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EASE OF VEHICLE OWNERSHIP INDEX

Benchmarking Indian States on Pre-Owned Vehicle Commerce

2026

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ACKNOWLEDGEMENTS

The development of the Ease of Vehicle Ownership Index (EVOI) report has been a collaborative effort, shaped by the valuable contributions, time, and expertise of numerous practitioners, industry partners, and citizens.

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Finally, we are immensely grateful to the citizens who took the time to participate in our consumer survey. Their candid responses, shared experiences, and personal touchpoints throughout the vehicle ownership lifecycle provided the essential ground truth and data at the very core of this study.

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EXECUTIVE SUMMARY

Context

India's pre-owned vehicle market is undergoing a profound structural shift, evolving from a fragmented, informal sector into a cornerstone of the national consumer economy. Projected to grow from USD 36.4 billion in 2025 to over USD 73.5 billion by 2030, the sector already outpaces new vehicle sales in volume, fundamentally redefining mobility and asset ownership across the country.

India's Pre Owned Vehicle Market

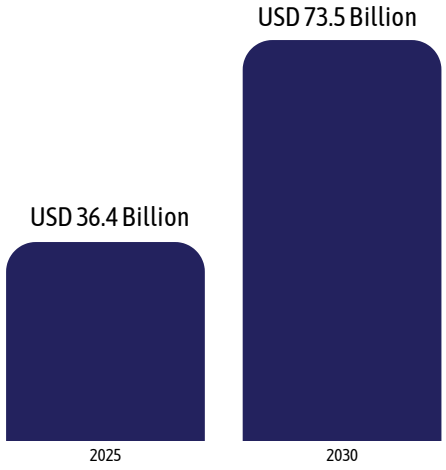


Fig 1: Market Growth Projection[1]



Fig 2: Expected ratio of Pre-Owned vehicles sales to new vehicles sales by 2030[2]

5-8 tonnes of carbon emissions saved when a pre-owned vehicle purchase substitutes a new vehicle purchase[3]

However, this rapid scaling has exposed a critical systemic mismatch: India's vehicle ownership transfer framework remains tethered to an era of localized, bilateral transactions. This legacy administrative architecture is increasingly strained by the realities of a digitally enabled, platform-driven, and interstate marketplace. As organized intermediaries and large-scale inventory movements become the norm, the existing framework must evolve to meet modern demands for transparency, efficiency, and scale.

[1] Car&Bike & Volkswagen. (2025). India Blue Book.
[2] ET Auto. (2025, January).
[3] MMCM. (2026, May 8). Carbon footprint of a car in India: Emissions by fuel type.

The need for an Index

As India's pre-owned vehicle market expands across state boundaries, inconsistencies in ownership transfer processes have emerged as a significant barrier to efficiency, transparency, ease of doing business, and ease of living at large. While the central government provides the overarching legal framework, implementation rests with State Transport Departments, resulting in wide variations in procedures, timelines, documentation requirements, and digital integration across states. This fragmented regulatory experience creates friction for citizens, dealers, and digital mobility platforms operating in an increasingly interconnected marketplace.

A national benchmarking index can serve as a critical reform instrument by bringing transparency, comparability, and accountability into the system.

By systematically measuring state-level performance across key dimensions of the ownership transfer journey, the index can help identify implementation gaps, spotlight best practices, and create incentives for administrative modernization through competitive federalism.

Similar benchmarking exercises, such as the Ease of Doing Business Index and mobility-focused governance assessments, have demonstrated how transparent rankings can accelerate state-led reforms, improve service delivery, and drive institutional innovation.

In this context, the index is more than a measurement tool; it's a catalyst to harmonize India's vehicle transfer ecosystem into a more seamless, citizen-centric, and digitally integrated national market. Vehicle ownership transfer is more than an administrative transport function. It is one of India's largest citizen-state asset transactions and a critical enabler of market formalisation, interstate mobility, and digital governance.

Much as the GST unified the movement of goods across state boundaries, India now requires a comparable administrative transformation to enable seamless movement of vehicle ownership. The quality of ownership transfer processes therefore serves as a proxy for how effectively states deliver interoperable, citizen-centric public services in an increasingly national marketplace.

Ease of Vehicle Ownership Index

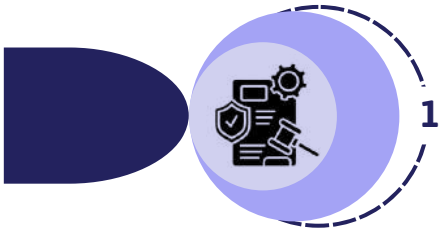
The Ease of Vehicle Ownership Index (EVOI) applies the principles of competitive federalism to benchmark state performance in vehicle ownership transfers through a transparent, evidence-based framework. By measuring procedural efficiency, user experience, and implementation quality across states, the Index aims to drive reform, identify best practices, reduce friction for citizens and dealers, and support the formalisation of India's growing pre-owned vehicle market.

This edition covers 15 states representing over 85%[4] of the organised used car market and focuses exclusively on the pre-owned vehicle ownership lifecycle. The assessment captures both official procedures and on-ground user experiences, while excluding areas such as new vehicle registrations, EV infrastructure, road conditions, and broader sustainability metrics.

[4] Estimate based on industry transaction volumes and market presence of major organised used-vehicle platforms.

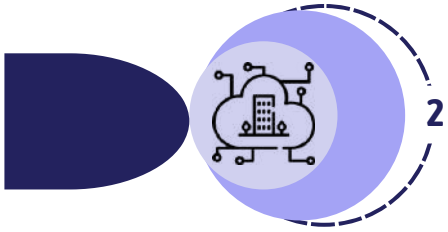
Six-Pillar Framework for measuring Ease of Ownership

The EVOI evaluates performance across six interconnected pillars, each weighted to reflect its direct impact on the citizen and dealer experience. Scores are computed using a geometric mean–based composite index methodology that rewards balanced, consistent performance.



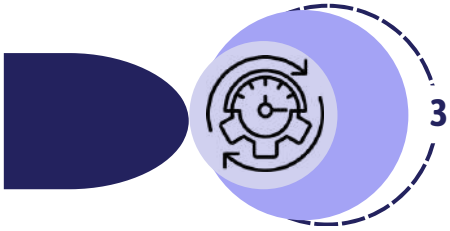
Weightage: *20%*

Policy & Regulatory Framework
Clarity and consistency of ownership transfer rules across states



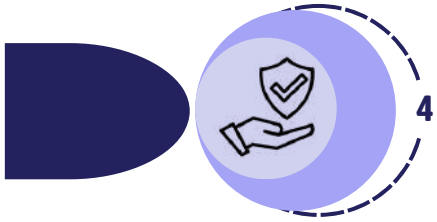
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Digital Infrastructure & Services
Functional availability and reliability of online systems



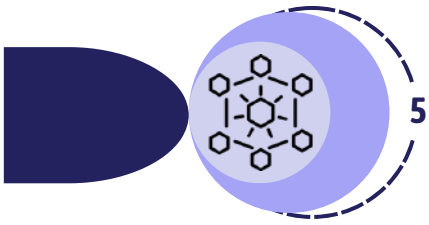
Weightage: *20%*

Process Efficiency & Timeliness
Speed, predictability, and procedural burden



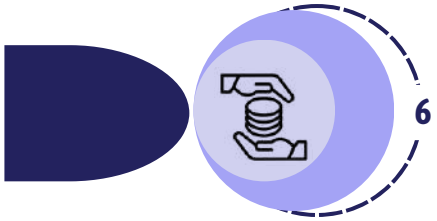
Weightage: *10%*

Transparency & Accountability
Fee clarity, application tracking, and grievance mechanisms



Weightage: *15%*

Institutional Ecosystem
Consumer protection, dealer support, and trade infrastructure



Weightage: *15%*

Cost & Affordability
Official fees vs actual all-in market cost of transfers

Structural Realities Defining the Ecosystem

The EVOI findings identify nine structural realities that define India's current vehicle ownership transfer ecosystem. Together, they explain why the market has grown faster than the administrative system governing it.

Procedural Heterogeneity

While the Central Motor Vehicles Rules (CMVR) establish a national baseline, decentralized execution creates hyper-localized mandates across state and intra-state RTOs, leading to divergent procedural requirements and implementation practices. These variations increase compliance burdens, creates uncertainty for citizens and businesses, delays vehicle transactions, and restricts the development of a seamless national pre-owned vehicle market.

Deemed Ownership Limbo

Despite clear central government legislative intent to mitigate liability risks in the secondary market, the "Deemed Ownership" framework lacks operational enforcement. While 22 states have formally incorporated deemed ownership into their regulatory frameworks, actual adoption on the ground remains limited. Large states like Delhi, Karnataka, and Telangana have no dealers registered so far, and certain states like Andhra Pradesh, Haryana, Gujarat, Punjab, and Uttar Pradesh have single-digit registrations (refer to Annexure for the state-wise registration list). As a result, the proportion of vehicle transfers processed through deemed ownership mechanisms remains significantly below its potential, highlighting a disconnect between regulatory intent and market implementation.

Incomplete Digitisation

Constrained by paper-based backend processes and disconnected data systems, resulting in continued physical visit requirements, inconsistent DigiLocker acceptance, and the absence of a unified, verifiable vehicle history across ownership, insurance, liabilities, penalties, and enforcement records.

Hypothecation Deadlock

The absence of real-time integration between banks and transport departments has turned loan closure and hypothecation removal into a major transaction bottleneck. Dealers and buyers often operate without visibility into outstanding liabilities, forcing manual coordination with banks and significantly delaying transfers. None of the assessed states are achieving a seamless workflow. The severity is starkly split: As per the survey findings, 50% of states report severe challenges, while the remaining 50% face moderate operational difficulties.

Structural Realities Defining the Ecosystem

Road Tax Inequities

Interstate transfers trigger systemic double taxation. While jurisdictions levy new taxes based on original vehicle invoice values, mechanisms for acquiring refunds from preceding states remain administratively inaccessible, delayed, or heavily depreciated.

Systemic Rent-Seeking

Opaque processes and administrative friction compel citizens to rely on third-party agents to navigate RTO workflows. This dependency, driven by manual verifications and informal payments, artificially inflates the actual market cost of ownership transfers to nearly 10 times the official statutory fees, according to the survey findings.

Challan Bottleneck

Active traffic penalties function as a "digital lock," blacklisting vehicles on the Parivahan portal and halting transfers. This is compounded by "Circular Dependency," where one cannot pay a fine without critical information, and "Portal Deserts," where systems fail to synchronize in real-time, leaving vehicles blocked for weeks after a fine has been cleared.

Weak Grievance Architecture

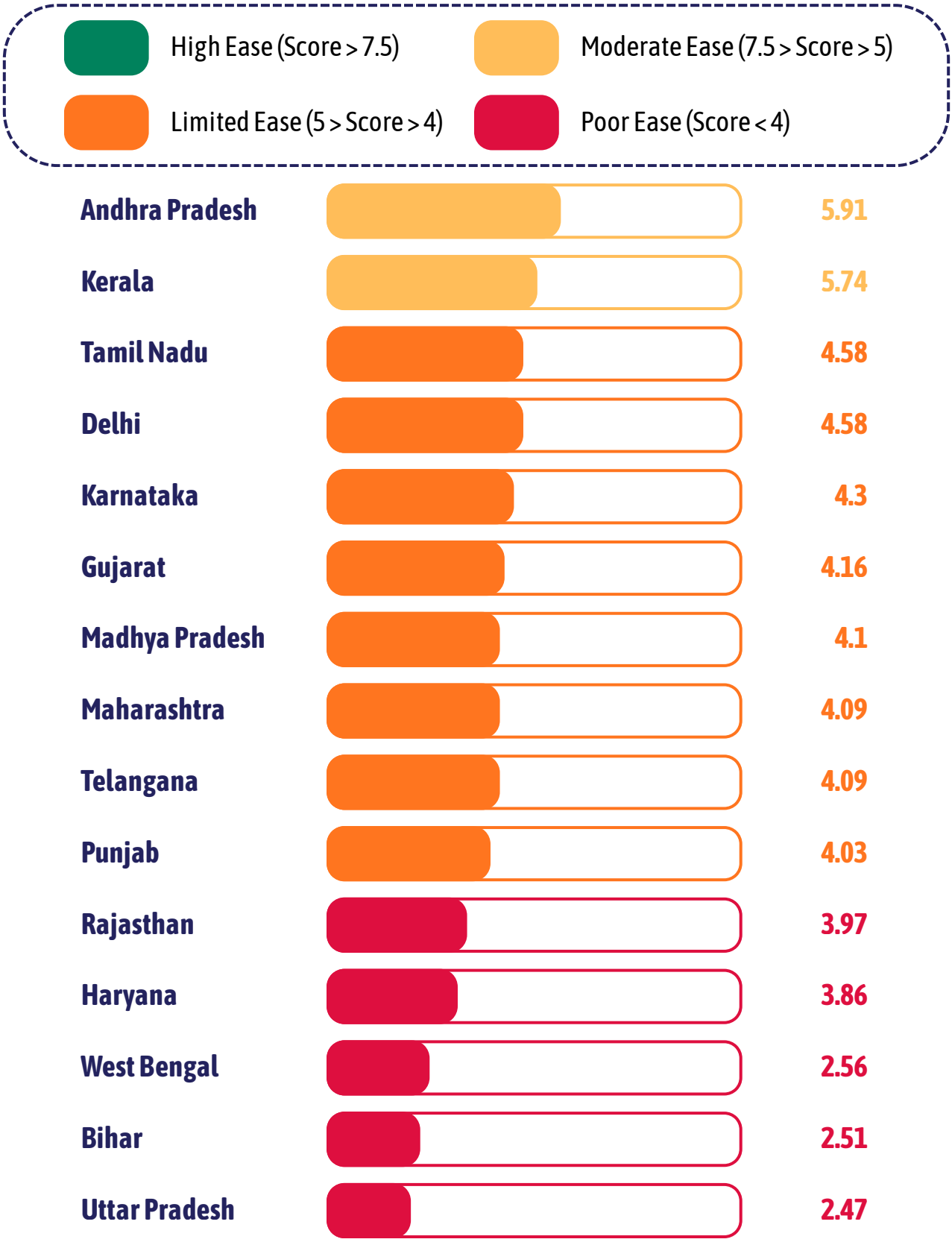
The near-total lack of functional grievance redressal mechanisms for portal failures or stalled digital applications creates an institutional void. Without a formal recourse framework, citizens and commercial stakeholders are forced back into physical, manual interventions to resolve automated system deadlocks.

NOC Fragmentation

Non-Objection Certificate (NOC) requirements vary widely across states, with differing rules for intra-state transfers, destination-specific NOCs, validity periods, and documentation. These inconsistencies create avoidable delays, increase compliance costs, and undermine the vision of a seamless national vehicle market.

Overall State Rankings: 2026

The cross-state analysis reveals a deeply uneven but consistently friction-heavy ecosystem. The scores are on a scale of 0-10, and the scores secured range from 5.91 (Andhra Pradesh) to 2.47 (Uttar Pradesh), reflecting fundamentally different quality of citizen experience, not minor administrative variation.



Citizen Experience: What Users Reported

39%

of citizens reported that their Registration Certificate (RC) transfer was still pending after completing their vehicle transaction.

61.5%

of respondents were unaware of Party Peshi requirements until they reached the RTO, highlighting significant gaps in procedural transparency.

63%

of citizens were unable to accurately estimate the total cost of completing an ownership transfer, reflecting widespread opacity in transaction charges.

100%

of respondents admitted to relying on intermediaries or agents to complete ownership transfer procedures due to administrative complexity.

Where Reform is Working: State Bright Spots

Kerala
Delhi
Gujarat

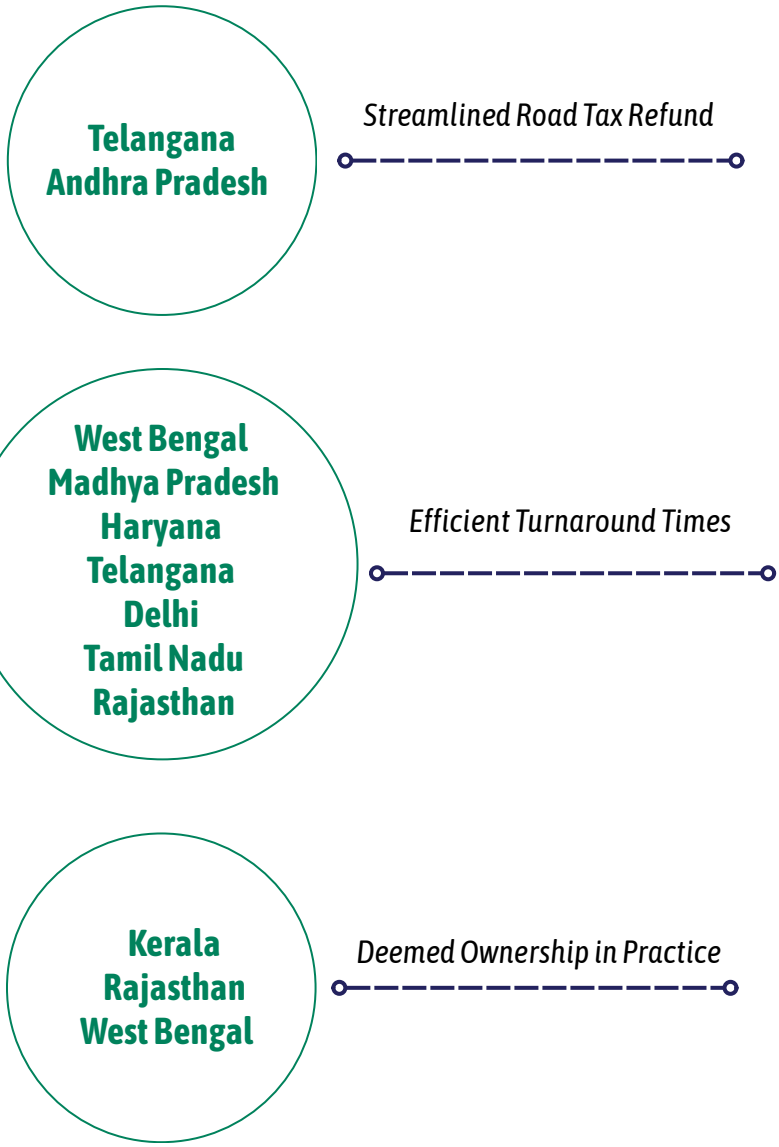
Digital Transfer Readiness

These states have developed the infrastructure for digital ownership transfers. However, practical implementation still often involves visits to RTOs for document submission and processing. While these states are closest to a faceless model, the user journey is not yet fully faceless in practice.

Andhra Pradesh
West Bengal

Innovation in Access

These are among the few states pioneering alternatives to physical party appearances. West Bengal allows seller verification through video-call-based appearance in select RTOs, while Andhra Pradesh uses biometric pre-authentication of all parties involved at available centres.



The only two states with a functional road tax refund mechanism. Survey findings suggest a 15–30-day processing time and an 80–90% return rate via Demand Draft.

These states demonstrate comparatively faster processing of ownership transfer applications, with dealers and agents reporting more predictable timelines and fewer procedural delays than the national average. While documentation requirements and digital maturity vary across jurisdictions, stronger administrative workflows and quicker approvals contribute to a more efficient transfer experience for citizens and dealers.

These are among the few states where dealers and agents actively operationalise the deemed ownership framework during vehicle transactions. This provides greater certainty during vehicle holding periods, reduces liability concerns for intermediaries, and demonstrates how existing regulatory provisions can be effectively translated into practice.

The pre-owned vehicle ecosystem sits at the intersection of economic growth, employment generation, digital governance, financial inclusion, and sustainability.

A more efficient ownership transfer system can unlock significant economic value by improving inventory velocity, reducing transaction costs, formalizing informal commerce, and expanding access for first-time buyers.

The Reform Pathway: Eight Priorities

The report outlines a reform pathway centred on eight priorities that collectively address the structural gaps documented across the six pillars. These reforms broadly advocate for standardisation and digitisation of the services.

Digitize Ecosystem

Create a unified cloud-based vehicle records system with automated online approvals, digital identity verification, and video-KYC to eliminate retrieval delays, physical appearances, and dual document submissions.

