decisions of vehicle owners, who are more likely to opt for informal operators that do not adhere to prescribed environmental and safety norms, thereby undermining the sustainability objectives of the government.

Insights from primary research and stakeholder consultations, particularly with RVSFs, indicate that informal operators consistently offer higher prices to ELV sellers. This pricing advantage stems from several factors:

- Minimal investment requirements and operating costs
- Evasion of GST
- Non-compliance with environmental standards
- Resale of spare parts

A sample analysis below considers the example of a Swift Dzire-equivalent car of approximately INR 7 lakh available for scrapping. The seller of the car has two options: The informal sector can offer a price of around INR 38,000 whereas an RVSF would be able to offer a price of INR 23,000. This price differential of approximately ₹15,000 presents a price differential that needs to be addressed through targeted interventions, incentives, and regulatory enforcement to shift ELV flows towards formal and environmentally compliant scrapping channels.

Given this price differential, two key issues need attention —

i) Profit margin available to the RVSF

ii) Limited perceived value for the consumer (the ELV seller)

Addressing these will help RVSFs offer better prices for ELVs, knowing they can recover good value, and encourage consumers to choose authorised scrapping centres to understand the overall benefits they receive by accessing formal scrapping facilities.

5.4.1 Price Differential - RVSF Perspective

The possible revenue streams from processing a single ELV, based on the example given above, at an RVSF is presented in Figure 16. To bridge the price differential of INR 15,000, potential value added of INR 9,500 or more can be generated from sale of used spare parts, and up to INR 5,500 from Extended Producer Responsibility (EPR) credit sales. It highlights the need to unlock the full value chain to make RVSFs price-competitive with informal sector players.

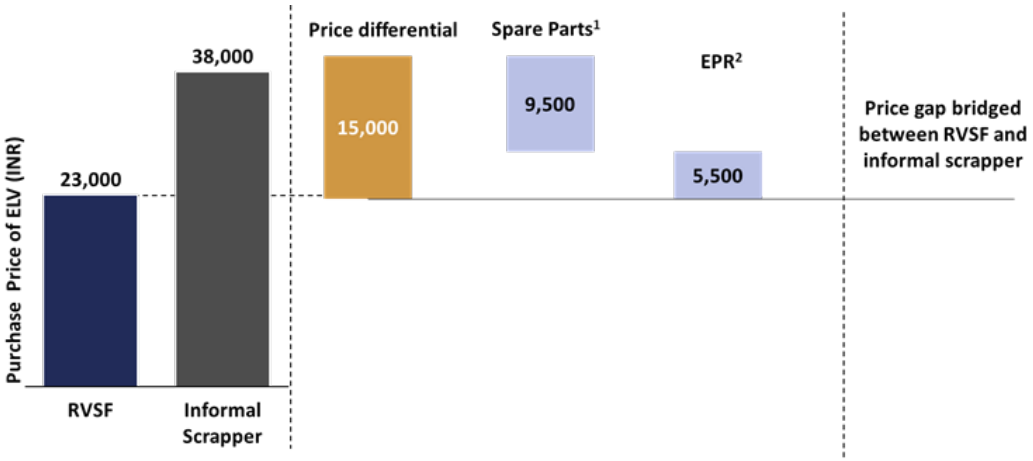


Figure 16: RVSF-Informal Scrapper Price Differential – RVSF Perspective

5.4.1.1 Sale of spare parts by RVSF

The sale of re-used, refurbished, and remanufactured spare parts from ELVs, based on internal analysis and stakeholder interaction, has emerged as a significant source of revenue in the informal scrapping sector, driven especially by the increasing demand for low-cost vehicle replacement parts[9], ease of vehicle reparability and increasing number of vehicles on road. However, there are certain challenges in sale of salvaged spare parts in India due to the largely unorganized market, regulatory restrictions on parts usage, lack of an established system for certifying reusable parts and the absence of systems to track and verify the origin, condition, and history of salvaged parts. This undermines transparency and reliability for a user of such second life parts.

While the sale of spare parts is already prevalent as a business model, it currently takes place outside the purview of formal regulation and is usually recorded under the sale of bulk scrap by RVSF. The spare parts sold as bulk scrap end up finding their way to informal part dealers. Formalising the spare parts ecosystem enables spare parts to be refurbished and sold with measures for proper accounting and certification. This will serve to add value to the spare parts industry as well.

Box 5.3 Reuse, Refurbishment and Remanufacture of Vehicle Spare Parts

Re-use

Re-use of vehicle spare parts refers to the practice of taking parts from end-of-life vehicles, reconditioning them, and then using them as replacements in other vehicles. For effective re-use, it is integral that used components do not cause any safety or environmental risks.

Refurbish

Refurbishing vehicle spare parts involves restoring used auto parts to a like-new or near-new condition. This process typically includes thorough cleaning, inspection, repair, and sometimes the replacement of worn components.

Remanufacture

Remanufacturing of vehicle spare parts refers to the industrial process of restoring used, worn, or discarded automotive components to a condition that meets or exceeds original equipment manufacturer (OEM) specifications, using a standardized and controlled procedure.

[9] A list of spare parts for a car along with their prices is given in the Appendix.

5.4.1.2 Sale of EPR Certificates

The sale of Extended Producer Responsibility (EPR) certificates by RVSFs, through transactions with vehicle manufacturers as obligated under the Environment Protection (End-of-Life Vehicles) Rules, 2025 notified by the MoEFCC, is expected to provide the necessary financial buffer to ensure operational sustainability and incentivise formalisation of ELV scrapping activities. The revenue gap with the informal scrappers is estimated to be reduced by INR 5,500 to enhance the financial viability of RVSFs.

The EPR mechanism, therefore, serves as a market-based policy instrument aimed at ensuring the financial viability of end-of-life material recovery across sectors as a part of India's circularity roadmap. For ELVs, the principle remains consistent—by placing end-of-life processing responsibility on producers, EPR creates a compliance-driven demand for certificates, thereby transferring part of the financial obligation to OEMs and encouraging sustainable product lifecycle management.

However, it is imperative to revisit and refine certain provisions under the current EPR framework for ELVs. The current EPR targets have been intentionally kept low to account for the initially limited inflow of ELVs to RVSFs. While this reduces compliance pressure on OEMs, it also limits the economic viability of RVSFs, as the volume of EPR credits generated remains insufficient to create a meaningful revenue source for RVSFs. To strengthen the formal scrapping ecosystem, a differentiated approach to EPR is warranted—retrospective EPR targets may remain modest, increasing gradually with time; more ambitious prospective targets may be introduced in line with the projected increase in ELV feedstock, supported by the expansion of ATS/RVSF infrastructure and regulatory enforcement. A suggested regime for retrospective EPR targets against current EPR target and compliance periods is given in Table 8[10]. Additionally, the inclusion of EPR certificate generation from automotive production scrap—as currently permitted—may dilute the intended outcomes of the policy and its inclusion may be allowed as an additional source of EPR certificates besides the mandatory 8% under EPR notification. The EPR framework must focus exclusively on actual ELV recycling, to drive investments into formal scrapping infrastructure, and ensure alignment with circular economy objectives.