Accountable Service Delivery

Institutionalize transparent, enforceable Service Level Agreements (SLAs) across the entire RTO ecosystem to enable instant (< 24 hrs) service delivery guarantees.

Standardize NOC Frameworks

Establish a uniform, digitally processed national NOC framework by eliminating state-level variations in requirements, documentation, and validity norms to enable seamless interstate vehicle transfers.

National Road Tax Standardisation

Transition toward a unified framework effectively a "One Bharat, One Road Tax" model to eliminate inter-state fiscal arbitrage, eradicate double taxation, and streamline cross-border asset mobility.

Operationalise Deemed Ownership

Enforce the statutory "Deemed Ownership" framework across all jurisdictions.

Standardize HP formalities

Replace physical NOCs and bank visits with real-time API integration between lending institutions and Parivahan, ensuring automatic "lien removal" upon loan settlement

Cost Rationalization

Eliminate intermediary costs by enabling a digital unified payment gateway that transparently consolidates all statutory and service charges into a single transaction.

Liberalize Challan Ecosystem

Streamline traffic penalty resolution within ownership transfer workflows by permitting authorized stakeholders to clear outstanding fines.

> **The EVOI establishes a framework for competitive federalism in mobility governance, one that positions vehicle ownership not simply as a transport function, but as a measurable indicator of a state's digital maturity, institutional responsiveness, and economic readiness for the next phase of India's mobility transition.**

PART-1

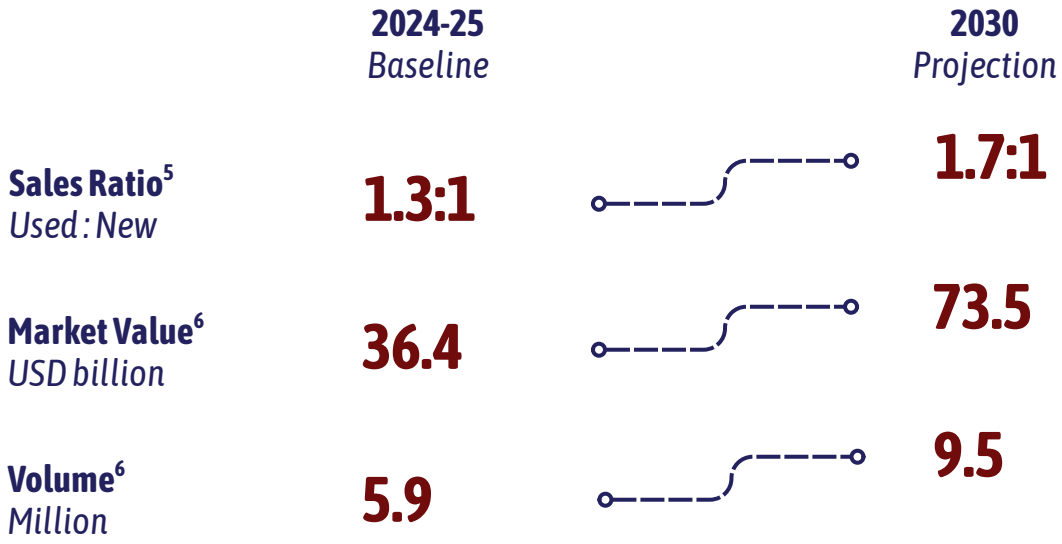
CONTEXT & FRAMEWORK

INTRODUCTION

India's Pre-Owned Vehicle Market: Scale & Trajectory

India has reached a structural inflection point in its automotive history. Long characterized by informal, opaque transactions, the pre-owned vehicle market has evolved into one of the country's most dynamic commerce verticals. It is now outperforming new vehicle sales in volume, attracting significant institutional capital, and fundamentally reshaping mobility for 1.4 billion people. However, this rapid shift from a trust-deficit environment to a technology-enabled industry has exposed a critical lag: the nation's administrative infrastructure, designed for simple bilateral trades, has not yet adapted to a modern market where professional intermediaries sit at the centre of ownership transfers.

A key driver of this growth is the role of used vehicles in expanding access to personal mobility. Industry data indicates that 60%–65% of buyers in the organised pre-owned vehicle market are first-time car owners. This suggests that affordability and lower upfront costs are enabling a new cohort of consumers to enter the vehicle ownership market. This reinforces the importance of the used-car segment as a gateway to mobility for emerging middle-income households.



Growth Trajectory of the Pre-owned vehicle market in India

[5] ET Auto. (2025, January).
[6] Car&Bike & Volkswagen. (2025). India Blue Book.

With only 35 cars per 1,000 people[7], India remains severely underpenetrated compared to peer economies. As the aspirational middle class is set to reach 61% of the population by 2047 and seek personal mobility, the widening price gap between new and used vehicles has made the pre-owned market the only viable entry point for many first-time buyers.

The average selling price of a used car in India has moved from ₹4.49 lakh in 2021 to ₹5.47 lakh in 2025, while the average price of a new passenger vehicle has risen to approximately ₹11.5 lakh in 2024[8].

Despite the market growing at a CAGR of 13-15%, a large share of volume remains in the hands of unorganised dealers, contributing to a regulatory grey areaHowever, organised channels are gaining ground, with their market share projected to increase from 14% in FY21 to 21% by FY26[9], driven by the expansion of digital full-stack platforms, OEM-backed networks, and branded dealerships.

The used-to-new vehicle sales ratio, while impressive, remains well below the 2.5:1 to 3:1 ratio[10] seen in mature markets like the U.S. and Europe, signalling vast headroom for expansion.

The Employment and Circularity Dividend

Beyond the market size and value, the pre-owned sector serves as a massive economic and environmental multiplier. It is a labour-intensive engine generating distributed livelihoods across its value chain. Formalising this sector does more than protect consumers; it expands India's formal employment base and advances national sustainability goals.

The climate mitigation potential of the secondary automotive market is systemic. Even under conservative substitution models, the carbon abatement scale is significant. By extending the lifecycle of industrial assets, the pre-owned vehicle marketplace offers a highly scalable, market-driven mechanism that aligns with India's **Mission LiFE** (Lifestyle for Environment) and national circular economy principles.

It drives decarbonization without requiring public capital subsidies, relying instead on market optimization.

In this context, administrative and regulatory friction within the vehicle transfer ecosystem is not merely a localized bureaucratic hurdle. By artificially restricting secondary market velocity, current operational bottlenecks act as an *invisible tax* on India's green transition and economic growth, directly delaying the realization of national net-zero target milestones.

> **Every pre-owned vehicle transaction that substitutes a new vehicle purchase averts an estimated 5-8 tonnes of embodied CO_2 emissions[11] associated with manufacturing and supply-chain metallurgy.**

[7] Waghmare, A. (2024, September 27). Vehicle ownership in India.
[8] Business Standard. (2026, May). Used Cars Have Gone from Budget Pick to Best Choice.; Team BHP (2025). Indian Passenger Vehicle Market
[9] Bhatnagar, K. (2026, April 30). India Used Car Market 2026 - Trust Deficit And Growth Report. Redseer Strategy Consultants.
[10] Car&Bike & Volkswagen. (2025). India Blue Book.
[11] MMCM. (2026, May 8). Carbon footprint of a car in India: Emissions by fuel type.

Role of Digital Platforms and Aggregators

Technology has been the single most transformative force in India's pre-owned vehicle market over the past decade. Digital platforms have not merely made the market more convenient; they have structurally addressed the most fundamental market failure that George Akerlof identified in his 1970 paper "The Market for Lemons", the information asymmetry between sellers who know a vehicle's true condition and buyers who cannot. Modern digital platforms have replaced guesswork with data-driven certainty

The transition from unorganised to organised commerce is the essential prerequisite for effective regulatory oversight and consumer protection. As business models evolve, ranging from asset-heavy C2B2C[12] auctions to asset-light B2B[13] facilitation, the next frontier lies in the seamless integration of financing, insurance, and after-sales services. By creating a bundled, frictionless ownership experience, these platforms are building the institutional trust necessary to sustain India's mobility future.

Technology Driven Inspections

Leading players utilize computer vision and engine audio analysis to evaluate vehicles across **300+ parameters.** For instance, industry leaders process over 1.6 lakh images daily through machine learning models to standardize pricing and quality.

Transparency & Efficiency

Real-time digital auctions have replaced opaque negotiations, ensuring prices reflect genuine market demand.

Shift to Organized Commerce

Digital platforms have become the primary discovery and transaction interface, enabling consumers to compare vehicles, access financing, complete documentation, and purchase with greater convenience and confidence.

[12] Consumer-to-Business-to-Consumer (C2B2C)
[13] Business-to-Business (B2B)

Ownership Transfer: Current Landscape, Friction & Gaps

The transfer of vehicle ownership in India is a complex administrative exercise governed by the Motor Vehicles Act, 1988, and the Central Motor Vehicle Rules, 1989. This framework is operationalized across a fragmented network of over 1,300+ Regional Transport Offices (RTOs) in 36 states and Union Territories. While a unified national law exists, the execution of a transfer varies wildly based on geography, the involvement of lending institutions (for hypothecation), and whether the transaction crosses state lines.

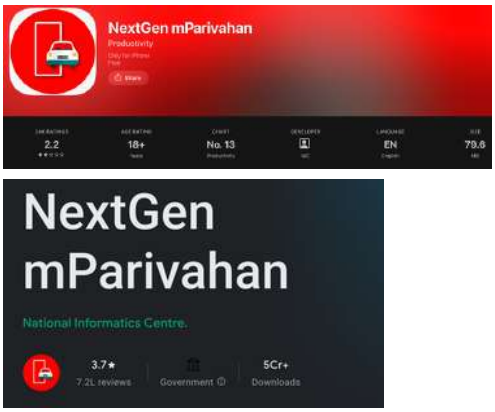
A fundamental structural disconnect defines the current system: the regulatory framework was developed primarily for direct Consumer-to-Consumer transactions. It fails to account for the modern reality where professional dealer intermediaries facilitate the vast majority of organized market trades. This legacy design places an outsized compliance burden on individual citizens, while leaving a regulatory vacuum for the institutional players who now drive the industry.

The Procedural Burden:

Sellers must navigate a maze of documentation, which includes **Form 29** (notice of transfer) and **Form 30** (report of transfer), alongside identity verification and original Registration Certificates (RC). For vehicles under finance, Section 51 of the Motor Vehicles Act (MVA), 1988 comes into the picture. For inter-state transactions, Section 48 of the MVA, 1988 further requires the seller to obtain a state-level NOC from the originating registering authority, a process that is, in principle, time-bound but, in practice, often subject to delays. In case refusal of an NOC is not communicated by the authorities within 30 days, it is deemed to be granted. Many states routinely impose additional discretionary requirements, such as mandating issuance of an NOC for intra-state transfers or issuing an NOC for sale/transfer into a specific jurisdiction only.

The Digital Implementation Gap:

While the eTransport Mission Mode Project, powered by the VAHAN and Sarathi platforms, provides a strong digital backbone across 1300+ RTOs, implementation remains uneven across states. The Parivahan portal and mParivahan app, with access to 75+ services, have significantly expanded citizen access to transport services through digital platforms. Yet, relatively modest user ratings on app stores, coupled with recurring complaints regarding transaction failures, OTP verification issues, document synchronization, and delayed service updates, indicate that substantial gaps remain in user experience. In most states, these systems continue to function as "digital facades," where online interfaces sit atop manual, paper-intensive RTO processes. Telangana's ongoing integration with VAHAN commenced only in March 2026 underscores the persistence of these implementation gaps and the uneven pace of digital transformation.



mParivahan app rating on Apple App Story and Google Play

Regulatory Evolution & Gaps:

Recent reforms have attempted to modernize the sector. The **2022 Amendments (GSR 901(E)[14])** introduced "Deemed Ownership," allowing authorized dealers to be recognized as legal owners of vehicles in their inventory. This was a landmark move to shield original owners from post-sale liability.

Ecosystem Challenges: The Economic Cost of Friction

The friction inherent in India's ownership transfer process creates a "hidden tax" that penalizes every stakeholder in the value chain. These inefficiencies are not merely administrative; they carry a measurable economic and legal cost.

The Burden on Citizens

For the average consumer, the process is opaque and intimidating. Delays in RC transfers create legal vulnerability for the seller who remains liable for a vehicle they no longer possess and uncertainty for the buyer. This lack of transparency often forces citizens toward informal "agents," increasing costs and perpetuating a cycle of systemic opacity.

Operational Stagnation for Dealers

For organized intermediaries, procedural bottlenecks translate directly into financial loss.

- **Capital Efficiency:** Delayed transfers tie up working capital and slow inventory turnover.
- **Regulatory Risk:** Dealers face significant compliance risks when vehicles sit in "legal limbo" between owners.
- **Market Fluidity:** Disparate state road tax regimes and the lack of standardized refund mechanisms make inter-state transfers prohibitively expensive, stifling the secondary market's potential.

The "Friction Tax" on Formalization

The cumulative effect of these challenges is a systemic disincentive to formalize. When official channels are perceived as slow, expensive, or inconsistent, market participants naturally revert to informal arrangements.

Ultimately, high compliance hurdles, double taxation on inter-state moves, and chronic RC pendency represent a barrier to entry for the very people the government seeks to empower: first-time buyers and small-scale entrepreneurs. Addressing these gaps is the key to unlocking the full economic and environmental potential of India's circular automotive economy.

[14] https://static.pib.gov.in/WriteReadData/specificdocs/documents/2022/dec/doc20221228148101.pdf

Case for a National Benchmarking Index

Vehicle Ownership Transfer as a Governance Indicator

Vehicle ownership transfer is not merely a transport administration process. It represents one of India's largest citizen–state asset transactions and directly influences the ease with which vehicles move across jurisdictions. As India's economy becomes increasingly integrated, ownership transfer has emerged as a useful proxy for digital governance, administrative efficiency, market formalisation, and the quality of citizen–state interactions. Just as the GST transformed the movement of goods into a seamless national market, India's ownership transfer ecosystem now requires comparable harmonisation to support a truly national vehicle ownership market.

Competitive Federalism as a Reform Tool

Under the Seventh Schedule of the Indian Constitution, motor vehicle regulation falls within the ***Concurrent List.*** This creates a unique governance challenge: while the Union government establishes the legal framework, State Transport Departments are the primary drivers of implementation. This structural duality has historically led to vast ***implementation divergence***, where the same national law results in wildly different experiences for citizens and businesses depending on the state of registration. Currently, this "invisible heterogeneity" acts as a silent barrier to a truly unified national market.

Competitive federalism offers a proven mechanism to transform this inconsistency into a catalyst for reform. By shifting from opaque administration to transparent measurement, India can incentivize states to optimize their regulatory environments.

The power of this approach is evidenced by several successful precedents:

- **The Ease of Doing Business Index (DPIIT):** By ranking states on business regulatory quality, this index created powerful incentives for improvement. States that ranked poorly faced pressure to reform, while high-ranking states gained significant credibility with investors.

- **SDG India Index (NITI Aayog):** Measures state and UT performance across the Sustainable Development Goals (SDGs), creating a framework for tracking progress on social, economic, and environmental outcomes. The index encourages states to improve performance through benchmarking and peer learning.

- **School Education Quality Index (NITI Aayog):** Evaluates states on learning outcomes, access, equity, governance, and infrastructure in school education. By publicly ranking performance, it incentivizes states to strengthen education systems and improve student outcomes.

- India Innovation Index (NITI Aayog): Ranks states based on their innovation capabilities and outcomes, including human capital, investment, knowledge creation, and entrepreneurship. It promotes innovation-led development by encouraging states to strengthen their innovation ecosystems.

- **Ease of Living Index (Ministry of Housing and Urban Affairs):** Assesses the quality of life, economic ability, sustainability, and governance performance of Indian cities. The index encourages cities to improve urban service delivery and adopt citizen-centric governance practices through comparative benchmarking.

The Ease of Vehicle Ownership Index applies this logic to the automotive sector. By providing transparent, evidence-based rankings for 15 states and UTs, the **Index achieves these critical objectives:**



Objectives of the EVOI Project

By making state performance measurable, the Index transitions vehicle ownership from a bureaucratic hurdle into a key indicator of a state's digital and economic maturity. This, in turn, fosters a race to the top that benefits the consumer, the industry, and the national economy.

For this edition, the Index covers 15 states representing over 85% of the total volume of organised used car market transactions and focuses exclusively on the pre-owned vehicle ownership lifecycle of buying and selling. It assesses both de jure conditions (official written procedures, fee schedules, citizen charters) and de facto realities (experiences of citizens, dealers, and agents on the ground). Explicit exclusions include new vehicle registrations, EV-specific infrastructure, road infrastructure and traffic enforcement, central-level legislative design, and long-term sustainability metrics.

THEORETICAL FOUNDATIONS

Transaction Cost Economics: The Hidden Price of Ownership

The conceptual architecture of the EVOI draws first from Oliver Williamson's Transaction Cost Economics. Williamson posited that the cost of an economic exchange is rarely limited to the price of the good itself; it includes the "frictions" of doing business: search and information costs, bargaining and decision-making time, and the policing and enforcement of agreements.

In India's pre-owned vehicle market, these costs are significant and multifaceted. A typical buyer must navigate:

- **Search Costs:** Deciphering opaque documentation requirements across different jurisdictions.
- **Decision Costs:** Managing inconsistent RTO procedures and road tax regimes.
- Enforcement Costs: Navigating uncertain timelines for legal ownership transfer.

Every administrative hurdle acts as a "Williamsonian" transaction cost, raising the effective price of the vehicle and pushing participants toward informal channels.

The EVOI measures these dimensions across its six pillars. A state scoring high in Process Efficiency and Digital Infrastructure has successfully minimized these frictions.

A poor score in **Transparency & Accountability** indicates a system where opacity makes unofficial facilitation the only "rational" choice for citizens.

Information Asymmetry: Solving the "Market for Lemons"

George Akerlof's seminal paper, The Market for Lemons (1970), identifies a fundamental market failure: when sellers possess superior information about a product's quality, buyers discount their offers to account for uncertainty. This leads to **adverse selection,** where high-quality goods are withdrawn from the market, trust erodes, and volumes collapse.

In the Indian context, information asymmetry operates at two distinct levels:

- **Commercial Asymmetry:** The traditional gap between a seller who knows a vehicle's mechanical history and a buyer who does not.
- **Administrative Asymmetry:** A less recognized gap between RTO officials, who understand the "unwritten" processing realities, and citizens, who struggle to navigate an undocumented system.

The EVOI addresses both tiers by evaluating how effectively states reduce administrative asymmetry by publishing clear fee schedules, enabling real-time application tracking, and providing accessible vehicle history checks. By digitizing and standardizing information, states can eliminate the "lemon" effect from the administrative process itself.

Public Service Delivery Benchmarking: Creating Accountability Through Data

The theoretical case for benchmarking rests on the reality that, in the absence of market competition, accountability must be engineered through comparative measurement. Since RTOs do not compete for "customers," citizens often have no recourse for poor performance. Public benchmarking creates a functional equivalent to competitive pressure:

- **Reputational Incentives:** Lower-ranked states face political and public scrutiny.
- **Knowledge Transfer:** High-ranking states provide a "gold standard" and a roadmap for peers to emulate.

The EVOI Index adopts this established tradition, transforming administrative performance from an internal metric into a public, actionable benchmark for national progress.

International Comparisons and Lessons

While the challenges facing India's vehicle ownership ecosystem are rooted in local administrative legacy, the solutions are increasingly visible in global digital governance and domestic service reforms. By examining international models and successful Indian precedents, this section identifies the "North Star" for RTO modernization.

These case studies prove that the transition from opaque, manual workflows to frictionless, transparent systems is not merely a theoretical aspiration but an operational reality in diverse regulatory environments.

Estonia's e-Governance: *The power of full integration*

Estonia's digital infrastructure, anchored by the X-Road data exchange layer, represents the global gold standard for frictionless service delivery[15]. In Estonia, vehicle ownership transfers occur almost entirely online with real-time updates across all government databases.

The primary lesson for India lies in the completeness of integration. While India's VAHAN and Sarathi platforms are technologically credible, they often suffer from a "last-mile" gap where digital submissions meet manual RTO workflows. Estonia's success demonstrates that reform is only complete when no residual manual processes remain between submission and final action.