Table 8: Suggested Revisions to Current EPR Regime

Compliance Period (X)	Steel Recovery Reference Period^	Current EPR Regime (% of steel used)	Revised EPR Regime (% of steel used)
2025-2030	Transport Vehicles (X-15) = 2010-2015 Non-Transport Vehicles (X-20) = 2005-2010	8%	10%
2030-2035	Transport Vehicles (X-15) = 2015-2020 Non-Transport Vehicles (X-20) = 2010-2015	13%	20%
2035-2040 (and 2040 onwards)	Transport Vehicles (X-15) = 2020-2025 Non-Transport Vehicles (X-20) = 2015-2020	18%	35%

^ Year of manufacture of vehicles from which steel is to be recovered

[10] A visual representation of steel recovery from current and suggested EPR regimes against total RVSF capacity currently approved (as per MoRTH data) is provided in Annexure F

Prospective targets for cars currently manufactured need to be revised upwards significantly to cope with the volume of expected ELVs in the future. One such prospective EPR regime is highlighted in Table 9, which may be adopted after due deliberations with stakeholders by MoEFCC.

Table 9:Prospective EPR Targets

Non-Transport Vehicles			Transport Vehicles		
Compliance Period (X)	Steel Recovery Reference Period (X-20)	EPR Target	Compliance Period (Y)	Steel Recovery Reference Period^ (Y-15)	EPR Target
2045-2050	2025-2030	50%	2040-2045	2025-2030	55%
2050-2055	2030-2035	60%	2045-2050	2030-2035	65%
2055 onwards	2035 onwards	70%	2050 onwards	2035 onwards	75%

^Year of manufacture of vehicles from which steel is to be recovered

5.4.2 Benefits Accrued to Consumers

Based on Figure 16, when the price gap between informal scrappers and Registered Vehicle Scrapping Facilities (RVSFs) is bridged, formal scrapping becomes competitive and enables RVSFs to offer comparable prices to consumers. As illustrated in Figure 17, the potential consumer benefit from scrapping a vehicle through an RVSF is ₹38,000. Further, the consumer can receive an additional benefit of ₹22,500 through the Certificate of Deposit (CoD) and showroom (OEM) discounts on the purchase of a new vehicle.

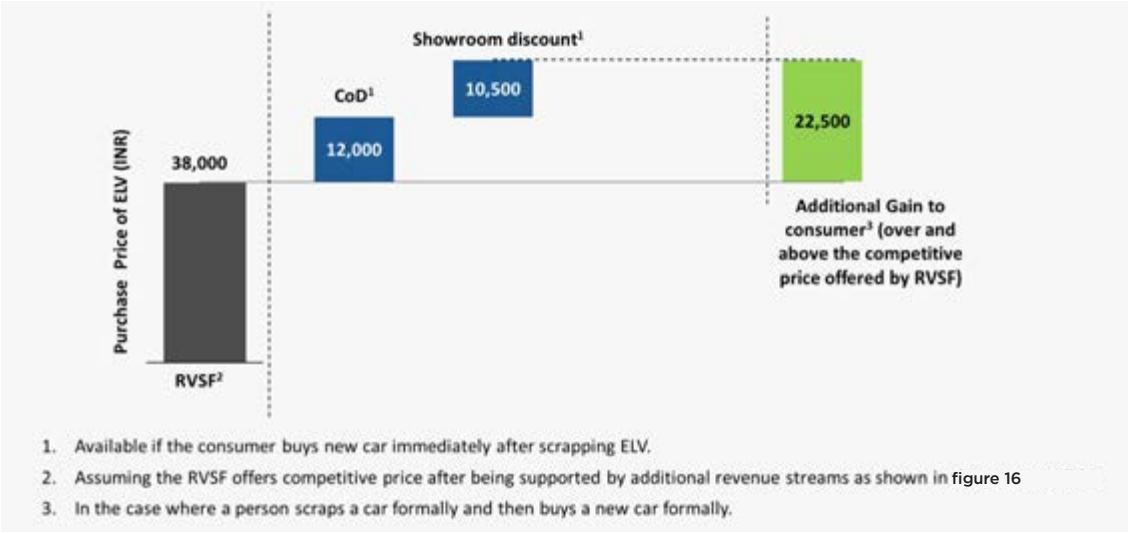


Figure 17: Benefits Accrued to Consumer

5.4.2.1 Certificate of Deposit (CoD)

Currently, 21 States/Union Territories[11] have so far as on 1 Sep 2025 declared Motor Vehicle (MV) Tax concessions on purchase of a new vehicle against CoD. The majority of states have adopted the MoRTH-recommended CoD concessions model (Table 10), although the implementation of concessions is not uniform:

MV Tax Concession	
Transport Vehicle	**Non-Transport Vehicle**
• **15% of tax leviable**	• **25% of tax leviable**
The Central Motor Vehicles (First Amendment) Rules, 2025 offers concession up to **50% of tax leviable** for: • All transport and non-transport vehicles which are manufactured as per BS-I and earlier emission norms • All medium and heavy goods motor vehicles and all medium and heavy passenger motor vehicles which are manufactured as per BS-II norms	

The provision for the CoD's Motor Vehicle (MV) Tax concession is a substantial amount. For the example as seen in Figure 17, upon purchase of a new car worth INR 7 lakh, MV tax of ~7% needs to be paid[12]. This amounts to INR 49,000. With the CoD, a 25% discount will be offered, amounting to INR 12,000. If implemented across all states, the concession on MV Tax would have a significant motivation in driving ELVs towards the formal scrapping ecosystem. MoRTH has recently issued a notification which would increase the recommended CoD concessions up to 50% of MV tax, against CoD for all transport and non-transport vehicles which are manufactured as per BS-I norms and all medium and heavy goods and passenger motor vehicles which are manufactured as per BS-II norms. This would further increase the incentive of consumers scrapping their vehicles at RVSFs. It is important to note, that the transmission of benefits due to CoD are dependent on the sequence of the buy/sell cycle by the consumer (Table 11).

Table 11: Different Kinds of Consumers who scrap ELV

S. No.	Consumer Behaviour	Expected Gain from CoD	Expected Gain from OEM Discount
1	Sell first and buy later	INR 12,000 or more	INR 10,000 or more
2	Buy* first and sell later	Monetise ELV certificate on DigiELV (INR 4000-8000)	No discount available
3	Does not buy at all		

*Buy implies a new vehicle is bought

[11] A summary table of CoD MV Tax concessions as declared by various states is provided in the Annexure H
[12] As per norms in the National Capital Territory of Delhi

Box 5.4 DigiELV Process for Purchase of CoD

Process for Selling a Certificate of Deposit (CoD):

User may access the DigiELV portal through registered credentials to sell CoD to interested buyer

Process for Buying a Certificate of Deposit (CoD):

Interested buyer may access the DigiELV portal through registered credentials and offer bids for buying CoDs listed by sellers

The purchased CoD is transferred to the buyer's account and can be used for:

- Availing vehicle scrappage incentives
- Applying for benefits during new vehicle registration

Table 12: Transaction Volume of CoDs in DigiELV and their Average Price as on 01.09.2025

Category	Total Trades	Average Trade Price (₹)
2-Wheeler (Non-Transport)	777	1,824
3-Wheeler (Transport)	17	1,677
4-Wheeler Invalid Carriage	3	7,782
Heavy Goods Vehicle	148	9,351
Heavy Passenger Vehicle	5	9,007
Light Goods Vehicle	452	3,132
Light Motor Vehicle (Non-Transport)	**69,390**	**10,814**
Light Passenger Vehicle	390	5,972
Medium Goods Vehicle	8	7,594
Medium Motor Vehicle	3	6,533
Others/Unspecified	3	1,068
Total Market	**71,196**	**10,634**

5.4.2.2 Showroom Discount from Automobile OEMs

The Hon'ble Minister for Road, Transport and Highways had announced on 27 Aug 2024 the provision of discounts ranging from 1.5-3.5% (about Rs 10,000 to Rs 24,500 for a 7 lakh car) by automobile OEMs on new vehicles purchased against proof of scrapping of ELV, to bridge the gap in incentives between formal and informal ELV disposal and encourage ELV scrapping at RVSF. However, transmission issues with the OEM discount are apparent as vehicle dealerships tend to club multiple discounts together, with limited visibility to OEMs on the additionality of the discount offered against CoD.

5.5 Key Challenges and Proposed Solutions

5.5.1 Limited adoption of infrastructure across the country

The rollout of RVSF critical to supporting the formal End-of-Life Vehicle (ELV) ecosystem remains limited in scale and penetration. While rapid growth of RVSFs has been seen adopted in a few progressive states, the pace of scrapping infrastructure development has been slow and uneven. This limited uptake has constrained the ability to transition away from informal sector dominance, relegating formal scrapping to a narrow geographic and functional footprint.

5.5.2 Regional imbalance in existing infrastructure

There exists a significant regional skew in RVSF distribution. Most operational facilities are concentrated in a few states, leading to pronounced disparities in access to formal ELV scrapping infrastructure across the country. States, particularly in eastern and North-Eastern India, currently have negligible or no operational facilities, resulting in limited reach and low consumer uptake of formal scrapping channels. This regional imbalance not only undermines the objective of creating a uniform national framework for ELV management, but also impedes the realisation of environmental, economic, and safety benefits associated with formal scrapping practices.

5.5.3 Registration and compliance process for RVSF

The current process for registration of an RVSF involves multiple authorities (SPCB and State Transport Commissioner), leading to delays and inefficiencies, adding to the compliance burden thereby hindering smooth setup of RVSF. There is no standardized and clear procedure for certifying RVSF equipment as mandated by MoRTH, resulting in ambiguity for both businesses and regulators. It is suggested that MoRTH allow State Transport Commissioners to give deemed approval if the RVSF can obtain Consent to Operate (CTO)/Consent to Establish (CTE) from the relevant SPCB to ease out the approval procedure for establishing an RVSF. The creation of a single certifying authority with clear standards and procedures for RVSF equipment certification would ensure consistency and reliability.

5.5.4 Limited ELV feedstock reaching RVSFs

At present, RVSFs across the country are operating at suboptimal capacity due to insufficient inflow of ELVs. Despite the establishment of formal scrapping infrastructure in select states, the volume of vehicles reaching these facilities remains low. A substantial proportion of ELVs continues to be diverted to informal channels, driven by lack of awareness, weak enforcement of de-registration norms, and absence of strong economic incentives for owners to opt for formal scrapping. The resulting underutilisation directly impacts the business viability of RVSFs, constraining their ability to recover fixed costs, invest in skilled manpower, and maintain environmentally sound operations as per regulatory standards.

5.5.5 Intense competition from informal sector operators

Informal scrappers typically offer vehicle owners a higher price for ELVs due to lack of necessary compliance-related costs. They enjoy greater ease of access and convenience due to their localised presence. This cost advantage continues to divert ELVs away from RVSFs, thereby eroding the economic case for formalisation.

Key Action Points

MoRTH in association with the CPCB may undertake the following reforms:

Enhancing Accessibility and Coverage of RVSFs

1) Government-operated or PSU-led RVSFs may be established in regions where private facilities are not commercially viable, with capital investment borne by the government or PSU and operations managed by a private concessionaire under a structured concession agreement to ensure wider national coverage.

Easing set-up process for an RVSF

1) MoRTH may make modifications in Motor Vehicles *(Registration and Functions of Vehicle Scrapping Facility) Rules, 2021* to:

   a. Allow a single approval authority for RVSF set-up by authorising State Transport Commissioners to give deemed approval if the RVSF can obtain CTO/CTE from the relevant SPCB.

   b. Establish a single certification authority for RVSF equipment.

Addressing Informal Vehicle Scrapping

Recommendations for concerted initiatives by MoRTH, CPCB and SPCBs are as follows:

1) Informal vehicle dismantling clusters may be encouraged to transition to the formal sector through structured incentive mechanisms, followed by regulatory measures, ensuring a phased and inclusive approach.

   a. MoRTH, in collaboration with SPCBs may undertake onboarding of identified informal vehicle scrapping clusters within a defined timeline.

   b. Part of SASCI may be apportioned to informal sector integration against a strict timeline supported by awareness campaigns and streamlined compliance support.

   c. Udyam Assist Platform of Ministry of Micro, Small & Medium Enterprises (MoMSME) may be utilised to help in onboarding the informal scrappers.

   d. State governments may provide a one-time waiver of outstanding environmental liabilities, thereby enabling informal operators to overcome initial financial and regulatory entry barriers.

   e. State Government may consider establishment of common de-pollution facilities for small dismantlers operating in informal clusters to ensure environmental safeguards and cost-effective shared infrastructure.

   f. Inter-ministerial consultation by MoRTH with NITI Aayog, MoEFCC and MoMSME may be initiated to develop action plan/scheme for formalising the informal vehicle dismantling sector.

Key Action Points (contd.)

Enhancing RVSF Business Viability

The following action points for MoRTH include:

1) Spare Parts Ecosystem –

a. A dedicated committee may be constituted by MoRTH to strengthen the ELV-based spare parts reuse ecosystem involving, MHI, SIAM and ACMA.

i. It may recommend certification standards, operational guidelines, and policy measures.

ii. Current rules (such as Automotive Industry Standard (AIS)-129, which contains a negative list of spare parts prohibited for re-sale) may be updated to accommodate harvesting of spare parts for refurbishing.

iii. A regulated marketplace for the sale of such spares may also promote their use extensively.

iv. Vehicle components may be designed with ease of disassembly, standardisation, and modularity in mind, enabling efficient reuse and repair.

2) Extended Producer Responsibility (EPR)

a. May be strengthened by raising recovery targets, both prospective and retrospective, in view of increase in RVSF capacity and expected feedstock. (Section 5.4.1.2, Table 8 and 9)

b. Inclusion of automobile production scrap as eligible for EPR may be revisited.

3) Certificate of Deposit (CoD) – Uniform best-practice concessions for CoD may be adopted consistently across all States and Union Territories.

4) Showroom Discounts – Vehicle showroom quotation booklets should include a dedicated column showing discounts availed through CoD separately, ensuring transparent benefit transmission.