US DMV Benchmarking: *success in decentralized systems*

The United States Department of Motor Vehicles (DMV) system mirrors India's decentralised structure, with administration occurring at the state level. Despite this fragmentation, states like Arizona[17] (full online title transfers) and Colorado[18] (digital DMV service upgrades) have successfully digitised complex services without requiring in-person visits.

These examples demonstrate that significant reform is achievable even within highly decentralised frameworks, provided there is a commitment to digital-first service design.

EU Mobility Assessments: *A model for interstate portability*

The European Union's EUCARIS[16] vehicle information exchange network offers a direct solution to India's interstate RC transfer challenges. By establishing a system of mutual recognition and real-time data portability between member states, the EU has eliminated the friction of cross-border transfers, a blueprint for resolving the administrative hurdles faced when a vehicle registered in Delhi is sold to a buyer in Karnataka.

Singpass (Singapore): *centralized identity and authentication*

Singapore's Singpass[19] system highlights the importance of a secure, unified digital identity. By providing a single point of authentication for over 2,000 services, it eliminates the need for redundant document submissions. For India, the lesson is clear: a robust, biometrically-backed digital ID (leveraging the Aadhaar ecosystem) is the essential foundation for secure, one-click ownership transfers and legal signatures.

[15] Global Government Technology Centre. (2025). Government Intelligence Hub.; X-Road Global
[16] EUCARIS. (2026). European Car and Driving Licence Information System.
[17] Arizona Department of Transportation. (2026). Transferring Ownership of a Vehicle (eTitle Transfer)
[18] CDOR. (2026). Colorado DMV Announces Major Digital Upgrade
[19] Observatory of Public Sector Innovation. (2020). Singapore's National Digital Identity - Singpass.

India's Passport Seva Programme: *The domestic blueprint*

The most instructive precedent for RTO reform is India's own Passport Seva Programme (PSP)[20]. Historically, obtaining a passport mirrored the current RTO experience: multiple visits, opaque timelines, and a reliance on informal facilitators. PSP transformed this through:

- **Transparent Service Level Agreements (SLAs)[21]:** Shifting processing times from months to days.
- **Distributed Access:** Moving service delivery to user-friendly Passport Seva Kendras.
- **Digital-First Design:** Integrating appointment-based access and real-time status tracking.

The PSP architecture provides a ready-made template for RTO modernization, proving that large-scale Indian bureaucracies can achieve dramatic improvements in citizen satisfaction through structural redesign.

Norway's Altinn Platform: *one-stop business portal*

Norway's Altinn[22] platform serves as a unified gateway for businesses to interact with government agencies. By consolidating regulatory submissions into a single portal, Norway has drastically reduced the administrative burden on the private sector.

This "one-stop-shop" philosophy is highly relevant for India's organized dealer segment, suggesting that a unified portal for bulk inventory management and "Deemed Ownership" reporting could catalyze market formalization.

[20] Kaur, P. (2012). E Governance Initiative National E Governance Plan Passport Seva Project PSP. Tata Consultancy Services.
[21] Tata Consultancy Services. Performance Audit.
[22] The Brønnøysund Register Centre The Department for National e-Administration and Infrastructure. (2007). Altinn for the public sector.

PART-2

METHODOLOGY

At its core, the EVOI measures the lived experience of ownership transfer. It moves beyond formal regulations to assess practical functionality: the number of steps required, the necessity of physical presence, the transparency of fees, and the reliability of digital systems.

METHODOLOGY

The Ease of Vehicle Ownership Index (EVOI) evaluates the friction citizens and businesses encounter when navigating the purchase, sale, and transfer of pre-owned vehicles across India. While India has made strides in digitizing transport administration, the "on-ground" reality remains fragmented. For many, even where online portals exist, the process has manual, opaque, and inconsistent workflows at the RTO level.

Scope and the User Journey

The Index focuses on the ownership lifecycle of pre-owned vehicles, capturing the perspectives of both individual owners and organized market players (dealers and aggregators). The assessment is structured around the following critical interactions:

1. Pre-owned Vehicle Purchase: Ease of documentation, vehicle and ownership verification, statutory compliance, and administrative requirements associated with fulfilling buyer and seller obligations.

2. Ownership Transfer: Efficiency of registration certificate (RC) transfer, interstate transactions, road tax administration, hypothecation updates, and integration with digital transport platforms.

A Six-Pillar View of Ease of Ownership

The EVOI evaluates state performance across six interconnected dimensions that collectively determine the efficiency and effectiveness of the ownership transfer ecosystem. Together, these pillars provide a balanced assessment of regulatory quality, institutional capacity, digital maturity, and user experience.

The assessment framework recognizes that ownership transfer is inherently multidimensional. Strong performance in one area cannot fully compensate for weaknesses elsewhere. The Index therefore assesses performance across all six pillars, with weights reflecting their relative importance to the ownership-transfer experience. This approach recognises that while performance is multidimensional, weaknesses in critical aspects of the process cannot be fully offset by strength in others.

Pillar	What it Measures	Weightage
Policy & Regulatory Framework	Ease of Navigating Process	20%
	State-specific compliance requirements	
	Uniform/user-friendly road tax policies	
Digital Infrastructure & Services	Availability of online platforms for key services	20%
	Number of in-person visits required	
	Acceptance of digital documents	
Process Efficiency & Timeliness	Adherence to standard processes	20%
	Average turnaround time for ownership transfer	
	Service reliability	
	Queueing or appointment systems	
Transparency & Accountability	Ease of access to information	10%
	Application tracking and status updates	
	Grievance redressal systems	
Institutional Ecosystem & Dealer Support	Infrastructure to protect consumers	15%
	Ease of registration for used-vehicle dealers	
Cost & Affordability	Prevalence of unofficial costs	15%

Assessment Framework for EVOI

Computation Methodology

The EVOI is computed using a geometric mean based composite index methodology designed to measure the overall balance and consistency of the vehicle ownership transfer ecosystem across states and union territories. The methodology rewards states that perform consistently well across all pillars of the ownership journey, ensuring that weaknesses in one area meaningfully affect the overall score.

The computation process follows four sequential stages:

1. Indicator Standardisation: Quantitative and qualitative indicators are normalised to ensure comparability across diverse variables and measurement scales.

2. Pillar Aggregation: Individual indicators are combined using predetermined weights to generate scores for each assessment pillar.

3. Composite Index Calculation: Pillar scores are aggregated using a geometric mean to derive the overall Ease of Vehicle Ownership Index score

4. State Ranking: Composite scores are used to benchmark states and identify relative strengths and areas requiring improvement.

Data Collection and Validation

The EVOI utilizes a mixed-method research design, triangulating official government data with the practical experiences of those on the ground.

Secondary Research:
Reviewed the Motor Vehicles Act, 1988, Central Motor Vehicle Rules 1989, various state motor vehicle rules, analyzed state transport portals, fee schedules, VAHAN/Sarathi platform performance, and published service standards to evaluate "on-paper" readiness.

Primary Consultation:
Conducted structured interviews with used-car dealers, RTO agents, citizens, and sector experts. These stakeholders provide critical insights into operational realities.

Data Validation:
To enhance robustness, findings were triangulated across multiple sources. Where discrepancies arose between published procedures and stakeholder experience, evidence was independently verified wherever possible. In cases where implementation could not be conclusively validated, a conservative assessment approach was adopted to ensure the credibility and consistency of the Index.

Limitations and Caveats

While the EVOI provides a rigorous benchmark, four limitations are noted for transparency:

1. **Selection Bias:** Surveyed stakeholders are identified through the industry network, which may skew results toward the experiences of the organised segment.

2. **Sample Coverage:** The Index incorporates insights from over dealers and agents across 15 high-transaction states. As the first edition of the Index, the assessment prioritises states with significant ownership transfer volumes to establish a baseline standard. Findings are indicative of state-level trends and may not fully capture variations across individual RTOs.

3. **Standardisation:** Converting qualitative survey scores into standardised scores assumes a degree of comparability that we mitigate through robust cross-checks.

4. **Temporal Lag:** Rapid policy changes occurring after the data collection window may not be reflected in the current rankings.

These limitations do not diminish the analytical value of the EVOI. Rather, they establish a transparent baseline for future editions, enabling the Index to evolve alongside India's transport governance ecosystem while providing a consistent framework for measuring reform progress over time.

PART-3

POLICY INSIGHTS

This section analyzes the regulatory and procedural landscape governing motor vehicle ownership transfers in India. While the central government provides a legal foundation, the operational reality is defined by a complex interplay of state-level discretions, varying digital adoption, and significant fiscal divergence.

By mapping the journey from legislative mandate to ground-level execution, the study identifies the structural bottlenecks and the emerging opportunities shaping the national pre-owned vehicle market.

The Dual Pillar Framework: Central Mandate vs. State Execution

Motor vehicle ownership in India is anchored by two primary legal instruments: **the Motor Vehicles Act (1988) and the Central Motor Vehicles Rules (1989).** Specifically, Section 50 of the MV Act mandates a standardized notification process using Form 29(transferor) and Form 30 (transferee).

In practice, states exercise significant autonomy over fee schedules, documentation requirements, and procedural modalities. This creates a dual-track compliance environment. The Vahan 4.0 (Parivahan) portal has successfully standardized online filing for most core services like Transfer of Ownership (TO) and Hypothecation Addition (HPA) across most states. However, in most states, for most services, citizens are required to physically visit and/or submit documents.

The table below summarizes the core RTO services relevant to vehicle ownership and registration transactions and maps the extent to which these services have been digitized through the Vahan ecosystem.

Although these services are governed by a common regulatory framework, the assessment found significant variations in operational requirements across states. Differences in supporting documentation, approval processes, physical verification requirements, and service delivery models can materially affect transaction costs, processing times, and the overall ease of completing a transfer.

RTO Service / Case Type	Key Forms Required	Documents required	Online via Vahan?	Inter-State Variations
TO – Transfer of Ownership	Form 29, Form 30	Original RC Aadhar Insurance PUC	Yes	Additional address proof (e.g., electricity bill, bank passbook, rent agreement) is required in some states such as Haryana and Maharashtra. Some states also require Income Tax declarations from both buyer and seller.
HPA – Hypothecation Addition/ HPT – Hypothecation Termination	Form 34/35	Request letter from financier; Endorsement of hire-purchase agreement ; No objection letter from Financier; RC; Insurance Certificate.; PUC Valid Tax Details.	Yes	Several states (including UP, MH, HR, RJ, & TN) require a lender-generated email/digital confirmation to the RTO for hypothecation termination. Some states also require old RC reports, chassis & engine pencil prints, signature identification, and proof of fitness/tax payment.

RTO Service / Case Type	Key Forms Required	Documents required	Online via Vahan?	Inter-State Variations
DRC – Duplicate RC	Form 26	PUC; Copy of FIR	Yes	FIR/DD Report required for lost RC; Financier NOC needed if under hypothecation; Affidavit stating that RC is lost and has not been impounded; NOC from traffic police & Enforcement wing of Transport Department.
NOC – No Objection Certificate	Form 28	Tax Clearance for Transport Vehicles; Police certificate from NCRB; RC; Insurance Certificate; PUC; Valid Tax Details.	Yes	NCRB/Police verification required; 30-day issuance limit applies in several states including Octroi receipt, registered owners affidavit, vehicle for inspection, evidence of pay of motor vehicle tax up to date, and NOC from the prosecution branch of registering authority.
No Address Proof (NAP)	Form 33, Form 60		Partial	Wide variation in accepted documents across states

Core RTO Services: Forms, Digital Availability, and Key Variations; Sources: (Ministry of Road Transport and Highways, n.d.)

Transfer of Ownership (TO) fees remain dynamic, often pegged to a percentage of the original registration fee rather than a flat service rate.

When a consumer requires multiple services such as a simultaneous Transfer of Ownership, Hypothecation Termination, and Address Change, the documentation burden stacks multiplicatively. No state currently offers a consolidated "single-window" process for these bundled cases.

There is also a stark contrast in what constitutes "proof." Within the state of Punjab, Chandigarh accepts an exhaustive list of 17 document types (including senior citizen IDs), while other states strictly adhere to the narrow defaults of the CMVR, creating barriers and a lack of transparency for transient populations.

Such variations increase the complexity of transactions, particularly for inter-state transfers, and contribute to differences in processing timelines, compliance burdens, and overall user experience.

Consider a seller in Delhi transferring a hypothecated vehicle may only need to provide the standard set of documents, including digital KYC, signed transfer forms, and financier NOCs. In contrast, documentary requirements in Maharashtra can vary across RTOs, with some requiring a second address proof, HPT-related communication from the financier, and a physical RC copy.

Similarly, documentary requirements in West Bengal vary, with certain RTOs requiring applicants to furnish a voter ID or passport as part of the KYC process.

However, in Andhra Pradesh, applicants are required to complete biometric authentication at designated centres instead.

Only a handful of states, most notably Gujarat, Tamil Nadu, and Haryana, publish explicit, flat-rate fee schedules.

The majority of the states rely on the "As per CMVR" (Central Motor Vehicle Rules) formulation for fee schedules.

In practice, while the central schedule provides the baseline, actual costs are often decided by state-level surcharges or smart-card issuance fees that are frequently omitted from public-facing tariff lists. While states are empowered to levy additional charges in accordance with their administrative requirements, the absence of consolidated and publicly accessible fee schedules can make it difficult for citizens to determine the total cost of a transaction in advance.

The Economic Friction of Road Tax Divergence

Perhaps the most significant barrier to a fluid national market is the extreme divergence in state road tax rates. For a standard ₹6 lakh petrol vehicle, the tax liability can range from 3% in Uttar Pradesh to a staggering 14% in Karnataka at a price delta of over ₹66,000 on an identical asset.

This fragmentation triggers a "double taxation" trap. When vehicles move across state lines, the refund process for taxes paid in the originating state is often opaque, time-consuming, and calculated on depreciated values.

Meanwhile, the new owner is required to pay road tax in the destination state upfront. The combination of divergent tax structures, uncertain refund mechanisms, and re-registration requirements increases transaction costs, discourages interstate vehicle movement, and impairs liquidity in India's pre-owned vehicle market.

State	Road Tax Rate	Approx. Tax (₹ 6L vehicle)
Himachal Pradesh	2.5-3%	~₹15,000-18,000
Uttar Pradesh	3%	~₹18,000
Haryana	5%	~₹30,000
Gujarat	6%	~₹36,000
Tamil Nadu	10%	~₹60,000
Andhra Pradesh	12%	~₹72,000
Karnataka	14%	~₹84,000
Telangana	14%	~₹84,000

Road Tax Across States
Sources: Respective State Transport Departments

State	Governing Legislation	Refund Formula	Notes
Andhra Pradesh	Section 4(1)(bb), Andhra Pradesh Motor Vehicles Taxation Act, 1963	Refund at rates prescribed/notified by the State Government.	Applies where lump-sum/ lifetime tax has been paid and the vehicle is removed to another state due to transfer of ownership or change of address.
Kerala	Section 6(2), Kerala Motor Vehicles Taxation Act, 1976; Rule 15A, Kerala Motor Vehicles Taxation Rules, 1975	Refund = Actual one-time/lump-sum tax paid - (No. of years vehicle was used in Kerala × proportionate yearly rate of the one-time/lump-sum tax paid). Any period of use of less than one year is treated as one full year.	Applies where an eligible vehicle is permanently removed from Kerala due to transfer of ownership or change of address, or registration is cancelled during the currency of the tax. Application must be made within one year of removal; tax licence must be surrendered; proof of registration and payment of tax in the transferee state is required. Green Tax is not refundable.
Tamil Nadu	Section 13(1-A), Tamil Nadu Motor Vehicles Taxation Act, 1974	Refund at the rate notified by the State Government.	Applies where lifetime tax has been paid and the vehicle is removed outside Tamil Nadu due to transfer of ownership or change of address. Refund is considered only after proof that the transfer/change of address has been effected.
Delhi (NCT)	Section 10, Delhi Motor Vehicles Taxation Act, 1962	For vehicles subject to one-time tax, refund is determined under Section 10(2)(b), read with Part B of Schedule I / Section 3(1)(b)(ii). The Act's age adjustment operates at one-tenth of the calculated one-time tax for each completed year from first registration.	Refund applies where the vehicle is removed outside Delhi before expiry of the tax period and taxed in another State, or where registration is cancelled. Application must be made to the taxation authority, subject to prescribed conditions.
Karnataka	Section 7(3), Karnataka Motor Vehicles Taxation Act, 1957, read with Part C4 of the Schedule	For private motor cars/jeeps etc. on which lifetime tax was paid on/after 1 April 2007: 93% within 1 year; 87% after 1-2 years; 81% after 2-3; 75% after 3-4; 69% after 4-5; 64% after 5-6; 59% after 6-7; 54% after 7-8; 49% after 8-9; 45% after 9-10; 41% after 10-11; 37% after 11-12; 33% after 12-13; 29% after 13-14; 25% after 14-15; Nil after 15 year	Refund applies when the vehicle is removed to another state due to transfer of ownership or change of address. Refund is considered only after proof that the transfer/change of address has been effected.

State	Governing Legislation	Refund Formula	Notes
Gujarat	Section 9(5), Gujarat Motor Vehicles Tax Act, 1958, read with Rule 12A and Appendix, Bombay Motor Vehicles Tax Rules, 1959	Government-notified rate, subject to Appendix maximum: 90% up to 2 yrs, declining by 5 percentage points annually to 35% at >12-13 yrs; Nil beyond 13 yrs.	Interstate refund requires proof of registration outside Gujarat. Appendix specifies maximum permissible refund rates.
Madhya Pradesh	Section 14(2), Madhya Pradesh Motoryan Karadhan Adhiniyam, 1991; Rule 14, M.P. Motoryan Karadhan Rules, 1991	Refund = Lifetime tax paid − tax that would have been payable under the First Schedule for the period of use.	Applies where a lifetime-tax-paid vehicle is permanently removed from MP and brought on the record of the Taxation Authority of another state. Refund application must generally be submitted within 2 months of permanent removal.
Maharashtra	Section 9(6), Maharashtra Motor Vehicles Tax Act, 1958, read with Second/Third Schedule, as applicable	Age-based percentage of one-time tax, according to the applicable Second or Third Schedule.	Available where a vehicle on which one-time tax has been paid is removed to another state due to transfer of ownership or change of address. Sufficient proof of transfer outside Maharashtra must be produced.
Telangana	Section 4(1)(bb), Telangana Motor Vehicles Taxation Act, 1963	Refund at rates notified by the State Government.	Applies where lump-sum/lifetime tax has been paid and the vehicle is removed to another state due to transfer of ownership or change of address.
Punjab	Punjab Motor Vehicles Taxation Act, 1924 - Section 3(4) / refund provisions for lump-sum tax	<3 years: 60%; 3-<6 years: 40%; 6-<9 years: 20%; ≥9 years: 10% of lump-sum tax paid	Applies where the owner ceases to reside in Punjab and takes the vehicle outside the state, or ownership is transferred to a person residing outside Punjab.
Rajasthan	Section 7(2), Rajasthan Motor Vehicles Taxation Act, 1951	Pro-rata refund of the one-time tax, calculated in the prescribed manner.	Applies where a vehicle on which one-time tax was paid has been taken out of Rajasthan or completely destroyed. The Act itself does not specify the numerical pro-rata formula.
Haryana	No verified interstate refund formula located		

State	Governing Legislation	Refund Formula	Notes
West Bengal	West Bengal Additional Tax and One-time Tax on Motor Vehicles Act, 1989, particularly Section 9B(5) and Schedule IV	Refund for the unexpired/remainder period, at the rate specified in Part II of Schedule IV for applicable private motor cars.	Refund is available after the vehicle is re-assigned a registration number in the destination state. Application requires proof of the new registration, tax token and bank details.
Bihar	Section 7(2), Bihar Motor Vehicles Taxation Act, 1994, read with Schedule I	Refund at the age-based rates prescribed in Schedule I.	Applies where one-time tax has been paid and the vehicle is removed outside Bihar due to transfer of ownership or change of address. Refund is considered only after proof of the transfer/change of address is submitted.
Uttar Pradesh	Section 12(5), Uttar Pradesh Motor Vehicles Taxation Act, 1997; Rule 21, U.P. Motor Vehicles Taxation Rules, 1998	Refund of one-time tax at rates specified by the State Government through Gazette notification.	Applies to a non-transport vehicle permanently moved to another State/UT after tax has been paid there. Proof that the vehicle has been taxed in the destination state must be produced.