6. Simplifying Vehicle-Owner Related Procedural Issues

The VAHAN database keeps the record of all vehicle ownership but can be accessed only through RTO office for even minor transactions. This chapter looks into the systematic reforms to enable a user to access VAHAN in a more citizen friendly approach.

6.1 De-registration process of ELV from VAHAN database

Currently, de-registration can happen with or without the involvement of RVSFs. The documents required for de-registration are original Registration Certificate (RC), chassis number cut out from vehicle, physical evidence of scrappage and affidavit of no dues and legal pending cases. A large proportion of ELVs remain officially registered despite having been scrapped, resulting in discrepancies within the vehicle registry. Vehicle owners normally do not initiate the de-registration process, as there is currently no legal or financial penalty for failing to do so. Moreover, when such vehicles are scrapped informally outside authorised channels, Regional Transport Offices (RTOs) are unable to verify whether scrappage has actually occurred.

Currently, legal liability lies with the consumer in whose name the car is registered in case the vehicle is used for any nefarious activities. Consumer needs to be made aware about consequences associated with vehicles scrapped through informal sector without formal de-registration. The submission of the CoD as mandatory documents for vehicle de-registration shall be mandated to ensure proper tracking and verification.

6.2 Enhancing the VAHAN portal

The VAHAN portal, developed by MoRTH, is a centralized platform for managing vehicle registration, taxation, and compliance in India. The presence of a large number of informally scrapped vehicles which still have not been de-registered and data inaccuracies due to vehicles which were de-registered before VAHAN was functional, compromises the integrity of the database. The portal's complex navigation, data security concerns, and lack of adequate customer support hinder user experience. The vehicle ownership transfer and penalty resolution processes are complex and cumbersome.

Recently, MoRTH has taken steps to optimise transparency and data quality; and improve the Ease of Doing Business through digital portal enhancements on the VAHAN platform. An unfit vehicle dashboard has been introduced for RVSFs and Regional Transport Offices (RTOs) to support enforcement efforts (Figure 18). Additionally, a government vehicle dashboard, providing access to data on vehicles older than 15 years, has been made available to State Transport Commissioners. A scrap value discovery module has been launched on V-Scrap to benefit both citizens and RVSFs; to address the absence of any accessible mechanism to get a transparent valuation of the ELV by consumers, which leads to information asymmetry in decision making. Furthermore, automated fitness reports are now generated through an end-to-end encrypted system to ensure improved compliance.

There still remain specific issues that may be addressed in the interest of creating

a more accessible ELV management ecosystem for consumers. This will streamline the process and ensure accountability on part of the vehicle owner during ownership transfer and vehicle scrapping.

Figure 18: Unfit Vehicle Dashboard (Visible to RVSF owners and State Administration on V-Scrap Portal)

(Source: VAHAN V-Scrap Portal User Manual)

Key Action Points

MoRTH may undertake the following:

Strengthening the Vehicle Deregistration Framework

1) May mandate that deregistration of vehicles at Regional Transport Offices (RTOs) shall only be permitted upon submission of a CoD issued by a RVSF, ensuring formal end-of-life disposal, with certain exceptions.

2) May introduce a legal obligation based on both incentives and disincentives on vehicle owners to initiate compulsory deregistration of ELVs, to ensure responsible disposal and formal processing.

   a. Rule 55 of The Central Motor Vehicles Rules, 1989 makes transfer of ownership a legal mandate, but the vehicle owner has no liability except in the case where the vehicle is used for illegal purposes after ownership transfer.

Enhancing the VAHAN Portal

1) **Removal of old data –** Removal of registered vehicles which are identified as no-longer plying on roads from the VAHAN database.

2) **Introduce Aadhar-based ownership transfer and penalty accrual of vehicles –**

   a. Aadhar OTP-based transactional handshake to authenticate vehicle transfer between buyer and seller. (See Box 6.1)

   b. Aadhar based checks will provide a framework to eliminate need for physical visits to Regional Transport Office (RTO) for vehicle-related transfers.

   c. All penalties may be accrued to the Aadhar of the vehicle owner rather than the vehicle itself.

3) **Integration of DPI into VAHAN portal -** Application Programming Interface (APIs)/Digital Public Infrastructure (DPI) may be used to synchronize data with other sources like FASTag, service centres, petrol pumps etc. ensuring accurate and up-to-date information.

4) **Integration of ELV valuation module in VAHAN portal -** Scrap value discovery on the V-Scrap portal may be enhanced using a Kelley Blue Book–like model to enable fair and standardised ELV valuation.

5) **Information dissemination/booking service for RVSF/ATS –**

   a. Development of marketplace for related services, such as disposal services, ATS certifications, etc. to enhance functionality and user experience.

   b. Provision of 24/7 AI-driven customer support through a chatbot to improve user assistance and resolution time.

Box 6.1 Aadhar-Based Ownership Transfer

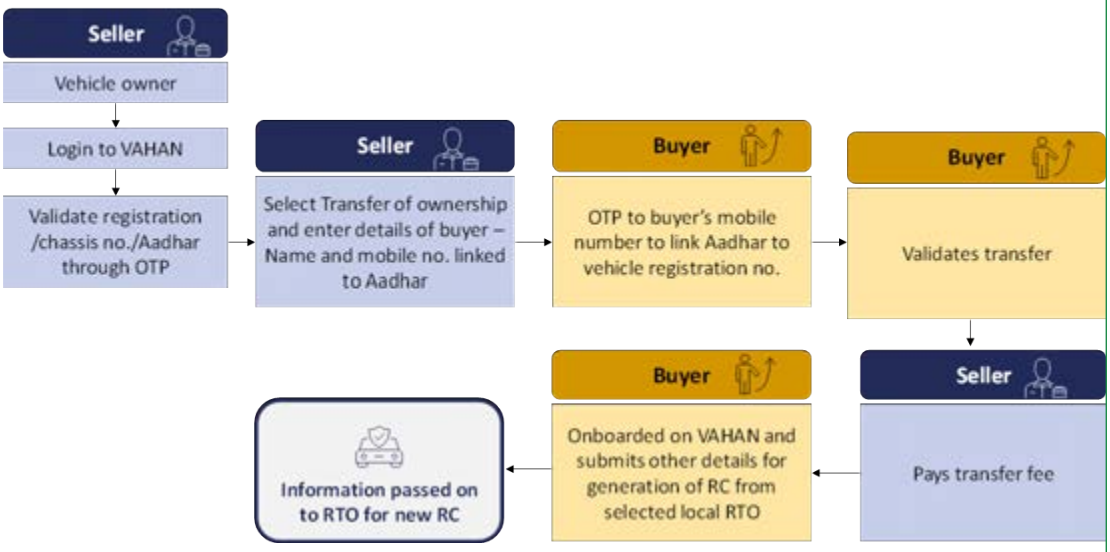


Figure 19: Aadhar-based Vehicle Ownership Transfer

For procedural ease and efficiency in vehicle ownership transfers, it is important to adopt mechanisms that eliminate the need for all transactions to be physically conducted at an RTO, while still ensuring that the transfer is duly recorded in the VAHAN database. The Aadhar OTP-based transactional handshake serves this purpose by enabling secure, remote authentication of both parties in the transfer process.

The process begins with the seller (vehicle owner) logging into the VAHAN portal and validating the vehicle's registration number, chassis number, or Aadhar through an OTP. The seller then opts to transfer ownership of vehicle and enters the buyer's details, including name and mobile number linked to Aadhar. An OTP is sent to the buyer's registered mobile number to link their Aadhar with the vehicle registration number. The buyer validates the transfer by entering the OTP. Once validated, the buyer is onboarded on VAHAN and provides any additional details required for generating a new RC from their selected local RTO. The seller pays the transfer fee, and the information is passed to the RTO for issuance of the new RC, completing the authenticated transfer process.

7. Strengthening Consumer Awareness on Recycling Ecosystem

7.1 Lack of Consumer Awareness

A lack of consumer awareness is an important reason for the limited inflow of vehicles to RVSFs. To address this issue, a continuous and targeted dissemination of information related to vehicle scrapping and the role of RVSFs may be institutionalized across all relevant stakeholders. While the overarching communication strategy may be led by the MoRTH, collaborative efforts of OEMs, RVSFs, and State authorities are essential.

7.2 Communication strategy

To enhance awareness and drive greater adoption of formal scrapping practices, MoRTH may scale up national-level outreach campaigns through both print and digital media. Leveraging the VAHAN database, the Ministry may send targeted communications to vehicle owners whose vehicles are nearing ELV status. Additionally, periodic alerts can be issued to registered vehicle owners encouraging them to voluntarily scrap their vehicles at authorised RVSFs.

OEMs play a critical role in building consumer awareness at the point of sale and beyond. It is recommended that OEMs mandatorily inform all new vehicle buyers about the vehicle scrapping process and the availability of RVSFs. Further, they may actively reach out to existing customers through SMS and email alerts, offering trade-in incentives linked to scrapping. OEMs may also collaborate with RVSFs to ensure a seamless and user-friendly scrapping experience.

RVSFs themselves must undertake sustained public engagement efforts. These may include regular awareness campaigns and targeted advertisements aimed specifically at ELV owners. RVSFs can further expand their reach by partnering with automotive brands, dealerships , and fuel stations. Establishing collaborative arrangements with OEMs would also facilitate smoother scrapping transactions and improve consumer trust in the formal scrapping ecosystem.

All stakeholders—must jointly ensure that the list of authorised RVSFs and ATS is readily available on the official websites of RTOs, state transport departments, OEMs, and RVSFs. This step will provide vehicle owners with easy access to reliable information and encourage greater participation in the formal ELV disposal process.

Key Action Points

Public Awareness

MoRTH, MoEFCC and MHI may undertake public awareness initiatives:

1) Awareness campaigns may explicitly highlight the responsibility of the vehicle owner to de-register ELVs once sold or retired, to prevent misuse and promote legal compliance.
2) Promote vehicle scrapping during key national events such as Recycling Day, Upcycling Day, and other relevant public initiatives.
3) Promotion of vehicle scrapping as a responsible practice by senior leadership during public outreach forums.
4) OEM's to promot formal recycling for the old cars of new buyers.

8. Other Innovative Interventions

While the important initiatives to bridge the financial difference between informal and formal sector as well as legal measures have been discussed in the earlier chapter, this explores innovative ideas to supplement the existing framework to support the RVSFs. The following may be taken up by the relevant ministry as per their merit.

8.1 Carbon Credits

The scrapping of ELVs presents a significant opportunity for emissions reduction through the environmentally sound dismantling and material recovery of metals, plastics, glass, and other components. Unlike unsustainable disposal practices, formal recycling undertaken by RVSFs results in measurable emission savings. These savings can be monetised through the generation and sale of carbon credits in offset mechanism of Indian Carbon Market (ICM), voluntary or international carbon markets, thereby creating a supplementary revenue stream for RVSFs—estimated at approximately ₹2,000 per vehicle. To enable this, there is a critical need to develop and ratify a robust, scientifically sound methodology[13] for quantifying emissions avoided through ELV scrapping. Integrating RVSFs into the ICM and facilitating their participation in the Voluntary Carbon Market (VCM) will enhance their economic viability and enable the transmission of benefits to ELV owners in the form of more competitive scrap valuations.

8.2 Vehicle Insurance as a Lever

Vehicle insurance can serve as a powerful instrument to incentivize the timely and environmentally sound disposal of ELVs. Currently, ELVs, towards the end of their useful life, remain uninsured and unfit for road use, owing to the absence of strict enforcement of compulsory insurance of vehicles plying on road. As the vehicles get older, the insurance premium must reflect the increased risk of accidents of the vehicle beyond a certain age. Thus, increasing cost of ownership, say after 15 years of vehicle life, would act as an incentive to scrap the vehicle in a timely manner.

Additionally, the absence of a structured pathway for integrating Total Loss Vehicles (TLVs) into the ELV ecosystem creates a critical gap in inflow. Measures are required to ensure that only roadworthy vehicles with valid insurance ply on roads, while directing vehicle owners without proper documentation to scrap their ELV at RVSFs.

8.3 GST

The current taxation framework applicable to the formal ELV scrapping value chain is marked by non-uniform GST rates across different stages— it ranged from 12%–18%[14] on ELV procurement; it was 18% on the sale of metal scrap; and was 28% on the resale of spare parts. With the announcement of the new GST slabs by the GST Council, effective from 22 Sep 2025, the GST applicable on the above products would still be falling into two non-uniform tax slabs – 5% and 18%. Most of the products as mentioned above would fall under the 18% slab. In contrast, informal operators face no comparable GST obligations, creating a cost disadvantage for RVSFs. A

[13] A detailed methodology as prepared by Meta Materials Circular Markets (MMCM) is included in Annexure.
[14] GST rate depends on engine capacity of ELV.

reduction in their GST rates would help promote parity and support formalisation. Notably, the 54th GST Council meeting introduced the Reverse Charge Mechanism (RCM) on the supply of metal scrap from unregistered dealers to registered recyclers. The Reverse Charge Mechanism under GST shifts the liability to pay tax from the supplier to the recipient of goods or services, instead of the seller collecting GST. It is applied to specified goods and services, especially when the supplier is from the unorganised sector, to improve tax compliance and widen the tax base. Extending RCM provisions to ELV procurement could further prevent dual taxation on RVSFs. While a uniform GST rate cut would require broader structural reform, targeted rationalisation of rates for the ELV sector—especially for spare parts and scrap—would significantly ease financial pressure on RVSFs and incentivise formal market participation.

Key Action Points

Carbon Credits

BEE may undertake the following measure:

1) Ratify methodology for generation of carbon credits from ELV for participation in ICM and VCM.

Vehicle Insurance

MoRTH, in association with IRDAI (Insurance Regulatory and Development Authority of India) may undertake the following measures:

1) Insurance coverage may be subject to higher premiums in cases where vehicles are clearly ELVs.
2) Mandatorily require all TLVs declared by insurers to be transferred to RVSFs.
3) May undertake consultations with insurance companies and enable system-level integration with VAHAN.
4) Uninsured vehicles found plying on roads may face stringent penalties and charged an amount equal to or a significant multiple of their insurance premium.