Road Tax Refund Calculations
Sources: Respective State Motor Vehicle Ruless

While the BH (Bharat) Series was introduced to solve this for transferable employees, its impact is limited by narrow eligibility (government and multi-state private firms) and its exclusion of the existing pre-owned fleet. In fact, in many states, citizens have no recourse for buying/selling used BH-series vehicles because those states have not yet defined a process of re-registering a BH-series vehicle.

Insurance Continuity Gap

The current vehicle ownership transfer framework creates an avoidable discontinuity in insurance coverage, resulting in additional financial costs for consumers. Under Section 157 of the Motor Vehicles Act, 1988, third-party insurance is deemed to transfer automatically upon the sale of a vehicle. However, this automatic transfer does not extend to the own-damage component of a comprehensive insurance policy. Consequently, insurers may decline own-damage claims until the Registration Certificate (RC) has been formally transferred to the new owner's name, despite the existence of a valid and fully paid insurance policy covering the vehicle. This differential treatment creates a policy inconsistency. While third-party insurance continues uninterrupted following a change in ownership, the own-damage component, covering the same insured asset for the remaining policy period, does not receive similar continuity. Where a comprehensive insurance policy remains valid at the time of sale, the underlying insured asset and the residual policy tenure remain unchanged, suggesting limited justification for the discontinuation of own-damage coverage solely on account of ownership transfer.

The resulting gap has significant implications for consumers. Since RC transfers can take several weeks to complete, buyers may either remain exposed to financial risk in the event of accidental damage or purchase a separate comprehensive insurance policy to ensure uninterrupted coverage. This results in duplicate expenditure for overlapping periods of insurance, increasing the cost of ownership transfer and creating unnecessary friction.

To address this gap, the automatic transfer mechanism applicable to third-party insurance may be extended to the own-damage component of an existing comprehensive policy for its remaining validity period and on the same terms and conditions. Buyers who wish to modify policy parameters, such as the Insured Declared Value (IDV), coverage, or add-on benefits, may continue to do so through a separate endorsement or policy revision. Where continuation of the existing own-damage coverage is not permitted, consideration may be given to refunding the unexpired portion of the premium to ensure consumers are not required to bear the cost of insurance coverage that is no longer available to them

Emerging Issues

While the EVOI benchmarks the current ecosystem, the below seismic shifts are poised to redefine the medium-term horizon of vehicle ownership. To remain a relevant barometer of progress, the Index must account for the unique administrative and valuation frictions introduced by electrification, premiumization, and geographic expansion.

India’s EV market is maturing rapidly. As early adopters begin to cycle out of their first purchases, a secondary market is emerging, but it lacks the structural foundation to scale.

The primary obstacle is the valuation pivot. Unlike internal combustion engine (ICE) vehicles, where resale value is typically assessed through factors such as vehicle age, mileage, and mechanical condition, EV valuation places significant emphasis on Battery State of Health (SoH)

This is particularly important given that the battery constitutes almost 40%[23] of an EV's capital cost, making its health and remaining useful life critical factors in determining the vehicle's residual value.

The geographic centre of gravity of the pre-owned vehicle market is gradually expanding beyond established metropolitan markets. North-East India, for instance, is projected to be the fastest-growing regional used-car market, with an estimated CAGR of 18.05% through 2031.

As demand expands into newer regional markets, the industry will increasingly need to navigate variations in digital integration, logistics networks, and administrative capacity.

All these issues highlight the importance of this growing industry and the need to look at governance reforms closely.

What 'Good' Looks Like: A Framework for Reform-Ready States

Across the six pillars of the EVOI Index, it is possible to define what a genuinely high-performing state looks like in practice. This is not an aspirational standard but a reachable one: elements of best practice already exist in various Indian states and can be systematically identified, documented, and replicated. The following descriptors define the reform frontier that the Index will benchmark against.

Pillar 1
Policy & Regulatory Framework

A high-performing state publishes a single, updated citizen charter specifying every document required for every RTO service, with no undocumented requirements accepted at any stage. Road tax on used vehicles is either rationalised or a reliable, time-bound refund mechanism exists. State-specific requirements beyond the national baseline are either eliminated or formally notified with clear rationale. The Deemed Ownership framework is fully implemented, with Form 29C accepted electronically at all RTOs and B2B transfers explicitly recognised.

Pillar 2
Digital Infrastructure & Services

The entire ownership transfer process from NOC application to RC issuance is completed online without any mandatory in-person visit, except for a single, appointment-based physical inspection where necessary. All services are integrated with the national VAHAN system. DigiLocker-based document submission is universally accepted. Legacy vehicle registration records are fully digitised and searchable. The mParivahan app reflects real-time status for all pending applications. All dealer enabled transactions are moved to the DAUC portal, instead of the 2 part process of generating form 29C on DAUC portal and then subsequent transfer of dealer to buyer on the Citizen VAHAN portal.

[23] NITI Aayog. (2025, August). *Unlocking a $200 billion opportunity: Electric vehicles in India.* Government of India.

Pillar 3
Process Efficiency & Timeliness

RC transfers are completed instantly upon successful verification and submission through a fully digital process. Where instant transfer is not yet feasible, transfers are completed within 3 working days of complete application submission. Interstate transfers are completed within one week of receipt of the NOC. No appointment or queue system requires waiting beyond 3 working days. Service reliability is verifiable through published data: at least 95% of applications are processed within the committed SLA timeframe.

Pillar 5
Institutional Ecosystem & Dealer Support

Dealer authorisation certificates are issued electronically through VAHAN within 30 days of complete application, with a deemed-approval mechanism for delays beyond this window. A dedicated Used Vehicle Facilitation Desk exists at major RTOs to assist dealers and platforms with bulk transfers. The GST registration requirement for dealer authorisation is either waived for small dealers below a defined threshold or replaced with an equivalent compliance mechanism.

Pillar 4
Transparency & Accountability

Fee structures for all RTO services, including official fees, facilitation charges, and agent commissions where authorised, are published on the state transport portal and prominently displayed at RTOs. Application status is trackable online with stage-level detail. A functional grievance redressal system exists with a defined resolution timeline, accessible online and by phone. Buyers can verify a used vehicle's complete history including accident records, theft reports, outstanding challans, and hypothecation status through a single integrated digital lookup.

Pillar 6
Cost & Affordability

Fees are published in advance, easy to understand, and linked to defined service standards, ensuring that users receive timely and reliable processing irrespective of the fee level. No unofficial costs are required to complete a standard transfer. Refund mechanisms for unused road tax on outgoing vehicles are clearly documented, time-bound, and consistently processed. Online applications attract a fee waiver or discount to incentivise digital channel adoption.

These descriptors will guide the development of scoring rubrics and serve as the benchmark against which each state's performance is assessed. They also define an actionable reform agenda: any state that falls short on any descriptor has a specific, implementable improvement available to it within its existing administrative authority with no new legislation required.

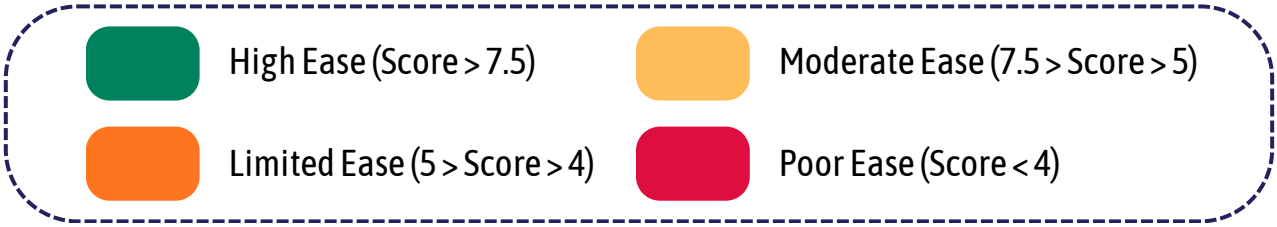
PART-4

RESULTS & RANKINGS

Overall Index Scores

The table below presents the complete composite ranking across all 15 states surveyed.

Rank	State	Index Score	Pillar 1	Pillar 2	Pillar 3	Pillar 4	Pillar 5	Pillar 6
1	Andhra Pradesh	5.91	7.9	7.51	7.26	6.07	2.22	5.81
2	Kerala	5.74	5.43	7.02	5.33	4.86	6.39	5.25
3	Tamil Nadu	4.58	5.32	5.43	4.87	4.04	4.4	3.13
4	Delhi	4.58	4.34	6.81	3.47	5.05	5.4	3.31
5	Karnataka	4.3	5.14	3.76	4.34	3.84	4.97	3.75
6	Gujarat	4.16	5.22	5.53	4.31	6.03	3.62	1.81
7	Madhya Pradesh	4.1	4.51	6.23	4.26	4.98	3.22	2.19
8	Maharashtra	4.09	4.16	5.21	5.06	3.79	4.88	1.94
9	Telangana	4.09	5.61	4.21	5.84	3.67	2.82	2.5
10	Punjab	4.03	4.7	6.35	4.16	2.72	4.6	1.94
11	Rajasthan	3.97	3.39	4.66	3.98	2.52	7.32	2.88
12	Haryana	3.86	3.72	4.96	4.76	4.98	3.66	1.94
13	West Bengal	2.56	3.14	1.98	3.28	5.8	2.89	1
14	Bihar	2.51	1.77	3.24	2.84	4.7	3.53	1.13
15	Uttar Pradesh	2.47	2.91	3.94	2.76	2.79	3.67	0.56



How to Read the Index:

Each state's Index Score is a geometric mean composite score ranging from 0 to 10 (the actual score between 0-1 has been multiplied by 10 for better readability of the score), where a higher value reflects a more seamless, transparent, and citizen-friendly vehicle ownership transfer ecosystem.

Because the index is constructed using a geometric mean, performance across all six pillars matters equally; strong performance in one pillar cannot fully compensate for weak performance in another. As a result, states with balanced performance across all dimensions score higher than those with excellence in a few areas but significant weaknesses elsewhere.

The six accompanying pillar scores provide a diagnostic view of each state's performance, highlighting where the ownership transfer journey functions well and where systemic bottlenecks remain. When interpreting the rankings, three patterns are particularly important.

First, compare the spread in composite scores rather than the ordinal rank alone. The gap between the highest-ranked state (5.91) and the lowest-ranked state (2.47) reflects a substantial difference in the overall ease of ownership transfer, indicating fundamentally different citizen experiences rather than marginal administrative variation.

Second, examine pillar-level deviations within each state. A pillar score that is significantly above or below the state's composite identifies a distinct area of strength or a priority for reform. For example, Rajasthan records a Pillar 5 score of 7.32 against a composite score of 3.97, suggesting strong performance in one dimension despite weaker outcomes across the broader ecosystem.

Third, note that no state achieves a composite score above 6.0. This indicates that while relative leaders exist, the overall performance ceiling remains low, underscoring that every state has significant scope to strengthen its pre-owned vehicle ownership transfer ecosystem.

The assessment reveals a highly uneven ownership transfer ecosystem. Notably, only two states achieved an overall score above 5.5, while eight states clustered within a relatively narrow band of 3.8-4.3, indicating that most jurisdictions have made incremental progress but continue to face similar structural challenges.

Importantly, no state exceeded an overall score of 6.0, suggesting that even the leading performers have significant scope for improvement across one or more dimensions of the ownership transfer ecosystem. These findings indicate that administrative friction remains a systemic characteristic rather than an isolated issue confined to lower-ranked jurisdictions.

Policy & Regulatory Framework (Pillar 1) exhibits the widest variation in scores. Andhra Pradesh significantly outperforms other states through stronger regulatory simplification and procedural consistency, while Telangana and Kerala also demonstrate comparatively mature policy frameworks. One of the most important insights emerging from the assessment is that no state consistently ranks among the leaders across all six assessment pillars. While Andhra Pradesh leads the overall Index through consistently strong performance across policy, digital infrastructure, process efficiency and affordability, it records a comparatively modest score under Institutional Ecosystem & Dealer Support, indicating that even the highest-ranked state has significant opportunities for improvement.

Kerala demonstrates balanced performance across almost all pillars but continues to face opportunities to improve process efficiency and regulatory simplification. Delhi performs strongly in digital infrastructure and institutional support but scores significantly lower on process efficiency illustrating the implementation challenges that persist despite advanced digital capabilities. Rajasthan records the highest institutional ecosystem score but ranks only 11th overall, reflecting weaker regulatory, digital and process performance. Gujarat performs strongly in transparency and digital services but records one of the lowest affordability scores, indicating that efficient governance does not necessarily translate into lower transaction costs.

The challenge is no longer establishing digital infrastructure or introducing legislative amendments, it is achieving ***consistent implementation at scale***.

The results indicate that the reforms should prioritize:

- Administrative harmonization across states;
- End-to-end digital workflows rather than partial digitization;
- Standardized documentation and verification requirements;
- Integrated processing for bundled ownership transactions;
- Stronger dealer engagement and institutional support mechanisms; and
- Greater focus on reducing indirect compliance costs.

Four factors emerge as the primary differentiators between leaders and laggards:

- **Reduction in physical touchpoints:** Leading states minimize the number of visits required to complete ownership transfer procedures through greater process integration and digital workflows. Lower-ranked states often require multiple interactions with Regional Transport Offices (RTOs), increasing both time and administrative burden.

- **Effective acceptance of digital documents:** States that support online submissions, electronic verification, and digital document acceptance score significantly higher on ease of transaction and process efficiency.

- **Faster RC processing and automated approval workflows:** High-performing states exhibit shorter turnaround times, supported by digitised approval chains, reduced manual intervention, and more predictable service delivery.

- **Lower dependence on intermediaries and unofficial payments:** The better-performing states demonstrate greater transparency, clearer procedures, and lower reliance on agents to navigate the transfer process, resulting in reduced unofficial costs and a more equitable user experience.

Overall, the findings suggest that while foundational digital infrastructure has expanded across states, the broader ownership transfer ecosystem continues to be constrained by procedural opacity, fragmented implementation, weak institutional responsiveness, and incomplete integration of citizen-centric reforms.

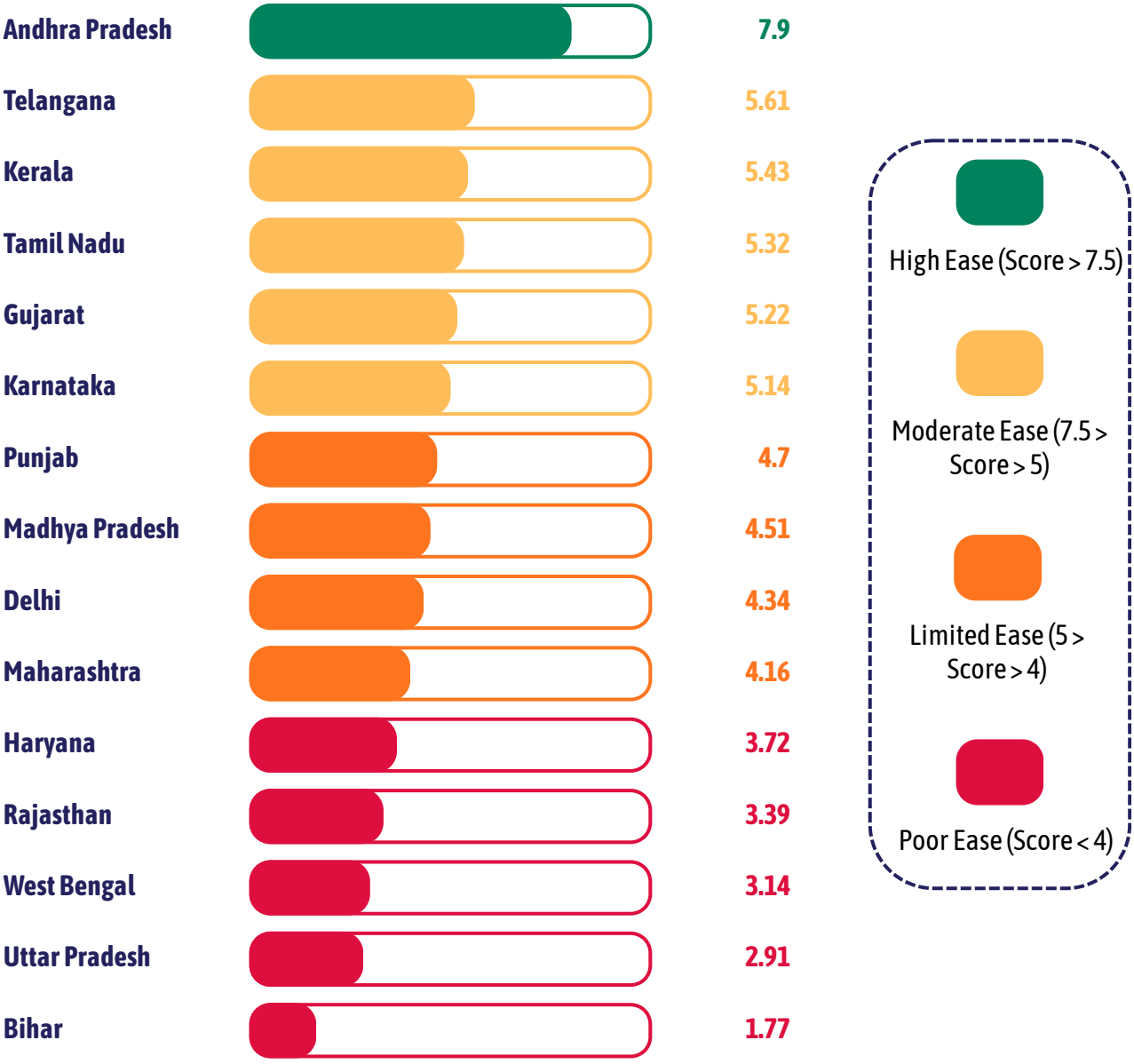
Pillar-Wise Analysis

Pillar 1: Policy & Regulatory Framework

Pillar 1 assesses the structural "ease of doing business" by evaluating how state-level regulations impact the vehicle transfer lifecycle. It evaluates the clarity of process navigation, the degree of deviation from the procedural national baseline, and the functional accessibility of road tax refunds.

The Policy & Regulatory Framework pillar highlights significant variation in regulatory maturity across states, with scores ranging from 1.77 (Bihar) to 7.90 (Andhra Pradesh), a 4.5x performance gap. Andhra Pradesh leads through consistently strong performance across process navigation, compliance simplification, and road tax policies, followed by Telangana and Kerala. In contrast, Bihar, Uttar Pradesh, and West Bengal remain constrained by fragmented compliance requirements and complex policy frameworks.

The weakest-performing indicator nationally is uniform road tax policy, with 5 of 15 states scoring below 4.0, underscoring fiscal harmonization as a critical priority for enabling seamless interstate vehicle ownership transfers and reducing transaction friction.



Ease of Process Navigation: "Predictability vs. Friction"

While national standards aim for a seamless journey, the user experience is defined by local variations and systemic bottlenecks.

a. The Cost of Incomplete Digitisation: Regional disparities in digital adoption create massive cost variances for identical tasks. In Punjab, where physical file submission remains common, the cost of navigation is roughly 6x higher than in Chandigarh, where the process is fully digitised (₹5,000 vs. ₹900).

b. Party Peshi: Even within a single state, "RTO-dependency" disrupts predictability. In Maharashtra, RTOs like MH-27 (Amravati) and MH-20 (Chhatrapati Sambhajinagar) mandate physical "party peshi" (attendance) for premium vehicles, a requirement absent in Mumbai or Pune RTOs[24].

While some states, such as West Bengal, permit video-call verification in select RTOs, many others continue to mandate physical appearances, resulting in inconsistent user experiences.

In Telangana, ownership transfers following the death of a registered owner require all legal heirs to physically appear at the RTO.