GST

MoRTH may represent to GST Council to undertake the following:

1) Extend Reverse Charge Mechanism (RCM) to ELVs.
2) Revisit the GST rates on ELVs and the sale of scrap metal and spare parts from ELVs.

9. Conclusion - Summary of Recommendations

As India advances towards a more resource-efficient and environmentally sound mobility sector, the transition to a formal End-of-Life Vehicle (ELV) recycling ecosystem presents both a pressing necessity and a transformative opportunity. This report has identified key structural, regulatory, and market-related gaps in the current framework, and outlined a comprehensive set of actionable recommendations aimed at strengthening the circular economy of ELVs. Table 13 provides a consolidated summary of these recommendations across policy, infrastructure, finance, awareness, and compliance domains to enable coordinated and effective implementation by relevant stakeholders.

Table 13: Summary of key recommendations and implementation agency

Recommendation	Implementation Agency
Inadequate ATS Infrastructure and Testing Parameters	
1) Utilise SASCI funds to adopt privately-owned vehicle testing facility model, in regions where the market potential & ELV volume can support such investments. 2) In states or union territories with limited vehicle population and no existing scrapping ecosystem, government-owned infrastructure may be developed. 3) ATS may be set up and operated in a district as per a particular model on the basis of its vehicle density. 4) A goal of 1 ATS per district may be adopted. 5) Audit ATS operations and close down ATS generating spurious fitness certificates and charging non-government rates. ***Timeline: Six months***	State Governments and MoRTH

Recommendation	Implementation Agency
RVSFs – Setup and Informal Sector issues	
1) Government-operated or PSU-led RVSFs may be established in regions where private RVSFs not commercially viable to ensure wider national coverage. 2) Modifications may be made in Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021 to: a. Allow a single approval authority for RVSF set-up. b. Establish a single certification authority for RVSF equipment. ***Timeline: One year***	MoRTH, CPCB, SPCB
1) Onboarding of identified informal vehicle scrapping clusters. 2) Part of SASCI may be dedicated to informal scrapper integration with awareness campaigns and streamlined compliance support. 3) Udyam Assist Platform of the MoMSME may be utilised to help in onboarding of informal scrappers. 4) One-time waiver of outstanding environmental liabilities to informal operators, enabling them to overcome initial compliance barriers. 5) Establishment of common de-pollution facilities for smaller dismantlers operating within informal clusters to ensure environmental safeguards and cost-effective shared infrastructure. 6) Inter-ministerial consultation by MoRTH involving NITI Aayog, MoEFCC and MoMSME may be initiated to develop an action plan/ scheme for formalising the informal vehicle dismantling sector. ***Timeline: One year***	MoRTH, CPCB, SPCB
RVSFs – Bridging the Price Differential	
1) Formation of a committee for formalising the spare parts business. ***Timeline: Three months***	MoRTH, ACMA, SIAM, MHI

Recommendation	Implementation Agency
1) EPR may be revised for retrospective targets as well as increased prospectively in consideration of increasing RVSF capacity and utilization and increasing number of ELVs arriving in the market in future. 2) Inclusion of automobile production scrap as eligible for EPR to be revisited. ***Timeline: Two years***	MoEFCC
1) The best-case CoD benefits model may be adopted uniformly by all states. ***Timeline: Six months***	MoF
1) Quotation booklet for vehicle showroom price may explicitly show discounts availed from CoD separately so that benefits are transmitted transparently. ***Timeline: Six months***	MoRTH, SIAM, OEMs
Simplifying Procedural Issues	
1) De-registration of vehicles at RTO shall only be permitted upon submission of CoD issued by RVSF, with certain exceptions. 2) Explore legal obligation on vehicle owners to initiate compulsory deregistration of ELVs to ensure responsible disposal and formal processing. ***Timeline: One year***	MoRTH
VAHAN Upgradation	
1) Removal of old data from the database. 2) Introduce Aadhar-based ownership transfer and penalty accrual of vehicles on owner rather than the vehicle. 3) Integration of DPI into VAHAN portal. 4) Integration of ELV valuation module in VAHAN portal. 5) Information dissemination/booking service for RVSF/ATS. 6) Enhance scrap value discovery module on V-Scrap portal similar to Kelley Blue Book model. ***Timeline: Two year***	MoRTH

Recommendation	Implementation Agency
Increasing Public Awareness about ELV Recycling Ecosystem	
1) Adopt a detailed communication strategy to disseminate information on vehicle scrapping. ***Timeline: Six months***	MoRTH, OEMs, RVSFs
1) A list of RVSFs and ATS to be displayed on the website of all RTOs, central and state transport departments, RVSF and OEM websites. ***Timeline: Six months***	MoRTH, State Transport Departments, OEMs, RVSFs
1) Emphasize importance of de-registering ELV by owner in awareness campaigns. 2) Promotion of vehicle scrapping on events such as Recycling Day, Upcycling Day, etc. 3) Promotion of vehicle scrapping as a responsible practice during public outreach forums. ***Timeline: Six months***	MoRTH, MoEFCC, MHI
Other Interventions	
1) Ratify methodology for generation of carbon credits from ELV for participation in Indian Carbon Market (ICM) and Voluntary Carbon Market (VCM). ***Timeline: One year***	BEE
1) Insurance coverage may be subject to higher premiums in cases of ELVs, or not having valid fitness certificate. 2) Mandatorily require all Total Loss Vehicles (TLVs) declared by insurers to be transferred to RVSFs. 3) Uninsured vehicles on roads may face stringent penalties. ***Timeline: One year***	IRDAI, MoRTH
1) Extend Reverse Charge Mechanism (RCM) to ELVs. 2) Revisit the GST rates in ELV sector for reduction. ***Timeline: One to two years***	MoRTH

10. Annexure

A. Number of Vehicles coming in for Testing at ATS

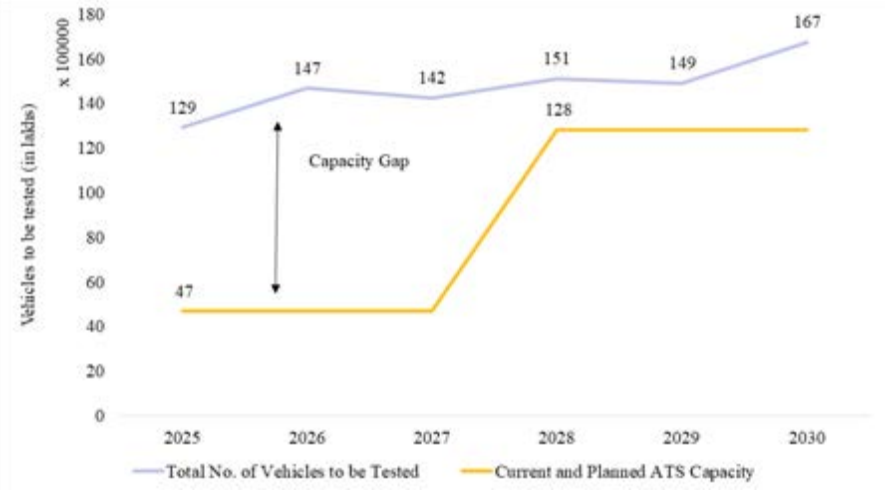


Figure 20: Number of Vehicles to be Tested and Total ATS Testing Capacity

The national requirement for vehicle fitness testing at ATS is determined by separately aggregating the projected volumes of both non-transport and transport vehicles due for testing in a given compliance year based on VAHAN registration data, following the norms for fitness testing of vehicles by category as laid down by MoRTH. For non-transport vehicles, a share of vehicles registered 15 years (lower share) and 20 years (higher share) prior to the compliance year are considered. For transport vehicles, a combination of two components is considered: a smaller share of the fleet aged 9 to 15 years, and a larger share of the fleet aged 2, 4, 6, and 8 years (as per the fitness testing norms for transport vehicles). The percentages here serve as discount factors to adjust for the loss of vehicles due to ageing, accidents, informal scrapping, and other attrition factors; and their magnitude is adjusted as per the age and category of the vehicles to be tested. The total testing requirement is then obtained by summing the estimated volumes for both categories.