Bihar illustrates how the absence of a consistently understood process can create uncertainty even among intermediaries operating within the same state. One agent reported that party appearance requirements vary by RTO, required in Darbhanga but not in Muzaffarpur (BR-06), Motihari, Samastipur, or Patna.

In contrast, another agent stated that physical presence of both the buyer and seller, along with presentation of the vehicle, is mandatory for ownership transfers across Bihar.

c. The OTP & Data Deadlock: Digital ownership transfers can stall when the seller's mobile number linked to the vehicle record is outdated or inaccessible, as OTP-based verification depends on access to the registered number. Updating the phone number often necessitates a separate, high-friction sub-process.

> *Updating a mobile number requires a separate ₹3,000-4,000 sub-process... Sellers often refuse to cooperate after receiving payment.*
>
> Maharashtra Respondent.

d. State-Specific Compliance: States frequently introduce supplementary mandates that serve as administrative hurdles rather than regulatory safeguards.

Some jurisdictions utilize documentation as a tool for market exclusion. The Panchkula (Haryana) RTO, for instance, requires local-address-only KYC (Passport/PAN/Aadhaar) for both parties, effectively blocking out-of-state buyers.

[24] As per the survey findings, Mumbai and Pune RTOs do not generally require party peshi for ownership transfers; however, it remains mandatory for issuing a duplicate RC. Variations in RTO practices undermine regulatory consistency, reducing operational efficiency.

Road Tax Policy

a. The Functional Benchmarks: Andhra Pradesh and Telangana are the only states where a functional refund pathway was confirmed. Telangana's model is the benchmark, with a 15-20 day turnaround and high return rates.

b. The Paper-Only Reality: In Rajasthan, Punjab, Gujarat, Karnataka, Madhya Pradesh, and Delhi, while a formal refund process exists on paper, it is functionally inaccessible. Dealers report that in over a decade of trade; they have not seen a single successful refund.

c. **The Interstate Tax Mismatch:** Interstate vehicle transfers can create a mismatch between the road tax payable in the destination state and the refund available from the originating state. While the destination state determines the tax liability for an incoming vehicle according to its applicable tax rates and age/value-based methodology, the originating state calculates refunds according to its own prescribed refund schedule.

As these calculations are not harmonised, the tax payable in the destination state may not correspond to the refund recoverable from the originating state. In a pre-owned vehicle transaction, these liabilities fall on different parties, with the buyer typically bearing the tax liability in the destination state while the registered owner may claim the refund from the originating state. The resulting mismatch, combined with the administrative process of claiming a refund, can increase the overall friction and cost associated with interstate vehicle transfers.

d. Systemic Absence: In states like West Bengal, Uttar Pradesh, Haryana, and Bihar, there is no pretence of a refund mechanism, leaving citizens with no recourse for "double taxation."

e. **Financial Deterrents:** Rajasthan also imposes a unique "repeat transfer tax" (10-25% of original registration tax) on every ownership change, significantly inflating the cost of intra-state resales.

The Challan Bottleneck: A Barrier to Ownership Transfer

a. The "OTP Gateway" Problem: A universal challenge across states is the requirement for a mobile-based One-Time Password (OTP) to pay fines on the Parivahan portal. Since the phone number registered in the system is often outdated or belongs to a previous owner who is no longer reachable, the dealer or new buyer is physically unable to clear the debt.

Consumers face significant challenges and delays in updating their mobile numbers, making the resolution of this issue tough.

> *To pay the challan... he needs an OTP. If you don't have it, you cannot. This is a universal problem.*
> Survey Respondent.

b. The "Portal Deserts" and Integration Gaps: While several states have introduced dedicated digital portals and mobile applications that enable citizens to view and pay traffic challans online, these improvements are often undermined by the lack of real-time synchronisation with the national Parivahan database. This creates "Portal Deserts" where a citizen may successfully clear a fine on a state platform, but the vehicle remains "blacklisted" on the central transfer portal for days or weeks while the systems manually reconcile. The complexity is further compounded in states where multiple authorities such as traffic police, municipal corporations, and inter-state check-posts maintain separate, non-integrated systems. A dealer may clear all visible national challans only to have a transfer rejected due to a "hidden" local penalty, illustrating a fragmented regulatory landscape that stalls vehicle commerce.

The Persistence of Procedural Heterogeneity

Across the 15 states surveyed, a pattern of 'core-plus-unofficial' documentation emerges. Core requirements include Form 29/30, Aadhaar/PAN KYC, VAHAN OTP, and NOC (Form 34/35) for hypothecated vehicles.

c. Financial Risk: In Delhi, dealers often choose to pay off a seller's surprise challans out of their own pockets rather than risk a deal falling through or damaging their reputation by asking the seller for more money post-agreement.

> *Even if a deal generates ₹50,000 profit, it is not worth risking reputation... we absorb the cost of portal glitches or unexpected challans.*
> -Delhi Respondent.

d. Virtual Courts and Judicial Delays: In jurisdictions where challans are sent to "Virtual Courts," the process moves out of the RTO's hands entirely. Dealers report that once a challan hits the virtual court system, there is no digital way to expedite it, leading to "deadlocks" that can last for months.

State	Documented State-Specific Requirement	What CMVR Prescribes
Punjab	Tehsildar-attested photo affidavit for buyer	No requirement for Tehsildar attestation. CMVR requires prescribed transfer forms and proof of identity/address.
Rajasthan	Collector-registered rent agreement with stamp duty, photographs, and thumb impressions; notarised agreements not accepted	CMVR requires proof of address for registration/transfer but does not prescribe a collector-registered tenancy agreement or landlord biometric verification.

State	Documented State-Specific Requirement	What CMVR Prescribes
Karnataka	Physical "Master File" (original registration file) mandatory for transfer; no digital alternative	CMVR does not require production of a physical master file. Registration records are intended to be maintained by the registering authority.
Haryana / West Bengal	Seller required to furnish a second address proof	CMVR requires prescribed ownership-transfer forms and proofs but does not explicitly require an additional seller address proof beyond statutory documentation.
Delhi	Pre-signed blank Form 29 obtained from seller before buyer identification, a widespread market practice	CMVR envisages Form 29 being completed with transfer particulars and submitted by the transferor; it does not contemplate blank pre-signed forms.
Uttar Pradesh, Haryana, Karnataka, West Bengal	Inter-RTO/Inter-jurisdiction NOC required for ownership transfers even within the same state in certain cases, adding an additional approval layer and processing time.	CMVR requires a No Objection Certificate primarily for inter-state transfer of registration. It does not prescribe routine inter-RTO NOCs for intra-state ownership transfers.

State-specific Documents Requirements [25]
Sources (Central Motor Vehicles Rules, 1989, n.d.), Survey Findings, State RTO Portals

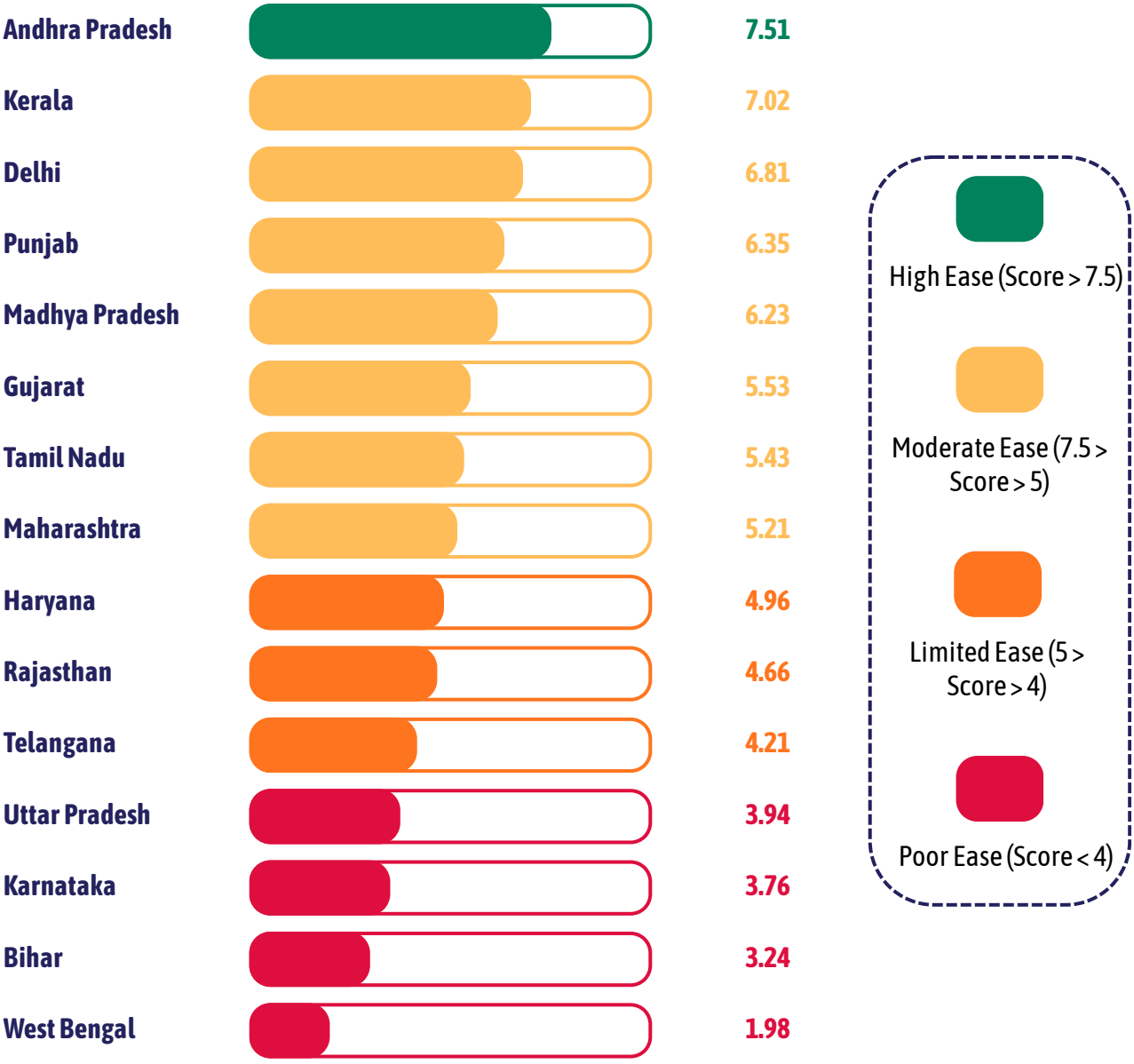
Pillar 2: Digital Infrastructure & Services

This pillar evaluates the technological backbone of the vehicle ownership experience. This pillar evaluates the technological maturity of state transport departments by examining the extent to which digital tools have replaced traditional physical workflows. It assesses the functional availability of online platforms, the prevalence of in-person requirements, and whether states have formally mandated the acceptance of digital credentials or evolved their administrative frameworks to facilitate digital services.

The Digital Infrastructure & Services pillar varies considerably across states.

Andhra Pradesh, Kerala , Delhi, and Punjab have established relatively mature digital ecosystems, characterized by broader online service availability, fewer mandatory in-person interactions, and higher acceptance of digital documents. The largest disparity is observed in the acceptance of digital documents, indicating that operational adoption has not kept pace with platform digitization. The findings highlight that the next stage of digital transformation should focus on end-to-end digital service delivery, interoperability, and reducing residual manual interventions. While the national goal is a "Digital First" governance the data reveals a significant gap between digital potential and operational reality.

[25] The examples presented are illustrative state-level practices documented through stakeholder interviews. While highlighted in specific states where they were most consistently reported, several of these practices are also observed in other states and are indicative of broader market practices rather than state-specific regulatory requirements.



The Practice of "Dual Submission"

Although many states have introduced digital service interfaces, the underlying administrative processes often remain dependent on physical documentation, in-person verification, and manual workflows, limiting the effectiveness of digital transformation.

In 13 of the 15 surveyed states, digitisation exists alongside physical requirements. This "Dual Submission" model is an established practice where users are mandated to complete online filings and subsequently deliver physical hard copies to the RTO.

a. Redundant Workflows: Despite the availability of online ownership-transfer processes, physical RTO interactions remain common across surveyed states. In some RTOs, applicants are required to submit physical documents even after completing the online process. In others, such as Haryana, Delhi, applicants or agents may visit the RTO to expedite processing despite physical submission not being mandatory. Applicants may also be called to the RTO when discrepancies or issues arise in an online application. Thus, digitisation has reduced some procedural steps but has not consistently eliminated the need for physical interaction with the RTO.

b. Digital Readiness: Andhra Pradesh and Kerala demonstrate comparatively mature digital ownership-transfer processes, with workflows relying predominantly on online submission and processing.

System Reliability

The transition to digital is often hampered by the lack of enforceable Service Level Agreements (SLAs) for portal uptime, preventing the system from being a reliable primary service channel.

States frequently experience unannounced "portal blackouts" that stall the entire second-hand vehicle market. In Tamil Nadu, recurring failures in the digital queue system were consistently identified as a major operational bottleneck by dealers.

> *If the portal is down for the day, we lose around ₹10,000 worth of productivity.*
> – Survey Respondent.

While the reported losses vary across dealerships depending on their scale of operations, these accounts highlight the significant operational and financial impact of prolonged system downtime.

The Evolution of Digital Credentials

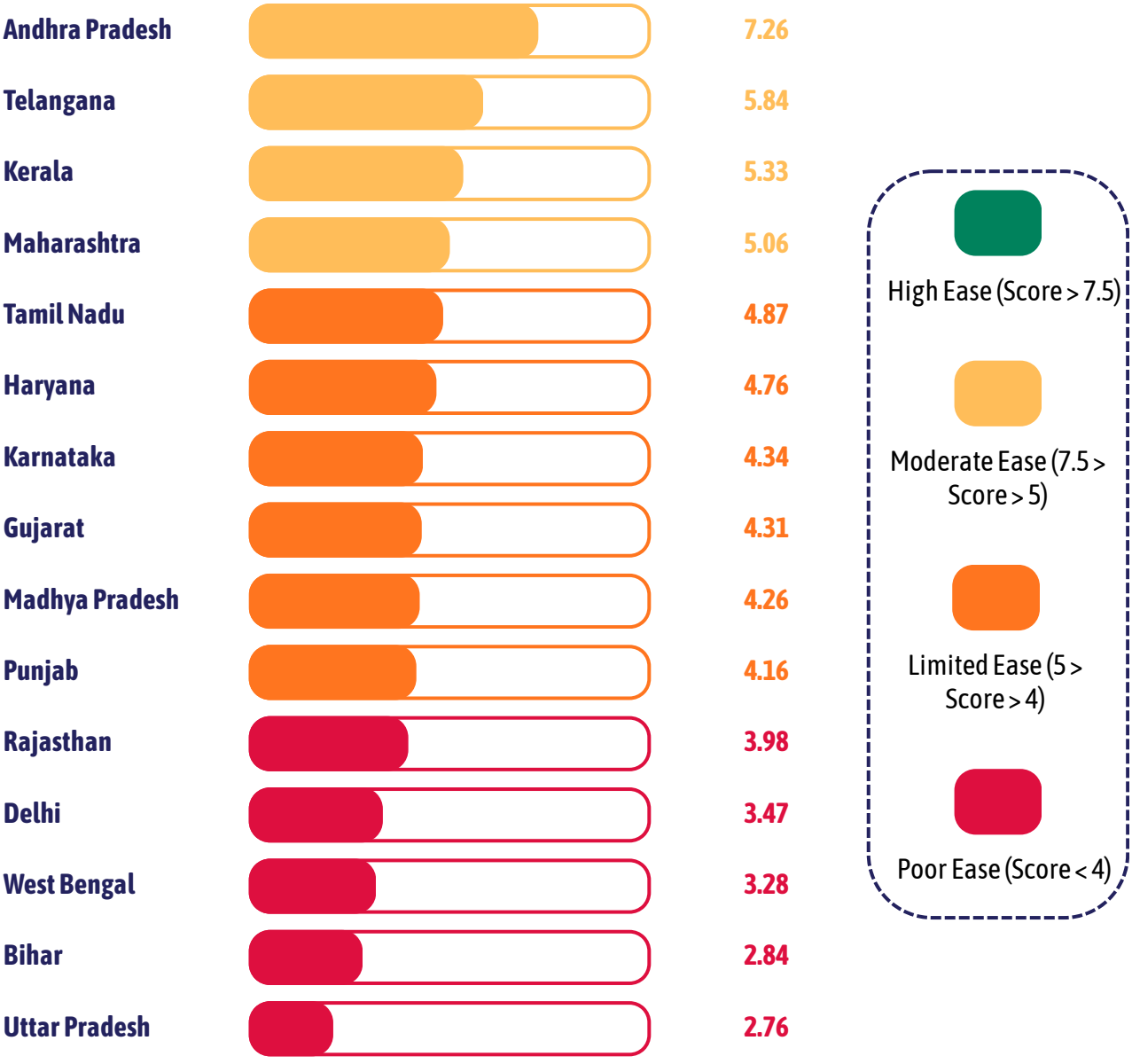
Despite the legal foundation of the IT Act 2000, the formal facilitation of digital-first documentation remains a significant hurdle at the RTO level. Although DigiLocker and mParivahan provide authenticated digital documents, these are not uniformly accepted by RTOs for ownership transfers.

Ground-level staff in almost all surveyed states (except Madhya Pradesh, Delhi, Kerala, Andhra Pradesh) continue to insist on "physical originals," indicating that state frameworks have yet to fully evolve to facilitate the use of digital credentials as the default standard.

Pillar 3:
Process Efficiency & Timeliness

This pillar measures the functional velocity of the vehicle transfer ecosystem. It evaluates the time elapsed from the initial application to the final issuance of the Registration Certificate (RC) and identifies the structural bottlenecks that dictate these timelines. While digital tools aim to standardize speed, the findings reveal that localized "approval hierarchies" and manual interventions remain the primary determinants of pace.

The scores in this pillar reflect significant differences in the consistency and speed of ownership transfer processes. Andhra Pradesh leads the pillar through strong performance across process standardization, turnaround times, and appointment-based service delivery. Among the underlying indicators, queue and appointment management systems exhibit the widest variation highlighting considerable scope to improve service predictability, reduce physical waiting times, and enhance the overall citizen experience.



The Practice of "Dual Submission"

The study identifies substantial variation in RC transfer turnaround times, ranging from 7-10 days in the fastest-performing states to over 30 days in slower jurisdictions. Although the Parivahan platform provides a common digital interface, actual service delivery remains shaped by state-level operational practices, approval workflows, and institutional capabilities. As a result, even the fastest-performing states require 7-10 days to complete a process that could reasonably be expected to be near-instantaneous in a fully digitized system. These differences are driven less by transaction volumes than by variations in administrative processes, legacy systems, and the degree of digital implementation across states.

a. High-Velocity Benchmarks:
Andhra Pradesh demonstrates the fastest turnaround times (7-10 days), driven by a highly digitized ownership transfer process. Mandatory biometric authentication for buyers, sellers, and lending institutions (for hypothecation transactions) minimizes manual intervention, resulting in predictable and efficient processing.

Telangana consistently delivers comparatively faster turnaround times (7-14 days) despite high transaction volumes. Its mandatory slot-booking system regulates application inflows, reduces congestion at RTOs, and creates greater predictability in processing timelines, although seller availability for appointments remains the principal source of delay.

Madhya Pradesh and Rajashtan benefit from cross-RTO processing capabilities and DigiLocker integration, allowing digital document verification and reducing dependency on physical documentation, thereby improving transaction speed across jurisdictions.

b. The "Approval Bottleneck" and External Dependencies:
In many states, processing delays are driven less by digital application submission and more by manual approvals and coordination with external stakeholders.

Rajasthan continues to experience delays due to sequential clerk verification and District Transport Office (DTO) approvals, while Bihar's ownership transfer process remains dependent on multiple administrative stages, including Motor Vehicle Inspector (MVI) verification and periodic DTO signing cycles, resulting in extended processing timelines.

Tamil Nadu, Haryana, West Bengal, and Delhi illustrate how dependencies outside the RTO significantly influence turnaround times. Delays in bank-issued No Objection Certificates (NOCs) for hypothecation termination, seller OTP authentication, signature mismatches, and mandatory vehicle inspections frequently extend processing even after applications have been submitted digitally.

c. Structural Obstacles:
Efficiency continues to be constrained by legacy administrative practices and state-specific regulatory requirements.

Karnataka records some of the longest turnaround times (25-30 days), primarily due to the Master File retrieval process for vehicles originally registered in another RTO. While transfers within Bengaluru are comparatively faster, legacy record management continues to delay cross-jurisdiction transactions.

Several states continue to require inter-RTO NOCs for ownership transfers across RTO jurisdictions within the same state, introducing an additional approval layer beyond the requirements envisaged under the CMVR. This practice was reported in Uttar Pradesh, Haryana (for transfers outside Gurugram), Karnataka (for transfers outside Bengaluru), West Bengal, and Telangana, often accompanied by mandatory vehicle inspections in certain jurisdictions. These additional procedural requirements increase processing timelines, administrative effort, and transaction costs. Stakeholder interviews also highlighted significant variation in implementation within states. For example, Kerala enables relatively efficient digital processing for intra-state transfers, while inter-state transactions remain largely manual. Similarly, Punjab exhibits regional disparities, with additional affidavit requirements in certain RTOs extending transfer timelines from the typical 15-20 days to several months.

d. System Reliability and Operational Challenges:
Beyond formal procedures, operational reliability continues to affect ownership transfer performance across several states.

Gujarat experiences recurring delays due to Aadhaar-linked mobile authentication failures and periodic system outages that interrupt transaction processing. Maharashtra continues to face delays arising from pending RC transfer backlogs, while Haryana and West Bengal remain susceptible to delays caused by slow bank communications and coordination between buyers and sellers. These operational issues create significant variability in turnaround times despite a common national digital platform.

Average RC Transfer Turnaround Times

State	Typical Turnaround	Key Determinant
Andhra Pradesh	7-10 days	Digital Transaction, biometric of seller, buyer and in case of HP additions or termination, bank approver biometric needed
Telangana	7-14 days (booking lag)	Slot booking system; seller non-availability main variable
Rajasthan	10-12 days	Clerk verification + DTO approval bottleneck
Tamil Nadu	10-15 days	HP cancellation and bank NOC resolution time, vehicle inspection at RTOs
Madhya Pradesh	10-15 days	Cross-RTO capability; DigiLocker acceptance
Haryana	14-18 days	intra state NOC required at certain RTOs, delayed mail from bank for HP termination
West Bengal	15-20 days	Seller - Buyer OTP coordination; Delay in bank NOCs, vehicle inspection at RTOs
Punjab	15-20 days (normal); 3+ months - Amritsar (Outlier)	RTO-dependent; Amritsar severely extended by affidavit requirement
Delhi	20-25 days	Seller OTP cooperation critical; sign mismatch resolution time
Kerala	20-25 days	Intra-state faceless is fast; inter-state completely manual
Maharashtra	25-30 days	RC transfer pendency of 15% creates backlog
Gujarat	15-30 days	Aadhaar mobile number mismatch; complete system blackouts
Karnataka	25-30 days	Master File retrieval; Lokayukta raid shutdowns of 1-2 weeks. TAT within Bengaluru RTOs are quicker.
Bihar	25-30 days	DTO monthly signing; MVI stage; September server outage history
Uttar Pradesh	30+ days	Inter-RTO NOC for all cross-jurisdiction transfers, vehicle inspection at RTOs

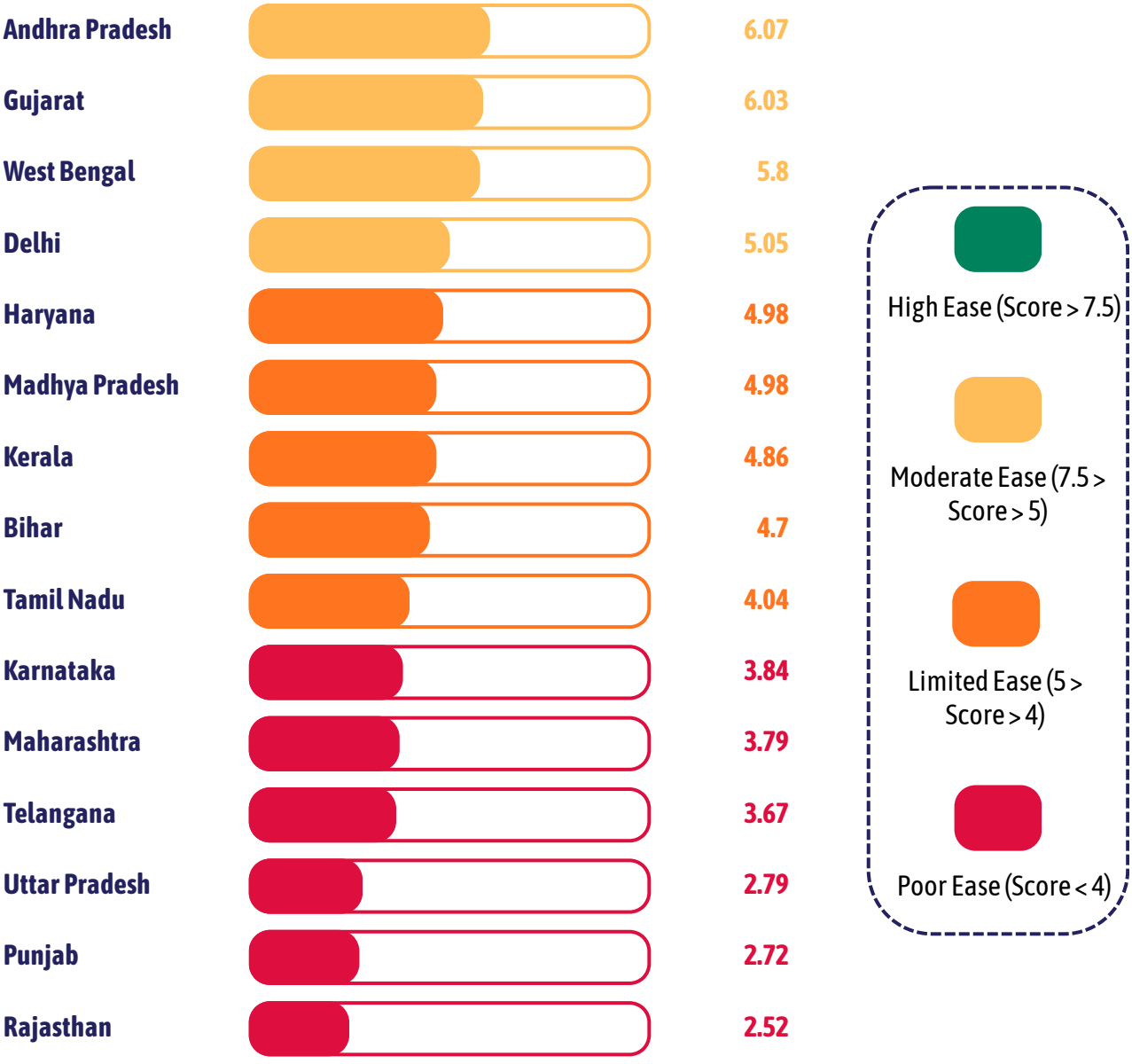
Average RC Transfer Turnaround Times;
Source: Survey Findings[26]

[26] Reported turnaround times reflect respondent-reported processing durations under typical conditions. Consequently, these estimates are not directly comparable with industry turnaround time (TAT) data, which generally reflects the end-to-end transaction lifecycle.

Pillar 4: Transparency & Accountability

The efficiency of a Transport Department is not just measured by how fast it issues a dealership license, but by how clearly a citizen can see into the process. While digital platforms provide the architecture for modern governance, the user experience is ultimately defined by the transparency of the process and the accountability of the personnel. This section examines the Transparency & Accountability pillar, focusing on application tracking, information access, and the critical (yet currently failing) infrastructure of grievance redressal.

The scores in this pillar show that Application tracking and status updates are the strongest-performing indicators across most states. The indicator ease of access to information remains moderate across most states. In contrast, grievance redressal systems remain the weakest dimension, with many states recording negligible scores and only Andhra Pradesh demonstrating a comparatively functional mechanism.



Information Flow: "Reactive Discovery"

A critical finding across the surveyed states is the near-total absence of formal Standard Operating Procedures (SOPs) available to the public. In this vacuum, rule changes are rarely announced; they are "stumbled upon" through trial and error.

In Gujarat, Maharashtra, Madhya Pradesh and several other states, the lack of official circulars has forced dealers to rely on media/WhatsApp channels for updates. This "discovery through failure" model means stakeholders only learn of new requirements after an application is rejected.

As one agent from Gujarat explained,

> *We only come to know about changes in what the RTO accepts through experience - after a submission is rejected.*

Similarly, a dealer in Maharashtra noted,

> *Yeah, I would like to be notified, but one has no formal notification mechanism. Rule changes (e.g. OTP requirement) communicated informally via agents only*

In Rajasthan, the interpretation of rules varies across its 60 RTOs. Requirements are often dictated by the individual officer in charge rather than a centralized mandate, leading to a system where, as one respondent put was,

> *When a new officer comes, he may change rules, and you have to adjust accordingly*.

Grievance Redressal

The most significant structural failure identified is the absence of effective escalation channels. When a digital file stalls or a portal glitches, there is no "Plan B." The system offers no formal recourse, leaving users with two suboptimal choices: physical intervention or informal resolution.

In Rajasthan, escalation is hampered by a lack of internal training. Dealers report that RTO officers themselves are often not fully briefed on the latest central regulations, making formal appeals nearly impossible.

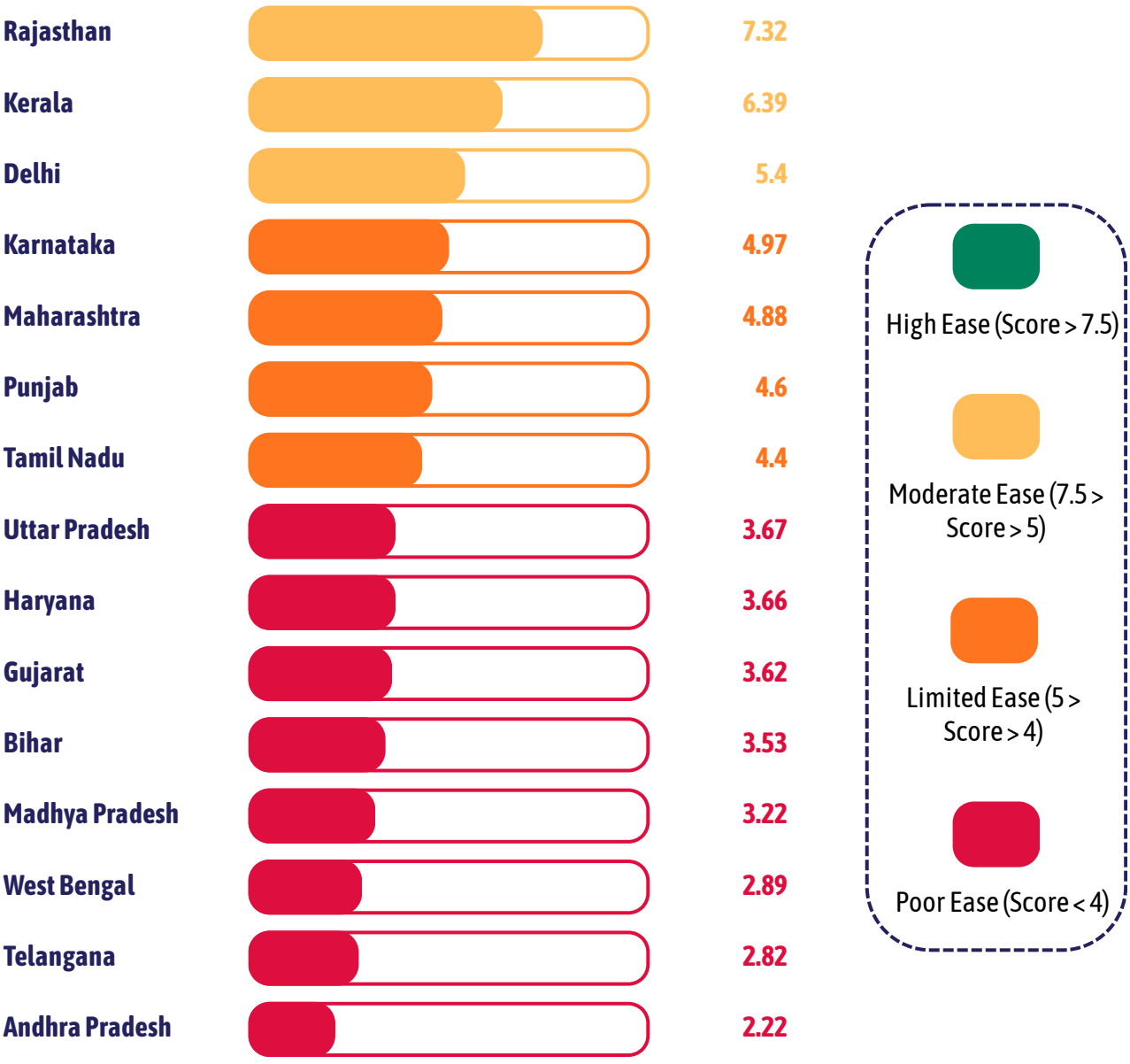
In Gujarat and Punjab and several other states, the absence of third-party dispute resolution or digital grievance portals means that "redressal" is simply a return to the status quo. Resolving an issue typically requires re-appearing at the RTO with additional affidavits or physical paperwork, effectively defeating the purpose of a digital-first system. This delay leads to additional cost and, in return, adds more time to the process.

Without a structured grievance mechanism, the "friction cost" of vehicle ownership remains high, penalising those who operate within the formal system and rewarding those who bypass it through informal means.

Pillar 5:
Institutional Ecosystem & Dealer Support

This pillar evaluates the maturity of the relationship between state regulatory bodies and the professional automobile trade. It also measures how effectively "invisible" risks such as financial encumbrances, legal blacklists, and vehicle history are surfaced and managed. While the mParivahan app has become a national baseline for checking basic records, the depth of verification varies wildly by geography, often driven by local environmental or structural risks.

The scores from the pillar Institutional Ecosystem & Dealer Support highlight considerable differences in the maturity of consumer protection frameworks and dealer enablement. Consumer protection infrastructure records comparatively stronger performance across most states. In contrast, ease of registration for used-vehicle dealers remains inconsistent. The findings suggest that while consumer-facing institutional frameworks have strengthened, dealer-centric regulatory processes continue to vary significantly, limiting the formalization and operational efficiency of the organized pre-owned vehicle market.



Dealer Registration:

Formal registration for Authorized Dealer of Registered Vehicles (ADRV) is the essential gateway to institutional trade privileges, including trade certificates and streamlined bulk transfers. However, the current system is characterized by a stark bifurcation that prevents the market from reaching its full formal potential.

Across India, the path to authorization is inconsistent. While Punjab and West Bengal have established relatively clear and accessible registration pathways. In states like Andhra Pradesh, Telangana and Karnataka dealer registration is relatively low. Stakeholders in these states report a lack of specialized infrastructure, noting that there is simply "no such system of authorized dealers" currently in operation.

A significant regulatory hurdle is the mandate for GST registration to qualify for used-car dealer authorization. This requirement creates a structural barrier for thousands of small-scale dealers whose annual turnover falls below the threshold as defined in the GST Act.

Deemed Ownership

The Deemed Ownership framework, introduced through GSR 901(E), 2022 intended to resolve a primary market pain point: the legal and liability "limbo" that exists when a seller hands over a vehicle to a dealer before a new buyer is found. Four years post-introduction, the framework's implementation has remained uneven across states, limiting its intended impact on market formalisation.

Kerala, West Bengal, Odisha and Rajasthan are leading adopters of the framework. In contrast, adoption remains limited across several states. While Madhya Pradesh has shown some movement toward implementation, stakeholder feedback suggests enforcement remains weak and inconsistent. Delhi, Karnataka, and Telangana, despite policy intent, have recorded no registrations to date.

A recurring theme in major states like Karnataka, Tamil Nadu, and Maharashtra is a disconnect between policy and practice. While dealers and agents report "awareness" of the law, there lacks a functional digital or administrative mechanism.

In the absence of a fully realised national "Deemed Ownership" framework, the organised segment has engineered localised workarounds to mitigate legal and financial risks.

In states like Delhi and Rajasthan, dealers utilize private legal agreements to define custody of vehicles. These contracts protect the dealer and seller during the administrative "limbo" between vehicle delivery and final RC transfer.

As one respondent explained,

> *We hand over a document to the customer stating that from today onwards, if there is any liability, it remains ours.*

This represents a private-sector solution to a public-sector regulatory gap.

Technical privileges are also proving to be vital friction-reducers. In Kerala, registered dealers with recognised status can update contact numbers during the transfer process.

This small but critical technical permission eliminates the "OTP coordination" struggle common in unorganised peer-to-peer sales, allowing the dealer to manage the digital authentication process directly and accelerate the legal transfer of ownership.

Financial Transparency

The lack of real-time financial data integration remains the most significant bottleneck in the national vehicle transfer ecosystem. This "data silo" creates a profound disconnect between transport authorities, dealers, and financial institutions.

Across surveyed states, dealers face limited visibility into vehicle-linked loans and hypothecation status. In some cases, dealers may be unable to ascertain whether an active hypothecation exists; in others, banks may confirm its existence but not disclose the outstanding loan amount required for closure, creating a pervasive "blind spot" in the transaction.

Even in high-performing states like Kerala, dealers are forced to rely on manual, direct intervention at the bank level to circumvent this opacity. While effective in the short term, this underscores a total lack of digital interoperability, preventing the seamless, high-speed transactions that a modern automotive market requires.

Verification Frameworks

In Kerala, top-performing dealers have recognised that digital records (Parivahan) must be supplemented with physical service histories to mitigate localised risks, such as flood damage.

In Delhi, proactive dealers have begun sourcing vehicle history from NCRB (National Crime Records Bureau) records to screen for criminal encumbrances. However, its adoption remains inconsistent across other states rather than being embedded within a standardised ownership transfer workflow. As a result, comprehensive vehicle due diligence continues to vary across transactions, limiting market-wide transparency and consumer confidence.

In most states, the burden of discovery has shifted from the dealer to the system itself. Validation occurs automatically during the data-entry phase; if a vehicle is blacklisted or has pending challans, the system prevents the application from progressing. This automated "bad-faith" filter drastically reduces the risk of fraudulent transactions by making compliance a prerequisite for technical progress.

> *If there's a challan or blacklist, the system shows it during data entry when initiating the transfer; it will show automatically in the current system.*
>
> West Bengal Respondent

Regulatory Barriers to Formalization

The transition from an informal market to an organized industry is often stymied by rigid, "brick-and-mortar" regulatory requirements that fail to reflect the reality of modern commerce.

While GST registration serves as a common baseline requirement across states, several jurisdictions continue to impose additional eligibility conditions such as minimum net-worth thresholds, owned-land requirements, and other infrastructure-linked criteria.

States such as Uttar Pradesh exemplify how these requirements can increase compliance burdens and create entry barriers, particularly for emerging and digitally enabled dealerships.

Even where formal frameworks like Trade Certificates exist, a lack of training among ground-level RTO officers leads to systemic risks.

In Rajasthan, respondents reported that a lack of regulatory understanding among officers led to the wrongful impounding of dealer vehicles. This "knowledge gap" creates a volatile environment where dealers are penalized for the state's own failure to communicate rule changes to its field staff.