The number of vehicles that can be tested given current ATS capacity is calculated using ATS data from the AFMS portal and provided by MoRTH, with the assumption that each ATS has an annual average testing capacity of 30,000; being a 2-lane ATS operating 300 days in a year testing 100 vehicles a day.

The total number of vehicles requiring testing is matched against the current and prospective declared operational ATS capacity to identify a potential capacity gap in vehicle fitness testing infrastructure.

B. State-wise ATS Requirement Estimate

Table B1: State-wise estimate of required ATS

S.No.	State Name	Estimated Vehicle testing Population	No of RTOs	Estimated Requirement of ATS	Current no. of ATS	Gap
Union Territories						
1	Andaman & Nicobar	6742	5	**1**	0	1
2	Chandigarh	41443	1	**1**	0	1
3	Dadar & Nagar Haveli and Daman & Diu	18052	3	**1**	1	0
4	Delhi	447055	16	**15**	1	14
5	Ladakh	3407	3	**1**	0	1
6	Lakshadweep	608	6	**1**	0	1
7	Pondicherry	47947	8	**2**	0	2
States						
8	Andhra Pradesh	601720	83	**20**	18	2
9	Arunachal Pradesh	14572	29	**1**	0	1
10	Assam	272005	33	**9**	5	4
11	Bihar	412735	48	**14**	8	6
12	Chhattisgarh	278317	31	**9**	8	1
13	Goa	54298	13	**2**	0	2
14	Gujarat	963655	37	**32**	56	0
15	Haryana	570336	98	**19**	1	18
16	Himachal Pradesh	90244	96	**3**	4	0
17	Jammu And Kashmir	95032	21	**3**	1	2
18	Jharkhand	262821	25	**9**	1	8
19	Karnataka	1004329	68	**33**	3	30
20	Kerala	578855	87	**19**	4	15
21	Madhya Pradesh	661635	53	**22**	12	10
22	Maharashtra	1609545	59	**54**	0	54
23	Manipur	15990	13	**1**	0	1
24	Meghalaya	30906	15	**1**	0	1
25	Mizoram	16975	10	**1**	0	1
26	Nagaland	47755	9	**2**	0	2
27	Odisha	383692	39	**13**	1	12
28	Punjab	409394	96	**14**	0	14
29	Rajasthan	683133	59	**23**	2	21

S.No.	State Name	Estimated Vehicle testing Population	No of RTOs	Estimated Requirement of ATS	Current no. of ATS	Gap
30	Sikkim	7998	9	**1**	0	1
31	Tamil Nadu	1202190	88	**40**	0	40
32	Tripura	29450	9	**1**	0	1
33	Uttar Pradesh	1627332	21	**54**	11	43
34	Uttarakhand	147448	77	**5**	7	0
35	West Bengal	476077	59	**16**	0	16
36	India (Total)	13113694	-	**441**	156	285

C. Districts in each State covered by ATS

Table C1:State-wise Districts covered by ATS

S. No	State	No of districts	No of districts not covered by ATS	No of districts covered by ATS
1	Andaman And Nicobar Islands	3	3	0
2	Chandigarh	1	1	0
3	Dadra & Nagar Haveli	3	1	2
4	Daman & Diu	2	2	0
5	Delhi	11	9	2
6	Ladakh	2	1	1
7	Lakshadweep	1	1	0
8	Puducherry	4	2	2
9	Andhra Pradesh	13	7	6
10	Arunachal Pradesh	25	22	3
11	Assam	34	28	6
12	Bihar	38	32	6
13	Chhattisgarh	33	25	8
14	Goa	2	2	0
15	Gujarat	33	17	16
16	Haryana	22	20	2
17	Himachal Pradesh	12	7	5
18	Jammu And Kashmir	20	20	0
19	Jharkhand	24	21	3
20	Karnataka	31	26	5

S. No	State	No of districts	No of districts not covered by ATS	No of districts covered by ATS
21	Kerala	14	8	6
22	Madhya Pradesh	55	48	7
23	Maharashtra	36	33	3
24	Manipur	16	14	2
25	Meghalaya	11	7	4
26	Mizoram	11	11	0
27	Nagaland	17	13	4
28	Odisha	30	29	1
29	Punjab	23	22	1
30	Rajasthan	41	37	4
31	Sikkim	6	6	0
32	Tamil Nadu	38	28	10
33	Telangana	33	29	4
34	Tripura	8	5	3
35	Uttar Pradesh	75	64	11
36	Uttarakhand	13	8	5
37	West Bengal	23	22	1

D. State-wise RVSF Requirement Estimate

Table D1: State-wise estimate of required RVSF

S.No.	State Name	Estimated Vehicle scrapping population	Requirement of RVSF	No. of RVSF	Gap
Union Territories					
1	Andaman And Nicobar	2464	**1**	0	**1**
2	Chandigarh	15307	**1**	1	**0**
3	Dadar & Nagar Haveli and Daman & Diu	6777	**1**	0	**1**
4	Delhi	232462	**6**	1	**5**
5	Ladakh	758	**1**	1	**0**
6	Lakshadweep	369	**1**	0	**1**
7	Pondicherry	24164	**1**	0	**1**

S.No.	State Name	Estimated Vehicle scrapping population	Requirement of RVSF	No. of RVSF	Gap
		States			
8	Andhra Pradesh	239560	**9**	7	**2**
9	Arunachal Pradesh	2519	**1**	0	**1**
10	Assam	40757	**3**	5	**0**
11	Bihar	35243	**4**	5	**0**
12	Chhattisgarh	75981	**4**	6	**0**
13	Goa	19104	**1**	1	**0**
14	Gujarat	264431	**16**	9	**7**
15	Haryana	203041	**11**	22	**0**
16	Himachal Pradesh	31671	**3**	2	**1**
17	Jammu And Kashmir	22016	**2**	0	**2**
18	Jharkhand	97814	**4**	0	**4**
19	Karnataka	503324	**18**	2	**16**
20	Kerala	311521	**12**	0	**12**
21	Madhya Pradesh	288949	**10**	7	**3**
22	Maharashtra	371540	**26**	9	**17**
23	Manipur	10430	**1**	0	**1**
24	Meghalaya	10868	**1**	0	**1**
25	Mizoram	4462	**1**	0	**1**
26	Nagaland	11445	**3**	0	**3**
27	Odisha	136566	**6**	2	**4**
28	Punjab	187383	**9**	5	**4**
29	Rajasthan	192639	**13**	3	**10**
30	Sikkim	1524	**1**	0	**1**
31	Tamil Nadu	461310	**23**	0	**23**
32	Tripura	8283	**1**	0	**1**
33	Uttar Pradesh	540017	**17**	82	**0**
34	Uttarakhand	44348	**2**	5	**0**
35	West Bengal	161970	**11**	2	**9**
36	India (Total)	4561017	**227**	178	**49**