> *In Rajasthan... they [RTO officers] themselves don't know the rules... they had impounded the dealer vehicles in 2-3 places [due to a lack of understanding].*
> -Rajasthan Respondent

Pillar 6: Cost & Affordability

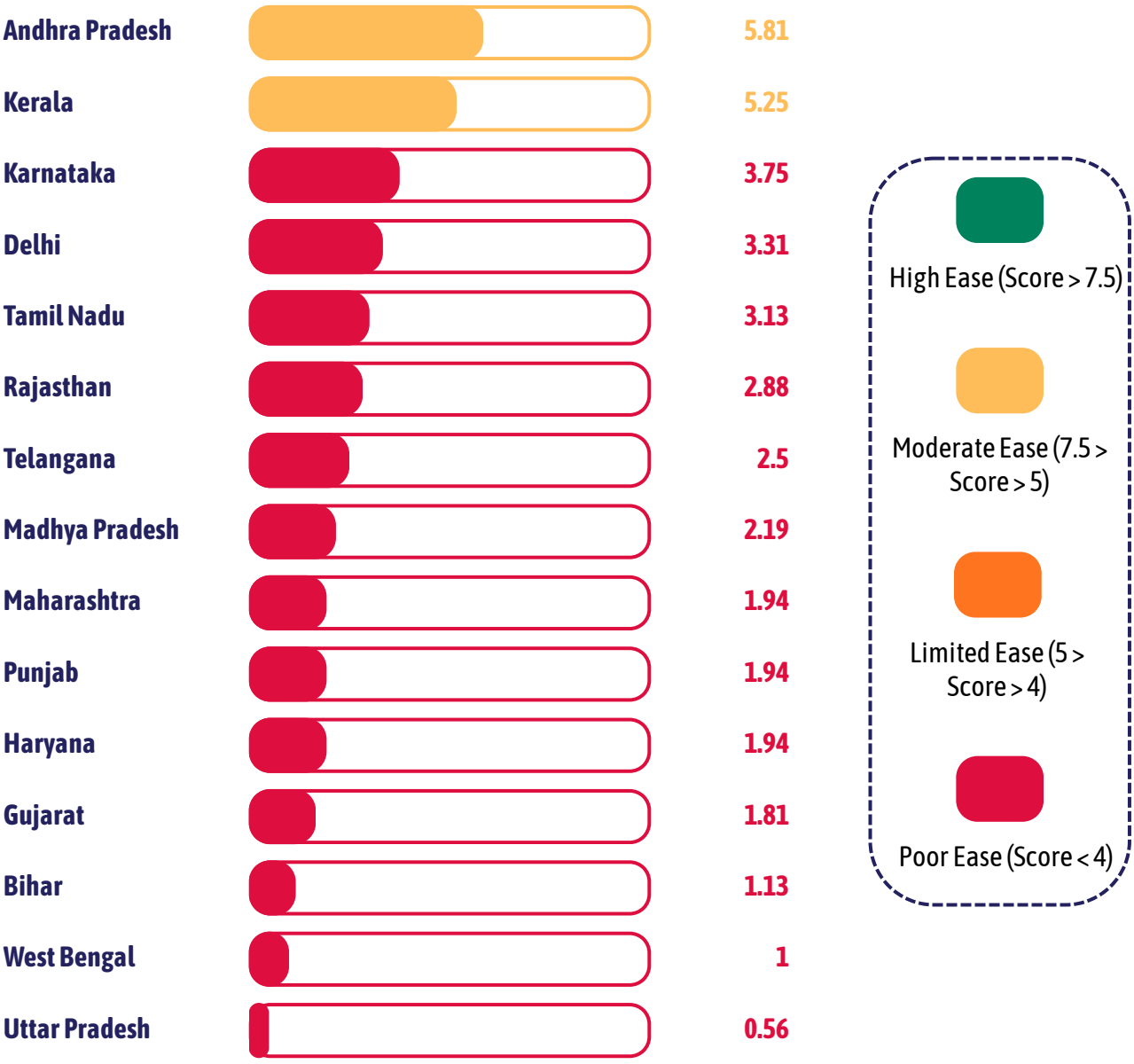
This pillar evaluates the total economic cost placed on citizens and dealers. It analyses the discrepancy between statutory government fees and the "all-in" market price, which often includes agent commissions and third-party overheads.

The Cost & Affordability pillar records the lowest performance across the Index. It remains a systemic challenge, with 12 of the 15 states scoring below 3.5. The low scores suggest that unofficial costs, procedural inefficiencies, and reliance on intermediaries continue to increase the effective cost of ownership transfers. Reducing these hidden transaction costs will be critical to improving accessibility, accelerating market formalisation, and enhancing the overall ease of vehicle ownership.

In almost all states, the official government fee is rarely the final cost. Instead, a "market price" emerges, often inflated by 10x or more to account for systemic friction and the perceived necessity of intermediaries.

Agents openly quantify a "premium" required to navigate the bureaucracy. For a service with an official fee of ₹530, users report paying upwards of ₹3,000, with the vast majority of the surplus being distributed informally to bypass administrative hurdles.

> *At every step there are people in positions; everyone wants to be kept satisfied. If the system becomes fully digital, corruption could be reduced.*
> -Haryana Respondent



Hyper-Inflationary Hubs

Bihar (specifically Muzaffarpur) recorded the highest total costs in the entire study. A single transfer can cost between ₹13,000 and ₹14,000, driven by a gauntlet of manual stages, including court notaries, MV inspections, and multiple departmental signings.

Several states have a model that reflects a direct "staff relationship" cost.

Informal payments are embedded into the high-volume operational model, creating a permanent fiscal barrier to market formalisation.

> *Around ₹13,000-₹14,000 total... what the local agents charge, they will charge... we work directly with office staff.*
> -Bihar Respondent

A significant portion of the "high cost" in mid-to-low performing states is attributed to the manual labour required to verify identity and financial documents.

In West Bengal, while costs are more moderate (ranging from ₹2,000-₹4,000), cost to customers remains thin due to high manual overheads.

Stakeholders explicitly link these high costs to the absence of automated identity verification.

> *Once [Aadhaar] authentication becomes fully effective, costs will reduce significantly; shifting to biometric or OTP-based digital identity verification would remove the manual "Identity Verification" layer that currently inflates agent fees...*
> -West Bengal Respondent

Complexity Premiums: HP and Multi-Stage Transfers

The "Affordability" score drops significantly when a transaction involves more than a simple ownership change, such as Hypothecation cancellation/termination (HPT).

Adding an HP cancellation can often double the cost of a transaction. The lack of a flat, transparent fee structure for "bundled" services allows intermediaries to set arbitrary, compounding prices.

> *If hypothecation is there, that will be ₹4,500. Else, about ₹2,500.*
>
> -Maharashtra Respondent

In Tamil Nadu, costs are highly localized. While the official fee remains low at approximately ₹800, users in border RTOs like Hosur or Krishnagiri report markups of nearly 1,000%, with total costs reaching ₹7,000-₹8,000.

In states like Haryana, affordability is often sacrificed for time. A fluctuating "same-day" premium is frequently required to bypass administrative delays, essentially turning a basic public service into a luxury-tier transaction.

State	All-in Cost per RC Transfer (including official fees, agent charges) ₹
Andhra Pradesh	3000-3500
Kerala	500 - 2,400
Karnataka	2,000 - 2,500
Delhi	3,000 - 3,600
Tamil Nadu	7,000 - 8,000
Rajasthan	4,500 - 6,500
Telangana	3,000 - 5,000
Madhya Pradesh	3,000 - 5,000
Maharashtra	2,500 - 4,500
Punjab	6,500
Haryana	2,000 - 4,000
Gujarat	5,000
Bihar	13,000 - 14,000
West Bengal	2,000 - 4,000
Uttar Pradesh	5,000 - 8,000

Cost of RC Transfer

Citizen Pulse: Evidence from Buyers and Sellers

The EVOI's state-level findings are corroborated by direct citizen experience data collected independently from 1000+ survey respondents pan-India, with 79.9% sellers and 20.1% buyers, respectively, transacting through organised platforms across India. The convergence is striking: the structural issues documented by dealers and RTO agents are confirmed, in aggregate, by the very people the system is meant to serve. Critically, 90.8% of surveyed respondents had loan-free vehicles at the time of sale, meaning the delays, opacity, and cost ambiguity they experienced cannot be attributed to hypothecation complexity. The friction is systemic, not case-specific.

The most telling finding is not what citizens experienced; it is that they were unable to avail the services on their own and relied on brokers/agents/middlemen to proceed with their transactions. This dependency is not permanent. When asked whether they would attempt the process themselves if it were fully online and well-documented, 52.5% of citizens said yes, either confidently (34.9%) or with adequate guidance (17.6%). The demand for self-serve is there. The infrastructure is not.

As per the survey findings, only 9.6% of transfers were completed within two weeks, while a further 39.1% required between two weeks and six months. An additional 12.5% of respondents experienced processing timelines exceeding six months, and ~39% reported that the RC transfer was still pending. This underscores persistent inefficiencies in the ownership transfer ecosystem and the need for end-to-end process reforms.

Cost transparency is equally absent. 62.7% of respondents were unsure of the total amount they paid, a direct consequence of the bundled, undisclosed stakeholder fee structures documented across states in this Index. Of those who could quantify their costs, 13.8% paid more than ₹5,000, far above the official statutory fee.

Compounding this, nearly two-thirds of respondents reported that the requirement for a physical Party Peshi came as a complete surprise.

Over two-thirds of respondents reported that they had no visibility on their application status, reflecting the Transparency & Accountability deficits documented across all 15 states. The 39% reporting pending ownership transfers mirrors the Process Efficiency challenges observed in lower-performing states such as Bihar, Uttar Pradesh, and West Bengal. The 62.7% of respondents who were unable to recall or ascertain the total amount paid points to limited fee transparency and poor visibility into the overall cost of the ownership transfer process. The 28.1% of sellers who reported receiving post-sale challans or legal notices after handing over their vehicles highlights the real-world consequences of gaps in Deemed Ownership implementation and institutional coordination captured under Pillar 5.

The citizen data and the EVOI scores tell the same story from two directions. Together, they make the case for reform with the same urgency.

PART-5

STATE SCORECARDS

Rank 1: Andhra Pradesh

Pillar	Score
Policy & Regulatory Framework	7.9
Digital Infrastructure & Services	7.51
Process Efficiency & Timeliness	7.26
Transparency & Accountability	6.07
Institutional Ecosystem & Dealer Support	2.22
Cost & Affordability	5.81
COMPOSITE INDEX SCORE	**5.91**

Strengths & Differentiators

- Biometric-based, digital-first ownership transfer with near-elimination of physical RTO visits
- Most consistent policy and regulatory implementation of any assessed state
- Fast processing in major urban centres: transfers often completed in 1-3 days
- Functional road tax refund mechanism for inter-state transfers

Challenges

- Institutional Ecosystem & Dealer Support is by far the weakest pillar (2.22), despite strong digital performance elsewhere
- Aadhaar biometric failures or outdated enrolment records can block otherwise complete digital transactions
- Dependence on third-party biometric authentication vendors adds cost and inconsistency to an otherwise transparent fee structure
- Processing timelines still vary by district, with smaller RTOs lagging major urban centres
- Hypothecation termination remains dependent on coordination with financial institutions, including biometric authentication requirements that can delay processing when banking records require updates.
- Limited access to comprehensive vehicle accident and service history restricts the availability of complete pre-purchase verification information for buyers.

Rank 2: Kerala

Pillar	Score
Policy & Regulatory Framework	5.43
Digital Infrastructure & Services	7.02
Process Efficiency & Timeliness	5.33
Transparency & Accountability	4.86
Institutional Ecosystem & Dealer Support	6.39
Cost & Affordability	5.25
COMPOSITE INDEX SCORE	**5.74**

Strengths & Differentiators

- Mature faceless model for intra-state ownership transfers with minimal physical visits to RTOs.
- High degree of process standardisation and consistency across RTOs for routine ownership transfer transactions.
- Automated surfacing of challan and blacklist information improves transparency and reduces transaction risks.
- Relatively affordable ownership transfer processes with limited procedural burden for standard cases.
- Adoption of Deemed Ownership is the highest in the country.

Challenges

- Inter-state ownership transfers continue to rely on multiple manual processes, including NOCs, affidavits, inspections, and physical documentation, resulting in significantly longer processing timelines.
- Limited interoperability between transport systems and financial institutions necessitates manual intervention for hypothecation-related transactions.
- Grievance redressal mechanisms remain comparatively underdeveloped, limiting avenues for timely issue resolution.

Rank 3: Tamil Nadu

Pillar	Score
Policy & Regulatory Framework	5.32
Digital Infrastructure & Services	5.43
Process Efficiency & Timeliness	4.87
Transparency & Accountability	4.04
Institutional Ecosystem & Dealer Support	4.4
Cost & Affordability	3.13
COMPOSITE INDEX SCORE	**4.58**

Strengths & Differentiators

- Presence of a digital ecosystem with widespread availability of online ownership transfer services.

Challenges

- Significant variation in implementation practices across RTOs, leading to inconsistent user experiences.
- Reports of high unofficial transaction costs in certain locations, increasing the overall cost burden on applicants.
- Hypothecation cancellation processes remain dependent on manual coordination with financial institutions, creating delays and uncertainty.
- RC transfers require additional physical visits, reducing the effectiveness of otherwise digital workflows.
- Limited acceptance of digital document repositories results in continued reliance on physical document submission.

Rank 4: Delhi

Pillar	Score
Policy & Regulatory Framework	4.34
Digital Infrastructure & Services	6.81
Process Efficiency & Timeliness	3.47
Transparency & Accountability	5.05
Institutional Ecosystem & Dealer Support	5.4
Cost & Affordability	3.31
COMPOSITE INDEX SCORE	**4.58**

Strengths & Differentiators

- Advanced digital infrastructure supporting a largely online ownership transfer process.
- Improved system integration and interoperability, enabling smoother processing of ownership transfer transactions.

Challenges

- Significant gap between official fees and actual transaction costs borne by applicants, affecting affordability and accessibility.
- Informal procedural practices continue to expose applicants and dealers to legal and compliance risks, in addition to delaying the transafer timelines.

Rank 5: Karnataka

Pillar	Score
Policy & Regulatory Framework	5.14
Digital Infrastructure & Services	3.76
Process Efficiency & Timeliness	4.34
Transparency & Accountability	3.84
Institutional Ecosystem & Dealer Support	4.97
Cost & Affordability	3.75
COMPOSITE INDEX SCORE	**4.3**

Strengths & Differentiators

- Established operational processes supporting high transaction volumes in major urban centres.
- Decent transparency mechanisms that provide applicants with visibility into process requirements.

Challenges

- Continued reliance on physical Master Files for ownership transfers creates operational bottlenecks and significantly delays processing.
- Inter-RTO coordination requirements and variations in documentation for ownership transfers increase processing timelines and administrative complexity.
- Adoption of Deemed Ownership is absent in the state with no authroised Dealers for Registered Vehicles (ADRV)

Rank 6: Gujarat

Pillar	Score
Policy & Regulatory Framework	5.22
Digital Infrastructure & Services	5.53
Process Efficiency & Timeliness	4.31
Transparency & Accountability	6.03
Institutional Ecosystem & Dealer Support	3.62
Cost & Affordability	1.81
COMPOSITE INDEX SCORE	**4.16**

Strengths & Differentiators

- High levels of information accessibility compared with many peer states.
- Relatively higher adoption of digital processes in the country.

Challenges

- Affordability remains a significant concern, with relatively high overall transaction costs reducing accessibility for applicants.
- Periodic system outages and platform blackouts interrupt ownership transfer transactions and reduce service reliability.
- Institutional support mechanisms for dealers and applicants remain comparatively underdeveloped.

Rank 7: Madhya Pradesh

Pillar	Score
Policy & Regulatory Framework	4.51
Digital Infrastructure & Services	6.23
Process Efficiency & Timeliness	4.26
Transparency & Accountability	4.98
Institutional Ecosystem & Dealer Support	3.22
Cost & Affordability	2.19
COMPOSITE INDEX SCORE	**4.1**

Strengths & Differentiators

- Relatively high digitised transfer services.
- Cross-RTO service availability, enabling applicants to complete transactions across jurisdictions within the state.

Challenges

- Institutional support mechanisms for applicants, dealers, and ecosystem stakeholders require strengthening.
- Access to supporting citizen services, including road tax refund mechanisms, remains limited in practice despite policy provisions
- Manual backend processes continue to reduce the efficiency of otherwise mature digital workflows.

Rank 8: Maharashtra

Pillar	Score
Policy & Regulatory Framework	4.16
Digital Infrastructure & Services	5.21
Process Efficiency & Timeliness	5.06
Transparency & Accountability	3.79
Institutional Ecosystem & Dealer Support	4.88
Cost & Affordability	1.94
COMPOSITE INDEX SCORE	**4.09**

Strengths & Differentiators

- Established digital service delivery mechanisms with high transaction volumes.

Challenges

- RC transfer pendency and processing backlogs continue to delay transaction completion despite widespread digital service availability.
- Vehicle inspections and physical presence requirements in certain ownership transfer cases reduce the effectiveness of digital workflows.
- Hypothecation termination continues to rely on manual lender confirmation, creating avoidable delays in ownership transfer transactions.
- Additional documentary requirements in selected RTOs increase procedural complexity and reduce process uniformity.
- Interstate ownership transfers remain administratively complex due to road tax refund timelines and related procedural requirements.
- Poor adoption of Deemed Ownership in the state.

Rank 9: Telangana

Pillar	Score
Policy & Regulatory Framework	5.61
Digital Infrastructure & Services	4.21
Process Efficiency & Timeliness	5.84
Transparency & Accountability	3.67
Institutional Ecosystem & Dealer Support	2.82
Cost & Affordability	2.5
COMPOSITE INDEX SCORE	**4.09**

Strengths & Differentiators

- Streamlined, appointment-based processing supports predictable and efficient ownership transfer.
- Functional road tax refund mechanisms

Challenges

- Limited dealer ecosystem development and low penetration of authorized market participants constrain formalization of the pre-owned vehicle sector.
- Absence of a structured grievance redressal framework limits accountability and citizen recourse.
- Additional documentation and approval requirements add complexity to the ownership transfer process.
- Reliance on seller participation and in-person coordination can lead to delays, highlighting the need for more digitally enabled transfer mechanisms.

Rank 10: Punjab

Pillar	Score
Policy & Regulatory Framework	4.7
Digital Infrastructure & Services	6.35
Process Efficiency & Timeliness	4.16
Transparency & Accountability	2.72
Institutional Ecosystem & Dealer Support	4.6
Cost & Affordability	1.94
COMPOSITE INDEX SCORE	**4.03**

Strengths & Differentiators

- Proactive, milestone-based notifications keep citizens informed throughout the ownership transfer journey.

Challenges

- High transaction costs and duplicative document submission requirements reduce the affordability and convenience of ownership transfers.
- Continued reliance on physical document submission and additional documentation requirements in certain jurisdictions. These procedural frictions contribute to longer processing timelines.
- Poor adoption of Deemed Ownership in the state.

Rank 11: Rajasthan

Pillar	Score
Policy & Regulatory Framework	3.39
Digital Infrastructure & Services	4.66
Process Efficiency & Timeliness	3.98
Transparency & Accountability	2.52
Institutional Ecosystem & Dealer Support	7.32
Cost & Affordability	2.88
COMPOSITE INDEX SCORE	**3.97**

Strengths & Differentiators

- Well-developed dealer ecosystem with structured support mechanisms that facilitate formal market participation and ownership transfers. The state has relatively high adoption of Deemed Ownership.

Challenges

- Documentation requirements beyond standard regulatory norms add complexity and increase compliance burdens.
- Manual approval processes and limited workflow automation contribute to avoidable delays in service delivery.

Rank 12: Haryana

Pillar	Score
Policy & Regulatory Framework	3.72
Digital Infrastructure & Services	4.96
Process Efficiency & Timeliness	4.76
Transparency & Accountability	4.98
Institutional Ecosystem & Dealer Support	3.66
Cost & Affordability	1.94
COMPOSITE INDEX SCORE	**3.86**

Strengths & Differentiators

- Partial digitalization of transfer processes provides a foundation for further modernization and efficiency gains.

Challenges

- High transaction costs and reliance on expedited processing pathways affect affordability and create inconsistent service experiences.
- Second address proof for KYC requirements at certain RTOs creates barriers for out-of-state buyers and hinders seamless interstate vehicle transactions.
- Continued dependence on intra-state RTO NOC requirements for many cross-jurisdiction transfers contributes to longer processing timelines.
- Poor adoption of Deemed Ownership in the state.