E. Impact of Suggested EPR Revisions vs. Current EPR Regime

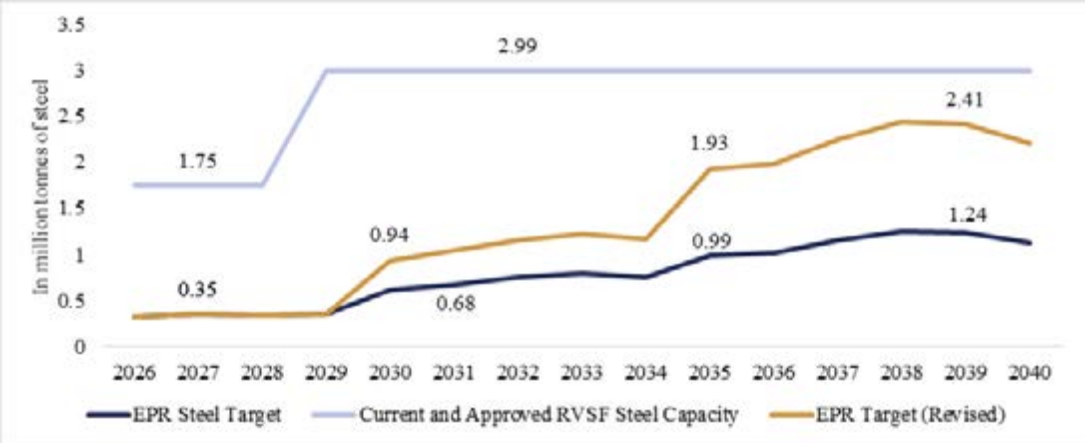


Figure 21: Total RVSF Scrapping Capacity and Steel Recovery from EPR Targets (Current and Revised)

Figure 21 compares the projected EPR steel targets as per the Environment Protection (End-of-Life Vehicle) Rules, 2025 (MoEFCC) with the current and approved RVSF steel processing capacity from 2026 to 2040. It shows both the original and (proposed) revised EPR targets (see Table 8), highlighting the significant increases in (proposed) revised targets remain within available approved RVSF capacity.

The methodology estimates India's total steel scrapping capacity from operational and planned RVSFs based on average vehicle weight, steel content, and annual processing capacity per facility. Using VAHAN data on vehicle registrations, the total steel content from ELVs is calculated for both transport and non-transport categories, considering their respective registration ages. The steel recovered under the current EPR regime is then determined by applying the existing steel recovery targets set by MoEFCC. Finally, a revised scenario is modelled by increasing these recovery targets in future years, allowing for a comparative assessment of steel recovery potential against available RVSF capacity, as reflected in the graph. The analysis demonstrates that, this increase in EPR targets would be feasible as and when the total approved RVSF capacity utilisation as per MoRTH data is realized.

F. Price Range of Materials from a Recycled Car

Table F1: Price Range of Materials

S.No.	Spare part	Average Life	Approximate* Price range
1	Car tires	4-5 years	500-1000
2	Car battery	2-3 years	500 - 1500
3	Car air filter	19000 km – 25000 km	100-200

S.No.	Spare part	Average Life	Approximate* Price range
4	Synchronizer belt	100000 km to 160000 km	100-300
5	Radiator cooling system	150000 km	1500-2500
6	Steering wheel oil	3-5 years	
7	AC compressor	12-15 years	2000-4000
8	Rubber car wipers	12 months to 24 months	100-300
9	Oil filter	5000 km – 15000 km depending on the type of oil	100-150
10	Brakes (brake callipers, wheel cylinder, and the master cylinder)	50000 km to 65000 km	1000-2000
11	Spark plugs	30000 km – 50000 km	75 - 100
12	Thermostat Water Body Elbow	Ten years	500 - 750
13	Alternator	7 years	5000-7000
14	Shocks and struts	100000 km	750 - 1500
15	Starter Starter Motor Assembly Parts	100000 km	2000 - 2500
16	Headlights and taillights	7 to 10 years	
17	Windshield wiper blades	1 to 3 years	150 - 300
18	Clutch Kit Parts	12 to 15 years	1500 - 2000
19	Fuel pump	7 to 10 years	4000-6000
20	Water pump	10 to 12 years	1000 - 1500
21	Engine sensors Lambda Control Sensors	10 years and more	1500 - 2000
22	Muffler	10 years and more	2000 - 2500
23	Engine block	15 to 20 years	8000 - 10000
24	Serpentine belt	5 years	100 - 150
25	Camshaft	10 to 15 years	1000 - 1500

S.No.	Spare part	Average Life	Approximate* Price range
26	Piston and Connecting Rod Assemblies	8 to 10 years	2000 - 4000
27	Catalytic convertor	15 years	2000 - 6000
28	Starting and Charging System	10 to 12 years	
29	Starter Motor Assembly Parts	8 to 10 years	1500 - 2500
30	Throttle Body	5 to 8 years	1000 - 1500
31	Intake Manifold	12 to 15 years	1500 - 2000
*Prices are approximated based on a market survey.			

G. CoD Concessions Across States

Table G1: CoD Concessions Across States

S. No	State	Concession for Transport Vehicles	Concession for Non-Transport Vehicles	Notes
1	Himachal Pradesh	15% of registration tax	25% of registration tax	
2	Goa			
3	Mizoram			
4	Uttarakhand			Uttarakhand: INR 50,000 cap
5	Puducherry			Puducherry: 11,000 cap for 4W
6	Rajasthan			
7	Jharkhand			
8	Madhya Pradesh			
9	Bihar			
10	Kerala			Kerala: Offer valid for 1 year after CoD issued
11	Chhattisgarh			
12	Punjab			
13	Odisha			
14	Assam			
15	Karnataka			
16	Dadra & Nagar Haveli and Daman & Diu			

S. No	State	Concession for Transport Vehicles	Concession for Non-Transport Vehicles	Notes
17	Maharashtra	10% of registration tax	10% of registration tax	Scheme expires in 3 years
18	Uttar Pradesh	10% of registration tax	15% of registration tax	
19	Haryana	• Exempts 10% of tax, OR • 50% of scrap value, whichever is less		
20	Gujarat	• Transport vehicles: 15%*Vehicle sale price *Multiplying factor as per vehicle type • Transport vehicles: 25%* Vehicle sale price *Multiplying factor as per vehicle type Complex notification[15]		E.g. LMV: Sale price of INR 10 lakh or less is multiplied by a factor of 6% and then the MV tax concession percentage depending on vehicle category (Transport/Non-Transport)

[15] https://morth.nic.in/sites/default/files/Gujarat_MV%20Tax.pdf


सत्यमेव जयते
NITI Aayog