Rank 13: West Bengal

Pillar	Score
Policy & Regulatory Framework	3.14
Digital Infrastructure & Services	1.98
Process Efficiency & Timeliness	3.28
Transparency & Accountability	5.8
Institutional Ecosystem & Dealer Support	2.89
Cost & Affordability	1
COMPOSITE INDEX SCORE	**2.56**

Strengths & Differentiators

- Transparent ownership transfer processes enabled by real-time application tracking and status visibility across every stage. The state has relatively high adoption of Deemed Ownership.

Challenges

- Limited digitalization results in significant reliance on manual processes throughout the ownership transfer journey.
- High transaction costs relative to official fees.

Rank 14: Bihar

Pillar	Score
Policy & Regulatory Framework	1.77
Digital Infrastructure & Services	3.24
Process Efficiency & Timeliness	2.84
Transparency & Accountability	4.7
Institutional Ecosystem & Dealer Support	3.53
Cost & Affordability	1.13
COMPOSITE INDEX SCORE	**2.51**

Challenges

- Batch-based approval processes result in significant backlogs and prolonged processing timelines.
- Mandatory physical vehicle inspections add procedural burden and increase processing time.
- Limited process transparency and excessive dependence on manual interactions create opportunities for informal payments and increase transaction friction.

Rank 15: Uttar Pradesh

Pillar	Score
Policy & Regulatory Framework	2.91
Digital Infrastructure & Services	3.94
Process Efficiency & Timeliness	2.76
Transparency & Accountability	2.79
Institutional Ecosystem & Dealer Support	3.67
Cost & Affordability	0.56
COMPOSITE INDEX SCORE	**2.47**

Challenges

- High transaction costs relative to official fees
- Standard TAT is highest among states surveyed
- Minimum net-worth thresholds and owned-land requirements for dealer registration create barriers not prescribed under the CMVR
- Intra-state RTO NOC requirement for many cross-jurisdiction transfers contributes to longer processing timelines.

PART-6

REFORM ROADMAP & RECOMMENDATIONS

Recommendation 1: Regulatory Harmony

Harmonise Documentation Requirements

States should align ownership transfer procedures with the standardized requirements prescribed under the Central Motor Vehicles Rules (CMVR), similar to the mutual-recognition principles adopted under the EU's Cross-Border Vehicle Registration framework. State-specific procedural additions and affidavit-based requirements should be phased out to reduce administrative fragmentation, lower compliance costs, and improve interstate portability of vehicle ownership records.

Liberalising the Challan Ecosystem

Drawing from Singapore's Singpass philosophy of seamless service access, the challan ecosystem should prioritise liability clearance and clean-title transfers over restrictive owner-locked verification systems. While sensitive personal information should remain protected, MoRTH should enable permissionless challan payments without mandatory OTP authentication, allowing authorised stakeholders such as dealers and intermediaries to clear pending liabilities during ownership transfers.

Universalise Road Tax Refund Portals

Following Telangana's structured refund framework, MoRTH may consider mandating a standardized digital road tax refund module within the Parivahan ecosystem. Refunds should be processed through a time-bound, transparent workflow with clearly defined refund calculations, ensuring citizens do not face disproportionate capital losses during interstate migration or resale transactions.

Standardise Digital Identity and Address Verification

Following the more standardised document-recognition practices adopted in Kerala and Telangana, MoRTH should prescribe an exhaustive national list of acceptable address documents under the CMVR framework to reduce discretionary rejection practices across RTOs. Restrictive proof-of-address requirements often exclude renters, migrants, and family-based ownership arrangements where the vehicle owner's name differs from the property holder. Digitally verifiable documents such as rental agreements, DigiLocker records, utility bills, and self-declarations should be uniformly accepted across states.

Standardise Vehicle Verification

Following the transparency principles embedded in EUCARIS and US DMV systems, states should introduce a standardised "Public Verification" layer within Parivahan. Prospective buyers should be able to view pending challans, hypothecation status, and transfer blocks using limited identifiers such as registration numbers, enabling transparent pre-purchase due diligence without exposing sensitive owner information.

Recommendation 2: Transitioning from "Dual Submission" to "Faceless" Defaults

Standardise Acceptance of Digital Documents Across States

Similar to Estonia's fully integrated digital governance architecture, MoRTH should issue binding operational directives enforcing Section 4 of the IT Act, 2000 across all RTOs. mParivahan/DigiLocker-authenticated documents should be treated as primary legal evidence, eliminating redundant physical verification requirements that continue to undermine faceless workflows.

Implement Portal SLAs and Disaggregated Data

Following the SLA-driven service architecture of Passport Seva and Estonia's uptime-centric governance systems, NIC should publish state-wise portal uptime, processing timelines, and transaction pendency dashboards. Enforceable Service Level Agreements (SLAs) for portal reliability and application disposal should be institutionalised to reduce productivity losses caused by recurring system outages and processing blackouts.

Transition Towards End-to-End Digital Processing

Drawing from the Passport Seva Programme's digital-first service design, states should transition to an "Upload-Only" application framework where digital submission itself constitutes a complete application. Practices requiring parallel physical submission, courier dispatch, or in-person validation after online filing should be audited and phased out. This would simplify citizen experience, reduce administrative duplication, and improve service efficiency.

Standardise DAUC framework

Building on Norway's Altinn "one-stop business portal" philosophy and operational practices adopted by leading states, all States and Union Territories should mandate the implementation of the Dealer Authentication Certificate (DAUC) framework. The DAUC should authorise registered dealers to undertake approved ownership transfer functions, including limited data updates and e-KYC workflows for inventory vehicles. Standardising DAUC adoption across states would institutionalise dealer-assisted transactions, reduce administrative friction, improve process continuity between buyers, sellers, financiers, and RTOs, and accelerate the formalisation of India's pre-owned vehicle market.

Recommendation 3: Removing Human Bottlenecks and Legacy Dependencies

Automate Approval Hierarchies

Following Estonia's principle of "no residual manual processes," states should adopt a First-In, First-Out (FIFO) automated approval architecture wherein applications that successfully clear all digital validation checks are system-approved by default. Manual intervention should be restricted to exception-based cases flagged for discrepancies, fraud indicators, or compliance risks.

Strengthen Integration Between Financial Institutions and Parivahan

Inspired by Estonia's X-Road interoperability framework, banking systems and Parivahan should be integrated through real-time APIs, enabling automatic hypothecation closure updates upon loan settlement. This would eliminate dependence on physical NOCs, stamped letters, and manual bank verification processes that currently create significant transfer delays.

Digitise and Integrate Legacy Vehicle Records

Drawing from EUCARIS-style interstate portability frameworks, all legacy "Master Files" should be digitised and made cloud-accessible across RTO jurisdictions through the VAHAN ecosystem. Universal digital retrieval would eliminate physical file movement and significantly reduce delays associated with interstate and inter-RTO ownership transfers

Recommendation 4: Advance Data Interoperability

Digital Verification of Vehicle History

Transition to a fully digital title and registration transfer system, similar to Arizona's MVD Now. Develop a "Digital Vault" for vehicle history. Rather than manual service-history checks, create a standardized "Vehicle Health Certificate" integrated into the Parivahan portal, surfacing flood records, major accident repairs, and theft reports automatically.

Establish a National Data Exchange Framework

Following Estonia's X-Road architecture, states could mandate a unified "data exchange layer" where VAHAN/Sarathi systems automatically pull read-only data from external stakeholders. This can be done by implementing real-time API integration with the Indian Banks' Association (IBA) to automate Hypothecation (HP) status and NOC issuance. This removes the "Bank-side Opacity" identified in Rajasthan and Kerala.

Recommendation 5: Institutionalising Accountability through SLA-Driven Governance

Institutionalise Service Level Agreements

Adapting the success of India's Passport Seva Programme (PSP), RTOs should implement a strict, time-bound service delivery framework. By Mandating Digital SLAs for every transaction type. If an application (e.g., RC Transfer) is not processed within 72 hours, the system should trigger an automatic escalation to a regional supervisor and issue a notification to the applicant..

Adopt Proactive Digital Communication Standards

Move from a "Pull" system (where users check status) to a "Push" system (where the system updates users). Standardize proactive SMS/WhatsApp milestones, Application Received, Objection Raised (with a specific dropdown-based reason), Approved, and Postal Tracking Number for dispatch.

Recommendation 6: Economic Formalisation & Cost Transparency

Strengthen Digital Identity-Based Service Delivery

Emulating Colorado's digital renewal services, states should move toward a "Contactless RTO." By automating identity verification, states can eliminate the manual "Notary/Affidavit" layer, which currently accounts for the bulk of informal agent costs.

Introduce a Unified Digital Payment Framework

Implement a transparent "All-in-One" digital payment gateway on the Parivahan portal. Statutory fees, courier charges, and even regulated "Authorized Dealer" service fees should be paid through a single transaction, ensuring that no "speed money" is required at the counter.

Recommendation 7: Market Integration & Interstate Portability

National Portability

Drawing on the European Car and Driving Licence Information System (EUCARIS), India should standardize the "Deemed Ownership" framework across all states. Create a National Registry of Authorized Dealers. A dealer registered in Kerala should be recognized as a "Deemed Owner" in Telangana or Karnataka. This ensures that B2B transfers are legally protected, removing the "Chain of Custody" risks identified in the dealer cohort.

Tiered Authorisation for Small Traders

To address the "GST Barrier," introduce a tiered authorisation model. Small dealers (under ₹20 lakh turnover) should be granted "Registered Trader" status based on digital business verification, allowing them to utilise Deemed Ownership without the prohibitive real-estate mandates (washrooms/yard size) currently acting as hindrances.

Insurance Continuity During Ownership Transfer

Amend Rule 144 of the Central Motor Vehicles Rules to provide for automatic continuity and assignment of insurance coverage during ownership transfer and deemed ownership transactions. Valid insurance policies should remain effective from the date of transfer initiation or deemed ownership declaration, preventing claim disputes arising solely from pending registration updates and eliminating unnecessary duplicate insurance purchases.

Introduce Statutory Timelines for Ownership Transfer Services

Amend Section 50 of the Motor Vehicles Act, 1988 and Rule 55 of the Central Motor Vehicles Rules, 1989 to prescribe statutory timelines for ownership transfer services. The table below outlines the indicative service-level timelines recommended for consideration.

Process Flow	Process Stage	Max TAT	Key Tech Interventions & Enablers
Phase 1: Intake	Application, e-KYC & Fees	Instant (Real-time)	Platform-driven submission via Parivahan; automated identity validation; exhaustive national CMVR document checklist.
Phase 2: Backend	Automated Verifications/Check	24 Hours	Real-time API integrations with banks for Hypothecation (HP) closure. Permissionless backend checks for pending challans/blocks.
Phase 3: Approval	Ownership Transfer Approval	24-48 hours	First-In, First-Out (FIFO) automated approval engine. Clean data routes bypass manual human desks entirely by default.
Phase 4: Fulfilment	RC Generation & Dispatch	2-3 Days	Instant digital RC update on DigiLocker/mParivahan. Automated physical print-queue & Speed Post routing directly to the buyer.
Inter-State	Interstate NOC Issuance	48 Hours	Cloud-accessible VAHAN registries. Complete digitization of historic 'Master Files' to clear manual cross-RTO dependencies.
Tax	Road Tax Refunds	14 Days	Standardized central digital refund module within Parivahan ecosystem. Automated escrow calculation models.

Maximum TAT recommended

Amendments Proposed to the Central Motor Vehicles Rules (CMVR)

1. Recognition of Digital Registration Certificates
Amend Rule 55(2) to explicitly recognise Registration Certificates available through VAHAN, DigiLocker, mParivahan, and other government-authorised digital repositories as valid substitutes for physical Registration Certificates during ownership transfer transactions. This would eliminate the continued dependence on physical RC documents despite the availability of authenticated digital records.

2. Digital No Objection Certificates (NOCs)
Amend Rule 58 of the CMVR, 1989 to enable the issuance, verification, and acceptance of digitally generated No Objection Certificates through VAHAN. NOCs should be automatically generated following system-based verification of tax compliance, theft records, and legal encumbrances, thereby eliminating physical document movement and reducing processing delays.

3. Interstate Transfer Facilitation
Amend Rule 55B and Form 29C to permit Authorised Dealers of Registered Vehicles (ADRVs) to undertake transactions involving vehicles registered in other states and facilitate dealer-to-dealer transfers.

4. Insurance Continuity and Dealer Facilitation under Deemed Ownership
Amend Rule 55C and Rule 144 to strengthen the deemed ownership framework by enabling Authorised Dealers of Registered Vehicles (ADRVs) to undertake insurance-related actions and ensuring automatic continuity of valid insurance policies during deemed ownership transactions. This would reduce claim disputes, improve legal certainty, and eliminate unnecessary duplicate insurance purchases during inventory holding periods.

5. National Documentation Baseline, Digital Document Acceptance and Digital Hypothecation through VAHAN-ULI
Amend the relevant provisions of the Central Motor Vehicles Rules, 1989 to establish a nationally standardised documentation framework for ownership transfer services. States should be required to accept digitally verifiable documents, including mParivahan/ DigiLocker issued certificates, digital insurance records, electronically authenticated identity documents, and digital hypothecation records enabled through VAHAN-ULI integration. The Central Government should prescribe an implementation timeline for all Registering Authorities and lending institutions to operationalise hypothecation addition and removal through the Unified Lending Interface (ULI), thereby reducing procedural variation across jurisdictions, eliminating manual lender processes, and enabling fully faceless ownership transfer workflows.

6. Statutory Timelines for Ownership Transfer Services
Amend Rule 55 of the CMVR, 1989 to prescribe statutory service-level timelines for ownership transfer transactions, including application processing, interstate NOC issuance, hypothecation updates, RC generation, and road tax refunds. Time-bound processing would improve accountability, reduce legal uncertainty, and strengthen market liquidity.

Amendments Proposed to the Motor Vehicles Act, 1988

1. Amendment to Section 48: Digital No Objection Certificates (NOCs)
Amend Section 48 to enable the issuance, transmission, verification, and acceptance of digitally generated No Objection Certificates (NOCs) through the VAHAN ecosystem. Registering authorities should be empowered to issue NOCs electronically following system-based verification of vehicle tax compliance, theft records, hypothecation status, and other legal encumbrances. This would eliminate physical processing requirements and facilitate seamless interstate ownership transfers.

2. Amendment to Section 50: Statutory Timelines for Ownership Transfer
Amend Section 50 to prescribe statutory service-level timelines for ownership transfer transactions. Defined timelines should cover application processing, verification, approval, RC issuance, interstate NOC issuance, and related services to reduce uncertainty, improve accountability, and limit prolonged legal liability for sellers.

Conclusion

India's pre-owned vehicle market is no longer a peripheral segment of the automotive economy; it is rapidly becoming the primary engine of mass mobility access. Yet the ownership transfer ecosystem that underpins this market remains constrained by a legacy administrative architecture that was neither designed for scale nor for the realities of a dealer-enabled, digitally integrated, interstate commerce environment. The persistence of fragmented procedures, inconsistent implementation, and high transaction friction imposes significant economic, institutional, and consumer costs that increasingly threaten to constrain the sector's next phase of growth.

The findings of the Ease of Vehicle Ownership Index demonstrate that reform is not constrained by technology, but by governance execution and institutional coordination. India already possesses the foundations of a modern ownership ecosystem through platforms such as VAHAN, Aadhaar, DigiLocker, and Parivahan.

The challenge now lies in moving from partial digitisation to seamless interoperability; from fragmented state practices to harmonised service delivery; and from opaque administrative control to transparent, citizen-centric governance. States that successfully reduce procedural friction will not only improve consumer trust and ease of ownership but will also position themselves as leaders in India's emerging circular mobility economy.

As India advances toward its ambitions of becoming a digitally empowered economy and a global automotive manufacturing and mobility hub, the modernisation of vehicle ownership systems must be treated as strategic public infrastructure. A seamless ownership ecosystem is no longer merely an administrative convenience; it is a foundational requirement for economic efficiency, formal market growth, sustainability, and inclusive mobility access in the decade ahead.

ANNEXURE

Analytical Framework

Geometric Mean Index Methodology

The EVOI is constructed using a **weighted geometric mean approach,** consistent with internationally recognised composite index frameworks used by organisations such as the Organisation for Economic Co-operation and Development and the United Nations Development Programme for multidimensional performance assessment.

Unlike a simple arithmetic average, the geometric mean adopts a **non-compensatory aggregation methodology**, whereby poor performance in one dimension cannot be completely offset by exceptionally strong performance in another. This ensures that balanced performance across all pillars is rewarded and critical weaknesses remain visible in the final index score.

The geometric mean approach was selected for three reasons:

1. Balanced Assessment:
   a. Encourages consistent performance across all dimensions of vehicle ownership transfer.
   b. Prevents over-reliance on a single high-performing area.

2. Penalty for Weak Performance:
   a. Low scores in critical pillars have a proportionately larger impact on the overall index.
   b. Reflects real-world operational constraints where weaknesses in one area can materially affect user experience.

3. Improved Comparability:
   a. Produces more robust comparisons across states.
   b. Reduces distortion caused by outlier scores.

Mathematical Representation

The geometric mean is calculated as:

$$GM = \prod_{i=1}^{n} x_i^{w_i}$$

Where:
(x_i) = Normalised score of indicator or pillar i
(w_i) = Weight assigned to indicator or pillar i
(sum w_i = 1)

Implications of the Geometric Mean Approach

Arithmetic Mean	Geometric Mean (Used in EVOI Index)
Allows full compensation between dimensions	Limits compensation between dimensions
High scores can offset weak areas	Weak areas continue to influence final score
Rewards peak performance	Rewards balanced performance
Less sensitive to structural weaknesses	More sensitive to structural weaknesses
Suitable for independent indicators	Suitable for multidimensional governance and service delivery assessments

A state can achieve a high EVOI Index score only by demonstrating consistently strong performance across all dimensions of the ownership transfer ecosystem. This makes the index a more rigorous measure of overall system effectiveness than a conventional weighted average.

Scoring Methodology

Question-Level Scoring

All survey responses are converted to a standardised score ranging from:
0 = Very Poor Performance
5 = Best Practice Performance

Scoring is conducted using predefined coding rubrics.

Qualitative Questions:
Open-ended responses are coded using expert assessment criteria.

Ordinal Questions:
Responses are mapped across the 0-5 scale according to predefined thresholds.

Quantitative Questions:
Numeric responses are converted into scores using threshold bands.

Indicator Aggregation

Question-level scores are aggregated into indicator scores using arithmetic averaging.

Formula:
Indicator Score = Average (Question Scores)

Normalisation Methodology

To enable aggregation across indicators, all indicator scores are converted to a standard 0-1 scale.

Formula:
Normalised Score = Indicator Score/5

Where:
0 = weakest performance
1 = strongest performance

Pillar Score Construction

Each pillar is calculated using a weighted geometric mean of its normalised indicators.

General Formula
Pillar Score = $\prod$ ($Indicator_i$ ^ $Weight_i$)

Composite Index Construction

The final EVOI Index score is calculated using a weighted geometric aggregation of the six pillar scores.

Composite Formula:
EVOI = (P1^0.20)× (P2^0.20)× (P3^0.20)× (P4^0.10)× (P5^0.15)× (P6^0.15)

Where:
P1 = Policy & Regulatory Framework
P2 = Digital Infrastructure & Services
P3 = Process Efficiency & Timeliness
P4 = Transparency & Accountability
P5 = Institutional Ecosystem & Dealer Support
P6 = Cost & Affordability

Number of Authroised Dealers for Registered Vehicles (State-Wise Registrations)

Sno	State	Number of registered ADRV
1	Andaman & Nicobar Island	3
2	Andhra Pradesh	3
3	Assam	137
4	Bihar	24
5	Chattisgarh	17
6	Gujarat	8
7	Haryana	2
8	Himachal Pradesh	4
9	Jammu & Kashmir	32
10	Jharkhand	21
11	Kerala	875
12	Madhya Pradesh	36
13	Maharashtra	16
14	Nagaland	3
15	Odisha	118
16	Punjab	2
17	Rajasthan	261
18	Sikkim	1
19	Tamil Nadu	57
20	Uttrakhand	78
21	Uttar Pradesh	2
22	West Bengal	332
Total		**2032**

Source: Parivahan DAUC Portal (As on 19 Aug 26)





